

**ATTACHMENT A: FINDINGS AND CONCLUSIONS -**  
COMPREHENSIVE UPDATE TO THE CITY OF SEATTLE SHORELINE MASTER PROGRAM

SMP Submittal accepted August 2, 2013, Ordinance No. 124105  
Prepared by Joe Burcar on May 15, 2014

**USE OF THIS DOCUMENT:** Ecology's *Findings and Conclusions* (Attachment A), including reference to *Attachment B* (Required Changes) and *Attachment C* (Recommended Changes), provide the factual basis for Ecology's decision on the City of Seattle's (City) updated Shoreline Master Program (SMP). The document is divided into four sections providing introductory information (Section 1), findings related to the City's documentation of current shoreline conditions (Section 2), amendment history and review process (Section 3), and conclusions (Section 4).

**DESCRIPTION OF PROPOSED AMENDMENT**

The City submitted to Ecology for review a comprehensive amendment to their SMP to comply with the Shoreline Management Act (SMA) at RCW 90.58 and the SMP-Guidelines (Guidelines) at WAC 173-26 (Part Three). The updated master program provides locally tailored shoreline management policies, environment designations, regulations, and administrative provisions to manage shoreline development throughout the City's shoreline district. Additional reports, and supporting information and analyses as noted throughout this document, were considered by Ecology during review of the City's submittal.

**SMP PROVISIONS TO BE CHANGED BY THE AMENDMENT AS PROPOSED**

This comprehensive SMP amendment is intended to replace the City's existing SMP in its entirety. The final SMP includes the following references to be formally incorporated as part of this SMP:

- City of Seattle Stormwater provisions provided in Chapters 22.800 – 22.808;
- City of Seattle Essential Public Facilities provisions provided in subsection 23.80.004.C.2;
- City of Seattle Definitions listed in Chapter 23.84A; and
- City of Seattle Environmentally Critical Areas provisions provided in Chapter 25.09.

**FINDINGS OF FACT**

SMP update materials submitted by the City including: Ordinances #124105; reports, analysis, local approval materials, public comments, and other documents provide information supporting the need for the proposed SMP amendment. The SMP update is the first comprehensive review of the City's program since 1987.

According to the *City Shoreline Characterization Report* (Seattle, 2010), approximately 86 miles of shoreline within the City are classified as "Shorelines of the State" pursuant to RCW 90.58.030 and including: 30 miles of marine waters adjacent to Puget Sound, 22 miles of fresh water shoreline along Lake Washington, 28 miles of fresh water shoreline along Lake Union and the Ship Canal, 4 miles of riverine shoreline along the Duwamish River, 2 miles of freshwater shoreline surrounding Green Lake, as well as associated wetlands and floodplains within the City.

Lake Washington and marine waters seaward of extreme low tide are further characterized as a "Shoreline of Statewide Significance" pursuant to RCW 90.58.030 (2) (f).

## **NEED FOR THE AMENDMENT**

The proposed amendment is needed to comply with a statutory deadline requiring a comprehensive update to local Shoreline Master Programs pursuant to RCW 90.58.080. The SMP update is also intended to reflect current shoreline conditions, as it is recognized that conditions can change over time (WAC 173-26-090), for which the most recent comprehensive update to the City's SMP was completed over 27 years ago in 1987. Therefore, the current SMP update recognizes changes that have occurred along the City's shorelines since the last comprehensive update based on new or updated information related to current shoreline uses and characterization of both physical and biological conditions. The update also provides an opportunity to address consistency between the updated SMP and other environmental protection or land use management policies and practices outlined in the City's Critical Areas Ordinances and Comprehensive Plan.

Section 23.60A.002 of the City's SMP provides the following title and purpose for the program:

- A. This Chapter 23.60A shall be known as the "Seattle Shoreline Master Program Regulations."*
- B. It is the purpose of this Chapter 23.60A to implement the policy and provisions of the Shoreline Management Act and the Shoreline Goals and Policies of the Seattle Comprehensive Plan, as well as the City's interest in the public health, safety and welfare, by regulating development, uses and shoreline modifications of the shorelines of the City in order to:*
- 1. Protect the ecological functions of the shoreline areas;*
  - 2. Encourage water-dependent uses;*
  - 3. Provide for maximum public access to, and enjoyment of the shorelines of the City; and*
  - 4. Preserve, enhance, and increase views of the water.*

## **CURRENT CONDITIONS DOCUMENTED**

Documentation of current shoreline conditions is vital to achieving the no net loss standard of the state SMP Guidelines (WAC 173-26-186). Pursuant to this requirement, the City produced a *Shoreline Characterization Report* dated January 2010, which describes existing shoreline conditions within the City's shoreline district and serves as a basis in guiding planning level decisions regarding allowed uses, necessary protections and restoration opportunities to be implemented by the updated SMP.

The City's *Shoreline Characterization Report* (Seattle, 2010) provides both an ecosystem-wide (watershed) and reach-level analysis of existing shoreline conditions. This assessment describes the relative degree of impairment of existing ecological function and serves as an important resource characterizing current shore conditions. The *Shoreline Characterization Report* is intended to be used to guide future management and restoration priorities within the City. Within an SMP context, ecological functions are generally described as shoreline hydrology, sediment quality, water quality and habitat conditions at a reach level or within a larger geographic area (Ecology, 2010). Methods used to prepare the City's *Shoreline Characterization Report* (2010) are described in detail within the report, but are generally based on a streamlined approach for characterizing watershed processes developed by Stanley et al., (2005) for which the City also integrated adapted analysis strategies identified by the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) Nearshore Science Team (Simenstad et al., 2006) and Battelle Marine Sciences Laboratory.

The City analyzed freshwater and marine/estuarine areas separately, but utilized the same classification system identifying five categories of impairment: most impaired, more impaired, moderately impaired, less impaired, and least impaired (Seattle, 2010). As shown in the following matrix, comparison of the level of impairments at the sub-reach and reach scale are used to determine the most appropriate management or restoration strategy for each segment of shoreline (Seattle, 2012a).

**Strategies based on Level of Impairment** (adapted from Seattle, 2012a; 17)

		Reach Scale Impairment				
		Least	Less	Moderate	More	Most
Sub-Reach Scale Impairment	Most	Restore Process Rehabilitate*	Restore Process Rehabilitate*	Rehabilitate Restore Process Create*	Rehabilitate Create	Rehabilitate Create
	More	Restore Process Rehabilitate*	Restore Process Rehabilitate	Rehabilitate Restore Process Create	Rehabilitate Create	Rehabilitate Create
	Moderate	Restore Process Protect Rehabilitate	Restore Process Protect Rehabilitate	Rehabilitate Protect Restore Process Create	Rehabilitate Create Protect	Rehabilitate Create Protect
	Less	Protect Restore Rehabilitate	Protect Restore Process Rehabilitate	Protect Restore Process Rehabilitate	Protect Rehabilitate Create	Protect Rehabilitate Create*
	Least	Protect	Protect Restore Process Rehabilitate	Protect Restore Process Rehabilitate	Protect Rehabilitate	Protect Rehabilitate*

Notes: \* Combinations shown are strategies for each reach that could be suitable with a given level of impairment. Some combinations did not occur in the City’s shorelines, as described in the City’s *Shoreline Characterization Report* (Seattle, 2010).

Based on this analysis framework, consideration of the level of impairment at both the reach and sub-reach level is intended to help identify management strategies that are most likely to succeed over time, based on anticipated effects from surrounding areas (Seattle, 2012a). For example, a reach and sub-reach both characterized as “least” impaired should be protected in its current form in an effort to maintain the existing high quality resources and ecological function. Whereas, rehabilitation or creation of ecological resources would be the most effective strategy for degraded areas characterized as “most” impaired at both scales. Strategies identified through this analysis are intended to guide development of SMP regulatory provisions as well as prioritization of non-regulatory restoration opportunities included in the City’s *Shoreline Restoration and Enhancement Plan*.

**Condition of Seattle Shoreline Areas**

The City generally describes the shorelines of Lake Union downstream to the Ballard Locks, Elliott Bay and the Harbor Island portion of the Duwamish River Estuary as the most impacted shoreline areas in the City. Alternatively, Seward Park, Union Bay, West Point, Magnolia Bluffs, and Lincoln Park to Fauntleroy Cove, are characterized as the least impaired shoreline areas within the City (Seattle, 2010).

Natural and built shoreline conditions under SMA jurisdiction are described in the City’s *Shoreline Characterization Report* (Seattle, 2010). The report divides the City’s shorelines into five separate study areas based on the type of shoreline (i.e., marine, estuary, or freshwater) and geographic location within the City. The five study areas are generally described in the following table:

CITY OF SEATTLE: GEOGRAPHIC AREA, SHORELINE TYPE, SIZE, AND REACHES			
Lake Washington	Freshwater	22 miles	Reach 1 - 8
Ship Canal, Lake Union, Portage Bay	Freshwater	28 miles	Reach 9 - 12
Duwamish River Estuary	Estuary	4 miles	Reach 13 – 14
Puget Sound	Marine	30 miles	Reach 15 – 27
Green Lake	Freshwater	2 miles	Reach 28

For each geographic area, the City’s characterization report describes both historical and current factors contributing to existing shoreline conditions. The City also developed an inventory report in 2008 that compared a 2006 shoreline use inventory to a similar survey prepared in 1982 (Seattle, 2008a). The report titled, “*Seattle’s Shorelines Today and Tomorrow*,” also compared the composition of existing water-oriented uses with those documented in the 1982 survey to identify any trends related to the status of water-oriented uses within the City throughout the 24 year time frame between the two inventories (Seattle, 2008a).

The following narratives provide a brief summary describing the general condition of each shoreline study area analyzed within the City’s *Shoreline Characterization Report* (Seattle, 2010).

**Lake Washington**

Lake Washington is characterized as the second largest natural lake in the state and covers 21,500 acres in area, which qualifies as a “Shoreline of Statewide Significance” pursuant to RCW 90.58. City jurisdiction consists of 22 linear miles of shoreline along the west side of the lake. According to the City, Lake Washington has lost much of its shoreline habitat connectivity and complexity, as a result of regional development and significant modification to the lakes hydrology, after construction of Ship Canal and Ballard Locks in 1917 (Seattle, 2010). The opening of the Ship Canal connection to Lake Washington dropped the level of the lake 10 feet, resulting in a significant loss of shoreline riparian habitat. Excessive nutrient input leading to human health risk in the 1950’s stimulated regional waste water treatment efforts that started in the 1960’s and continue to protect the water quality in Lake Washington. Currently, the water quality of the lake is considered good, primarily due to the installation of the regional waste treatment system, the depth of the lake (avg. 100 feet), and freshwater input from both the Cedar and Sammamish rivers (Seattle, 2010).

**Current condition:** The City’s *Shoreline Characterization Report* (Seattle, 2010) analyzed 8 segments (reaches) of shoreline along Lake Washington, for which each segment was assigned a relative scale of impairment ranging from “more impaired” (degraded) to “least impaired” (intact), as summarized in the following table provide on the next page.

