



memorandum

date May 31, 2012

to Peter Katich, City of Gig Harbor; Kim Van Zwalenburg, Department of Ecology

from Reema Shakra, Ikuno Masterson and Teresa Vanderburg, ESA Adolfson (ESA)

subject **City of Gig Harbor, Shoreline Master Program Update – Revised Cumulative Impacts Analysis; Grant Agreement No. G1000028, Task 4.2**

With the assistance of a grant from the State Department of Ecology, the City of Gig Harbor is updating its Shoreline Master Program (SMP) consistent with state guidelines (WAC Chapter 173-26). Under the shoreline guidelines, local jurisdictions are required to evaluate and consider cumulative impacts of reasonably foreseeable future development in the shorelines of the state (WAC 173-26-186(8)(d)). A cumulative impacts analysis was first prepared in March 2011 based on the Planning Commission Draft SMP (March 17, 2011 addendum). An addendum to that analysis was prepared on May 3, 2011 and was based on the Planning Commission Recommended Draft SMP (April 21, 2011), which was revised based on public comments. In March 2012, the analysis was updated to reflect further changes made to the SMP in response to additional public comments and comments from the State Department of Ecology in a letter dated July 5, 2011. The purpose of this memo is to assess the cumulative impacts of future development in the shoreline that would result over time under the provisions contained in the Planning Commission Recommended Draft SMP, revised per Ecology comments in their letter dated July 5, 2011 (Draft SMP dated February 29, 2012). This memorandum is prepared as a grant deliverable (SMA Grant No. G1000028, Task 4.2) and will be further revised to reflect the locally adopted SMP.

The city of Gig Harbor is located on Gig Harbor Peninsula, surrounding Gig Harbor Bay, in the Kitsap Watershed (Water Resource Inventory Area (WRIA) 15). There are approximately 8.8 miles of marine shoreline representing designated shorelines of the state (shorelines) in the City’s planning area (city limits and Urban Growth Area). Shorelines include Gig Harbor Bay; portions of Colvos Passage (north of the bay) and the Tacoma Narrows (south of the bay); and portions of Henderson Bay and Burley Lagoon. No freshwater streams or rivers are designated shorelines of the state in Gig Harbor, although stream mouths and sub-estuaries are located in the marine shoreline jurisdiction.

The purpose of evaluating cumulative impacts is to determine whether the proposed SMP goals, policies and regulations will achieve no net loss of shoreline ecological functions from current “baseline” conditions when implemented over time. Baseline conditions are identified and described in the City of Gig Harbor Shoreline Inventory and Characterization Report (ESA Adolfson, last revised January 2010). The draft Gig Harbor SMP provides standards and procedures to evaluate individual uses or developments for their potential to impact shoreline resources on a case-by-case basis through the permitting process. This memorandum summarizes the effect of implementing the SMP on shoreline ecological functions which are likely to result from the aggregate of activities and developments in the shoreline that take place over time.

The guidelines state that, “to ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:

- Current circumstances affecting the shorelines and relevant natural processes;
- Reasonably foreseeable future development and use of the shoreline; and
- Beneficial effects of any established regulatory programs under other local, state, and federal laws.”¹

This cumulative impacts assessment uses these three considerations as a framework for evaluating the potential long-term impacts on shoreline ecological functions and processes that may result from development or activities under the proposed SMP over time. In addition, Appendix A evaluates provisions of the draft SMP in the context of shoreline ecological functions and ecosystem-wide processes as defined by the guidelines.

Current Circumstances

As part of the City’s SMP update process, a shoreline inventory and characterization and map folio were prepared and submitted for technical agency review in August 2008. The report was revised in September 2009 and January 2010 to address technical review comments. The Shoreline Inventory and Characterization (ESA Adolfson, 2010) identifies existing conditions and evaluates the ecological functions and processes in the City’s shoreline jurisdiction. The inventory included all shoreline areas within the City of Gig Harbor and its designated Urban Growth Area (UGA). A summary of key findings and baseline conditions resulting from the inventory and characterization is included in Chapter 3 of the Planning Commission Draft SMP. Baseline conditions are summarized very briefly below. For additional discussion and detail please refer to the inventory and characterization report and/or Chapter 3 of the SMP.

Physical and Ecological Processes

The City’s shoreline jurisdiction includes both steep, high, coastal bluffs as well as the protected areas of Gig Harbor Bay and Henderson Bay. The bluffs along Colvos Passage and the Tacoma Narrows are characterized as “feeder bluffs,” as natural erosion of the bluffs provide sediment to the narrow sand and gravel beaches below. The shoreline inside Gig Harbor Bay is largely encompassed with the protected shores of the barrier fronted embayment. This area is also unique in that the protected banks are low- to moderate- height and within the bay, and considerably more densely developed. This portion of the planning area is also lacking in the availability of large woody debris (LWD) and has very little marine riparian vegetation, relative to the other shores within the City’s planning area. The Henderson Bay / Burley Lagoon shorelines (in the northwest portion of the city and Urban Growth Area (UGA)) encompass the northern extent of a single, long net shore-drift cell that originates at Allen Point, south of the planning area. Up-drift feeder bluffs, located south of the planning area, supply much of the sediment that maintains and creates the beaches and nearshore habitats within the north UGA.

¹ WAC 173-26-286(8)(d)

Habitat and Species

Important features of Gig Harbor's nearshore environment that provide habitat include:

- Marine riparian zones (vegetated bluffs and vegetation overhanging the intertidal zone);
- Bluffs, beaches and backshore (sediment sources, substrate, and storm berms);
- Tidal flats (intertidal or shallow subtidal areas used by juvenile salmonids, shorebirds, and shellfish);
- Eelgrass beds and kelp forests (feeding and rearing habitat for a wide variety of marine organisms);
- Tidal marsh and estuarine wetlands; and
- Streams (fish and wildlife corridors and sources of fluvial sediment to the nearshore).

Aquatic and terrestrial species found in or near Gig Harbor that utilize the nearshore or deep waters of Puget Sound include:

- Shellfish (clams, sea urchin, mussels, oysters, and crab);
- Salmonids (including listed species such as Chinook, steelhead, and bull trout);
- Forage fish (surf smelt, sand lance, and Pacific herring);
- Shorebirds and upland birds; and
- Marine mammals (killer whales, humpback whale, Steller sea lion).

Land Use and Public Access

Current land use in Gig Harbor is a mix of residential, waterfront commercial/business, and open space and recreation. Along Gig Harbor Bay, approximately 50 percent of the land use adjacent to the shoreline is residential, concentrated in the East Gig Harbor UGA and near the mouth of Crescent Creek. The city's waterfront/downtown core in Gig Harbor Bay includes a zoning historic district overlay (as established in the Design Manual, Gig Harbor Municipal Code [GHMC] 17.99) and contains a mix of waterfront commercial, retail, restaurant and tourism-oriented development; waterfront parks and piers; marinas; commercial fishing docks and associated net sheds; and private docks. Approximately 83 percent of the land use south of the Gig Harbor Bay inlet is residential. Land uses adjacent to the shoreline of Henderson Bay and Burley Lagoon include residential and small amounts of commercial near the SR 302 Bridge.

Water-dependent uses in Gig Harbor are concentrated in Gig Harbor Bay and include docks, piers, and net sheds that support the commercial fishing industry; marinas that provide moorage for recreational vessels; and piers and docks that provide public access to the water. The City's waterfront contains 17 historic net shed structures, some of which are actively used for commercial fishing. Others have been adapted to other uses, including storage or office space for marinas and private residential use.

Public access and educational opportunities are provided at approximately 17 waterfront locations in the city and its UGA. These locations include a mix of waterfront parks, public piers and docks, viewing platforms, boat launches and marinas, and street-ends fronting the water. Some public access locations at private condominium

and marina developments have been established directly through the City’s shoreline permit process as a condition of approval. A number of parks and public access sites include interpretive signage related to the City’s history and cultural heritage, and the natural resources and ecology of Gig Harbor Bay.

Shoreline Alterations

Nearshore ecological processes in Gig Harbor’s shoreline planning area have been altered primarily by “shoreline modifications” related to waterfront development, both within the bay and along Colvos Passage, the Tacoma Narrows, and Henderson Bay / Burley Lagoon. Shoreline modifications refer to structural alterations of the shoreline’s natural bank, including riprap, bulkheads, docks, piers or other in-water / overwater structures. Such modifications are typically used to stabilize the shoreline and prevent erosion. The most commonly occurring shore modification is termed shoreline armoring, which typically refers to shore parallel structures such as bulkheads or riprap used to protect coastal property from erosion. Dredging can excavate eelgrass or cause excessive turbidity and permanent filling of eelgrass meadows. Bulkheads and piers may also affect fish life by diverting juvenile salmonids away from shallow shorelines into deeper water, thereby increasing their potential for predation.

Bulkheads, piers, and docks are prevalent in Gig Harbor Bay. These structures serve commercial fishing, public recreation, marinas, and single-family residential properties. Outside of the bay, overwater structures are less common, with the exception of a community of beach cabins at Nesika Beach along Tacoma Narrows, south of the bay. Bulkheads are found in Henderson Bay and Burley Lagoon, primarily associated with residential development.

Based on the 2007 Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) data, the following tables have been developed to show the lineal feet of hard armoring within the City by proposed shoreline environment designation and waterbody. In summary, the majority of the city’s shorelines are highly armored with the exception of certain shoreline sections (Henderson Bay, Colvos Passage, Tacoma Narrows) proposed to be Urban Conservancy or Natural.

Table 1 City Waterfront

Waterbody	Lineal feet armored	Lineal feet unarmored	Total lineal feet	% armored
Gig Harbor Bay	5,744	0	5,744	100%
Total Area Armored	5,744	0	5,744	100%

Table 2 Historic Working Waterfront

Waterbody	Lineal feet armored	Lineal feet unarmored	Total lineal feet	% armored
Gig Harbor Bay	1,300 ¹	0	1,300	100%
Total Area Armored	1,300	0	1,300	100%

¹Approximately 190 lineal feet of vertical wooden bulkhead was removed from the Eddon Boat site’s shoreline frontage about 3 years ago.

Table 3 Purdy Commercial

Waterbody	Lineal feet armored	Lineal feet unarmored	Total lineal feet	% armored
Henderson Bay/Burley Lagoon	1,498	120	1,618	93%
Total Area Armored	1,498	120	1,618	93%

Table 4 Low Intensity Environment

Waterbody	Lineal feet armored	Lineal feet unarmored	Total lineal feet	% armored
Colvos Passage	97	194	291	33%
Gig Harbor Bay	6,827	1,847	8,673	79%
Henderson Bay	2,231	143	2,374	94%
Tacoma Narrows	1,601	1,802	3,403	47%
Total Area Armored	10,399	2,939	13,338	78%

Table 5 Urban Conservancy Environment

Waterbody	Lineal feet armored	Lineal feet unarmored	Total lineal feet	% armored
Colvos Passage	561	734	1,296	43%
Gig Harbor Bay	1,389	3,783	5,172	27%
Henderson Bay	221	2,194	2,416	9%
Burley Lagoon	1,351	1,182	2,533	53%
Total Area Armored	3,522	7,893	11,415	31%

Table 6 Natural Environment

Waterbody	Lineal feet armored	Lineal feet unarmored	Total lineal feet	% armored
Colvos Passage	0	269	269	0%
Tacoma Narrows	0	9,261	9,261	0%
Total Area Armored	0	9,530	9,530	0%

Restoration Opportunities

In addition to the inventory and characterization report, a draft Shoreline Restoration Plan Element was developed as part of the SMP update (ESA Adolfson and Coastal Geologic Services, 2008). Some of the key findings related to the protection and restoration of shoreline functions include:

- The City of Gig Harbor's shorelines have been altered and developed to varying degrees throughout the city and UGA. However, the shorelines still maintain ecological processes and provide important habitat functions to a variety of fish and wildlife species.

- The City is already initiating some of the high priority restoration opportunities such as projects at Crescent and Donkey Creeks, the Eddon Boat property, and will benefit from continuation with those efforts.
- Of the high priority opportunities for shoreline restoration: 1) protecting large wood debris and marine riparian vegetation may require specific policy and code revisions; 2) removing, limiting, and/or replacing traditional shore armoring will require substantial public education efforts and development of regulations or incentives.
- The West Sound Watersheds Council is the Lead Entity organization for salmon recovery in East WRIA 15. The Council is responsible for facilitating natural resource planning, conservation, and restoration activities in collaboration with federal, state and regional efforts. West Sound Watersheds will be developing a strategy for protection and restoration of habitat for ecosystem recovery, which will inform the City's restoration efforts.

Reasonably Foreseeable Future Development and Use

Vacant Parcels and Potential Redevelopment

In order to evaluate the potential for shoreline development in the reasonably foreseeable future, the City of Gig Harbor conducted a thorough GIS analysis that involved categorizing all properties within the shoreline area as:

- Right-of-way;
- Vacant properties (parcels that are not developed with a principal structure but which may have accessory upland structures);
- Vacant properties with water-dependent uses or with parking (parcels with no upland principal structure but have a parking area or overwater structures, such as a net shed, pier or marina);
- Developed properties (properties with a principal structure as of 2007 per Pierce County assessor's data and properties which have a principal structure constructed since 2007 per City of Gig Harbor's permit tracking system); or
- Properties which are not likely to be developed (properties comprised entirely of tidelands or bluff, private roads, or lot area 625 square feet or less in size).

Based on the City's GIS analysis, 9 percent of properties within the shoreline area are vacant and 73 percent are developed (2 percent of which are properties that have vacant water-dependent structures or have existing parking areas). Right-of-way and other property located outside parcel boundaries total 14 percent of the shoreline area. The remaining areas in the shoreline are considered not likely to be developed. Details can be found in Table 7 below.

Table 7 Shoreline Properties by Category

Property Categories	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area ¹
Vacant Properties	89	17	5,497	9%
Vacant Water-Dependent/Parking Only Properties	18	3	1,561	2%
Developed Properties	399	129	30,799	71%
Properties Not Likely to be Developed	46	8	4,700	4%
ROW/Non-parcels in Shoreline Area	N/A	25	1,179	14%
Total Land in Shoreline Area		182	43,737	100%

¹Percent of shoreline area is calculated by dividing the acres in each property category by the total acres of shoreline area, and multiplying by 100 to convert to percentage points.

The term “vacant” may not always accurately reflect current conditions (such as protected open space, steep slopes, wetlands, or other lands with development restrictions); however, depending on the land use and zoning designations, these areas may be subject to new development in the future. In addition to the potential for development on vacant parcels, there is potential for underutilized lots to redevelop at a higher density or with larger structures. In summary, the majority of properties (71 percent) along the shoreline in the city and urban growth areas are already developed. Therefore, it is reasonable to expect redevelopment or remodeling to occur in the future. This analysis assumes that vacant properties and developed properties would develop or redevelop to the maximum extent allowed per the underlying zoning. The purpose of over-estimating development in this manner is to determine impact on ecological functions under a high-impact scenario.