LAKE WASHINGTON	REACH EXTENT	LEVEL OF IMPAIRMENT <sup>1</sup>
Reach 1 - Freshwater	North City limit to Magnuson Park	[3] Moderately Impaired
Reach 2 - Freshwater	Magnuson Park	[4] Less Impaired
Reach 3 - Freshwater	Laurelhurst	[4] Less Impaired
Reach 4 - Freshwater	Union Bay	[5] Least Impaired
Reach 5 - Freshwater	Madison Park to I-90	[2] More Impaired
Reach 6 - Freshwater	Colman Park to Seward Park	[4] Less Impaired
Reach 7 - Freshwater	Seward Park	[5] Least Impaired
Reach 8 - Freshwater	Seward Park to South City limit	[2] More Impaired

Current land-use within SMA jurisdiction surrounding Lake Washington, are described as primarily residential and park (Seattle, 2008a). Land-use within the broader drainage area are similarly characterized as mostly residential, but overall contain the following distribution of uses: 49% residential, 25% transportation (roads), 14% parks/open space, and approximately 8% commercial/industrial (Seattle, 2012c). Shoreline modifications in the form of: armoring (66% of the lake’s shoreline), a relatively high number of overwater structures (900), and a lack of riparian vegetation (less than 25%) within the study area contribute to the reported level of impairment (Seattle, 2010). In addition, the City identified within their *Shoreline Characterization Report* (Seattle, 2010) a list of primary ecological stressors for this study area and a summary of the conditions affected by each stressor as provided in the following table:

STRESSOR	STRESSOR CONDITIONS IN LAKE WASHINGTON
Armoring	66% of the Lake Washington shoreline is armored. Unarmored shoreline supporting marsh habitat in some reaches within Union Bay, Magnuson, Colman and Seward Parks, and along Lake Washington Boulevard.
Overwater structures	Overwater structures are abundant (900 individual structures) primarily consisting of a high density of neighboring residential docks and some residential structures (Toft et al., 2003b).
Marinas, houseboats, and ferries	Several marinas occur along the Lake Washington shoreline.
Water and sediment quality	No industrial facilities affecting water and sediment quality, but some introduction of contaminants occurs through wastewater delivered through creeks, CSO’s and stormwater outfalls.
Artificial lighting	Abundant artificial light from lights on overwater structures.
Removal of riparian vegetation	Native vegetation removed from large portions of the Lake Washington shoreline. Some stretches of intact vegetation within public parks and a private school in the Laurelhurst neighborhood.
LWD removal or loss	LWD is essentially absent in this area. This condition is associated with extensive shoreline armoring and lack of source material from riparian vegetation. Small woody debris (SWD), such as twigs and branches from adjacent shrubs and trees, is available along some shorelines where overhanging riparian vegetation occurs. SWD provides some of the same functions as LWD, Tabor et al. (2004) documented more juvenile Chinook salmon occurrence in areas with SWD.
Wetland Alteration	Wetlands along the lakeshore have been historically filled in order to facilitate development. The Salmon Bay Waterway area, which was historically part of the Salmon Bay estuary prior to the construction of the Ballard Locks, included large areas of wetlands.

<sup>1</sup> Level of Impairment based on hydrology, water & sediment quality, physical habitat, & biology (Seattle, 2010; 50).

## Ship Canal, Lake Union and Portage Bay

The Ship Canal, Lake Union and Portage Bay connect Lake Washington to the marine waters of Puget Sound. The Ballard Locks, the 8.6 mile Ship Canal and Montlake Cut were constructed in 1916 to allow navigable passage between Lake Washington, Lake Union and Puget Sound (Seattle, 2010). Intensive urban development, a lack of riparian vegetation cover and the relative shallow depth of these shoreline segments (including Lake Union and Portage Bay), have contributed to seasonal water quality concerns, related to low dissolved oxygen and high water temperature levels (SPU & ACOE, 2008).

Current condition: The City’s *Shoreline Characterization Report* (Seattle, 2010), analyzed 4 segments (reaches) along Lake Union, the Ship Canal and Portage Bay. Based on the degree of impairment of a number of freshwater ecological indicators, the report provided an overall level of impairment for each of the individual reaches. The Lake Union, Ship Canal and Portage Bay segments, are characterized as either “more impaired” or “most impaired” (degraded), as shown in the following table:

SHIP CANAL, LAKE UNION, PORTAGE BAY	REACH EXTENT	LEVEL OF IMPAIRMENT <sup>2</sup>
Reach 9 - Freshwater	Montlake Cut and Portage Bay	[2] More Impaired
Reach 10 - Freshwater	Lake Union	[1] Most Impaired
Reach 11 - Freshwater	Freemont Cut	[1] Most Impaired
Reach 12 - Freshwater	Salmon Bay Waterway	[1] Most Impaired

The City’s inventory provides land-use for the larger Lake Union/Ship Canal watershed drainage area, for which they report: 38% transportation/right-of-way, 32% residential, 14% commercial, 7% industrial, and 6% parks/open space (Seattle, 2010). However, a majority of the water-dependent uses are located within the shoreline district of Lake Union and the Ship Canal, which is not reflected by the land-use characteristics of the larger drainage area. Therefore, within the shoreline district boundaries, the City reports that water-dependent recreation and industrial/commercial uses, occupy approximately 80% of both the dry land waterfront and the submerged waterfront areas of Lake Union (Seattle, 2008a; 25). Shoreline areas within the Ship Canal represent an even higher percentage of water-dependent uses, with 85.3% of the dry waterfront and 98.3% of the submerged waterfront occupied by existing water-dependent uses (Seattle, 2008a: 27). Existing uses within Portage Bay, provide a high percentage of recreational water-dependent uses, occupying 82.6% of dry water area and 76.4% of submerged waterfront area (Seattle, 2008a; 31).

Consistent with the high degree of impairment reported for the shoreline reaches listed above, shorelines within these segments have been heavily modified in the form of shoreline armoring (82% of Lake Union and Ship Canal) and a large number of overwater structures (647) in the form of industrial docks, floating home moorages, and marinas (Seattle, 2010). Two small segments of more natural shoreline conditions exist at the south end of Portage Bay and sections of Gas Works Park (Seattle, 2010). The following table (adapted from Seattle, 2010) lists primary ecological stressors, as summarized in the following table provide on the next page.

<sup>2</sup> Level of Impairment based on (hydrology, water & sediment quality, physical habitat, and biological communities (Seattle, 2010; 50).

STRESSOR	STRESSOR CONDITIONS IN THE SHIP CANAL, LAKE UNION AND PORTAGE BAY
Armoring	Armoring covers almost the entire shoreline, except for small patches in Portage Bay, Gasworks Park, and the south end of Lake Union (Toft et al. 2003a).
Overwater structures	Abundant overwater structures throughout geographic area. Toft et al. (2003a) surveyed the shoreline of this area and found that these structures include marinas with houseboats, industrial marinas, recreational docks, and other types of overwater platforms.
Marinas, houseboats, and ferries	Several marinas and houseboat communities occur in Lake Union, covering much of the shoreline habitat where they exist (see overwater structures, above).
Water and sediment quality	The industrial and urban uses in and along Lake Union and the Ship Canal have contributed to impair water and sediment quality.
Artificial lighting	Since Lake Union and the Ship Canal shorelines are located in an urban area, much artificial lighting is present near the shore.
Removal of riparian vegetation	Vegetation has largely been removed from the entire shoreline of the lake and canal, except for several small stretches in Portage Bay, Gasworks Park, and the south end of Lake Union.
LWD removal or loss	LWD is essentially absent in this area, except for sparse undeveloped properties. Because of the developed shoreline, LWD sources are lacking.
Wetland Alteration	Wetlands along the lakeshore have been historically filled in order to facilitate development. The Salmon Bay Waterway area, which was historically part of the Salmon Bay estuary prior to the construction of the Ballard Locks, included large areas of wetlands.
Increases in impervious surface area	Because this area is within an urbanized setting, there is a large amount of impervious surface area surrounding Lake Union and the Ship Canal.
Fill	Fill has occurred in areas along the developed lake shore in order to extend the land to the water's edge, but there are no dikes in this area.
Stream channelization and dredging	The Montlake Cut and Ship Canal have both been channelized and dredged for navigation purposes.
Hydrologic alterations	The Ballard Locks impound the water from the Ship Canal and limit exchange between the marine zone of Puget Sound and the lake system.
Roads	Because this is an urbanized area, roads are in close proximity to the lake and Ship Canal, with associated development and runoff.
Outfalls and CSOs	There are numerous outfalls and CSOs located in this area.
Public beaches or park development	There are a number of publicly accessible shorelines and parks in this area, including Gasworks Park, South Lake Union Park, and West Montlake Park.
Boat wakes/propeller wash	Boat wakes and propeller wash are prevalent in this area because it is a popular boating zone. Vessels use the area between the Ballard Locks and the Montlake Cut to travel between the marine zone of Puget Sound and Lake Washington.

## Duwamish River Estuary

According to the City, the Duwamish River Estuary is the largest in Seattle and has been highly altered through development supporting water dependent commerce and heavy industry uses. These alterations have created a relatively static environment since the early 1900s, for which the City's *Shoreline Characterization Report* (Seattle, 2010) describes the floodplain and the main stem of river as: straightened, diked, and armored in order to prevent flooding and to increase developable land. These modifications have contributed to a 96 to 99 percent reduction of intertidal mudflats and estuarine wetlands that were historically present in the Duwamish River Estuary (Williams et al. 2001). Further, high volumes of dredge material removed from the east and west waterway and mainstream river (up to the turning basin), have been used as fill to construct the extensive industrial area of Harbor Island (Seattle, 2010). According to the City (Seattle, 2010, 2013 and Blomberg et al. 1988), these alterations

have replaced 9.3 miles of original estuarine channel habitat, with approximately 5.3 miles of deep channel habitat.

Even though the Duwamish River Estuary has been significantly modified throughout the last century, the City concludes that the estuary still plays an important role, in providing an ecologically significant transition zone from freshwater to saltwater and supporting a variety of shoreline oriented species (Seattle, 2010). The City’s inventory characterized two main reaches within the shoreline planning area of the Duwamish, for which they categorize the reaches as “most impaired” and “more impaired” as shown in the following summary matrix:

DUWAMISH	REACH EXTENT	RELATIVE LEVEL OF IMPAIRMENT <sup>3</sup>
Reach 13 - Estuary	Harbor Island and waterways	[1] Most Impaired
Reach 14 - Estuary	Lower Duwamish River	[2] More Impaired

The City’s *Shoreline Characterization Report* provides land-use for larger 18 square mile Duwamish drainage basin, for which they report: 27% roadways, 22% residential, 28% industrial, 6% commercial, and 14% parks/open space (Seattle, 2010). However, as described above, the Duwamish River estuary has been significantly modified over the past 100 years primarily to support water dependent commerce associated with the Port of Seattle and other industrial operations. These areas are distinct from the general basin wide land-use characteristics, as a majority (56%) of uses in dry waterfront portions of the shoreline district are water-dependent and 76.8% of submerged waterfront area are similarly characterized as occupied by water-dependent uses (Seattle, 2008a; 23).

Consistent with the relative high degree of impairment reported for the shoreline reaches listed above, shorelines within these segments are heavily urbanized and industrial, for which the City’s Inventory references on-going challenges associated with site contamination/clean-up efforts and water-quality impairments, potentially generated from a number of sources throughout the drainage basin (Seattle, 2013). The following table (adapted from Seattle, 2010), lists primary ecological stressors within the Duwamish River estuary reach segments:

STRESSOR	STRESSOR CONDITIONS IN THE DUWAMISH RIVER ESTUARY
Armoring	Armoring covers almost the entire shoreline, except the shoreline around and near Kellogg Island and some small restoration projects along the waterway. Armor type ranges from rock riprap to sheetpile and concrete walls.
Overwater structures	Overwater structures are abundant here and cover large portions of the shoreline. These structures include piers, docks, and structures associated with port and marine terminals near the mouth of the river, as well as marinas and overlook platforms further upstream. Many of the overwater structures cover not only long portions of the shoreline, but extend far into the waterway and therefore create especially dark areas that receive no direct sunlight.
Water and sediment quality	The industrial and urban uses in and along the Duwamish River Estuary have contributed to impaired water and sediment quality.
Artificial lighting	Since this is a highly urbanized and industrial area, much artificial lighting is present near the shore.

<sup>3</sup> Level of Impairment based on (hydrology, water & sediment quality, physical habitat, and biological communities (Seattle, 2010; 50).

STRESSOR	STRESSOR CONDITIONS IN THE DUWAMISH RIVER ESTUARY
Removal of riparian vegetation	Vegetation has largely been removed from the entire shoreline of the Duwamish River Estuary, except along Kellogg Island and several restoration projects where riparian and marsh plantings have occurred.
LWD removal or loss	LWD is essentially absent in this area, except as installed with restoration projects or where it collects due to recessed bulkheads or other shoreline pocket configurations. Generally, because of the developed shoreline, LWD sources are lacking.
Wetland Alteration	Many acres of estuarine wetlands were filled in order to facilitate development (Blomberg et al. 1988).
Fill and dikes	Filling and diking has occurred along the entire shoreline of the estuary in order to increase buildable area. In addition, filling has occurred in the river’s floodplain to contain the channel.
Impervious surface area	Because this area is within an urbanized setting, there is a large amount of impervious surface surrounding the Duwamish River Estuary.
River channelization and dredging	The river has been extensively dredged and channelized for navigational and flood control purposes.
Hydrologic alterations	The re-plumbing of the White, Green, Black, and Cedar Rivers has decreased the overall volume of the Duwamish River by 32 to 81 percent from historical conditions (USACE 1997). In addition, all smaller tributaries in this reach are entirely or partially conveyed through an underground system of pipes.
Roads	Because this is an urbanized area, roads are in close proximity to the Duwamish River and estuary, with associated development and runoff.
Outfalls and CSOs	There are numerous stormwater outfalls, other outfalls, and CSOs located in this area.
Public beaches or park development	There are no public beaches or parks in this sub-area. There are however, some areas available for public access.
Boat wakes/propeller wash	Boat wakes and propeller wash are prevalent in this area because it is a federal navigational channel. Vessels use the area regularly for commerce and pleasure boating.
Boat launches	There are several small boat launches with ramps present.

## Puget Sound

The City’s *Shoreline Characterization Report* identifies approximately 30 miles of Puget Sound marine nearshore area between the northern and southern limits of the City (Seattle, 2010). As shown in the following summary matrix, current conditions are characterized by variable levels of impairment, ranging from “most impaired” to “least impaired” within 13 individual reaches within the City. Impaired reaches within this segment, are typically associated with former industry and dense urban development of the Central Waterfront, but also include existing water-dependent facilities supporting the Port of Seattle’s operations at Terminals 90-91. “More” to “Moderately Impaired” reaches, exhibit shoreline modifications in the form of upland residential development, or the presence of marinas, such as Shilshole and Elliot Bay, or actively used public areas, such as Alki Beach or Lincoln Park. “Less” to “Least Impaired” areas, are generally characterized by passive public areas, or the presence of relatively long stretches of un-modified shoreline, such as the Magnolia Bluff area adjacent to Discovery Park.

MARINE WATERS	REACH EXTENT	RELATIVE LEVEL OF IMPAIRMENT <sup>4</sup>
Reach 15 - Marine	North Bluff	[4] Less Impaired
Reach 16 - Marine	North Beach and Golden Gardens Park	[3] Moderately Impaired

<sup>4</sup> Level of Impairment based on (hydrology, water & sediment quality, physical habitat, and biological communities (Seattle, 2010; 50).

Reach 17 - Marine	Shilshole Bay and Marina	[2] More Impaired
Reach 18 - Marine	West Point and Magnolia Bluff	[5] Least Impaired
Reach 19 - Marine	Magnolia	[4] Less Impaired
Reach 20 - Marine	Elliott Bay Marina to Terminals 90 - 91	[1] Most Impaired
Reach 21 - Marine	Myrtle Edwards and Olympic Sculpture Park	[2] More Impaired
Reach 22 - Marine	Central Waterfront	[1] Most Impaired
Reach 23 - Marine	Southwest Elliott Bay	[2] More Impaired
Reach 24 - Marine	Duwamish Head	[2] More Impaired
Reach 25 - Marine	Alki Beach to Lincoln Park	[3] Moderately Impaired
Reach 26 - Marine	Lincoln Park and Fauntleroy Cove	[5] Least Impaired
Reach 27 - Marine	South Seattle to Seola Creek	[3] Moderately Impaired

The *Shoreline Characterization Report* only list land-use for the larger 15 square mile marine/nearshore drainage area, for which they report: 50% residential, 22% roadways, 17% open space/vacant land, 6% commercial, and 4% industrial (Seattle, 2010).

The City’s 2008 land-use inventory (Seattle, 2008a) provides more detailed information, summarizing existing uses within the shoreline district, but is broken into smaller study areas, for which the shoreline reaches listed above, are further divided into four segments consisting of: Puget Sound, Shilshole Bay, Elliott Bay, and the Central Waterfront. Within the 2008 inventory, the Puget Sound segment is characterized as primarily consisting of residential and park uses, for which water-dependent uses only occupy 1.4% of dry land areas within this segment. These water-dependent uses are represented by the Vashon ferry landing and the Alki lighthouse (Seattle, 2008a; 12). The Shilshole Bay segment includes a variety of small upland uses, for which the Shilshole Bay Marina provides the largest presence in the segment, occupying approximately 30% of the dry waterfront land and almost 70% of the submerged waterfront area (Seattle, 2008a; 12). The Elliott Bay segment (not including the Central Waterfront) is generally characterized as containing “transportation-related facilities” that support grain and shipping operations. The segment also includes public park land and water-dependent recreational uses at the Elliott Bay marina (Seattle, 2008a; 14). Finally, the Central Waterfront contains a variety of recreational, transportation and service uses, for which the segment is unique in that most of the dry waterfront property is either occupied by transportation uses within the City right-of-way, or the historical development is constructed on pile supported piers over the water (Seattle, 2008a; 16). Therefore, the Central Waterfront segment represents a diverse mix of uses, which the City categorized as “Multiple Categories” ranging from retail trade, general office, to institutional uses, most of which are located over submerged waterfront land (Seattle, 2008a; 17).

Similar to neighboring jurisdictions, northern portions of the City’s Puget Sound shoreline are lined by the BNSF railroad track that is constructed on large volumes of fill and is protected from shoreline erosion by a continuous rock rip/rap revetment, placed at the toe of adjacent coastal bluffs throughout this segment of shoreline (Seattle, 2010). Central and southern portions of the City’s marine shoreline are characterized by varying levels of shoreline modification including the historical re-grade of downtown Seattle, resulting in deposition of huge volumes of fill into the central waterfront, to the extensive construction of overwater piers supported by thousands of pilings along the central waterfront. The following table provided on the next page (adapted from Seattle, 2010) lists the primary ecological stressors within the marine/nearshore segments of the City’s shoreline.

STRESSOR	STRESSOR CONDITIONS IN THE MARINE NEARSHORE OF PUGET SOUND
Armoring	Armoring covers almost the entire marine nearshore in this area, except the Discovery Park and Magnolia Park shorelines. Armor type ranges from rock riprap to sheetpile and concrete walls. The central Seattle waterfront in Elliott Bay is bordered by a vertical seawall more than 1 mile long. The shoreline containing the BNSF railroad north of Shilshole is heavily armored by large riprap.
Overwater structures	The type and location of overwater structures in this area vary depending on the level of development. Piers and docks are abundant in the downtown, marina, and marine terminal areas. Overwater structures are not as abundant in the residential areas north and south of the city.
Marinas, houseboats, ferries	There are two marinas in this area, Elliott Bay Marina and Shilshole Marina. Also, Washington State Ferries operates a ferry terminal in downtown Seattle at Pier 52.
Water and sediment quality	The industrial and urban uses in Elliott Bay have contributed to impaired water and sediment quality.
Artificial lighting	Since this is a highly urbanized and industrial area, much artificial lighting is present near the shore, especially near downtown. Areas not as heavily lighted include Discovery Park and residential areas north of Shilshole Marina and south of Discovery Park, as well as south of Alki Point.
Removal of riparian vegetation	Vegetation in this area varies depending on the level of development. In the area north of Discovery Park, in Magnolia, and along the BNSF railroad corridor, vegetation is close to the shore (although separated from the shoreline by the railroad). In residential areas north and south of the city, vegetation is variable depending on the landowner. In the downtown, marina, and marine terminal areas, vegetation is absent.
LWD removal or loss	LWD occurs mostly in the undeveloped portions of the shoreline, such as Discovery Park and other small unarmored pockets that allow LWD to collect. Because of the highly developed shoreline in many areas, LWD sources are sparse.
Wetland Alteration	Many acres of estuarine wetlands in and near the Duwamish River were filled in order to facilitate development (Blomberg et al. 1988).
Fill	Filling has occurred along the shoreline in much of the downtown corridor, near the mouth of the Duwamish River, in the former Smith Cove area (Terminals 90 and 91) of north Elliott Bay, and in West Seattle in order to increase buildable area. Substantial fill occurs along the entire BNSF railroad in north Seattle to provide land for the railroad along the Puget Sound shoreline.
Dredging	The shorelines of downtown Seattle and the mouth of the Duwamish River were dredged extensively for navigational purposes.
Impervious surface area	Because this area is within a highly urbanized setting, impervious surface area is abundant near the shoreline. Impervious surfaces are most prevalent in the downtown and Duwamish River Estuary area where development is densest.
Roads	Because this is an urbanized area, roads are in close proximity to the shoreline, with associated development and runoff.
Bridges or culverts	Bridges and culverts are not a factor in sediment transport in marine areas in the way they are in river systems. However, bridges and culverts do restrict sediment transport downstream in the urban creeks that discharge to Puget Sound.
Outfalls	There are numerous stormwater, industrial, and CSO outfalls in this area.
Public beaches or park development	Discovery Park and Magnolia Park both maintain public beaches. There is a public park just north of downtown extending from Pier 91 to downtown, including Port of Seattle property, Seattle Parks' Myrtle Edwards Park, and the Seattle Art Museum's Olympic Sculpture Park.
Boat wakes/propeller wash	Boat wakes and propeller wash are prevalent in the shoreline areas nearest the marinas and downtown. Vessels use the area regularly for commerce and pleasure boating.
Boat launches and rails	There are many boat launches with ramps and many sets of marine rails in this area. Marine rails are abundant south of Alki Point in South Seattle and in the south shoreline of Shilshole Bay.
Jetties, breakwaters, groins	There are breakwaters at both the Elliott Bay and Shilshole marinas.