In order to assess the potential impacts on ecological functions and processes resulting from the development of vacant or developed parcels, properties in the shoreline area were further categorized in a manner that allows for identification of the regulations in the Draft SMP that would most likely be applied to future development. Determining which regulations would be applied to development helps to identify the likely future development patterns. Buffer and setback regulations in the Draft SMP are described in Chapter 6, Table 6-1. A *minimum structure setback* and *minimum nonconforming structure setback* have been established based on shoreline environment designation and waterbody. Determining the applicable setback generally depends on the property’s eligibility for vacant averaging or its conformance to the minimum structure setback. Properties that do not conform to the minimum structure setback can be redeveloped in a manner that maintains nonconformity, except for those located in the Natural designation. Also, vacant properties that are located in between developed properties that are nonconforming to the minimum structure setback may use an average setback instead of the minimum structure setback. As a result, the City’s GIS analysis involved categorizing the vacant and developed properties into the following sub-categories:

- Vacant properties eligible for structure setback averaging;
- Developed properties conforming to minimum structure setback;
- Developed properties conforming to minimum nonconforming structure setback;
- Developed properties not conforming to minimum nonconforming structure setback;

Appendix B includes a series of tables organized by shoreline designation and waterbody that identify the number of parcels and property acreage that are located in each of these categories. Overall, 39 percent of shoreline properties (71 acres) contain structures that do not conform to the minimum structure setback and 2 percent of properties (4 acres) are eligible for structure setback averaging. Properties with structures that do not conform to the minimum structure setback can be redeveloped in a manner that retains a nonconforming status, except for those located in the Natural designation. As a result, when properties redevelop, most are likely to develop within the minimum structure setback. However, the following requirements in the Draft SMP preclude impacts to shoreline ecological functions:

- Redevelopment of existing structures that do not conform to the minimum nonconforming structure setback must move landward to be at least conforming to the minimum nonconforming structure setback. Redevelopment of existing nonconforming structures in the Natural designation must conform to the minimum structure setback (see Draft SMP, Section 8.11.8, Regulation #1c).
- Redevelopment of existing structures that do not conform to the minimum structure setback are not allowed to reduce the existing setback between the existing structure and the OHWM (see Draft SMP, Section 6.2.3.3, Regulation #1.a.iii).
- Redevelopment within the minimum structure setback must not exceed the square footage of the existing structure footprint (see Draft SMP, Section 6.2.3.3, Regulation #1.a.ii).
- Redevelopment must involve the establishment of a vegetation conservation strip (either equal to the minimum structure setback or minimum nonconforming structure setback) (see Draft SMP, Section 6.2.3.2, Regulation #3 and Section 6.2.3.3, Regulation #1.a.i).
- In Low Intensity, Urban Conservancy and Natural shoreline environment designations, there can be no net increase in impervious surface area within the minimum structure setback unless it is an incidental amount (1 percent or less) or it is a limited area (50% or less) and accompanied by low impact development techniques (see Draft SMP, Section 6.2.3.2, Regulation #4.c).
- There are maximum impervious lot coverage limits for each shoreline environment designation (see Draft SMP, Section 7.1.2, Table 7-3).

There can be no net loss of existing shoreline vegetation (see Draft SMP, Section 6.2.4, Regulation #9). Overwater Development in Downtown Gig Harbor Bay

The inventory and characterization report describes water-dependent uses in Gig Harbor Bay. Marina development in Gig Harbor Bay began in the early 1960s and has flourished in recent decades. Demand for recreational and pleasure-craft moorage has grown in the region and can be expected to continue. Most of the waterfront in Gig Harbor Bay where marina development would be allowed is already developed with existing marinas, piers, docks, and other overwater facilities serving the commercial fishing industry. However, one marina development has received City permits but has not yet been built. The Rainier Yacht Harbor site, located between Novak Street and Stinson Avenue, is approved for 25 slips. The Rainier Yacht (Ancich) net shed is located on this property and it has been listed on the City's Historic Preservation Register. The marina development is expected to maintain this structure as part of the marina design. No other marina development is anticipated.

The City has recently purchased property just north of the northern terminus of Soundview Drive. This is the former Stutz fuel site that historically served as a public fuel dock. The City has constructed a parking lot and anticipates an existing public pier will be reconstructed during the summer/fall of 2012 to serve the city's commercial fishing fleet and other water craft. The pier may serve as a pedestrian-only ferry terminal.

Gig Harbor's Urban Growth Areas

A large portion of the shorelines characterized in Gig Harbor's Shoreline Inventory and Characterization report are located in the City's UGA. Colvos Passage, East Gig Harbor Bay, Tacoma Narrows south of Nesika Beach, Henderson Bay north of Goodnough Creek and Burley Lagoon are part of Gig Harbor's UGA. Until these areas are incorporated into the City, Pierce County's SMP will regulate development. It is unknown at this time when these areas would be annexed into the City. However, shoreline environment designations, general, use and modification standards, and environment specific standards have been developed in the Planning Commission Draft SMP to address development in the City's UGA. The Draft SMP has been developed to adequately regulate the UGA areas immediately upon annexation.

Efforts have been made to ensure consistency between the Planning Commission Draft SMP and the latest Pierce County Draft SMP. For example, the Low Intensity environment designation has been applied to portions of Gig Harbor's UGA to ensure consistency with Pierce County's draft environment designations. Also, aquaculture standards from Pierce County's Draft SMP have been integrated into the Planning Commission Draft SMP.

Beneficial Effects of Any Established Regulatory Programs under Other Local, State, and Federal Laws

A variety of other regulatory programs, plans, and policies work in concert with the City's SMP to manage shoreline resources and regulate development near the shoreline (see Section 2 of the Inventory and Characterization Report).

Gig Harbor Municipal Code and Long Range Plans

Gig Harbor Comprehensive Plan

The City's Comprehensive Plan establishes the general land use pattern and vision of growth and development the City has adopted for areas both inside and outside the shoreline jurisdiction. Chapter 9 of the Comprehensive Plan contains goals and policies specifically for shoreline management and is intended to maintain consistency with the Shoreline Master Program goals and policies.

Title 14 Stormwater and Surface Water Drainage (Gig Harbor Municipal Code)

GHMC Chapter 14.20 Stormwater Management: The intent of the development standards for stormwater management contained in Chapter 14.20 of the GHMC is to "establish the minimum standards and construction procedures that must be met before issuance of a permit for development or redevelopment of property" (GHMC 14.20.020(A)). This section adopts the City's Stormwater Management and Site Development Manual, as amended, as the guide for controlling runoff from all development and construction. The manual includes minimum requirements for pollution prevention during construction, control of pollutant sources, treatment of runoff, control of stormwater flow volumes, long-term operation and maintenance, and for the protection of wetlands. The manual also provides the methods for achieving those requirements through best management practices (BMPs) for construction and long-term operation, as well as the procedure for determining which BMPs are appropriate for the specific site and construction methods.

GHMC Chapter 14.40 Grading: This chapter regulates the alteration of land by providing “development regulations and construction procedures which will preserve, replace or enhance natural processes and characteristics to the maximum extent practicable, consistent with the zoning and subsequent development...” (GHMC 14.40.010(B)). GHMC 14.40 requires all grading to be in conformance with the City’s Stormwater Management and Site Development Manual. The intent of the regulations in GHMC 14.40 is to minimize water quality impacts and the potential impacts from increased runoff, erosion and sedimentation. The regulations promote site planning and building practices, which are consistent with the city’s natural topographical, vegetation and hydrological features. Included are specifications for slope grade, fill placement, and setbacks from property boundaries.

Title 17 Zoning (Gig Harbor Municipal Code)

GHMC Chapter 17.78 Landscaping and Screening: The landscaping standards provided in this chapter are intended to maintain the overall density of vegetation in the city, provide buffers between differing land uses, and to minimize environmental impacts and improve aesthetic impacts of development. This chapter also insures that required landscaping does not impair scenic vistas.

GHMC Chapter 17.94 Land Clearing: The Land Clearing chapter regulates land disturbing activities by “preventing the indiscriminate removal or destruction of trees and ground cover on undeveloped and partially developed property,” (GHMC 17.94.020(B)). Specifically, the intent of this chapter is to promote land development that has minimal disturbance to vegetation and soils, to minimize surface and groundwater runoff, to minimize the need for new or additional storm drainage facilities, and to reduce siltation and water pollution.

GHMC Chapters 17.98 and 17.99 Design Standards: The Gig Harbor Design Standards (GHMC 17.98) are intended to implement the goals outlined in the design element of the Comprehensive Plan. The Design Manual (GHMC 17.99) contains requirements for new development and redevelopment that are intended to identify important visual patterns in the built environment and relate those patterns to the natural backdrop of trees, hills and water.

Title 18 Environment (Gig Harbor Municipal Code)

GHMC Chapter 18.04 SEPA: Every project requiring a shoreline permit must also demonstrate compliance with the State Environmental Policy Act (SEPA). The SEPA process assures that environmental impacts, including compliance with SMP regulations, are identified, minimized and mitigated, where possible. The City’s SEPA procedures and policies are outlined in Chapter 18.04 of the GHMC, including adoption of the state’s SEPA rules by reference (Chapter 197-11 WAC).

GHMC Chapter 18.10 Flood Hazard Construction Standards: Chapter 18.10 of the GHMC regulates development within City-designated flood hazard areas. “It is the purpose of this chapter to promote the public health, safety, and general welfare; reduce the annual cost of flood insurance; and minimize public and private losses due to flood conditions in specific areas (GHMC 18.10.020).” Provisions for flood hazard reduction include general construction standards, such as materials and methods used, design criteria for utilities, and additional building permit review. Specific construction standards are given for different types of development, such as residential, nonresidential, and critical facilities, as well as for specific areas, such as within the floodway.

In September 2008, a Biological Opinion issued by the National Marine Fisheries Service (NMFS) determined that the effects of certain elements of the National Flood Insurance Program (NFIP) throughout Puget Sound is likely to jeopardize the continued existence of the following species listed under the Endangered Species Act (ESA): Puget Sound Chinook salmon, Puget Sound steelhead, Hood Canal summer-run chum salmon, and

Southern Resident killer whales. The Biological Opinion also determined that NFIP is likely to adversely modify the following ESA designated critical habitats: Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, and Southern Resident killer whale critical habitats.

In response to the Biological Opinion, the Federal Emergency Management Agency (FEMA) developed guidance for NFIP participating communities, which includes the City of Gig Harbor. FEMA guidance provides cities with three options: 1) adopt the FEMA-developed model ordinance; 2) demonstrate compliance with FEMA checklist through current regulations; or 3) demonstrate compliance with ESA on a permit-by-permit basis. The City of Gig Harbor passed an ordinance on September 26th, 2011 (Ord. No. 1223) establishing Option 3 as the most appropriate temporary option. The ordinance established interim development regulations that require Habitat Assessment reports or letters from NMFS or FEMA indicating compliance with the Biological Opinion for developments that are proposed within the Special Flood Hazard Area or Riparian Buffer Zone. Once the Shoreline Master Program update is completed, the City will pursue Option 2 in place of the interim development regulations.

State and Federal Regulations

A number of state and federal agencies may have jurisdiction over land or natural elements in the City's shoreline jurisdiction. Local development proposals most commonly trigger requirements for state or federal permits when they include work in or over waters of the state; impact wetlands or streams; potentially affect fish and wildlife listed under the federal Endangered Species Act (ESA); result in over one acre of clearing and grading; or affect the floodplain or floodway. As with local requirements, state and federal regulations may apply throughout the city, but regulated resources are common within the City's shoreline jurisdiction. The state and federal regulations affecting shoreline-related resources include, but are not limited to:

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

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

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

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

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

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

Conclusion

In large measure, the development and use patterns along Gig Harbor's shorelines are well established. Opportunities for new development exist, but are limited. As determined by the parcel analysis, over 70 percent of the shoreline is already developed. Therefore, provisions in the SMP will most likely be triggered through redevelopment activities. The system of shoreline environment designations and use regulations in the proposed SMP is consistent with the established land use pattern, as well as the land use vision planned for in the City's comprehensive plan, zoning, and other long-range planning documents. Based on these factors, it is unlikely that substantial changes in shoreline uses will occur in the future.

The proposed SMP provides a new system of shoreline environment designations that establishes more uniform management of the City's shoreline. The updated development standards and regulation of shoreline modifications provides more protection for shoreline processes. The new standards and regulations are more restrictive of activities that would result in adverse impacts to the shoreline environment. The restoration planning effort outlined in the SMP provides the City with opportunities to improve or restore ecological functions that have been impaired as a result of past development activities. In addition, the proposed SMP is meant to complement several city, county, state and federal efforts to protect shoreline functions and values.

The actions in the City of Gig Harbor's shoreline jurisdiction taken over time in compliance with the proposed SMP (February 2012) are not likely to result in cumulative adverse impacts to shoreline ecological functions from existing baseline conditions. In concert with implementation of restoration actions and preservation of existing ecological functions in the city the regulatory provisions of the proposed SMP would serve to maintain or improve the overall condition of shoreline resources in the city and its Urban Growth Area.

Changes in subsequent drafts of the SMP may require a re-analysis of potential impacts resulting from the cumulative actions in the shoreline area over time.

**City of Gig Harbor, Shoreline Master Program Update
May 31, 2012 Cumulative Impacts Analysis**

**Appendix A
Assessment of Shoreline Functions Along Gig Harbor Shorelines**

Current and Future Performance of Shoreline Ecological Functions

The following table describes the existing performance of shoreline ecological functions along Gig Harbor shorelines as described in the Shoreline Inventory and Characterization Report (ESA Adolfson, 2010). Regulations from the Planning Commission Recommended Draft SMP, revised and dated February 29, 2012) that protect ecological functions are identified along with policies for enhancement from the Draft Restoration Plan Element (ESA, 2011). The future performance is then assessed based on the type and amount of expected development in the shoreline, the level of protection the proposed SMP regulations provide, and restoration policies and opportunities. Specific opportunities for restoration are outlined in the Restoration Plan Element. Current performance of shoreline ecological functions are ranked “low”, “moderate”, and “high” depending on the level of alteration within Gig Harbor. Future performance is ranked “degradation,” “no change,” and “potential improvement” depending on the expected changes from existing conditions over the next twenty years.

ASSESSMENT OF SHORELINE FUNCTIONS ALONG GIG HARBOR SHORELINES

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
City Waterfront					
Gig Harbor Bay	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	<p>Low: Little upper beach sediment remains intact as a result of significant shore modifications including concrete and wooden bulkheads and riprap. The shoreline is 100% armored.</p> <p>Large concentration of piers, docks, marinas and moorage slips. There are a total of 722 moorage slips and 3 docks/piers associated with single-family homes.</p>	<p>Future Development: Eight percent of the shoreline area is vacant.</p> <p>There is one planned marina that has received City permits. The marina would have 25 slips for recreational moorage. The City has constructed a parking lot and anticipates an existing public pier will be reconstructed during the summer/fall of 2012 at the former Stutz fuel site to serve the city’s commercial fishing fleet and other water craft. The pier may serve as a pedestrian-only ferry terminal.</p> <p>Future development will likely maintain the current mix of commercial, marine industrial, and residential uses.</p> <p>Functions/Processes Impacted: - Sediment transport processes interrupted - Wave energy reflected by armoring and increases</p>	<p>Protection: Shoreline stabilization standards:</p> <ul style="list-style-type: none"> • New or expanded bulkheads should meet “Green Shoreline” approaches consistent with ACOE guidance or NMFS standards (SMP 7.9.2, Reg. #1). • New structural stabilization measures for existing primary structures are not allowed except when proven necessary to protect structures from erosion caused by tidal action, currents, or waves and when the erosion control structure will not result in a net loss of shoreline ecological functions. New stabilization measures are allowed for new development only when erosion is not being caused by upland conditions, nonstructural measures are not feasible, the need is demonstrated through a geotechnical report, and the erosion control structure will not result in a net loss of shoreline ecological functions. New structural stabilization are allowed to protect projects for the restoration of ecological functions or hazardous substance remediation projects (SMP 7.9.2, Reg. #2). • An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents, tidal action, or waves (SMP 7.9.2, Reg. #3). • Technical reports must be submitted that evaluate the need for shoreline stabilization by estimating time frames and rates of erosion and describe alternatives to structural approaches (SMP 7.9.2, Reg. #4). • New hard armoring requires a CUP (SMP 7.1.1, Permitted Use Table). • Shoreline stabilization associated with marinas shall be limited to the minimum necessary and must consist of softshore biostabilization, unless demonstrated to be infeasible/inadequate to protect the site by a geotechnical analysis (SMP 7.11.9, Reg. #3a). <p>Overwater structures standards:</p> <ul style="list-style-type: none"> • The width of docks, piers, floats and flits cannot be wider than 6 feet (non-residential) or 8 feet (residential) unless authorized by state agencies and grating is used; and must allow for light passage or light refraction into the water (SMP 7.11.7, Reg. #6 and 7.11.8, Reg. #7). • Commercial, industrial or public recreational docks, piers, and floats must be designed to avoid a “wall” effect that would block or alter wave patterns, currents, and littoral drift (SMP 7.11.7, Reg. #7c). 	<p>No Change Hydrological functions and processes are severely impaired; changes to hydrology are unlikely. Some soft shore stabilization may replace existing structural stabilization. Limited new overwater structures may occur; however, redevelopment and reconfiguration of existing docks/piers and marinas is more likely.</p>

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			<p>potential for erosion - Sediment movement in the Bay interrupted by in-water structures</p>	<ul style="list-style-type: none"> • No more than 1 dock/pier or 1 float may be permitted on a single lot owned for residential use or private recreational use (SMP 7.9.8, Reg. #6) <p>Boat launch standards:</p> <ul style="list-style-type: none"> • Private ramps must be hand launch only, and made of planks or rails. Concrete ramps are prohibited (SMP 7.1.1 Permitted Use Table). • Public ramps must be hand launch or licensed trailer ramps. Ramp can be made of concrete, planks, rails or graded slope (SMP 7.1.1 Permitted Use Table). • Ramps must be placed and maintained near flush with the foreshore slope (SMP 7.4.6, Reg. #3). <p>Groin standards:</p> <ul style="list-style-type: none"> • Groins are conditionally allowed when they are part of harbors, marinas, or ports. Defense works that substantially reduce or block littoral drift and cause erosion of downdrift shores are not allowed unless a long-term beach nourishment program is put into place (SMP 7.9.5, Reg. #1). <p>Dredging standards:</p> <ul style="list-style-type: none"> • Dredging is allowed for the following uses (SMP 7.1.1, Permitted Use Table and 7.4.2, Reg. #5): <ul style="list-style-type: none"> • Marinas and water-dependent industries • Essential public facilities • Environmental clean-up activities • Underground utilities when other installation methods are not feasible • Maintenance dredging for restoring a lawfully established use • Navigational uses where necessary for safety • Ecological restoration • Public access • Dredging must not adversely impact natural processes such as marine bluff erosion and net-shoreline drift (SMP 7.4.2, Reg. #6d). • Dredge disposal must not alter water circulation, sediment transport, currents, or tidal flows (SMP 7.4.3, Reg. #5b). <p>Fill standards:</p> <ul style="list-style-type: none"> • Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). • Fill is allowed waterward of the OHWM for restoration and City utility activities. Allowed for water-dependent uses and public access with a CUP (SMP 7.1.1, Permitted Use Table). 	

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				<p>Modifications and uses prohibited (SMP 7.1.1, Permitted Use Table):</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps • Railroads • Residential development waterward of OHWM <p>Restoration: Incorporate habitat enhancement elements into the design and implementation of public infrastructure improvement projects. <i>Intent:</i> Lead by example by incorporating culvert replacements, bulkhead replacements, riparian plantings, and other habitat enhancement measures into publicly funded projects that are located or pass through the nearshore environment. (Restoration Plan, Policy #3)</p>	
	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to moderate: On the Washington Department of Ecology 303(d) list for fish habitat. Potential water quality hazards exist at marinas and boat moorage facilities due to fuel spills, increased nutrients from sewage pump-out activities, increased presence of pollutants due to hull scraping and use of anti-fouling paint on boat hulls, and high concentrations of creosote-treated wood pilings and structures.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted:</p> <ul style="list-style-type: none"> - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from industry or treatment plants may degrade water quality 	<p>Protection:</p> <p>SED specific standard: maximum impervious lot coverage for single-family is 50%, <5 units is 55%, and nonresidential is 70% (SMP 7.1.2)</p> <p>Water quality and quantity standards:</p> <ul style="list-style-type: none"> • New development must meet current stormwater management standards; BMPs must be used to control treatment and release of surface runoff; Erosion control methods must be used during construction and operation; Materials that come into contact with water must be constructed of materials that will not adversely affect water quality; Time release fertilizer and herbicides are preferred over liquid or concentrate applications; Oil, chemicals or hazardous materials released onto land or water is prohibited; Refueling and maintenance of construction vehicles shall be conducted outside the shoreline jurisdiction where possible; New developments must connect to City's sanitary sewer system unless otherwise approved per City regulations; Water reuse projects for reclaimed water must comply with the current adopted water/sewer comprehensive plan approved by Ecology (SMP 6.6.2, Reg. #'s 1-9). • Mitigation is required for developments that create unavoidable impacts adverse to shoreline vegetation. Mitigation shall ensure that no net loss in the amount of vegetated area or the ecological functions performed by the disturbed vegetation (SMP 6.2.4, Reg. #3). <p>Overwater structure standards:</p> <ul style="list-style-type: none"> • Materials for piers, docks and floats that come into contact with water must be approved by applicable state agencies for use in water (SMP 7.11.7, Reg. #5 and 7.11.8, Reg. #7d). • Storage of fuel, oils, and other toxic materials is prohibited on residential docks, piers and floats (SMP 7.11.8, Reg. #4). • Live-aboards are allowed only at marinas that have adequate facilities to address waste and sanitary disposal (SMP 7.11.9, Reg. #3f). • Pump-out, holding, or waste treatment facilities must be provided at all marinas (SMP 7.11.9, Reg. #7e). <p>Clearing and grading and fill standards:</p> <ul style="list-style-type: none"> • Clearing and grading activities that total more than one acre must have water quality and erosion control measures established through the NPDES permit. Those that are less than one acre must have a TESC plan that employs BMPs (SMP 7.3.2, Reg. #2), 	<p>No Change, Potential Improvement Water quality improvement will result from the replacement of docks and piers with non-toxic materials, remediation of contaminated sites, compliance with new stormwater management standards, waste treatment standards at marinas, and use of BMPs during construction.</p> <p>The most significant improvement will stem from the recent extension of the wastewater treatment plant outfall outside of Gig Harbor Bay.</p>

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				<ul style="list-style-type: none"> • Grading must be completed or stabilized by October 31st (SMP 7.3.2, Reg. #4), • Clearing is allowed between October 31st and April 1st only when clearing limits have been identified when leaf is present (SMP 7.3.2, Reg. #5). • A TESC plan is required for all proposed fill activities (SMP 7.5.2, Reg. #5). <p>Dredging standards:</p> <ul style="list-style-type: none"> • Dredging proponents may be required to provide information that ensures appropriate BMPs are employed to prevent water quality impacts (SMP 7.4.2, Reg. #6e). <p>Marine boat sales, marine sales and service and marine industrial development standards:</p> <ul style="list-style-type: none"> • Industrial developments must include the capability to contain and clean up spills, discharges, or pollutants, and must be responsible for any water pollution which they cause (SMP 7.15.2, Reg. #2), • Industrial uses and redevelopment projects are encouraged to locate where environmental cleanup and restoration can be accomplished (SMP 7.15.2, Reg. #3). <p>Shoreline stabilization standards:</p> <ul style="list-style-type: none"> • Shoreline stabilization must be constructed and maintained in a manner that does not degrade the quality of affected waters (SMP 7.9.4, Reg. #4c), • No motor vehicles, appliances, demolition debris nor any other solid waste can be used for shoreline stabilization (SMP 7.9.4, Reg. #4d). <p>Transportation facilities standards:</p> <ul style="list-style-type: none"> • Construction of roadways must protect shorelands against erosion and uncontrolled or polluting drainage (SMP 7.20.3, Reg. #1b), • Debris, overburden and other waste materials from construction must be disposed of in such a way as to prevent their entry by erosion from drainage into a water body (SMP 7.20.3, Reg. #1d), • Cut and fill slopes must be stabilized and planted with native vegetation (SMP 7.20.3, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Commercial shellfish and net pen/finfish aquaculture, including within the City's urban growth area • Level 1 and 2 industrial use • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities 	

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				<p>Restoration:</p> <p>Educate landowners and encourage public involvement in the restoration of the shoreline. <i>Intent:</i> Provide outreach and technical support to shoreline landowners to better inform and support voluntary restoration of native vegetation and alternative bank stabilization techniques on private property. Present effective stormwater management techniques to landowners to help improve the water quality of Puget Sound. These techniques would be provided as part of the City's Phase 2 National Pollution Discharge Elimination System permit (NPDES) for Gig Harbor's wastewater treatment plant. This policy is also intended to provide opportunities for the citizens of Gig Harbor to take part in, and learn about, the restoration of the city's shorelines. Examples events could include: clean-up days, invasive species removal, native plantings, monitoring projects, and low impact development techniques. (Restoration Plan, Policy #5)</p> <p>Improve water quality in Gig Harbor Bay through the use of low impact development techniques; vegetation restoration; treatment and removal of hazardous materials; and stormwater management, and improved sanitary sewage pump-out facilities for recreational boaters. <i>Intent:</i> Encourage developers and property owners to utilize the low impact development techniques in the Gig Harbor Stormwater Management and Site Development Manual, and provide increased access to sanitary sewage pump-out facilities for recreational boaters. (Restoration Plan, Policy #6)</p> <p>Capital improvement project: Treatment Plant Effluent Outfall Construction involves extending the City's wastewater treatment plant outfall outside the Bay to Colvos Passage. Project includes removal of abandoned creosote pilings.</p>	

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	<p>LWD, Organics and Habitat: Maintain Characteristic Plant Community</p>	<p>Low: There is little to no vegetation along this part of the Bay. Mostly developed with marinas, piers and shoreline armoring.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Riparian vegetation degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris (LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate</p>	<p>Protection: SED specific standards:</p> <ul style="list-style-type: none"> An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 25 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 10 feet under the following circumstances: 1) when structure setback averaging is applied for infill;; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 25-foot setback must either move landward to be at least 10 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint and must establish a 10-foot vegetation conservation strip (SMP 6.2.3). <p>Vegetation conservation standards:</p> <ul style="list-style-type: none"> There can be no net loss in the amount or ecological function of vegetated area within shoreline jurisdiction (SMP 6.2.4, Reg. #9 and 10), When restoring or enhancing vegetation, native species of a similar diversity, density, and type that occurs in the general vicinity of the site must be used when restoring or enhancing shoreline vegetation (SMP 6.2.4, Reg. #4). Critical area buffers or setbacks from the OHWM must be maintained and managed as vegetation conservation areas. Not more than 15 percent of the area may be cleared. Buffers previously disturbed must be re-vegetated (SMP 6.2.4, Reg. #4 and 5), Properties containing an ecological restoration project must file with the Pierce County Auditor a notice of the presence of an ecological restoration project (SMP 6.2.4, Reg. #13), Selective pruning is allowed for shoreline views, (SMP 6.2.4, Reg. #12). <p>Boat launch access standards:</p> <ul style="list-style-type: none"> Removal of vegetation for constructing a boat launch access must be limited to eight feet in width (SMP 7.11.6, Reg. #5). <p>Shoreline stabilization standards</p> <ul style="list-style-type: none"> Most new bulkheads and expanded bulkheads must include natural features such as native vegetation (SMP 7.9.2, Reg. #1). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> Forest Practices Dune modification <p>Restoration: Incorporate habitat enhancement elements into the design and implementation of public infrastructure improvement projects. <i>Intent:</i> Lead by example by incorporating culvert replacements, bulkhead replacements, riparian plantings, and other habitat enhancement measures into publicly funded projects that are located or pass through the nearshore environment. (Restoration Plan, Policy #3)</p>	<p>No change, Potential improvement. Establishing a 10 to 25 foot vegetation conservation strip for non-water-dependent uses will result in an increase of native vegetation overhanging the intertidal zone.</p>

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Historic Working Waterfront					
	<p>Hydrology: Transporting and stabilizing sediment, attenuating wave and tidal energy</p>	<p>Low: Little upper beach sediment remains intact as a result of significant shore modifications including concrete and wooden bulkheads and riprap. The shoreline is entirely armored except for 190 lineal feet along the Eddon Boat site.</p> <p>There are a total of 42 moorage slips.</p>	<p>Future Development: Twenty-nine percent of the shoreline area is vacant.</p> <p>Functions/Processes Impacted: Same as City Waterfront.</p>	<p>Protection: Shoreline stabilization standards are the same as for the City Waterfront designation. Overwater structures standards are the same as for the City Waterfront designation. Boat launch standards are the same as for the City Waterfront designation. Groin standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Fill standards are the same as for the City Waterfront designation.</p> <p>Modifications and uses prohibited: Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change: Same as City Waterfront</p>
Gig Harbor Bay	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to moderate: On the Washington Department of Ecology 303(d) list for fish habitat. Potential water quality hazards exist at marinas and boat moorage facilities due to fuel spills, increased nutrients from sewage pump-out activities, increased presence of pollutants due to hull scraping and use of anti-fouling paint on boat hulls, and high concentrations of creosote-treated wood pilings and structures.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: Same as City Waterfront.</p>	<p>Protection: SED specific standards are the same as for the City Waterfront designation. Water quality and quantity standards are the same as for the City Waterfront designation. Overwater structures standards are the same as for the City Waterfront designation. Clearing and grading and fill standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Marine boat sales, marine sales and service and marine industrial development standards are the same as for the City Waterfront designation. Shoreline stabilization standards are the same as for the City Waterfront designation. Transportation facilities standards are the same as for the City Waterfront designation.</p> <p>Modifications and uses prohibited: Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change, Potential Improvement: Same as City Waterfront</p>