## Green Lake

According to the City (Seattle, 2010), Green Lake covers approximately 259 acres and is located north of Lake Union between Aurora Avenue North and East Green Lake Way. The lake is relatively shallow with a mean depth of approximately 13 feet and a maximum depth of approximately 30 feet. Modification to the lake include: historical filing and dredging, as well as development of a paved public footpath around the lake perimeter. The shoreline habitat around Green Lake consists primarily of large areas of open grass and landscaping with pockets of vegetation both along the shoreline and in setback areas. The pedestrian/bicycle path that circles the lake is immediately adjacent to most of the shoreline, which is reinforced in many places with bank armoring. The lake also has several docks used for fishing and non-motorized boats.

The *Shoreline Characterization Report* (Seattle, 2010) analyzed the shoreline of Green Lake as one continuous reach, categorized as “moderately impaired” in its current condition.

GREEN LAKE	REACH EXTENT	RELATIVE LEVEL OF IMPAIRMENT <sup>5</sup>
Reach 28 - Freshwater	Green Lake	[3] Moderately Impaired

The City generally describe habitat in Green Lake as “modified” (Seattle, 2010), for which the primary recreational use of the shoreline, support preservation of some habitat features (such as riparian trees) and the prohibition of motorized vessels on the lake. However, the lake is located within a heavily urbanized environment, for which rainfall generated stormwater runoff and utility overflows periodically discharge a variety of pollutants into the lake. Specific to water quality, the City describe Green Lake as a highly productive (i.e., eutrophic) lake with high concentrations of nutrients such as nitrogen and phosphorus that promote plant and algae growth (Seattle, 2010).

The following table (adapted from Seattle, 2010) lists the primary ecological stressors within the Green Lake reach of shoreline:

Stressor	Stressor Conditions in Green Lake
Armoring	Armoring covers the entire shoreline, except for small patches on the southwest side of the lake.
Overwater structures	Overwater structures are not abundant.
Water and sediment quality	Phosphorus, nitrogen, toxins, and pathogens are the main water quality concern. Sediment quality has been impacted by past sources of poor water being drained into the lake.
Artificial lighting	There is little to no artificial light introduced to the lake because: 1) the size of park area that surrounds the lake; 2) areas where night lighting occurs are limited to parking lots; and 3) there is no lighting on any of the overwater structures.
Removal of riparian vegetation	Vegetation is present along the entire shoreline; however, there are large portions of lawn. The main vegetation is lawn with patches of trees and some small shrubs.
LWD removal or loss	LWD is essentially absent in this area because of the developed shoreline. LWD sources are lacking.
Wetland alteration	Wetlands along the lakeshore have been historically filled in order to reduce the size of the lake and to

<sup>5</sup> Level of Impairment based on (hydrology, water & sediment quality, physical habitat, and biological communities (Seattle, 2010; 50).

Stressor	Stressor Conditions in Green Lake
	facilitate development.
Impervious surface area	Because this area is within an urban park, there is an impervious pedestrian path around the lake and several large parking lots within 200 feet of the shoreline.
Fill	Fill occurred in this area when the lake size was reduced.
Hydrologic alterations	The hydrology of the lake has been highly impacted by rerouting streams that drained into the lake and limiting the water drained out of the lake.
Roads	Because this is an urbanized area, there are many roads within 200 feet of the shoreline, and there is associated runoff.
Outfalls and CSOs	There is one stream outfall and two CSOs that drain into the lake.
Public beaches or park development	The entire shoreline is owned by Seattle Parks and Recreation and is open to the public. There is a paved pedestrian path around the perimeter of the lake. This path is located within 1 to 5 feet of the shoreline.

*Ecology finds that the City’s 2010 Inventory and Characterization report and the 2008 shoreline land-use inventory, provide a sufficient assessment of existing shoreline conditions and adequately inform the SMP update process. These reports also provide a basis for future protection and restoration opportunities within the City’s shoreline jurisdiction to ensure no net loss of shoreline ecological functions. Considered together, both reports contribute to satisfy State Guideline requirements in (WAC) 173-26-201 (3) (c) and (d).*

### Shoreline Environment Designations

SMP environment designations provide an important regulatory framework for master programs, distinguishing certain shoreline areas through identification of unique or important characteristics. Jurisdictions working on a SMP update, should consider how shoreline areas have been used or altered historically, by identifying past actions or modification affecting current shoreline conditions, which can then be used to characterize the relative degree of impairment for individual reaches of shoreline within a jurisdiction. Based on this assessment, along with consideration of zoning and other regulatory overlays, jurisdictions may integrate the designation criteria provided in WAC 173-26-211 to determine how shoreline environment designation should be assigned.

The City’s SMP utilizes eleven separate shoreline designations that generally fit into either an “Urban” or a “Conservancy” category. The urban category includes six shoreline environments, applied primarily to developed areas with: existing single family residential development, commercial, industrial water-dependent or water-related uses (Seattle, 2012b). The conservancy category consists of five shoreline environments that are applied to less developed areas supporting: navigation (aquatic designations), recreational uses, and habitat protection (Seattle, 2012b).

In developing environment designations for the updated SMP, the City first reviewed their existing designations by assessing their existing framework of: goals, policies and location criteria. Based on this review, the City determined that the existing designations still reflected unique characteristics of their shorelines, for which they decided to continue to utilize the same framework, with a few amendments to ensure consistency the SMA and WAC 173-26 (Seattle, 2012b; 9).

SMP-Guideline Designations	Seattle Designation	SMP-Guidelines Designation Criteria
Aquatic	Conservancy Navigation	<i>Protect, restore, and manage unique resources in areas waterward of the ordinary high-water mark.</i>
	Conservancy Waterway	
Natural	Conservancy Preservation	<i>Protect areas that are relatively free of human influence or contain intact, minimally degraded shoreline functions intolerant of human use.</i>
Urban Conservancy	Conservancy Recreation	<i>Protect ecological functions and plan for restoration of sensitive lands, where they exist in urban and developed settings, while allowing a variety of compatible uses.</i>
	Conservancy Management	
Shoreline Residential	Urban Residential	<i>Accommodate residential development while also planning for public access and recreational uses.</i>
High Intensity	Urban Stable	<i>Provide for high-intensity water-oriented commercial, transportation, and industrial uses while protecting existing ecological functions and planning for the restoration of previously degraded ecological functions.</i>
	Urban General	
	Urban Harborfront	
	Urban Maritime	
	Urban Industrial	

According to the City (Seattle, 2012b), the existing shoreline environment designations were further reviewed against the SMP-Guideline criteria provided in WAC 173-26 and for consistency with the preferences for “Shorelines of Statewide Significance” pursuant to RCW 90.58.020; the updated goals and policies in the City’s Comprehensive Plan, location criteria for each shoreline environment (based on current conditions), underlying zoning, rezone evaluations in Section 23.34.007, and the general rezone standards in Section 23.34.008, to determine where the designations should be changed. The City also utilized a 2007 updated land-use inventory, the 2010 *Shoreline Inventory and Characterization* report, current zoning, consideration of SMA policies and SMP-Guideline requirements, consideration of applicable municipal codes, and input from public comments and their SMP Citizen Advisory committee, to complete this analysis (Seattle, 2012b; 9). Based on this review, the City made a number of adjustments to the existing designations in a number of specific sections of their shoreline, to better align the particular designation with current conditions. The City’s *Shoreline Master Program Update Director’s Report* (Seattle, 2012b; 10) lists specific changes related to assignment of the proposed environment designations included in the updated SMP.

*Ecology finds that a substantive basis for designation of Shoreline Environments was conducted by the City as part of their SMP update, for which their proposed assignment of designations appear to be consistent with applicable requirements from the SMP-Guidelines at WAC 173-26 Part III.*

### Shoreline Uses

The SMP-Guidelines in WAC 173-26-221 and 173-26-241, list general use provisions that apply broadly to all of types of shoreline development that are regulated by the master program. WAC 173-26-241, also provides specific use provisions, that are applicable to those uses that commonly occur within shoreline jurisdiction. Based on these requirements, master programs need to include both general use

provisions and specific development standards consistent with those uses and modifications listed in the SMP-Guidelines. These requirements are intended to ensure that future development is appropriately managed consistent with the underlying policies of the SMA. Avoidance of use conflicts through prioritization of “preferred” shoreline uses, is a primary tenant of the SMA (RCW 90.58.020), for which updates to local SMP’s are intended to support these goals through development of appropriate master program provisions, based on the type and scale of future shoreline development anticipated within a particular jurisdiction.

In addition to the *Shoreline Characterization Report* (Seattle, 2010), the City’s SMP update is also informed by a land-use, public access and transportation infrastructure inventory developed by the City in 2008 (Seattle, 2008a). The 2008 inventory provides detailed information specific to upland and submerged areas within the City’s shoreline district, including a comparison of the composition of water-oriented uses (as of a 2006 survey), with a similar inventory prepared in 1982 (Seattle, 2008a). The report serves as a valuable resource, that helps describe the effect of the City’s SMP, in protecting priority uses such as water-dependent industries and facilities supporting water-dependent recreation within the City.

Related to use conflicts, the City’s *Vision Report* documents, interest within the community in prioritizing the protection of water-dependent businesses, shoreline public access and environmental protection (Seattle, 2008; 9).

To assist in evaluating the effectiveness of existing SMP and zoning provisions that were originally intended to protect water-oriented uses, the City commissioned a market analysis of water-dependent and water-related uses throughout the City (Property Counselors, 2009). The report titled; *Seattle Shoreline Master Program Update, Comparison of Land Supply and Demand for Water-Dependent and Water-Related Uses*, addressed the following four questions:

1. *Are the current land needs of Seattle’s water-dependent and water-related industries being met?*
2. *What are the projected land needs of water-dependent and water-related industries over the next 20 years?*
3. *Are certain shoreline areas more likely than others to experience increased demand?*
4. *Which non-water-dependent and non-water-related uses are most supportive of water-dependent uses?*

A primary finding in the report concludes: that projected demand for dry waterfront land in the Duwamish, Ship Canal, Lake Union, and Portage Bay, greatly exceed the amount of vacant dry waterfront land, for which it was noted that this demand is typically not transferrable to other shoreline sections within the City (Property Counselors, 2009). Further, the report identified a higher percentage of land currently used for non-water oriented uses, than the projected future demand for water-dependent or water-related uses, but noted that it is not clear, if purchase or transfer of either the non-water oriented lands or vacant waterfront land would be feasible to satisfy future water-dependent/water-related needs (Property Counselors, 2009).

Interviews with marine industry participants highlighted the important role that marine business cluster play in maintaining the availability of goods and services depended upon by maritime businesses (Property Counselors, 2009). According to the report, these relationships are borne out by an analysis of the supply chain for fishing, water transportation and shipbuilding, for which a number of specific

marine and general services<sup>6</sup> were specifically identified as key contributors to the maritime cluster (Property Counselors, 2009).

Based on the updated inventory and analysis, the report provided the following recommendations related to the City’s SMP update:

1. *The City should continue to restrict the development of non-water-dependent and water-related uses in the shoreline zones to assure that suitable dry and submerged lands are available for water-dependent and water-related uses.*
2. *The City should provide greater flexibility for secondary non-water-dependent and non-water-related uses that are important parts of the supply chain for marine businesses, or that do not preclude future use by water dependent businesses to locate within the shoreline zone, but not as a primary use.*
3. *The City should facilitate the expansion or development of water-dependent and water-related uses by reducing, wherever possible, the period necessary to secure permits.*

(Property Counselors, 2009)

Throughout the process to update the SMP, the City worked to integrate recommendations from the *Property Counselors* (2009) report. Specifically, the City recommended that current allowed uses be maintained, but also worked to develop regulations that allow as a secondary use, some non-water oriented development, when necessary to support a primary water-dependent use, consistent with recommendations to support the “marine clusters” (Seattle, 2012b).