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<p>LWD, Organics and Habitat: Maintain Characteristic Plant Community</p> <p>Low: There is little to no vegetation along this part of the Bay. Mostly developed with marinas, piers and shoreline armoring.</p> <p>Future Development: See above. Functions/Processes Impacted: Same as City Waterfront.</p> <p>Protection: SED specific standards are the same as for the City Waterfront designation. Vegetation conservation standards are the same as for the City Waterfront designation. Boat launch access standards are the same as for the City Waterfront designation. Shoreline stabilization standards are the same as for the City Waterfront designation. Modifications and uses prohibited: Same as for the City Waterfront designation. Restoration: Provisions are the same as for the City Waterfront designation.</p> <p>No Change, Potential Improvement: Same as City Waterfront</p>					
Purdy Commercial					
Henderson Bay/Burley Lagoon	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	Low: Mapped as depositional. Nearshore habitats are degraded from shore armoring due to substrate modification, loss of shoreline connectivity and beach narrowing. Modifications include concrete seawall, wooden bulkhead, riprap, landfill, and commercial development. Ninety-three percent of the shoreline is armored.	Future Development: Ten percent of the shoreline area is vacant. Functions/Processes Impacted: - Sediment transport processes interrupted - Wave energy reflected by armoring and increases potential for erosion - Beach lowering and substrate alteration	<p>Protection: Shoreline stabilization standards are the same as for the City Waterfront designation. Overwater structures standards are the same as for the City Waterfront designation. Boat launch standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Fill standards are the same as for the City Waterfront designation. Aquaculture standards:</p> <ul style="list-style-type: none"> • Bottom culture, bag, rack & bag, stake, and long-line, and hydraulic harvest are all method types allowed with a conditional use permit (SMP 7.1.1, Permitted Use Table). • Use of net pens or other submerged holding facilities for fish in the nearshore environment is prohibited (SMP 7.10.2, Reg. #1). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Breakwaters, jetties, groins, and weirs • Private, concrete boat launch ramps • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	No Change Hydrological functions and processes are severely impaired; changes to hydrology are unlikely. Some soft shore stabilization may replace existing structural stabilization. New overwater structures are unlikely due to shallow water depth.

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	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: On the Washington Department of Ecology 303(d) list for fecal coliform, dissolved oxygen, pH, temperature, and ammonia-N.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from stormwater outfalls may degrade water quality</p>	<p>Protection: SED specific standard: maximum impervious lot coverage for single-family is 50%, <5 units is 55%, and nonresidential is 70% (SMP 7.1.2). Water quality and quantity standards are the same as for the City Waterfront designation. Overwater structures standards are the same as for the City Waterfront designation. Clearing and grading and fill standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Shoreline stabilization standards are the same as for the City Waterfront designation. Transportation facilities standards are the same as for the City Waterfront designation.</p> <p>Aquaculture standards:</p> <ul style="list-style-type: none"> • Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). • Aquaculture wastes must be disposed of in a manner that will be in strict compliance with governmental waste disposal standards (SMP 7.10.2, Reg. #8). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Net pens/finfish and floating culture: mussel rafts • Marine industrial, marine boat sales, and marine sales and services • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.</p>	<p>No Change Compliance with new stormwater management standards, use of BMPs during construction, and aquaculture standards that prohibit adverse effects to water quality will ensure that no new impacts to water quality occur.</p>

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	<p>LWD, Organics, and Habitat: Maintain Characteristic Plant Community</p>	<p>Low: There is little to no vegetation. Mostly developed with shoreline armoring and commercial developments.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Riparian vegetation degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris(LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate</p>	<p>Protection: SED specific standards:</p> <ul style="list-style-type: none"> An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 50 feet from the OHWM. The conservation strip may be reduced to no less than 25 feet for a water-oriented use under the following circumstances: 1) rigid shoreline armoring is removed from the site's shoreline frontage and replaced with soft-shore protection; and 2) for properties with an undisturbed vegetation conservation strip, no more than 10 percent of the area is cleared or 3) for properties with previously disturbed vegetation conservation strip, native plants are planted at a density 1.5 times that required in Section 6.2.4. The conservation strip may be reduced to no less than 10 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 50-foot setback must either move landward to be at least 10 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint and must establish a 10-foot vegetation conservation strip (SMP 6.2.3). <p>Vegetation conservation standards are the same as for the City Waterfront designation. Boat launch access standards are the same as for the City Waterfront designation. Shoreline stabilization standards are the same as for the City Waterfront designation.</p> <p>Aquaculture standards:</p> <ul style="list-style-type: none"> Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). <p>Modifications and uses prohibited: Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change Establishing a 10 to 50 foot vegetation conservation strip for non-water-dependent uses will result in an increase of native vegetation overhanging the intertidal zone. Redevelopment of nonconforming structures will not result in adverse impacts but will maintain existing performance of functions.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
Low Intensity					
Colvos Passage	Hydrology Transporting sediment, attenuating wave and tidal energy	Moderate: Sediment input from eroding feeder bluffs partially impounded by riprap and concrete seawall at the base of the bluff. Thirty-three percent of the shoreline is armored. No over-water structures are present. Drift cell mapped as southward towards spit.	Future Development: Thirty-two percent of the shoreline area is vacant. Functions/Processes Impacted: - Sediment transport processes (from coastal feeder bluffs) interrupted - Wave energy reflected by armoring and increases potential for erosion	<p>Protection:</p> <p>Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Overwater structures standards are the same as those described for the City Waterfront designation.</p> <p>Boat launch standards are the same as those described for the City Waterfront designation except that public boat launch ramps cannot be made of planks.</p> <p>Dredging standards are the same as those described for the City Waterfront designation except that dredging is limited to shoreline restoration and for maintaining previously authorized areas provided that a CUP be obtained (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards are the same as those described for the City Waterfront designation.</p> <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> • Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). • New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). • The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change</p> <p>Since new structural shoreline armoring requires a CUP, expansion of armoring may occur in limited circumstances. The impact to the nearshore in this segment is limited because there are only five properties: two of which are vacant.</p> <p>New overwater structures are unlikely to be built because of high-energy waves.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	Water Quality: Removing excessive nutrients and toxic compounds	Low to Moderate: On the Washington Department of Ecology 303(d) list for total PCBs, dissolved oxygen, and mercury.	Future Development: See above. Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from treatment plants may degrade water quality	Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2) Water quality and quantity standards are the same as those described for the City Waterfront designation. Overwater structure standards are the same as those described for the City Waterfront designation. Clearing, grading and fill standards are the same as those described for the City Waterfront designation. Dredging standards are the same as those described for the City Waterfront designation. Shoreline stabilization standards are the same as those described for the City Waterfront designation. Transportation facilities standards are the same as those described for the City Waterfront designation. Residential use standards: <ul style="list-style-type: none"> • New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). Modifications and uses prohibited: <ul style="list-style-type: none"> • Agriculture • Commercial shellfish aquaculture • Non-water-dependent recreation uses waterward of OHWM • Commercial fishing sales and services • Industrial development • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.	No Change Compliance with new stormwater management standards and use of BMPs during construction will ensure that no new impacts to water quality occur.
	LWD, Organics and Habitat: Maintain Characteristic Plant Community	Moderate: A wide band of deciduous trees is overhanging the intertidal zone. Limited vegetation clearing for residential development has occurred.	Future Development: See above. Functions/Processes Impacted: - Riparian vegetation minimally degraded affecting shoreline habitat values - Existing trees provide Large Woody Debris(LWD) - Over-hanging native vegetation provides	Protection: SED specific standards: <ul style="list-style-type: none"> • An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 50 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 20 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 50-foot setback must either move landward to be at least 20 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 20-foot vegetation conservation strip (SMP 6.2.3). 	No change. New development will be required to establish a 50-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions. Tree conservation standards will ensure mitigation from tree loss, slope protection and may result

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
			<p>food sources to nearshore environment and salmonids</p> <ul style="list-style-type: none"> - Stormwater infiltration occurs due to existing vegetation 	<p>Vegetation conservation standards are the same as those described for the City Waterfront designation. In addition, the following standard applies:</p> <ul style="list-style-type: none"> • Trees that are 12 inches or more in diameter must be retained unless hazardous or diseased. If healthy or non-hazardous trees are removed, each removed tree must be replaced with at least three (3) six-foot trees or one (1) 18-foot tree or one (1) 12-foot plus one (1) six-foot tree of the same species or equivalent native tree species. Ten percent of the replaced trees must be located within the required vegetation conservation area (SMP 6.2.4, Reg. #7). <p>Boat launch access standards are the same as those described for the City Waterfront designation.</p> <p>Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided improvements within vegetation conservation area or removal of significant vegetation is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <p>Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>in an increase of vegetation overhanging the intertidal zone.</p>
Gig Harbor Bay	<p>Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy</p>	<p>Low: Shore modifications (overwater structures and shoreline armoring) impound nearshore sediment supply. Armoring is predominately concrete bulkheads with areas of riprap. Seventy-nine percent of the shoreline is armored. There are 45 private docks and piers associated with single-family residential houses and 1 public boat launch ramp. Two diverging drift cells mapped: most of the bay mapped with drift to the north with the</p>	<p>Future Development: Eight percent of the shoreline area is vacant. There is potential for existing docks/piers to be replaced or expanded. There are 21 single-family residential parcels abutting the shoreline that do not have docks/piers. The proposed SMP has a preference for joint-use docks/piers; however, there is potential for 21 new docks/piers/floats to be built.</p> <p>Functions/Processes Impacted:</p> <ul style="list-style-type: none"> - Sediment transport processes interrupted - Wave energy reflected by armoring and increases potential for 	<p>Protection:</p> <p>Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Overwater structures standards are the same as those described for the City Waterfront designation.</p> <p>Boat launch standards are the same as those described for the City Waterfront designation except that public boat launch ramps cannot be made of planks.</p> <p>Groin standards are the same as those described for the City Waterfront designation.</p> <p>Dredging standards are the same as those described for the City Waterfront designation except that dredging is limited to the entrance to Gig Harbor Bay for the maintenance of navigational channels; dredging for shoreline restoration purposes; and dredging for maintaining previously authorized areas provided that a CUP be obtained (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards are the same as those described for the City Waterfront designation.</p> <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> • Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). • New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). • The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p>	<p>No Change Since new structural shoreline armoring requires a CUP, expansion of armoring may occur in limited circumstances. Where avoidance is not feasible, new docks/piers are required to be minimized and mitigated.</p>

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		southern portion mapped as drift to the south.	erosion - Sediment movement in the Bay interrupted by in-water structures	<ul style="list-style-type: none"> • New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	
	Water Quality: Removing excessive nutrients and toxic compounds	Moderate: On the Washington Department of Ecology 303(d) list for fish habitat.	<p>Future Development: See above.</p> <p>Functions/Processes Impacted:</p> <ul style="list-style-type: none"> - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from industry or treatment plants may degrade water quality 	<p>Protection:</p> <p>SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2)</p> <p>Water quality and quantity standards are the same as those described for the City Waterfront designation.</p> <p>Overwater structure standards are the same as those described for the City Waterfront designation.</p> <p>Clearing, grading and fill standards are the same as those described for the City Waterfront designation.</p> <p>Dredging standards are the same as those described for the City Waterfront designation.</p> <p>Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Transportation facilities standards are the same as those described for the City Waterfront designation.</p> <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Commercial shellfish and net pen/finfish aquaculture, including within the City's urban growth area • Non-water-dependent recreation uses waterward of OHWM • Commercial fishing sales and services • Industrial development • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change, Potential Improvement</p> <p>Water quality improvement will result from the replacement of docks and piers with non-toxic materials, compliance with new stormwater management standards, and use of BMPs during construction.</p> <p>The most significant improvement will stem from the recent extension of the wastewater treatment plant outfall outside of Gig Harbor Bay.</p>

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	<p>LWD, Organics and Habitat: Maintain Characteristic Plant Community</p>	<p>Low to Moderate: Residential yards with ornamental trees. A narrow fringe of pickleweed lines the base of the armored shoreline.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Riparian vegetation degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris(LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate</p>	<p>Protection: SED specific standards:</p> <ul style="list-style-type: none"> An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 35 feet (in Gig Harbor Bay)/50 feet in (Gig Harbor Bay UGA) from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 15 feet (in Gig Harbor Bay)/20 feet in (Gig Harbor Bay UGA) under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 35-foot/50 foot setback must either move landward to be at least 15/20 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 15/20-foot vegetation conservation strip (SMP 6.2.3). <p>Vegetation conservation standards are the same as those described for the City Waterfront designation. In addition, the following standard applies to the UGA area:</p> <ul style="list-style-type: none"> Trees that are 12 inches or more in diameter must be retained unless hazardous or diseased. If healthy or non-hazardous trees are removed, each removed tree must be replaced with at least three (3) six-foot trees or one (1) 18-foot tree or one (1) 12-foot plus one (1) six-foot tree of the same species or equivalent native tree species. Ten percent of the replaced trees must be located within the required vegetation conservation area (SMP 6.2.4, Reg. #7). <p>Boat launch access standards are the same as those described for the City Waterfront designation. Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided improvements within vegetation conservation area or removal of significant vegetation is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited: Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change in City limits. New development will be required to establish a 35 to 50-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.</p> <p>No change in UGA. New development will be required to establish a 35 to 50-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions. Tree conservation standards will ensure mitigation from tree loss, slope protection and may result in an increase of vegetation overhanging the intertidal zone.</p> <p>Since each property is allowed to have one dock, pier or float there is potential for 29 new overwater structures. New overwater structures may affect in-water habitat. However, docks and piers are required to meet Washington Department of Fish and Wildlife, U.S. Army Corps of Engineers and Washington State Department of Ecology standards. They must also be limited to 8 feet in width unless otherwise authorized by state resource agencies. The docks and piers must allow for light passage or light refraction into the water.</p>

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Tacoma Narrows	<p>Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy</p>	<p>Moderate: There is a community of overwater cabins located at the base of the bluff that impound sediment. The buildings are on pilings in the subtidal area. Forty-seven percent of the shoreline is mapped as armored and 40 percent mapped as overhanging riparian vegetation. Net shore drift mapped as southward.</p>	<p>Future Development: Six percent of the shoreline area is vacant.</p> <p>Functions/Processes Impacted: - Sediment transport processes (from coastal feeder bluffs) interrupted - Wave energy reflected by armoring and increases potential for erosion - Sediment movement and net shore drift along nearshore interrupted by over-water structures</p>	<p>Protection: Shoreline stabilization standards are the same as those described for the City Waterfront designation. Overwater structures standards are the same as those described for the City Waterfront designation. Boat launch standards are the same as those described for the City Waterfront designation except that public boat launch ramps cannot be made of planks. Dredging standards are the same as those described for the City Waterfront designation except that dredging is limited to shoreline restoration purposes and for maintaining previously authorized areas provided that a CUP be obtained (SMP 7.1.1, Permitted Use Table). Fill standards are the same as those described for the City Waterfront designation. Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> Private, concrete boat launch ramps Railroads Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change Since new structural shoreline armoring requires a CUP, expansion of armoring may occur in limited circumstances. Existing overwater cabins are considered nonconforming and cannot be altered or remodeled in any way that increases their nonconformity.</p> <p>New overwater docks and piers are unlikely due to navigability constraints.</p>

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	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: On the Washington Department of Ecology 303(d) list for total PCBs, dissolved oxygen and mercury.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Construction materials degrade water quality</p>	<p>Protection: SED specific standard:</p> <ul style="list-style-type: none"> From south line of City Waterfront designation south to Old Ferry landing-south line of Parcel 0221085019: Maximum impervious lot coverage for single-family is 40%, for duplex is 45% and for nonresidential is 50% (SMP 7.1.2) From south line of Parcel 0221085019 to south line of Parcel 0221084059: Maximum impervious lot coverage in the R-1 zoning district is 40% and in the R-2 zoning district is 60% (SMP 7.1.2). <p>Water quality and quantity standards are the same as those described for the City Waterfront designation. Overwater structure standards are the same as those described for the City Waterfront designation. Clearing, grading and fill standards are the same as those described for the City Waterfront designation. Dredging standards are the same as those described for the City Waterfront designation. Shoreline stabilization standards are the same as those described for the City Waterfront designation. Transportation facilities standards are the same as those described for the City Waterfront designation.</p> <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> Agriculture Commercial shellfish aquaculture Non-water-dependent recreation uses waterward of OHWM Commercial fishing sales and services Industrial Development Mining Parking as a principle use Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.</p>	<p>No Change Compliance with new stormwater management standards and use of BMPs during construction will ensure that no new impacts to water quality occur.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	<p>LWD, Organics and Habitat: Maintain Characteristic Plant Community</p>	<p>Moderate: Large deciduous trees overhang the intertidal zone along some of the shoreline. Forested bluffs upland from overwater cabins.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted:</p> <ul style="list-style-type: none"> - Riparian vegetation minimally degraded affecting shoreline habitat values - Existing trees provide Large Woody Debris(LWD) - Native vegetation overhangs nearshore environment providing food sources to intertidal zone and salmonids - Stormwater infiltrates due to vegetation 	<p>Protection:</p> <p>SED specific standards:</p> <ul style="list-style-type: none"> • From south line of City Waterfront designation south to Old Ferry landing-south line of Parcel 0221085019: An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 35 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 15 feet under the following circumstances: 1) when structure setback averaging is applied for infill;; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 35-foot setback must either move landward to be at least 15 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 15-foot vegetation conservation strip (SMP 6.2.3). • From south line of Parcel 0221085019 to south line of Parcel 0221084059: An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer, 75 feet from the OHWM, or 50 feet from the top of the bluff, whichever is greater. The conservation strip may be reduced to no less than 20 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 75/50-foot setback must either move landward to be at least 20 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 20-foot vegetation conservation strip (SMP 6.2.3). <p>Vegetation conservation standards are the same as those described for the City Waterfront designation.</p> <p>Boat launch access standards are the same as those described for the City Waterfront designation.</p> <p>Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided improvements within vegetation conservation area or removal of significant vegetation is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <p>Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No change. New development will be required to establish a 35 to 75-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
Henderson Bay	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	Low to Moderate: Feeder bluffs up-drift from Henderson Bay supply much of the sediment that maintains and creates the beaches and nearshore habitats within the City's UGA portion of Henderson Bay. However, extensive shoreline armoring is likely to have adverse impacts to the beach such as beach lowering, accelerated rates of sediment transport and substrate alteration. Ninety-four percent of the shoreline is modified with a combination of concrete and wooden bulkheading, and some riprap.	Future Development: Two percent of the shoreline area is vacant. Functions/Processes Impacted: - Sediment transport processes interrupted - Wave energy reflected by armoring and increases potential for erosion - Beach lowering and substrate alteration	<p>Protection:</p> <p>Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Overwater structures standards are the same as those described for the City Waterfront designation.</p> <p>Boat launch standards are the same as those described for the City Waterfront designation except that public boat launch ramps cannot be made of planks.</p> <p>Dredging standards are the same as those described for the City Waterfront designation except that dredging is limited to shoreline restoration and for maintaining previously authorized areas provided that a CUP be obtained (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards are the same as those described for the City Waterfront designation.</p> <p>Aquaculture standards:</p> <ul style="list-style-type: none"> • Bottom culture, bag, rack & bag, stake, and long-line, and hydraulic harvest are all method types allowed with a conditional use permit (SMP 7.1.1, Permitted Use Table). • Use of net pens or other submerged holding facilities for fish in the nearshore environment is prohibited (SMP 7.7.2, Reg. #1). <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> • Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). • New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). • The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	No Change Since new structural shoreline armoring requires a CUP, expansion of armoring may occur in limited circumstances. New overwater structures are unlikely due to shallow water depth.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: On the Washington Department of Ecology 303(d) list for fecal coliform, dissolved oxygen, pH, temperature, and ammonia-N.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality</p>	<p>Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2) Water quality and quantity standards are the same as those described for the City Waterfront designation. Overwater structure standards are the same as those described for the City Waterfront designation. Clearing, grading and fill standards are the same as those described for the City Waterfront designation. Dredging standards are the same as those described for the City Waterfront designation. Shoreline stabilization standards are the same as those described for the City Waterfront designation. Transportation facilities standards are the same as those described for the City Waterfront designation. Aquaculture standards:</p> <ul style="list-style-type: none"> • Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). • Aquaculture wastes must be disposed of in a manner that will be in strict compliance with governmental waste disposal standards (SMP 7.10.2, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Net pen/finfish aquaculture and floating culture: mussel rafts • Non-water-dependent recreation uses waterward of OHWM • Commercial fishing sales and services • Industrial development • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.</p>	<p>No Change Compliance with new stormwater management standards, use of BMPs during construction, and aquaculture standards that prohibit adverse effects to water quality will ensure that no new impacts to water quality occur.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	<p align="center">SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy</p>	Future Performance
	<p>LWD, Organics and Habitat: Maintain Characteristic Plant Community</p>	<p>Low to Moderate: Narrow width of riparian vegetation is located along the shoreline.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Riparian vegetation degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris(LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate</p>	<p>Protection: SED specific standards:</p> <ul style="list-style-type: none"> An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 75 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 25 feet under the following circumstances: 1) when structure setback averaging is applied for infill;; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 75-foot setback must either move landward to be at least 25 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 25-foot vegetation conservation strip (SMP 6.2.3). <p>Vegetation conservation standards are the same as those described for the City Waterfront designation. Boat launch access standards are the same as those described for the City Waterfront designation. Shoreline stabilization standards are the same as those described for the City Waterfront designation.</p> <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided improvements within vegetation conservation area or removal of significant vegetation is not necessary (SMP 7.18.2, Reg. #3). <p>Aquaculture standards:</p> <ul style="list-style-type: none"> Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). <p>Modifications and uses prohibited: Same as for the City Waterfront designation.</p> <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No change. New development will be required to establish a 75-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
Urban Conservancy					
Colvos Passage	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	Moderate: Sediment input from eroding feeder bluffs partially impounded by riprap and concrete seawall at the base of the bluff. Forty-three percent of the shoreline is armored. No over-water structures are present. Drift cell mapped as southward towards spit.	Future Development: Thirteen percent of the shoreline area is vacant. Functions/Processes Impacted: - Sediment transport processes (from coastal feeder bluffs) interrupted - Wave energy reflected by armoring and increases potential for erosion	<p>Protection:</p> <p>Shoreline stabilization standards are the same as the City Waterfront designation except that the standard for marinas is not applicable.</p> <p>Overwater structures standards:</p> <ul style="list-style-type: none"> The width of docks, piers, floats and flits cannot be wider than 8 feet unless authorized by state agencies (SMP 7.11.8, Reg. #7a). No more than 1 dock/pier or 1 float may be permitted on a single lot owned for residential use or private recreational use (SMP 7.11.8, Reg. #6). <p>Boat launch standards:</p> <ul style="list-style-type: none"> Private ramps must be hand launch only. Concrete ramps are prohibited (SMP 7.1.1 Permitted Use Table). Public ramps must be hand launch only. Ramp can be made of rails or graded slope. Concrete and planks are prohibited (SMP 7.1.1 Permitted Use Table). Ramps must be placed and maintained near flush with the foreshore slope (SMP 7.11.6, Reg. #3). <p>Dredging standards are the same as the City Waterfront designation except it is limited to restoration and stream culvert maintenance only (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards:</p> <ul style="list-style-type: none"> Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). Fill is allowed for restoration and City utility activities. Allowed for water-dependent uses and public access with a CUP (SMP 7.1.1, Permitted Use Table). <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). 	No Change Since new structural shoreline armoring requires a CUP, expansion of armoring may occur in limited circumstances. New overwater structures are unlikely to be built because of high-energy waves.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	<p align="center">SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy</p>	Future Performance
				<p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps and public, concrete and plank boat launch ramps • Non-residential and Non-single-family residential boating use • Historic net sheds • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	
	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: On the Washington Department of Ecology 303(d) list for total PCBs, dissolved oxygen and mercury.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from treatment plants may degrade water quality</p>	<p>Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2). Water quality and quantity regulations are the same as for the City Waterfront designation. Overwater structure standards:</p> <ul style="list-style-type: none"> • Materials for piers, docks and floats that come into contact with water must be approved by applicable state agencies for use in water (SMP 7.11.8, Reg. #7d). • Storage of fuel, oils, and other toxic materials is prohibited on residential docks, piers and floats (SMP 7.11.8, Reg. #4). • Non-residential moorage is not allowed in the Urban Conservancy designation. <p>Clearing and grading and fill standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Transportation facilities standards are the same as for the City Waterfront designation. Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Commercial shellfish aquaculture • Commercial fishing sales and services • Industrial development • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.</p>	<p>No Change Compliance with new stormwater management standards and use of BMPs during construction will ensure that no new impacts to water quality occur.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	LWD, Organics and Habitat: Maintain Characteristic Plant Community	Moderate: A wide band of deciduous trees is overhanging the intertidal zone. Limited vegetation clearing for residential development has occurred.	Future Development: See above. Functions/Processes Impacted: - Riparian vegetation minimally degraded affecting shoreline habitat values - Existing trees provide Large Woody Debris(LWD) - Native vegetation overhangs nearshore environment providing food sources to intertidal zone and salmonids - Stormwater infiltrates due to vegetation	Protection: SED specific standards: <ul style="list-style-type: none">An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer, 75 feet from the OHWM or 50 feet from the top of the bluff, whichever is greater. The conservation strip may be reduced to no less than 20 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 75/50-foot setback must either move landward to be at least 20 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 20-foot vegetation conservation strip (SMP 6.2.3). Vegetation conservation standards are the same as for the City Waterfront designation. Boat launch access standards are the same as for the City Waterfront designation. Shoreline stabilization standards are the same as for the City Waterfront designation. Modifications and uses prohibited: Same as for the City Waterfront designation. Restoration: Provisions are the same as for the City Waterfront designation.	No change. New development will be required to establish a 50 to 75-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.
Gig Harbor Bay	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	Moderate: Crescent Creek and Donkey Creek are the only main source of sediment in the Bay. Landfill has been documented at the mouth of Crescent and Donkey Creeks. Twenty-seven percent of the shoreline is armored. There are 6 private docks, floats and piers associated with single-family residential houses.	Future Development: Fifteen percent of the shoreline area is vacant. There are 22 single-family residential parcels abutting the shoreline that do not have docks, piers or floats. The proposed SMP has a preference for joint-use docks/piers; however, there is potential for 22 new docks/piers/floats to be built. Functions/Processes Impacted: - Sediment transport processes interrupted - Wave energy reflected by armoring and increases potential for erosion	Protection: Shoreline stabilization standards: <ul style="list-style-type: none">Normal maintenance of existing shoreline stabilization and new soft-shore stabilization are permitted. New hard armoring is prohibited (SMP 7.1.1, Permitted Use Table). Overwater structures standards: <ul style="list-style-type: none">The width of docks, piers, floats and flits cannot be wider than 8 feet unless authorized by state agencies (SMP 7.11.8, Reg. #7a).No more than 1 dock/pier or 1 float may be permitted on a single lot owned for residential use or private recreational use (SMP 7.11.8, Reg. #6). Boat launch standards: <ul style="list-style-type: none">Private ramps must be hand launch only. Concrete ramps are prohibited (SMP 7.1.1 Permitted Use Table).Public ramps must be hand launch only. Ramp can be made of rails or graded slope. Concrete and planks are prohibited (SMP 7.1.1 Permitted Use Table).Ramps must be placed and maintained near flush with the foreshore slope (SMP 7.11.6, Reg. #3). Aquaculture standards: <ul style="list-style-type: none">Bottom culture, bag, rack & bag, stake, and long-line, and hydraulic harvest are not permitted (SMP 7.1.1, Permitted Use Table).	No Change, or Potential Improvement There will not be any increase in structural shoreline armoring since new armoring is prohibited. New residential docks/piers may occur; however, wetland and critical fish and wildlife habitat area standards must be met. Where avoidance is not feasible, new docks/piers are required to be minimized and mitigated. There will be improvements in hydrologic functions from Donkey Creek day-lighting and Austin Estuary restoration projects. No docks/piers