The updated SMP lists: permitted, conditional or prohibited uses within each environment designation. In addition, each shoreline environment list specific development provisions, such as dimensional standards for new or remodeled structures related to: height, lot coverage and setbacks. According to the City, variation in development provisions between environments are based on particular shoreline objectives developed for specific shoreline segments through the City (Seattle, 2012b).

To manage non-conforming uses or structures, the City developed unique standards that will be applied based on the location of a proposed development, as follows:

1. Outside of Shoreline Setbacks – The City worked to develop language similar to their land-use code, to allow more flexibility in managing non-conformities in this sub-area.
2. Within a Shoreline Setback – The updated SMP prohibits expansion (in Urban Environments) and requires mitigation for replacement of existing structures currently located within a regulated setback area.
3. Over-water areas – New provisions in the updated SMP allow for some overwater development in the Urban Commercial and Urban Maritime shoreline environment, as long as the use is water-dependent or water-related. The updated SMP also allows mixed use (mix of non-water oriented and water oriented uses), when a water-dependent use is operated at the site, and as long as, “significant public benefit” ([WAC 173-26-241](#)) in the form of ecological restoration and public access are provided.

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<sup>6</sup> Material Suppliers, Repair Services, Tugboats, Crane Operators, Grocery Suppliers, Hardware Stores, Yacht Brokers, Restaurants, Finance and Insurance, Machine Shops, Fuel, Harbor Assistance, Government Agencies, and Cold Storage (Property Counselors, 2009).

The City's *Shoreline Master Program Update Director's Report* (Seattle, 2012b; 10) describes more specific changes related shoreline uses in the updated SMP.

*Ecology finds that the City adequately considered SMA preferred uses and the potential for use conflicts in the updated SMP, consistent with SMP-Guideline requirements in WAC 173-26-201 (3) (d) (ii).*

## Shoreline Modifications

Pursuant to WAC 173-26-231, "... Shoreline modifications are generally related to construction of physical elements such as a pier, floating structure, shoreline stabilization, dredged basin, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal." Further, WAC 173-26-231 (2) (b) states (as a general principle) that Master programs should: "Reduce the adverse effects of shoreline modifications, and as much as possible, limit shoreline modifications in number and extent." These shoreline modification principles are reinforced through associated Mitigation Sequencing (WAC 173-26-201.2.e) and No Net Loss (WAC 173-26-186) requirements of the SMP-Guidelines.

The City's existing SMP does not categorize "shoreline modifications". Therefore, the City developed a new section in the updated SMP to address shoreline modifications consistent with the standards provided in WAC 173-26-231. The City's *Shoreline Inventory* and *Shoreline Analysis and Characterization* reports document the presence of various shoreline modifications, in and along the City's SMA lakes and marine waters (Seattle, 2012b).

The City's *Shoreline Inventory and Shoreline Analysis and Characterization* report generally identifies industrial shoreline areas of Lake Union (downstream to the Ballard Locks), Elliott Bay, and the Harbor Island portion of the Duwamish River Estuary, as the most impacted reaches, for which specific "stressors" including a description of existing modifications are provided for each of the five shoreline study areas (Seattle, 2012b). To satisfy SMP-Guideline requirements related to shoreline modifications (WAC 173-26-231), the City developed a number of specific amendments related to the following types of anticipated development within their shoreline areas:

***Dredging and Filling*** (Seattle, 2012b and 2012c) – The City incorporated minor changes to location standards applicable to dredging and filling, to ensure that these modifications are only permitted where necessary and to facilitate access for water-dependent uses, transportation projects of state-wide significance, environmental mitigation or enhancement, cleanup of contaminated materials, or the installation of utilities or bridges. The updated SMP prohibit dredging accessory to residential docks and piers in the Conservancy Recreation and Urban Residential environments. The City also clarified the types of best management practices that are required to address: dredged material containment, turbidity generation, dewatering of dredge materials and identification of contaminated materials. The SMP allows dredging and filling for environmental mitigation or enhancement in all shoreline environments.

***Shoreline Stabilization*** – According to the City (Seattle, 2012b and 2012c), the updated SMP maintains the state exemption to the substantial development permit process for repair and replacement of existing shoreline armoring and for beach nourishment or bioengineering projects. The updated SMP also includes provisions that only allow new or replacement of a "hard engineered" bulkhead, where there is a demonstrated need to protect a principal structure or primary use from documented shoreline erosion. SMP provisions require that this demonstration of

need be prepared through a geotechnical study demonstrating that softer solutions have been considered and are not feasible.

**Overwater Structures** (Seattle, 2012b and 2012c) – Related to commercial/industrials uses, the updated SMP clarifies that new overwater coverage can be allowed, when it is supporting specific components of water-dependent uses, that require access to the water, such as piers, floats or loading equipment. The updated SMP also requires that commercial moorage facilities' locate ells and boat moorage areas a minimum of 15 feet waterward of the ordinary high water mark where doing so does not interfere with the function of water-dependent and water-related uses.

For residential uses, existing docks may be maintained and repaired, but when a non-conforming dock is replaced or undergoes "substantial improvement," it must either; meet the new dimensional standards in the updated SMP, or reduce the overwater coverage of the dock by 20%. Within the SMP, the City describes "substantial improvement" as maintenance, renovation, repair or alteration of an existing structure, where the cost of the work (in any five year period), equals or exceeds 60% of the market value of the non-conforming portion of the development. In addition, all principal residential and recreational moorage facilities will be required (when feasible), to locate ells and boat moorage areas, a minimum of 30 feet waterward from the ordinary high water mark. For Lake Union ells and boat moorage areas can be located as close as and 15 feet to the shoreline edge.

**Vegetation and Impervious Surface Management** (Seattle, 2012b and 2012c) - The City added a new section to the updated SMP to address SMP-Guideline requirement for vegetation management. To satisfy state requirements related to maintaining no net loss, the City incorporated relevant standards from their environmentally critical areas regulations, including provisions for: mitigation sequencing, required mitigation for vegetation that is removed or increases to impervious surface. The provisions also allow limited exemptions for some activities removal of hazard trees and restoration that includes removal of vegetation if the action results in improved vegetation conditions.

*Ecology finds that the City's Shoreline Modification standards are generally consistent with mitigation sequencing principles provided for in WAC 173-26-201 (2) (e) and requirements in WAC 173-26-231, relating to shoreline modifications.*

## **Cumulative Impact Evaluation**

Listed as a Governing Principle of the SMP Guidelines, WAC 173-26-186 (8) (b) states, "*Local master programs shall include policies and regulations designed to achieve no net loss of those ecological functions.*" This principle is intended to be satisfied through development of supporting analysis such as the Inventory/Characterization report or the Cumulative Impact Assessment to inform "design" or creation of appropriate SMP policies and regulations.

Prior to local adoption of the final draft of the updated SMP, the City prepared a Cumulative Impact Assessment intended to consider cumulative impacts of reasonably foreseeable future development or redevelopment allowed by the updated SMP (Seattle, 2012c). Specifically, the report analyzed proposed SMP policies and regulations to determine if the regulations, when implemented, meet "no net loss" of ecological functions (Seattle, 2012b). As summarized above, the shoreline environment in Seattle consists of primarily moderately to highly altered urban areas, with pockets of moderately functioning and less altered areas. Because of the relatively built-out nature of the City and long-term protections

associated with much of the publically owned parcels within the City, “reasonably foreseeable development within the City primarily consists of redevelopment of existing developed shoreline parcels (Seattle, 2012c).

“Anticipated future Development” within the City’s five shoreline study areas are described (emphasis added) in the City’s *Cumulative Impact Analysis* as follows:

**Lake Washington** – *“Given the scale of potential impacts exclusively in the shoreline areas of Lake Washington (e.g., remodels of existing single family residences), the size of the watersheds influencing the lake (the majority of which is outside the shoreline district in the City of Seattle), the size of the lake, as well as the nature of the historic flow modifications to the lake, implementation of the proposed SMP will have little impact on the overall hydrologic regimes and sediment dynamics of Lake Washington, but more environmental protective regulations on overwater structures, residential piers and shoreline armoring, as well as mitigation sequencing and increased residential setback and increased restrictions on development and impervious surface area within this setback will contribute to no net loss of ecological functions in the lake over coming years and possibly improved conditions as non-conforming structures and modifications are repaired and replaced and moved out of the setback or reduced (Seattle, 2012c; 29).”*

**Lake Union/Ship Canal** – *“Due to the historic and highly developed nature of the shoreline area adjacent to Lake Union and the Ship Canal, the size of the watersheds influencing these water bodies (largely outside the shoreline district), the critical influences of historic modifications such as the Ballard Locks and the Montlake Cut, future development is highly unlikely to have substantial influence on the overall landscape processes and ecological functions of these water bodies, including the fact that existing conditions leave little opportunity to increase impervious surface area or armoring in this area or decrease the little remaining natural vegetation areas in the shoreline, as described in Section 2 and the Characterization Report. Increased restrictions on overwater structures, floating homes and development within the shoreline setback, as well as mitigation sequencing if any development occurs with unavoidable impacts, will achieve no net loss of ecological functions over time and possibly improved conditions as non-conforming structures and modifications are repaired and replaced (Seattle, 2012c; 30).”*

**Duwamish Estuary** – *“Much of the most substantial ecological impacts and stressors in this highly developed area of the City’s Shoreline District are a result of many years of development as the City became established and grew (e.g., filling of shoreline wetlands, placement of outfalls, water/sediment quality contamination from industrial development). Implementation of the proposed SMP update will likely have little direct effect on these existing conditions (e.g., filled shoreline wetlands; hydrologic and sedimentary impacts of the nearly 100% impervious surface area adjacent to the estuary) or is not the relevant regulatory authority to address these impacts (e.g., remediation of contaminated sediments under state and federal regulations). However, future development such as additional overwater structures, hard armoring, or increases in impervious surface close to the shoreline, will be further restricted and mitigated where allowed through mitigation sequencing, which will likely lead to more natural conditions along the shoreline in this area over time as well as no net loss of ecological functions (Seattle, 2012c; 32).”*

**Puget Sound Marine Waters** – *“Much of the most substantial ecological impacts and stressors in this highly developed area of the City’s Shoreline District are a result of many years of development as the City became established and grew (e.g., filling of shoreline wetlands, seawall development,*

*placement of outfalls, water/sediment quality contamination from industrial development and stormwater impacts). Implementation of the proposed SMP update will likely have little direct effect on these existing conditions (e.g., filled shoreline wetlands; hydrologic and sedimentary impacts of the railroad along the shoreline) or is not the relevant regulatory authority to address these impacts (e.g., remediation of sediment contaminants under state and federal regulations; stormwater control). However, future development such as additional overwater structures, hard armoring, or increases in impervious surface close to the shoreline, will be further restricted and mitigated where allowed through mitigation sequencing, which will likely lead to more natural conditions along the shoreline in this area over time as well as no net loss of ecological functions (Seattle, 2012c; 31)."*

**Green Lake** – *"The entire shoreline is owned and managed by Seattle Parks and Recreation for open space and recreation, including maintaining extensive vegetated and pervious areas adjacent to and near the lake. Increased setback and mitigation standards for this environment should result in little or no increase to impervious surface area or shoreline modifications adjacent to the lake and thus lead to improved water quality and other beneficial impacts to the lake (Seattle, 2012c; 32)."*

The City's Cumulative Impact Assessment (Seattle, 2012c; 56) concludes that the provisions in the updated SMP are sufficient to maintain the overall condition of shoreline resources within the City and result in no net loss of shoreline ecological functions. This conclusion is based on identification of on-going "stressors" within each shoreline environment, for which 'reasonably expected' future shoreline development as authorized through the updated SMP were analyzed.

*Ecology finds that the City's Cumulative Impact Assessment (Seattle, 2012c) provides an adequate and accurate examination of anticipated development and potential effects to shoreline ecological functions. This finding is based on review and analysis of existing shoreline characteristics (Seattle, 2010), anticipated future development (Seattle, 2012c), and the effect of policies and provisions provided in the updated SMP, to satisfy the no net loss of shoreline ecological function (WAC 173-26-186-8), Environmental Impact Mitigation (WAC 173-26-201-2-e), and the Shoreline Modification (WAC 173-26-231) requirements from the SMP Guidelines.*

### **Restoration Plan:**

Pursuant to WAC 173-26-201 (2) (c), "Master programs shall also include policies that promote restoration of ecological functions, as provided in WAC 173-26-201 (2) (f), where such functions are found to have been impaired based on a jurisdiction's inventory or characterization report, as described in WAC 173-26-201(3) (d) (i).

It is intended that local jurisdictions, through the master program, along with other regulatory and non-regulatory programs, contribute to restoration by planning for and fostering restoration. These efforts can be supported through a combination of public or private actions. Therefore, local governments should identify restoration opportunities as a component of the SMP-update process, as well as establish implementation goals that coordinate and facilitate appropriate publicly and privately initiated restoration projects within the jurisdiction. The restoration component of the SMP update, is intended to include planning elements that, when implemented, serve to improve the overall condition of habitat and resources within the shoreline area of each city and county.

As part of the SMP-update, the City conducted restoration planning actions that built on information gathered through their shoreline inventory, characterization and analysis process (Seattle, 2012a). Documentation of this effort is provided in the City’s *Restoration and Enhancement Plan*, which identifies and prioritizes the types of restoration that will increase overall ecological functions throughout the City’s shoreline areas (Seattle, 2012a). As described by the City (Seattle, 2010; 2012a and 2012b), the *Restoration and Enhancement Plan* is non-regulatory, for which the recommendations are intended to guide long-term improvement of shoreline ecological functions.

The following table from the City’s *Restoration and Enhancement Plan* lists a number of potential “habitat actions”, describing the anticipated improvement to ecological function for freshwater or marine environments.

**Habitat Actions Identified for Shoreline Restoration Projects** (adapted from Seattle 2012a)

Habitat Action	Ecologic Function Improvement									
	Light	LWD	Nitrogen	Pathogens	Phosphorus	Sediment	Tide	Toxins	Water	Wave
Riparian Restoration	X	X	X		X	F		X	X	
Rehabilitate channels		X	X	X		X	M			
Intertidal Debris Removal						X				X
Beach Nourishment						X				
Armoring Removal		X				X	M		X	X
Overwater Structure Removal	X	X								
Culvert/Outfall Removal			X	X	X		M	X		
Water Quality Improvement			X	X	X			X		
Wetland Restoration			X	X	X	F		X	X	

Notes: “X” Addresses process in both freshwater and marine waters, “F” Addresses process only in freshwater, “M” Addresses process only in marine waters

*Ecology finds that the Final Shoreline Restoration Plan is based on appropriate technical information available to the City during the SMP update. The Final Restoration Plan can serve as an effective tool for the City, non-profit organizations and the public to collectively improve shoreline conditions over time. Such restoration efforts are understood to help achieve the no-net-loss standard of the SMP-Guidelines (WAC 173-26-186).*

## **AMENDMENT HISTORY AND REVIEW PROCESS:**

**SMP Grant:** The City initiated the comprehensive SMP update consistent with a scope of work described within *SMA Grant No. GO800332*. The grant agreement originally provided \$400,000 to be allocated to the City between July 1, 2007 and June 30, 2010. Pursuant to a legislative amendment to RCW 90.58, a third year was provided for jurisdictions determined to be making progress toward completing their SMP-update, thus extending the City’s grant deadline an additional year to June 30, 2011.

Ecology’s SMP-update grant identified a number of deliverables and benchmarks required of the City to ensure appropriate expenditure of grant funding and to monitor progress in development of the updated SMP. As recognized in Ecology’s “Notice of Project Closure”, the City satisfied grant agreement requirements related to submittal of required deliverables. The record shows that between 2007 and January 2013, the City developed the following SMP drafts:

- First draft SMP, dated February 2011;
- Second draft SMP, dated October 2011;
- SEPA draft SMP, June 29, 2012;
- Mayor’s recommendations (4<sup>th</sup> draft) on the SMP submitted to the City Council and dated August, 2012; and
- Ordinance #124105 (dated January, 2013) consisting of the City Councils locally adopted SMP.

In addition to the draft SMP’s listed above, the City produced or relied upon a number of supporting documents and analysis many of which also evolved throughout the update process (Seattle, 2012b).

## **Local SMP-update Process**

Pursuant to WAC 173-26-201 (3) (b) (i), local jurisdictions are required to both inform interested parties of review of the shoreline management program and actively encourage participation by all persons or groups that show interest in development or implementation of the updated SMP.

## **Public Involvement**

Starting in late 2007 through local adoption of the updated SMP in January of 2013, the City’s update involved multiple stages of analysis, program development, outreach and review of a variety of SMP topics and issues. Throughout this process, City staff initiated a variety of stakeholder engagement efforts that were intended to solicit public input and involvement in the comprehensive update process. Guiding the City’s outreach was a *Public Participation Plan* (Seattle, 2007) that was developed by the City early in the update. The plan provides an overriding “goal” consistent with RCW 90.58.130 and reference to applicable requirements in the SMP-Guidelines, related to public involvement in the SMP-update. In addition, the plan identifies a number of “objectives”, pledging the City’s commitment to provide: “clear, consistent and concise” communication related to the update. These efforts are characterized by the City as intended to gain public support and public involvement in the update, for which the City also committed to dissemination of information that is clear and conveys the need and anticipated benefit of the update (Seattle, 2007).

**Seattle SMP Visioning Process:** Another early effort in the City’s SMP-update was the creation of a vision report. The report was intended to engage the community in the update process and to use the

results in describing the overall vision for Seattle’s shorelines (Seattle, 2008). The City then planned to use the shoreline vision to illustrate community aspirations related to shoreline management in the City and to prioritize (or “inform”) policy development of certain elements of the updated SMP (Seattle, 2008).

According to the City (Seattle, 2008), the visioning process identified a range of future visions for the city as a whole, as well as for each of the six shoreline sub-regions (Elliott Bay, Duwamish River, Lake Union/Ship Canal, Lake Washington, Puget Sound and Green Lake). The community vision was developed through the following efforts:

1. A telephone survey (Elway Research, Inc., 2008);
2. Seven visioning workshops held within each of the shoreline sub-regions; and
3. Comments provided online via the City’s SMP Update web site (Seattle, 2008).

The City’s Vision report concludes, that the public survey and visioning process demonstrated that citizens of Seattle place a high value on shorelines and that water-dependent businesses, public access, and environmental protection are all priorities for the future (Seattle, 2008; 9) Additional information including: survey questions, responses, and key themes provided at each of the (sub-region) workshops, are provided within the City’s *Vision report*.

**Seattle SMP Citizen Advisory Committee:** convened in 2008, the City’s Citizen Advisory Committee (CAC) met from May 2008 through June 2009. According to the City (Seattle, 2012b), the CAC’s role was primarily intended to assist SMP-update staff in developing policy direction for the update. CAC member representing a variety of shoreline interests, were selected by the City’s Department of Planning and Development Director, based on recommendations from City staff, public input and interviews of nominees by a independent consultant that served as facilitator to the CAC (Seattle, 2009; 2).

The CAC produced a comprehensive report summarizing their year long discussion of the following policy areas related to the SMP update:

1. Shoreline Environment Designations;
2. Residential Development Standards;
3. Commercial and Industrial Development Standards;
4. Shoreline Modifications (including dredging, shoreline stabilization and overwater structures);
5. Shoreline Mitigation;
6. Public Access and Views;
7. Floating Homes;
8. Urban Stable/Urban Mixed Use Development and Use Standards; and
9. Non-Conforming Structures and Uses.

For each policy area discussed by the CAC, the report provides background information about the issue, staff overview with proposed amendments to the updated SMP to satisfy SMP-Guideline requirements, a narrative characterizing the CAC’s discussion of proposed SMP amendments, and a synopsis of the CAC’s major comments at the end of each section that included any descent by particular interests related to one of the policy topics (Seattle, 2009; 3).

In addition to the CAC, the City convened inter-departmental and inter-agency teams that also provided input on the updated SMP (Seattle, 2012b). The City also engaged more directly with specific interests through hosting or attending more than 80-events<sup>7</sup> between 2007 and January 2013, thus providing a variety of opportunities for public involvement related to the SMP update.

**Mayor and City Council Review:** The City’s Mayor’s Office reviewed the “SEPA-draft” (3<sup>rd</sup> draft) of the proposed SMP and developed recommendations in September 2012 that were then formally passed on to the City Council for review and local adoption. As described on the City’s SMP-update website<sup>8</sup>, Seattle City Council members were first briefed on the SMP-update in November of 2011, but did not begin their formal review until August of 2012. Between the first meeting in August and local adoption of the updated SMP on January 22, 2013, the City Council held 10 meetings<sup>9</sup> within the *Planning Land-Use and Sustainability* (PLUS) committee and two meetings with the full council. The City Council held a public hearing for the updated SMP on October 15, 2012. In addition to the public hearing and the PLUS committee meetings, the full City Council also discussed the SMP update during two final meetings on January 14<sup>th</sup> and the 22<sup>nd</sup> as a part of their final deliberation prior to approving Ordinance 124105 and submittal of the locally approved SMP on to Ecology for review.

The City Council’s PLUS committee dealt with a variety of issues related to the SMP update, leading up to local adoption of the SMP in January of 2013. However, issues related to overwater residences occupied a majority of the Council’s time, as a large number of residents voiced confusion related to unknown legal status of existing residential floating structures, that do not qualify as either a “floating home” or a grandfathered “house barge” and may or may not satisfy the City’s definition of a “vessel”. Even though the issue and questions raised by the residents, pertained to interpretation of the City’s existing SMP, the stakeholders voiced a strong request for clarity related to their existing residences. In response to this call, Ecology recommended<sup>10</sup> that the City separate questions related to the status of the existing on-water residences (i.e., compliance with existing SMP), from local adoption of the updated SMP, which is intended to manage future uses. Consistent with Ecology’s recommendation, the City Council locally adopted the updated SMP on January 14, 2013 under Ordinance #124105. In a separate action the City established the *On-Water Residential Stakeholder Process* (SOWRSP, 2013) to develop recommendations for the City to clarify the status of existing floating structures that are not a floating home or a house barge. See additional discussion related to overwater residences and the *On-Water Residential Stakeholder Process* below in the section titled: “**Summary of Issues Identified by Ecology as Relevant to its Decision**”.