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			<p>- Sediment movement in the Bay interrupted by in-water structures</p>	<ul style="list-style-type: none"> • Use of net pens or other submerged holding facilities for fish in the nearshore environment is permitted within Donkey Creek. (SMP 7.10.2, Reg. #1). <p>Groin standards are the same as for the City Waterfront designation.</p> <p>Dredging standards are the same as the City Waterfront designation except it is limited to restoration and stream culvert maintenance only (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards:</p> <ul style="list-style-type: none"> • Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). • Fill is allowed for restoration and City utility activities. Allowed for water-dependent uses and public access with a CUP (SMP 7.1.1, Permitted Use Table). <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> • Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). • New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). • The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps and public, concrete and plank boat launch ramps • Hard shoreline armoring • Non-residential and Non-single-family residential boating use • Historic net sheds • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p> <p>Capital improvement projects: Austin Estuary Park and Donkey Creek Day-Lighting projects will improve the estuarine wetland and improve sediment transport.</p>	<p>will be built in the Donkey Creek estuary.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	<p align="center">SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy</p>	Future Performance
	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: Gig Harbor Bay on the Washington Department of Ecology 303(d) list for fish habitat. Donkey Creek on the list for lead. Fecal coliform bacteria levels in Crescent Creek are in excess of state water quality standard.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from industry or treatment plants may degrade water quality</p>	<p>Protection: SED specific standard: maximum impervious lot coverage for single family is 40%, for duplex is 45%, and for nonresidential is 50% (SMP 7.1.2). Water quality and quantity regulations are the same as for the City Waterfront designation. Overwater structure standards:</p> <ul style="list-style-type: none"> • Materials for piers, docks and floats that come into contact with water must be approved by applicable state agencies for use in water (SMP 7.11.8, Reg. #7d). • Storage of fuel, oils, and other toxic materials is prohibited on residential docks, piers and floats (SMP 7.11.8, Reg. #4). • Non-residential moorage is not allowed in the Urban Conservancy designation. <p>Clearing and grading and fill standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Transportation facilities standards are the same as for the City Waterfront designation. Aquaculture standards:</p> <ul style="list-style-type: none"> • Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). • Aquaculture wastes must be disposed of in a manner that will be in strict compliance with governmental waste disposal standards (SMP 7.10.2, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Commercial shellfish and net pen/finfish aquaculture, including within the City’s urban growth area • Commercial fishing sales and services • Industrial Development • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No Change, Potential Improvement Water quality improvement will result from compliance with new stormwater management standards, property soils or groundwater remediation, and use of BMPs during construction.</p> <p>The most significant improvement will stem from the recent extension of the wastewater treatment plant outfall outside of Gig Harbor Bay.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	LWD, Organics and Habitat: Maintain Characteristic Plant Community	Moderate: Wetland vegetation is located near the stream mouths of Crescent and Donkey Creeks.	Future Development: See above. Functions/Processes Impacted: - Riparian vegetation degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris(LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate	Protection: SED specific standards: <ul style="list-style-type: none">An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 100 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 25 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 100-foot setback must either move landward to be at least 25 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 25-foot vegetation conservation strip (SMP 6.2.3). Vegetation conservation standards are the same as for the City Waterfront designation. Boat launch access standards are the same as for the City Waterfront designation. Modifications and uses prohibited: Same as for the City Waterfront designation. Restoration: Provisions are the same as for the city Waterfront designation.	No change. New development will be required to establish a 100-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.
Henderson Bay	Hydrology Transporting sediment, attenuating wave and tidal energy	Low to Moderate: Mapped as depositional. Nearshore habitats are degraded from shore armoring. Nine percent of the shoreline is armored. Adverse impacts to the beach include beach lowering, accelerated rates of sediment transport and substrate alteration. Areas immediately adjacent to stream mouths are not mapped as armored.	Future Development: Nine percent of the shoreline area is vacant. Functions/Processes Impacted: - Sediment transport processes interrupted - Wave energy reflected by armoring and increases potential for erosion - Beach lowering and substrate alteration	Protection: Shoreline stabilization standards: <ul style="list-style-type: none">Normal maintenance of existing shoreline stabilization and new soft-shore stabilization are permitted. New hard armoring is prohibited (SMP 7.1.1, Permitted Use Table). Overwater structures standards: <ul style="list-style-type: none">The width of docks, piers, floats and flits cannot be wider than 8 feet unless authorized by state agencies (SMP 7.11.8, Reg. #7a).No more than 1 dock/pier or 1 float may be permitted on a single lot owned for residential use or private recreational use (SMP 7.11.8, Reg. #6). Boat launch standards: <ul style="list-style-type: none">Private ramps must be hand launch only. Concrete ramps are prohibited (SMP 7.1.1 Permitted Use Table).Public ramps must be hand launch only. Ramp can be made of rails or graded slope. Concrete and planks are prohibited (SMP 7.1.1 Permitted Use Table).Ramps must be placed and maintained near flush with the foreshore slope (SMP 7.11.6, Reg. #3). Aquaculture standards: <ul style="list-style-type: none">Bottom culture, bag, rack & bag, stake, and long-line, and hydraulic harvest are all method types allowed at McCormick and Goodnough Creeks with a conditional use permit (SMP 7.1.1, Permitted Use Table).Use of net pens or other submerged holding facilities for fish in the nearshore environment is prohibited (SMP 7.10.2, Reg. #1).	No change. There will not be any increase in structural shoreline armoring since new armoring is prohibited. New overwater structures are unlikely due to shallow water depth.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	<p align="center">SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy</p>	Future Performance
				<p>Dredging standards are the same as the City Waterfront designation except it is limited to restoration and stream culvert maintenance only (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards:</p> <ul style="list-style-type: none"> • Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). • Fill is allowed for restoration and City utility activities. Allowed for water-dependent uses and public access with a CUP (SMP 7.1.1, Permitted Use Table). <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> • Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). • New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.7.2, Reg. #6). • The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps and public, concrete and plank boat launch ramps • Hard shoreline armoring • Non-residential and non-single-family residential boating use • Historic net sheds • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: Henderson Bay is listed on the Washington Department of Ecology 303(d) for fecal coliform, dissolved oxygen, pH, temperature, and ammonia-N. Goodnough Creek has slightly elevated nitrate levels.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality</p>	<p>Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2). Water quality and quantity regulations are the same as for the City Waterfront designation. Overwater structure standards:</p> <ul style="list-style-type: none"> Materials for piers, docks and floats that come into contact with water must be approved by applicable state agencies for use in water (SMP 7.11.8, Reg. #7d). Storage of fuel, oils, and other toxic materials is prohibited on residential docks, piers and floats (SMP 7.11.8, Reg. #4). Non-residential moorage is not allowed in the Urban Conservancy designation. Clearing and grading and fill standards are the same as for the City Waterfront designation. <p>Dredging standards are the same as for the City Waterfront designation. Transportation facilities standards are the same as for the City Waterfront designation. Aquaculture standards:</p> <ul style="list-style-type: none"> Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). Aquaculture wastes must be disposed of in a manner that will be in strict compliance with governmental waste disposal standards (SMP 7.10.2, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> Agriculture Net pens/finfish aquaculture and floating culture: mussel rafts Commercial fishing sales and services Industrial development Mining Parking as a principle use Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.</p>	<p>No Change Compliance with new stormwater management standards, use of BMPs during construction, and aquaculture standards that prohibit adverse effects to water quality will ensure that no new impacts to water quality occur.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	LWD, Organics and Habitat: Maintain Characteristic Plant Community	Low to Moderate: Narrow width of riparian vegetation is located along the shoreline. Wetland vegetation is located near the stream mouths of Goodnough and McCormick Creeks.	Future Development: See above. Functions/Processes Impacted: - Riparian vegetation moderately degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris(LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate	Protection: SED specific standards: <ul style="list-style-type: none"> An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 100 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 25 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 100-foot setback must either move landward to be at least 25 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 25-foot vegetation conservation strip (SMP 6.2.3). Vegetation conservation standards are the same as for the City Waterfront designation. Boat launch access standards are the same as for the City Waterfront designation. Modifications and uses prohibited: Same as for the City Waterfront designation. Restoration: Provisions are the same as for the City Waterfront designation.	No change. New development will be required to establish a 100-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.
Burley Lagoon	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	Low: Mapped as depositional. Nearshore habitats are degraded from shore armoring due to substrate modification, loss of shoreline connectivity and beach narrowing. Properties to the north of Purdy Creek armored with wooden bulkheads. Fifty-three percent of the shoreline is armored. Portion of the stream is mapped as landfill.	Future Development: Twenty-one percent of the shoreline area is vacant. Functions/Processes Impacted: - Sediment transport processes interrupted - Wave energy reflected by armoring and increases potential for erosion - Beach lowering and substrate alteration	Protection: Shoreline stabilization standards: <ul style="list-style-type: none"> Normal maintenance of existing shoreline stabilization and new soft-shore stabilization are permitted. New hard armoring is prohibited (SMP 7.1.1, Permitted Use Table). Overwater structures standards: <ul style="list-style-type: none"> The width of docks, piers, floats and flits cannot be wider than 8 feet unless authorized by state agencies (SMP 7.11.8, Reg. #7a). No more than 1 dock/pier or 1 float may be permitted on a single lot owned for residential use or private recreational use (SMP 7.11.8, Reg. #6). Boat launch standards: <ul style="list-style-type: none"> Private ramps must be hand launch only. Concrete ramps are prohibited (SMP 7.1.1 Permitted Use Table). Public ramps must be hand launch only. Ramp can be made of rails or graded slope. Concrete and planks are prohibited (SMP 7.1.1 Permitted Use Table). Ramps must be placed and maintained near flush with the foreshore slope (SMP 7.11.6, Reg. #3). Aquaculture standards: <ul style="list-style-type: none"> Bottom culture, bag, rack & bag, stake, and long-line, and hydraulic harvest are all method types allowed at Purdy Creek with a conditional use permit (SMP 7.1.1, Permitted Use Table). 	No change. There will not be any increase in structural shoreline armoring since new armoring is prohibited. New overwater structures are unlikely due to shallow water depth.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	<p align="center">SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy</p>	Future Performance
				<ul style="list-style-type: none"> • Use of net pens or other submerged holding facilities for fish in the nearshore environment is prohibited (SMP 7.10.2, Reg. #1). <p>Dredging standards are the same as the City Waterfront designation except it is limited to restoration and stream culvert maintenance only (SMP 7.1.1, Permitted Use Table).</p> <p>Fill standards:</p> <ul style="list-style-type: none"> • Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). • Fill is allowed for restoration and City utility activities. Allowed for water-dependent uses and public access with a CUP (SMP 7.1.1, Permitted Use Table). <p>Pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> • Public or joint-use pedestrian beach access structures are permitted and private access structures are conditionally permitted (SMP 7.1.1, Permitted Use Table). • New beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.17.2, Reg. #6). • The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Private, concrete boat launch ramps and public, concrete and plank boat launch ramps • Hard shoreline armoring • Non-residential and non-single-family residential boating use • Historic net sheds • Railroads • Residential development waterward of OHWM <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	

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	<p>Water Quality: Removing excessive nutrients and toxic compounds</p>	<p>Low to Moderate: Burley Lagoon is listed on the Washington Department of Ecology 303(d) list for fecal coliform, dissolved oxygen, pH, temperature, and ammonia-N. Purdy Creek on the list for fecal coliform.</p>	<p>Future Development: See above.</p> <p>Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants stored or spilled in shoreline degrade water quality - Construction materials degrade water quality - Outfall point sources from stormwater outfalls may degrade water quality</p>	<p>Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2). Water quality and quantity regulations are the same as for the City Waterfront designation. Overwater structure standards:</p> <ul style="list-style-type: none"> • Materials for piers, docks and floats that come into contact with water must be approved by applicable state agencies for use in water (SMP 7.11.8, Reg. #7d). • Storage of fuel, oils, and other toxic materials is prohibited on residential docks, piers and floats (SMP 7.11.8, Reg. #4). • Non-residential moorage is not allowed in the Urban Conservancy designation. <p>Clearing and grading and fill standards are the same as for the City Waterfront designation. Dredging standards are the same as for the City Waterfront designation. Transportation facilities standards are the same as for the City Waterfront designation. Aquaculture standards:</p> <ul style="list-style-type: none"> • Aquaculture that involves significant risk of cumulative adverse effects on water quality, sediment quality, benthic and pelagic organisms, and or wild fish populations through contribution of antibiotic resistant bacteria, escapement of nonnative species, or other adverse effects on ESA-listed species is prohibited (SMP 7.10.2, Reg. #6h). • Aquaculture wastes must be disposed of in a manner that will be in strict compliance with governmental waste disposal standards (SMP 7.10.2, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> • New residential lots are allowed provided site work that causes erosion or slope instability is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> • Agriculture • Net pens/finfish aquaculture and floating culture: mussel rafts • Commercial fishing sales and services • Industrial development • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities <p>Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.</p>	<p>No Change Compliance with new stormwater management standards, use of BMPs during construction, and aquaculture standards that prohibit adverse effects to water quality will ensure that no new impacts to water quality occur.</p>

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	LWD, Organics and Habitat: Maintain Characteristic Plant Community	Moderate: Riparian vegetation is present although function is limited due to presence of bulkheads. Wetland vegetation is located near the stream mouth of Purdy Creek.	Future Development: See above. Functions/Processes Impacted: - Riparian vegetation moderately degraded affecting shoreline habitat values - Lack of trees to provide Large Woody Debris(LWD) - Lack of over-hanging native vegetation to provide food sources to nearshore environment and salmonids - Increased stormwater runoff due to reduced vegetation and inability to infiltrate	Protection: SED specific standards: <ul style="list-style-type: none"> An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer or 100 feet from the OHWM, whichever is greater. The conservation strip may be reduced to no less than 25 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Redevelopment of existing structures that do not conform to the 100-foot setback must either move landward to be at least 25 feet from the OHWM or maintain the existing setback, whichever is a greater distance from the OHWM. Such redevelopment must not exceed the square footage of the existing structure footprint, must ensure no net increase in impervious surface coverage (unless LID techniques are employed) and must establish a 25-foot vegetation conservation strip (SMP 6.2.3). Vegetation conservation standards are the same as for the City Waterfront designation. Boat launch access standards are the same as for the City Waterfront designation. Modifications and uses prohibited: Same as for the City Waterfront designation. Restoration: Provisions are the same as for the City Waterfront designation.	No change. New development will be required to establish a 100-foot vegetation conservation strip. Redevelopment of nonconforming structures will ensure no adverse impacts to existing functions.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
Natural					
Colvos Passage	Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy	High: Gig Harbor Spit remains stable though if the sediment sources to the north that maintain the shoreform are largely impounded behind shore armoring, erosion may be a problem in the future. No over-water structures are present. The shoreline is not armored.	Future Development: Gig Harbor Spit is owned by the Federal Government and is unlikely to develop. Functions/Processes Impacted: - Sediment transport processes (from coastal feeder bluffs) interrupted - Wave energy reflected by armoring and increases potential for erosion	<p>Protection:</p> <p>Dredging standards:</p> <ul style="list-style-type: none"> Dredging is permitted for restoration purposes; at the entrance to Gig Harbor Bay for the maintenance of navigational channels; and dredge disposal is permitted for restoration, remediation, and water-dependent utilities (SMP 7.1.1, Permitted Use Table). Dredging must not adversely impact natural processes such as marine bluff erosion and net-shoreline drift (SMP 7.4.2, Reg. #6d). Dredge disposal must not alter water circulation, sediment transport, currents, or tidal flows (SMP 7.4.3, Reg. #5b). <p>Fill standards:</p> <ul style="list-style-type: none"> Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). Fill is allowed for restoration and City utility activities only (SMP 7.1.1, Permitted Use Table). <p>Public pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> Beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.14.2, Reg. #6). The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> Breakwaters, jetties, groins, and weirs Shoreline stabilization Boat launch facilities Boating, marinas and marine fueling: piers, docks and moorage Commercial fishing moorage Historic net sheds Railroads Residential development waterward of OHWM Transportation facilities <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	No change. Since development is unlikely at the spit, no change to shoreline functions and processes is expected. Dredging at the entrance to the Bay would have to meet all state and federal standards for in-water work.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	Water Quality: Removing excessive nutrients and toxic compounds	Low to Moderate: On the Washington Department of Ecology 303(d) list for total PCBs, dissolved oxygen and mercury.	Future Development: See above. Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants in shoreline degrade water quality	Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2). Water quality and quantity standards are the same as for the City Waterfront designation. Clearing and grading standards are the same as for the City Waterfront designation expect that clearing and grading is limited to restoration and public access improvement activities (SMP 7.1.1 Permitted Use Table). Dredging standards are the same as for the City Waterfront designation. Modifications and uses prohibited: <ul style="list-style-type: none"> • Agriculture • Commercial shellfish and net pen/finfish aquaculture • Commercial fishing • Commercial uses • Industrial development • Non water-oriented recreation uses • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.	No change. Since development is unlikely at the spit, no change to shoreline functions and processes is expected.
	LWD, Organics and Habitat: Maintain Characteristic Plant Community	Moderate: Spit is vegetated with dune grass.	Future Development: See above. Functions/Processes Impacted: - Lack of trees to provide Large Woody Debris(LWD)	Protection: SED specific standards: <ul style="list-style-type: none"> • A vegetation conservation strip standard has not been applied in recognition of Federal preemption (SMP 6.2.3). Vegetation conservation standards are the same as for the City Waterfront designation. Modifications and uses prohibited: <ul style="list-style-type: none"> • Forest Practices • Private beach access structures • Educational facilities • Dune modification Restoration: Provisions are the same as for the City Waterfront designation.	No change. Since development is unlikely at the spit, no change to shoreline functions and processes is expected.