*Ecology finds that the City satisfied SMP-Guideline standards related to public process (WAC 173-26-201 (3) (b) through development of their public participation plan, visioning process, citizen advisory committee, council review and extensive staff outreach involving more than 80 public meetings or events related to the SMP update.*

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<sup>7</sup> As a part of the formal submittal to Ecology, the City provided a table listing all public meetings involving the SMP-update from 2007-2013.

<sup>8</sup> “Shoreline Master Program Update – Project Timeline” provided at:

<http://www.seattle.gov/dpd/codesrules/changestocode/shorelineupdate/timeline/default.htm>

<sup>9</sup> SMP-Update Discussed at PLUS Committee meetings on: August 8, 2012; September 12 & 13, 2012; October 15 & 26, 2012; November 14, 2012; December 3 & 12, 2012, January 9 & 14, 2013.

<sup>10</sup> Ecology’s recommendation was provided in a comment letter to the City, dated January 10, 2014.

## DEPARTMENT OF ECOLOGY REVIEW PROCESS

Ecology certified receipt of a complete submittal of the City’s SMP amendment and supporting materials consistent with WAC 173-26-110, in a letter to the City dated August 2, 2013. This action initiated formal state review of the proposed SMP.

Ecology accepted written comments on the updated SMP from September 3 through November 4, 2013 and public testimony at a public hearing hosted by Ecology (in Seattle) on September 11, 2013. Notice of the comment period and public hearing was published in the *Daily Journal of Commerce* on August 28<sup>th</sup>, 2013 and was distributed to over 1,200 interested parties in compliance with the requirements of WAC 173-26.

Ecology received testimony from 16 people during the public hearing and written comments from 62 individuals or organizations, as summarized in Ecology’s *Responsiveness Summary* (Attachment D). The *Responsiveness Summary* identifies the range of issues raised during the comment period and includes a final response by the City to SMP topics raised by the comments pursuant to [WAC 173-26-120](#) (6)

### Summary of issues raised during the Ecology Public Review Process

Consistent with SMP-Guideline review requirements in WAC 173-26-120, on November 26, 2013 Ecology provided the City with a summary of issues raised on the City’s SMP through either testimony at the public hearing, or written comments submitted to Ecology. Below is a general list of SMP topics included in the comment summary:

**SMP Update Process** (Public Participation, Limits on Administrative Interpretations, and a comment on the City’s Shoreline Characterization), **Goals and Policies** (Public Access, Shoreline Restoration, Shoreline Jurisdiction, Single-Family Residential Use Preference, and Shoreline Recreation), **Compliance** (Regulatory Authority), **Nonconforming Uses and Structures** (Nonconforming Vessel), **Shoreline Development Standards** (General Development, Archaeological/Historic Preservation, Overwater Parking, Public Access, Shoreline Setbacks, Breakwaters/Jetties/Groins/Weirs, Overwater Structures, Gray Water Discharge, Vegetation Requirements, and Pesticide/Fertilizer Requirements), **Specific Use Standards** (Agriculture, Aquaculture, Marina-Public Access, Marina-BMP’s, General Marina Provisions, Floating Homes, New/Expanded Overwater Residences, House Barges, Vessels as Dwelling Units and, Utilities) **Shoreline Environment Standards** (Allowed Uses in the CW, Ecological Protection for UC/UM/UR, Allowed Uses in UG, Use Restrictions in UM/UR, Non-water-dependent Uses in the UM, and Multifamily Public Access), **SMP-Definitions** (Custom Craft Work, Unnecessary Definitions, Fairway, Ordinary High Water Mark, Moorage, Non-water-dependent, Live-aboard, Vessel, Waterway, and Passenger Terminal), and additional general comments not referenced to specific provisions in the proposed SMP.

On January 17, 2014, the City provided a response back to Ecology, on issues raised in comments or through testimony provided to Ecology. The complete record of Ecology’s comment summary and the City’s response are provided in the *Responsiveness Summary* (Attachment D).

## Summary of Issues Identified by Ecology as Relevant To Its Decision

Based on review of the locally adopted SMP for consistency with applicable SMP-Guideline requirements, and consideration of issues raised during Ecology’s public comment period (Attachment D), the following topics remain relevant to Ecology’s final decision on the City of Seattle SMP:

**SMP-Update Process:** As provided in the *Responsiveness Summary* (Attachment D), Ecology received comments arguing that the City did not achieve adequate public participation during the update of the local SMP. In addition, comments and testimony from a number of overwater residential stakeholders, expressed general frustration with the update process, stating that their interested were not represented throughout the update process.

*Ecology finds that the City’s SMP update involved a number of complex topics. This conclusion is based on the inherent challenge that the City faced in recognizing the range of issues and perspectives provided by a diversity of interested parties in the City, representing a wide range of shoreline management related topics. In order to engage with all these interests, the City developed or participated in a variety of outreach forums throughout the full six years of their SMP update. The City’s engagement included over 80 meetings, presentations, and public hearings or facilitated discussions involving interested parties - all of which were open to the general public. Therefore, Ecology concludes that despite frustration expressed by some stakeholders, the City adequately fulfilled their obligations related to engaging the public in the SMP-update process.*

**Goals and Policies:** Shoreline Master Programs provide both a planning and a regulatory function, for which both statewide and local interests need to be considered through a coordinated, rational approach to both short and long-term shoreline management issues. For jurisdictions planning under the Growth Management Act, the updated SMP is considered an element of the jurisdictions comprehensive plan, for which “Goals and Policies” related to shoreline management provide a foundation for more specific use and development regulations in the SMP. Comments provided to Ecology related to “Goals or Policies” in the City’s updated SMP covered a number of topics ranging from public access to shoreline recreation. The City’s response to these comments (Attachment D), identified a number of amendments to certain policies in the updated SMP. These changes are included as either required (attachment B) or recommended (attachment C) changes to Ecology’s conditional approval.

*Therefore upon the City’s acceptance of required changes, Ecology finds that the City adequately considered statewide and local interests in developing the goals and policies within the updated SMP. Further, Ecology finds that Goals and Policies included in the updated SMP reflect relevant provisions related to current conditions in the City, and will ensure consistency with SMP-Guidelines requirements when considering (future) anticipated development within the City’s shoreline areas.*

**Compliance/Non-Conforming:** required (attachment B) and recommended (attachment C) changes related to this section of the SMP are addressed below under the topic of “Overwater Residential Uses”.

**General Shoreline Development Standards:** Master programs provide both general use standards, which apply universally to all actions under the authority of the SMP and specific use standards, which are focused on specific types of shoreline activities. Ecology’s decision, including both required (attachment B) and recommended (attachment C) changes, list a number of relatively minor

amendments to the general development provisions in the updated SMP. Specific amendments are described within each of the attached documents.

*Ecology finds that certain clarifying amendments as listed in Attachment B are necessary to ensure consistency with SMP-Guideline requirements.*

**Shoreline Use Standards:** WAC 173-26-241 of the SMP-Guidelines provides requirements related to Shoreline Uses managed by a Master Program. As described within Section 2 (Shoreline Conditions), the City dedicated a significant effort to analyzing demand for water-oriented uses (Property Counselors, 2009) to help characterize the status and pressure on water-oriented uses within the City (Seattle, 2008a). These efforts also encouraged citizen and stakeholder engagement in the City’s *Visioning Process* (Seattle, 2008) that helped inform the appropriate policy direction for the City to take through the SMP update.

In addition, shoreline uses that will be managed by the updated SMP have been evaluated for consistency with applicable SMP-Guideline requirements as a part of Ecology’s review of the SMP. Based on consideration of issues raised through public comments along with general review for consistency with SMP-Guideline requirements in WAC 173-26 (Part III), the following shoreline uses are described in additional detail related to required (attachment B) or recommended (attachment C) changes connected to Ecology’s conditional approval of the City’s updated SMP:

**Aquaculture:** Aquaculture practices as defined in WAC 173-26-241 (3) (b) of the SMP-Guidelines, are considered a preferred (water-dependent) use. As described within Ecology’s required change document (attachment B), the SMP-Guidelines require<sup>11</sup> that jurisdictions preserve future opportunities to consider new (evolving) forms of aquaculture by not outright prohibited the use within the SMP. The City’s locally approved SMP, lists a general prohibition of “Agricultural and Forest Practices” in their conservancy designations. “Aquaculture” is defined by the SMP within the broader category of “Agricultural and Forest Practices” in the SMP, which effectively prohibits Aquaculture within the conservancy designations. The City has not provided a rationale or analysis supporting the prohibition of Aquaculture.

*Therefore, Ecology finds that required amendments to Aquaculture provisions, as provided in Attachment B, are necessary to ensure consistency with SMP-Guideline requirements provided in WAC 173-26-241 (3) (b).*

**Overwater Residential Use:** The SMP-Guidelines at WAC 173-26-241 (3) (j), address overwater residences, stating that existing uses should be reasonable accommodated, while future overwater residences, should be prohibited. The SMA and SMP-Guidelines provide a couple of notable exceptions to this limit related to overwater residences. First, the SMA acknowledges the historic floating home community and existing “floating on water residences<sup>12</sup>”, by protecting their continued presence. Second, “live-aboards” or boaters living on their vessels, are not characterized as a “preferred use”, but should be allowed within “Boating Facilities”, provided neighboring water-dependent uses are not displaced and the jurisdiction can demonstrate compliance with no net loss

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<sup>11</sup> See SMP-Guideline requirement WAC 173-26-241 (3) (b) (i) (B)

<sup>12</sup> [ESSB 6450](#) was adopted during the 2013/2014 Legislative session and signed by the Governor during Ecology’s review of the City’s updated SMP.

of shoreline ecological functions when considering anticipated impacts associated with future development of this use, as allowed by the updated SMP.

Under Seattle’s existing SMP there are essentially three ways to live on the water:

1. On a floating home, which must be connected to the municipal sewer system and require consistency with land-use and building requirements similar to upland residences,
2. On a house barges, which are defined by the City’s existing SMP as: *“a vessel that is designed or used as a place of residence without a means of self-propulsion and steering equipment or capability (SMC 23.60.916 “H”),* and
3. On a vessel, consistent with the following definition from the City’s existing SMP: *“...ships, boats, barges, or any other floating craft that are designed and used for navigation and do not interfere with the normal public use of the water...(SMC 23.60.942 “V”).”*

Therefore, to comply with SMP-Guideline requirements, the updated SMP must accommodate existing floating homes and floating on-water residences, in a manner that allows for the preservation of these of these historic uses (RCW 90.58.270). According to the City (2012b), existing standards for floating homes and house barges are maintained in the updated SMP with some modifications to ensure consistency with SMP-Guideline requirements (see further discussion below under “Floating Homes”). Whereas new standards have been added to the SMP to more specifically address: floating on-water residences, vessel moorage and live-aboard vessels within marinas (boating facilities). Existing floating on-water residences and house-barges are accommodated in the updated SMP, but new residences will not be allowed. Live-aboard vessels moored within boating facilities will not be prohibited by the updated SMP, but will require compliance with SMP requirements related to “vessel type” (23.60A.214) and marina best management practices to maintain no net loss of shoreline ecological functions.