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	<p align="center">SMP Provisions: Protection (P) or Restoration (R)</p> <p align="center">Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy</p>	Future Performance
Tacoma Narrows	<p>Hydrology Transporting and stabilizing sediment, attenuating wave and tidal energy</p>	<p>High: Feeder bluffs are largely intact in this reach. No mapped shoreline modifications. Net shore drift mapped as southward.</p>	<p>Future Development: Four percent of the shoreline area is vacant.</p> <p>Functions/Processes Impacted: - Sediment transport processes from coastal feeder bluffs</p>	<p>Protection: Dredging standards:</p> <ul style="list-style-type: none"> Dredging is permitted for restoration purposes and dredge disposal is permitted for restoration, remediation, and water-dependent utilities (SMP 7.1.1, Permitted Use Table). Dredging must not adversely impact natural processes such as marine bluff erosion and net-shoreline drift (SMP 7.4.2, Reg. #6d). Dredge disposal must not alter water circulation, sediment transport, currents, or tidal flows (SMP 7.4.3, Reg. #5b). <p>Fill standards:</p> <ul style="list-style-type: none"> Fill must not be located where shore stabilization would be necessary with the exception of stormwater utilities (SMP 7.5.2, Reg. #5). Fill is allowed for restoration and City utility activities only (SMP 7.1.1, Permitted Use Table). <p>Public pedestrian beach access structures standards:</p> <ul style="list-style-type: none"> Beach access structures are prohibited if the structure were to adversely impact a marine feeder bluff, interfere with natural erosion and accretion processes, or is likely to require shoreline stabilization or substantial bank or slope modification (SMP 7.14.2, Reg. #6). The area required for private pedestrian walkways and related beach access structures must be applied to the maximum 15% clearing allowed within the marine vegetation conservation strip or critical area buffer (SMP 6.2.4, Reg. #8). <p>Residential use standards:</p> <ul style="list-style-type: none"> New residential lots are allowed provided new shoreline stabilization is not necessary (SMP 7.18.2, Reg. #3). <p>Modifications and uses prohibited:</p> <ul style="list-style-type: none"> Breakwaters, jetties, groins, and weirs Shoreline stabilization Boat launch facilities Boating, marinas and marine fueling: piers, docks and moorage Commercial fishing moorage Historic net sheds Railroads Residential development waterward of OHWM Transportation facilities <p>Restoration: Provisions are the same as for the City Waterfront designation.</p>	<p>No change. Since hard armoring and overwater structures are prohibited, impacts to hydrology are unlikely.</p>

Shoreline Segment	Ecological Processes/ Functions WAC173-26-201(3)(d)(i)(C)	Current Performance <i>Shoreline Inventory and Characterization Report - ESA Adolfson, 2010</i>	Likely Foreseeable Development / Processes or Functions Likely Impacted	SMP Provisions: Protection (P) or Restoration (R) Protection = Proposed SMP regulations (with reference to SMP section number) Restoration = Draft Restoration Plan Policy	Future Performance
	Water Quality: Removing excessive nutrients and toxic compounds	Low to Moderate: On the Washington Department of Ecology 303(d) list for total PCBs, dissolved oxygen and mercury.	Future Development: See above. Functions/Processes Impacted: - Impervious surface areas concentrate runoff, causing erosion, increasing flow rates and transporting toxics - Contaminants in shoreline degrade water quality	Protection: SED specific standard: maximum impervious lot coverage is 40% (SMP 7.1.2). Water quality and quantity standards are the same as for the City Waterfront designation. Clearing and grading standards are the same as for the City Waterfront designation except that clearing and grading is limited to restoration and public access improvement activities (SMP 7.1.1 Permitted Use Table). Dredging standards are the same as for the City Waterfront designation. Modifications and uses prohibited: <ul style="list-style-type: none"> • Agriculture • Commercial shellfish and net pen/finfish aquaculture • Commercial fishing • Commercial Uses • Industrial development • Non Water-oriented recreation uses • Mining • Parking as a principle use • Permanent solid waste storage or transfer facilities Restoration: Provisions are the same as for the City Waterfront designation except that Policy #6 and the Treatment Plant Effluent Outfall Construction project does not apply here.	No Change Compliance with new stormwater management standards and use of BMPs during construction will ensure that no new impacts to water quality occur.
	LWD, Organics and Habitat: Maintain Characteristic Plant Community	High: Large deciduous trees overhang the intertidal zone along the shoreline providing shade, prey in the form of insects, and a degree of bank stability. LWD occur on the beaches	Future Development: See above. Functions/Processes Impacted: - Riparian vegetation minimally degraded affecting shoreline habitat values - Existing trees provide Large Woody Debris(LWD) - Native vegetation overhangs nearshore environment providing food sources to intertidal zone and salmonids - Stormwater infiltrates due to vegetation	Protection: SED specific standards: <ul style="list-style-type: none"> • An undisturbed vegetation conservation strip composed of native vegetation must be established for all non-water dependent shoreline uses/activities. The vegetation conservation strip must equal either a required critical area buffer, 150 feet from the OHWM, or 50 feet from the top of the bluff, whichever is greater. The conservation strip may be reduced to no less than 20 feet under the following circumstances: 1) when structure setback averaging is applied for infill; and 2) when a roadway transects the buffer. Vegetation conservation standards are the same as for the City Waterfront designation. Modifications and uses prohibited: <ul style="list-style-type: none"> • Forest Practices • Private beach access structures • Educational facilities • Dune modification Restoration: Provisions are the same as for the City Waterfront designation.	No change. New development and redevelopment of nonconforming structures will be required to establish a 50 to 150-foot vegetation conservation strip. The vegetation conservation strip may be reduced to 20 feet only in very limited circumstances. Only one property is eligible for setback averaging and developed roadways are located mostly outside of shoreline jurisdiction.

**City of Gig Harbor, Shoreline Master Program Update
May 31, 2012 Cumulative Impacts Analysis**

**Appendix B
GIS Analysis Tables**

Table B-1. Summary of Vacant and Developed Properties by Shoreline Environment Designation

	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Total Shoreline Area (City-wide except for Gig Harbor spit)</i>				
Total Land in Shoreline Area		181.75	43736.61	100.00%
ROW/nonparcels in Shoreline Area		24.93	1179.19	13.72%
Properties within Shoreline Area	541	156.82	42557.42	86.28%
Vacant Properties				
Eligible for structure averaging	11	3.59	1090.31	1.98%
Not eligible for structure averaging	78	13.04	4407.07	7.17%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	1	0.33	94.89	0.18%
Not eligible for structure averaging	17	3.05	1465.84	1.68%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	202	58.18	10535.43	32.01%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	110	46.11	12165.67	25.37%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	87	24.42	8098.32	13.44%
Not likely to be developed	46	8.07	4699.92	4.44%
<i>City Waterfront</i>				
Total Land in Shoreline Area		20.86	6562.25	100.00%
ROW in Shoreline Area		1.14	270.17	5.47%
Properties within Shoreline Area	100	19.72	6292.08	94.53%
Vacant Properties				
Eligible for structure averaging	3	0.24	321.59	1.15%
Not eligible for structure averaging	10	1.33	250.48	6.38%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	1	0.33	94.89	1.58%
Not eligible for structure averaging	12	2.43	971.43	11.65%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	41	7.59	1362.02	36.38%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	12	2.81	1180.08	13.47%

	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	14	4.87	1784.21	23.35%
Not likely to be developed	7	0.11	327.38	0.53%
<i>Low Intensity</i>				
Total Land in Shoreline Area		62.24	13555.89	100.00%
ROW in Shoreline Area		3.97	224.38	6.38%
Properties within Shoreline Area	183	58.27	13331.51	93.62%
Vacant Properties				
Eligible for structure averaging	2	1.84	403.62	2.96%
Not eligible for structure averaging	12	2.47	349.97	3.97%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	0	0.00	0.00	0.00%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	79	26.57	4781.81	42.69%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	45	19.88	4394.77	31.94%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	38	6.82	2689.77	10.96%
Not likely to be developed	18	0.68	711.57	1.10%
<i>Purdy Commercial</i>				
Total Land in Shoreline Area		6.99	1696.17	100.00%
ROW in Shoreline Area		2.52	82.31	36.05%
Properties within Shoreline Area	15	4.47	1613.86	63.95%
Vacant Properties				
Eligible for structure averaging	1	0.65	128.12	9.30%
Not eligible for structure averaging	2	0.06	121.47	0.86%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	0	0.00	0.00	0.00%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	2	0.36	0.00	5.15%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	5	2.01	346.72	28.76%

	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	2	1.00	370.38	14.31%
Not likely to be developed	3	0.39	647.17	5.58%
<i>Urban Conservancy</i>				
Total Land in Shoreline Area		44.09	11434.61	100.00%
ROW in Shoreline Area		15.38	551.97	34.88%
Properties within Shoreline Area	142	28.71	10882.64	65.12%
Vacant Properties				
Eligible for structure averaging	4	0.71	203.61	1.61%
Not eligible for structure averaging	42	5.92	2817.51	13.43%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	0	0.00	0.00	0.00%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	41	8.39	1388.32	19.03%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	26	7.79	3232.16	17.67%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	20	4.99	1800.91	11.32%
Not likely to be developed	9	0.89	1440.15	2.02%
<i>Natural (Does Not Include Spit)</i>				
Total Land in Shoreline Area		41.71	9131.10	100.00%
ROW in Shoreline Area		0.04	50.36	0.10%
Properties within Shoreline Area	72	41.67	9080.74	99.90%
Vacant Properties				
Eligible for structure averaging	1	0.15	33.37	0.36%
Not eligible for structure averaging	3	1.54	350.14	3.69%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	0	0.00	0.00	0.00%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	27	14.24	2933.92	34.14%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	21	13.04	2807.81	31.26%

	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	13	6.74	1453.05	16.16%
Not likely to be developed	7	5.97	1502.45	14.31%
<i>Historic Working Waterfront</i>				
Total Land in Shoreline Area		5.86	1356.59	100.00%
ROW in Shoreline Area		1.88	0.00	32.08%
Properties within Shoreline Area	29	3.98	1356.59	67.92%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	9	1.72	517.50	29.35%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	5	0.62	494.41	10.58%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	12	1.03	69.36	17.58%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	1	0.58	204.13	9.90%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	0	0.00	0.00	0.00%
Not likely to be developed	2	0.03	71.20	0.51%

Table B-2. City Waterfront Environment

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Gig Harbor Bay</i>				
Total Land in Shoreline Area		20.86	6562.25	100.00%
ROW in Shoreline Area		1.14	270.17	5.47%
Properties within Shoreline Area	100	19.72	6292.08	94.53%
Vacant Properties				
Eligible for structure averaging	3	0.24	321.59	1.15%
Not eligible for structure averaging	10	1.33	250.48	6.38%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	1	0.33	94.89	1.58%
Not eligible for structure averaging	12	2.43	971.43	11.65%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	41	7.59	1362.02	36.38%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	12	2.81	1180.08	13.47%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	14	4.87	1784.21	23.35%
Not likely to be developed	7	0.11	327.38	0.53%

Table B-3. Historic Working Waterfront Environment

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Gig Harbor Bay</i>				
Total Land in Shoreline Area	N/A	5.86	1356.59	100.00%
ROW in Shoreline Area	N/A	1.88	0.00	32.08%
Properties within Shoreline Area	29	3.98	1356.59	67.92%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	9	1.72	517.50	29.35%
Vacant Water-Dependent/Parking Only Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	5	0.62	494.41	10.58%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	12	1.03	69.36	17.58%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	1	0.58	204.13	9.90%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	0	0.00	0.00	0.00%
Not likely to be developed	2	0.03	71.20	0.51%

Table B-4. Purdy Commercial Environment

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Burley Lagoon</i>				
Total Land in Shoreline Area		6.99	1696.17	100.00%
ROW in Shoreline Area		2.52	82.31	36.05%
Properties within Shoreline Area	15	4.47	1613.86	63.95%
Vacant Properties				
Eligible for structure averaging	1	0.65	128.12	9.30%
Not eligible for structure averaging	2	0.06	121.47	0.86%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	2	0.36	0.00	5.15%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	5	2.01	346.72	28.76%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	2	1.00	370.38	14.31%
Not likely to be developed	3	0.39	647.17	5.58%

Table B-5. Low Intensity Environment

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Colvos Passage</i>				
Total Land in Shoreline Area		0.66	295.31	100.00%
ROW in Shoreline Area		0.09	0.00	13.64%
Properties within Shoreline Area	5	0.57	295.31	86.36%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	2	0.21	116.69	31.82%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	0	0.00	0.00	0.00%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback/Top of Bluff	2	0.35	178.62	53.03%
Between Minimum Nonconforming Structure Setback and the OHWM/Top of Bluff	0	0.00	0.00	0.00%
Not likely to be developed	1	0.002	0.00	0.30%
<i>Gig Harbor Bay</i>				
Total Land in Shoreline Area		3.32	967.38	100.00%
ROW in Shoreline Area		0.95	0.00	28.61%
Properties within Shoreline Area	10	2.37	967.38	71.39%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	2	0.01	0.00	0.27%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	1	0.28	0.00	8.43%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	3	1.10	558.82	33.13%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	4	0.98	408.56	29.52%
Not likely to be developed	0	0.00	0.00	0.00%

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Gig Harbor Bay - UGA</i>				
Total Land in Shoreline Area		32.89	6208.27	100.00%
ROW in Shoreline Area		2.28	138.30	6.93%
Properties within Shoreline Area	73	30.61	6069.97	93.07%
Vacant Properties				
Eligible for structure averaging	2	1.84	403.62	5.59%
Not eligible for structure averaging	6	1.21	179.95	3.68%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	47	16.31	3065.92	49.59%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	24	10.32	2113.56	31.38%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	3	0.87	230.14	2.65%
Not likely to be developed	2	0.06	76.78	0.18%
<i>Tacoma Narrows - North</i>				
Total Land in Shoreline Area		3.85	956.24	100.00%
ROW in Shoreline Area		0.60	0.00	15.58%
Properties within Shoreline Area	21	3.25	956.24	84.42%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	0	0.00	0.00	0.00%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	10	1.29	146.20	33.51%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	3	0.72	220.55	18.70%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	5	1.23	589.49	31.95%
Not likely to be developed	3	0.01	0.00	0.26%

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Tacoma Narrows - South</i>				
Total Land in Shoreline Area		10.68	2790.07	100.00%
ROW in Shoreline Area		0.05	86.08	0.47%
Properties within Shoreline Area	47	10.63	2703.99	99.53%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	1	0.80	0.00	7.49%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	4	2.08	220.24	19.48%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	5	3.40	387.38	31.84%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	26	3.74	1461.58	35.02%
Not likely to be developed	11	0.61	634.79	5.71%
<i>Henderson Bay</i>				
Total Land in Shoreline Area		10.84	2338.62	100.00%
ROW in Shoreline Area		0.00	0.00	0.00%
Properties within Shoreline Area	27	10.84	2338.62	100.00%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	1	0.24	53.33	2.21%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	17	6.61	1349.45	60.98%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	8	3.99	935.84	36.81%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	0	0.00	0.00	0.00%
Not likely to be developed	1	0.002	0.00	0.02%

Table B-6. Urban Conservancy Environment

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Colvos Passage</i>				
Total Land in Shoreline Area		6.01	1350.59	100.00%
ROW in Shoreline Area		0.84	0.00	13.98%
Properties within Shoreline Area	19	5.17	1350.59	86.02%
Vacant Properties				
Eligible for structure averaging	1	0.15	47.70	2.50%
Not eligible for structure averaging	6	0.61	195.72	10.15%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	4	1.03	142.26	17.14%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	1	0.15	40.08	2.50%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	7	3.23	924.83	53.74%
Not likely to be developed	0	0.00	0.00	0.00%
<i>Gig Harbor Bay - UGA</i>				
Total Land in Shoreline Area		11.60	3675.64	100.00%
ROW in Shoreline Area		3.83	92.99	33.02%
Properties within Shoreline Area	50	7.77	3582.65	66.98%
Vacant Properties				
Eligible for structure averaging	1	0.24	70.59	2.07%
Not eligible for structure averaging	10	1.18	365.11	10.17%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	19	2.47	449.41	21.29%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	12	3.01	2008.18	25.95%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	6	0.84	632.95	7.24%
Not likely to be developed	2	0.02	56.41	0.17%

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Gig Harbor Bay</i>				
Total Land in Shoreline Area		4.87	1113.05	100.00%
ROW in Shoreline Area		1.38	0.00	28.33%
Properties within Shoreline Area	22	3.49	1113.05	71.67%
Vacant Properties				
Eligible for structure averaging	1	0.09	32.99	1.85%
Not eligible for structure averaging	6	1.00	391.96	20.53%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	8	0.81	0.00	16.63%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	1	0.73	119.49	15.00%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	4	0.68	82.21	13.96%
Not likely to be developed	2	0.18	486.40	3.70%
<i>Henderson Bay</i>				
Total Land in Shoreline Area		10.01	2671.42	100.00%
ROW in Shoreline Area		4.15	0.00	41.46%
Properties within Shoreline Area	15	5.86	2671.42	58.54%
Vacant Properties				
Eligible for structure averaging	1	0.23	52.33	2.30%
Not eligible for structure averaging	4	0.65	956.41	6.49%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	3	3.22	755.38	32.17%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	5	1.74	836.89	17.38%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	0	0.00	0.00	0.00%
Not likely to be developed	2	0.01	70.41	0.10%

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Burley Lagoon</i>				
Total Land in Shoreline Area		11.60	2623.91	100.00%
ROW in Shoreline Area		5.18	458.98	44.66%
Properties within Shoreline Area	36	6.42	2164.93	55.34%
Vacant Properties				
Eligible for structure averaging	0	0.00	0.00	0.00%
Not eligible for structure averaging	16	2.48	908.31	21.38%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	7	0.86	41.27	7.41%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	7	2.16	227.52	18.62%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	3	0.24	160.92	2.07%
Not likely to be developed	3	0.68	826.93	5.86%

Table B-7. Natural Environment

Waterbody	# of Parcels	Area (acres)	Lineal feet abutting shoreline	% of Shoreline Area
<i>Tacoma Narrows</i>				
Total Land in Shoreline Area	N/A	41.71	9131.10	100.00%
ROW in Shoreline Area	N/A	0.04	50.36	0.10%
Properties within Shoreline Area	72	41.67	9080.74	99.90%
Vacant Properties				
Eligible for structure averaging	1	0.15	33.37	0.36%
Not eligible for structure averaging	3	1.54	350.14	3.69%
Developed Properties				
Behind Minimum Structure Setback from OHWM/Top of Bluff	27	14.24	2933.92	34.14%
Between Minimum Structure Setback and Minimum Nonconforming Structure Setback / Top of Bluff	21	13.04	2807.81	31.26%
Between Minimum Nonconforming Structure Setback and the OHWM / Top of Bluff	13	6.74	1453.05	16.16%
Not likely to be developed	7	5.97	1502.45	14.31%



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memorandum

date December 17, 2012

to Peter Katich, City of Gig Harbor

from Reema Shakra, Ikuno Masterson, and Teresa Vanderburg, ESA

subject **Errata Sheet No. 1**
Gig Harbor Cumulative Impacts Analysis, May 31, 2012

Information provided in this Errata Sheet is intended to update the analysis prepared in the Revised Cumulative Impacts Analysis (CIA); Grant Agreement No. G1000028, Task 4.2 prepared on May 31, 2012. The changes that have occurred since the analysis was completed and which have the potential to affect existing ecological functions are provided below.

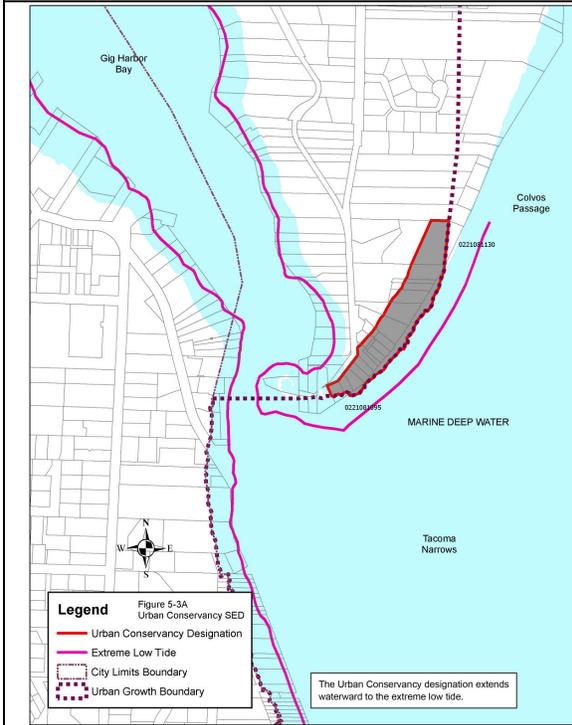
Urban Growth Areas

The May 31, 2012 analysis evaluates the potential cumulative impacts of reasonable foreseeable development in Henderson Bay and Burley Lagoon located in the City's Urban Growth Area (UGA). Since the preparation of the CIA, the City has removed the Henderson Bay UGA and Burley Lagoon UGA from the Draft Shoreline Master Program. This change was made in response to comments received on the February 29, 2012 draft program during the local adoption process. The removal of these urban growth areas is not likely to result in cumulative adverse impacts since the Pierce County SMP will govern development until such time as those areas are annexed into the City of Gig Harbor. The Gig Harbor SMP will be amended at that time to incorporate the UGAs.

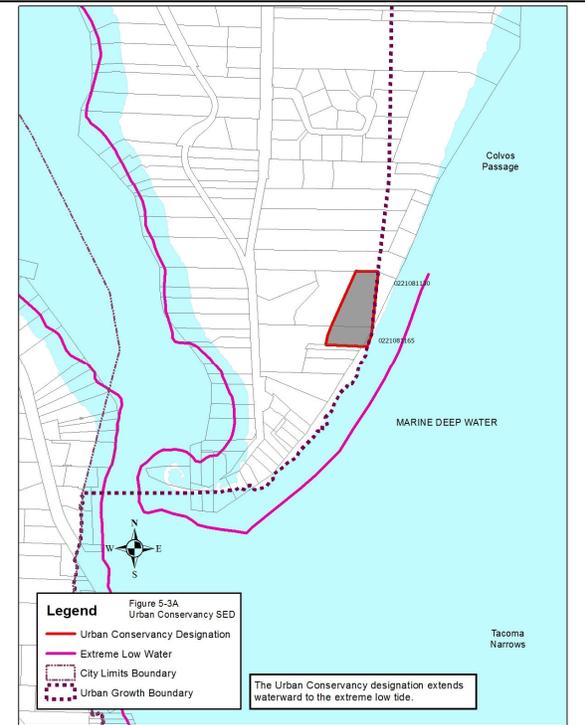
Changes to the Shoreline Environment Designation along Colvos Passage

A change from Urban Conservancy to Low Intensity designation in Gig Harbor's UGA was made to address public comments and to maintain consistency with Pierce County's proposed SMP. The change in designation would affect a total of 16 parcels mostly in single-family residential use.

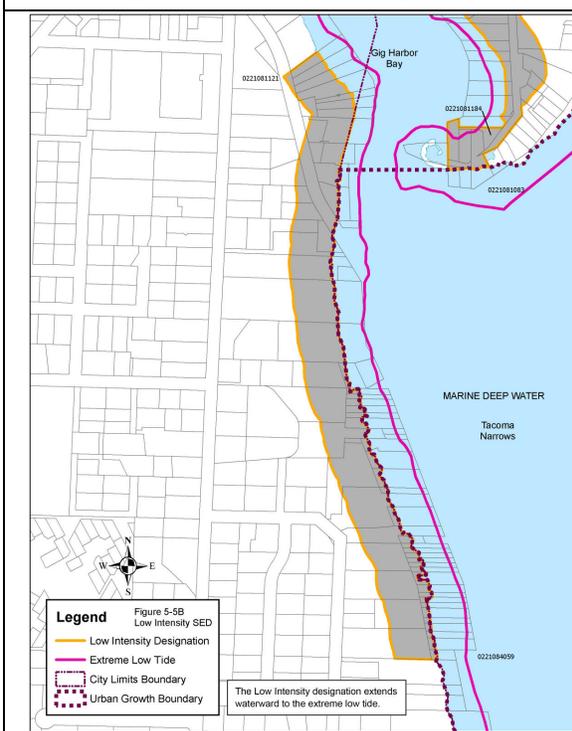
February 2012 Urban Conservancy Boundaries



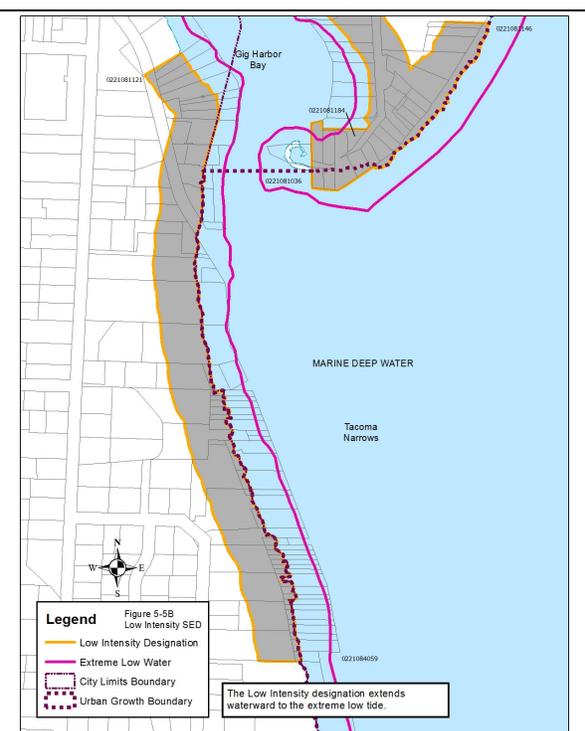
Revised Urban Conservancy Boundaries



February 2012 Low Intensity Boundaries



Revised Low Intensity Boundaries



The changes to the boundary of the Low Intensity and Urban Conservancy designations are not likely to result in cumulative adverse impacts due to the following reasons:

1. The 16 parcels now designated Low Intensity are lower bank than the two parcels with higher banks to the north remaining under the Urban Conservancy designation. They have also been armored and developed with overwater construction in some cases, limiting the functions of sediment transport systems typically found along Colvos Passage.
2. The critical area regulations (Draft SMP Section 6.2.4) will serve to protect critical areas such as steep slopes, wetlands, streams and saltwater habitats in equal measure within both the Urban Conservancy and Low Intensity designations. Therefore, there will be no loss of protection to critical areas as a result of the change in designation.
3. The Draft SMP (see Table 6-1) requires a minimum vegetation conservation strip of 50 feet for properties in the Low Intensity designation located along Colvos Passage. The minimum vegetation conservation strip for properties located in the Urban Conservancy designation is 75 feet or 50 feet from top of bluff, whichever is greater. The minimum vegetation conservation strip has been effectively reduced for several properties by this change in shoreline designation. However, the requirement that properties designated Low Intensity in Colvos Passage retain trees that are 12 inches or more in diameter serves to protect larger trees.

Alterations to Category II, III and IV Wetland Buffers

A new minor revision has been added to the Draft SMP to allow for residential water-enjoyment uses within wetland buffers in the City's shoreline areas. The revision to the wetland buffer section of the Draft SMP now allows minor alteration to native shoreline vegetation for the placement of outdoor patio furniture and fire pits within buffers for wetland Categories II, III and IV. This new allowance does not pertain to buffers for Category I wetlands. The allowance for limited buffer alterations as part of residential use, a priority use under the Act, is not likely to result in cumulative adverse impacts since the alterations are considered temporary and must adhere to a minimum distance from the wetland edge. These alterations must be located no less than 75 percent of the standard buffer distance for a Category II wetland or 25 percent of the buffer distance for Categories III and IV wetlands. In addition, alterations to the wetland buffer can only occur if no other location is feasible; the location of the alterations will not degrade the functions and values of the wetland; and impacts resulting from these uses (if any) are mitigated.