**Floating Homes:** Both the SMA (RCW 90.58.270) and the City’s Comprehensive Plan through policy “LU 231” acknowledges the importance of the historic floating home community and lays out a goal to preserve and protect the existing floating home community. According to the City (Seattle, 2012b), in order to satisfy their Comprehensive Plan, SMP-Guideline requirements and to ensure protection shoreline ecological functions, the updated SMP needs to prohibit construction of new floating homes and new floating home basements. In addition, updated SMP standards are intended to achieve the following goals related to accommodating existing homes:

1. *Continue to regulate floating homes as a conforming use;*
2. *Continue to allow the maintenance, repair, replacement and expansion, within development standards, of existing floating homes; and*
3. *Consolidate existing floating home regulations into one standard. The intent of this policy is to simplify these standards, which currently require historical research to implement and to combine the standards in a manner that maintains standards for “conforming” homes and prevents increasing non-conformity of non-conforming homes. (Seattle, 2012b)*

During review of the updated SMP, Ecology received comments from members of the floating home community expressing general concerns with new floating home provisions in the SMP. Many of the comments referenced the 2011 amendment to the SMA, characterizing the legislation as a directive to the City and Ecology, to be more accommodating to the existing

floating home community. Other commenter's focused their concerns on provisions in the updated SMP that were perceived as detrimental to displaced floating homes, or too restrictive in not allowing existing floating home moorages to accept displaced homes that may lose their current moorage space in the future.

The City's response to these comments, identified a number of the provisions for which there was concern expressed, as unchanged from the City's current SMP that was last updated in 1987. Further, the City noted that other limitation in the current SMP, limiting the number of new moorages that can be created in the UR environment, were removed from the updated SMP, for which they concluded that displaced floating homes would be provided more options than are currently available under the existing SMP. In regards to reconfiguration of an existing floating home moorage to accommodate a displaced home, partially in response to comments, the City requested that Ecology revise provision 23.60A.202,B.3.d, to remove the directors discretion along with the requirement to improve ecological functions through a moorage reconfiguration.

**Marinas:** The SMP-Guidelines at WAC 173-26-241 (3) (c) list requirements for Boating Facilities, which are defined as facilities providing four or more moorage slips and require that jurisdictions include SMP provisions to: manage siting of new facilities, satisfy health, safety and welfare requirements, require mitigation sequencing, manage public access (when required), limit impacts from live-aboards, maintain navigation rights, satisfy no net loss requirements, and restrict extended mooring on state waters consistent with all applicable state regulations. Boating facilities are referred to as "marinas" within the City's updated SMP.

According to the City, the SMP will require that all users of moored vessels follow the Best Management Practices (BMP's) to avoid pollutant discharge into surrounding water bodies (Seattle, 2012b; 25). The BMP's are intended to protect shoreline ecological functions consistent with SMP-Guideline requirements related to live-aboards in WAC 173-26-241 (3) (c) (v) and subsection (vi.) related to general boating facility consistency with overall no net loss goals.

**Live-aboard regulations:** The City describes their existing SMP as written to regulate uses on vessels, which they suggest does not clearly address use of the vessel as a dwelling unit, for which they conclude that the current SMP creates confusions, as to whether using a vessel as a dwelling unit is prohibited or not (Seattle, 2012b; 25). Based on this confusion and the obligation under the SMA to address shoreline impacts associated boaters living in their vessels (i.e., live-aboard), the City's updated SMP places limits on the types of vessels that will be allowed to be used as a dwelling unit, instead of attempting to regulate or limit the residential use on individual vessels, as required under their existing SMP (Seattle, 2012b; 25). In addition to regulating the types of boats allowed to be used as a dwelling, the City's updated SMP also requires: marinas to provide upland shower and bathroom facilities, demonstration that live-aboard tenants are appropriately handling black water through use of a pump-out facility or pump-out service, and that marina BMP's are followed to minimize water-quality impacts resulting from the live-aboard use of the vessel (Seattle, 2012b; 25).

Many of the comments received by Ecology provided general comments (attachment D) related to marina live-aboard requirements, as well as concerns associated with the City's proposed limits on the types of vessels allowed to be used as a dwelling unit, under the updated SMP. In response to these concerns, the City reiterated the requirement in the SMP-Guidelines to:

“...limit the impacts to shoreline resources from boaters living in their vessels” (WAC 173-26-241 (3) (c) (v)), which they conclude will be satisfied by SMP provisions that limit moorage within the City by the types of vessels that are customarily used for navigation (Attachment D; 34). Further, the City states that this SMP limit will preserve limited moorage space and avoid displacement of vessel moorage by “unusual vessels” or floating structures that are not navigated (attachment D; 34).

**Floating On-Water Residences:** Adoption of the 2003 updates to the SMP-Guidelines resulted in a requirement that local jurisdictions prohibit future over-water residential uses, pursuant to WAC 173-26-241 (3) (J). As noted in Ecology’s January 10, 2013 letter to the City Council, the 1987 update of the City’s SMP, attempted to prohibit overwater residential uses by limiting residential uses to “vessels” consistent with the definition provided in WAC 173-27-030 (18). However, by 1990 several overwater residential structures were moored in the City, for which, Ecology again worked with the City to more clearly prohibit future floating residential structures.

The solution in 1990 was to amend the SMP to include a new definition for a “house barge”, and prohibit future house-barges in the City (Ordinance 116051). The house barge definition was intended to be distinct from live-aboard use on a vessel (that is) “...*designed and used for navigation...* (SMC 23.60.942)”, as a house barge was defined by the SMP as a unique type of vessel (that is) “...*designed and used as a place of residence without a means of self-propulsion and steering equipment or capability...*(SMC 23.60.916)”. House barges that existed in the City prior to SMP amendment were grandfathered, but were required to register with the City and demonstrate within a 3-years timeframe, management of all wastewater generated by the residential use. The amendment prohibited discharge of black water (sewage) into surrounding water bodies and also required management of gray water (non-sewage wastewater), through either conveyance to an approved disposal facility or use of a treatment system approved by the Water Quality Program at the Washington State Department of Ecology (Ordinance 116328).

In addition to amendments to the SMP in 1987 and 1990, the City also developed guidance referenced as *Client Assistance Memo #229* (CAM 229) that was intended to further clarify the limited instances for which existing overwater residential uses are allowed within the City (Seattle, 2004). CAM #229 identified important characteristics to help distinguish floating homes, house barges and vessels, used by live-aboards. As illustrated in the following description from CAM #229, the City attempted to clarify that “vessels” are distinct as they need to be designed and used for navigation:

*“Vessels must be designed for navigation, including having a seaworthy hull design that meets U.S. Coast Guard standards for flotation, safety equipment, and fuel, electrical, and ventilation systems. They are capable of being used for water transportation, and if they are used for residential purposes they must be able to travel under their own power to open water, including a method for steering and propulsion, deck fittings, navigational and nautical equipment, and the required marine hardware absent these features, they will be categorized as house barges, as described above (Seattle, 2004; 2).”*

Therefore after 1990, if not on an existing floating home or house barge, the only other option for living on the water would be as a live-aboard on a “vessel” that is: “...*designed and used for navigation* (SMC 23.60.942).”

Despite attempts by the City and Ecology to clarify the limited instances for which the SMP would allow an overwater residential use, significant concern was voiced through the final stages of the City’s SMP update by a number of Lake Union on-water residents that were seeking clarity on the legal status of their community of (approximately) 115 existing houseboats. These houseboats did not fit the definition of a “floating home” or a “house barge”, and may or may not satisfy the “vessel” definition in the City’s existing SMP. The groups concerns were expressed towards a number of components of the City’s SMP-update, ranging from a perception that their interests were not represented on the City’s Citizen Advisory Committee, to more substantive concerns related to their legal status under both the existing and proposed SMP.

As previously described, after local adoption of the updated SMP, the City Council responded to Lake Union on-water stakeholder concerns through establishment of the On-Water Stakeholder Group (SG) process. The SG were directed to develop recommendations to further clarify the status of existing floating structures that are not clearly identified as a vessel by the City’s current SMP (SMC 23.60.942). Specifically, the SG was established to support the following objectives:

1. *Possible regulatory or procedural actions that can be taken by the City to provide greater certainty, clarity, or procedural safeguards for on water residences;*
2. *Possible legislative amendment to the Shoreline Master Program (SMP) that the Department of Ecology (DOE) agrees are sufficiently promising to merit formal review by DOE if adopted by the Council.*

The City further noted that the objective of the SG was to provide greater “certainty, clarity or procedural safeguards” for which recommendations would need to be consistent with the SMA, and not designed to legalize structures that are not vessels (Seattle, 2013b). Through five meetings between March 18 and May 21, 2013, the SG developed eight recommendations to the City Council, for which “consensus” was not reached on all the proposals. However, the SG did reach “consensus” on the following proposals:

- Establishment of a *Houseboat Vessel Live-aboard License (HVLL)* program,
- Amendments to the City’s existing *Compliance Process, establishment of a Gray Water - Education, Outreach, and Technology* program, and
- Targeted amendments to sections of the City’s proposed SMP (SMC 23.60A) for *Rules Going Forward*.

In addition, the SG reached “high-level consensus” on criteria for *Vessel Evaluation* and development of a *Gray Water Pilot Program*. The last proposal, *Gray Water – Proposed Regulations*, were supported by two stakeholder members, but did not receive either “consensus” or “high-level consensus” from the rest of the SG members (SOWRSG, 2013).

Ecology supported the SG process through grant funding (to hire an independent meeting facilitator), attendance at all five meetings, individual consultation with SG members, and coordination with DPD staff and the SG facilitator throughout the process.

The SG presented their recommendations to City Councils PLUS committee on July 10, 2014 followed by additional written feedback from Ecology<sup>13</sup> and City staff and a follow-up discussion with the committee on July 24, 2014. The Council accepted a number of the SG's recommendations by requesting that the Department of Planning and Development (DPD) proceed in drafting a "Directors Rule" to clarify the status of existing dwelling units floating on the water that are not a floating home or registered house barge (Seattle, 2013c).

In addition, passage of ESSB 6450 during the 2013/2014 legislative session provided the City and Ecology with the authority to authorize existing "floating on-water residence" as a conforming use, as long as the residence is legally established within a marina within the City prior to July 2014. Therefore, Ecology worked with the City to develop provisions for the updated SMP to accommodate existing floating on-water residences. These provisions are included in Ecology's conditional approval as both required (attachment B) and recommended (attachment C) changes.

*Ecology finds that the City's SMP standards related to overwater residential uses (subject to acceptance of Ecology's required changes) are generally consistent with SMP-Guideline requirements related to accommodating existing uses, while also prohibiting future overwater residences.*

*In addition, Ecology finds that vessel moorage is a limited resource within the City, as the Property Counselors (2009) market analysis reported in analyzing available land-supply and demand for water-dependent and water-related uses, there is an increasing demand for larger<sup>14</sup> slips, at a long-term growth rate greater than 0.6% per year. Further, because of the largely built-out, urban nature of the City's shoreline (especially in areas close to downtown such as Lake Union and the Ship Canal) and continual rising shoreline property values, future development of additional (new) moorage space to offset moorage demand within the City is not anticipated. In order to satisfy SMA policies related to prioritizing water-dependent use and to maintain consistency with SMP-Guideline requirements to manage shoreline impacts from live-aboard use of vessels, the City's updated SMP needs to appropriately manage these demands in a manner which recognizes the limitations and needs of water-dependent uses. Therefore, Ecology concludes that the City's SMP provisions managing moorage and live-aboard use of vessels are necessary to ensure compliance with the SMA and the SMP-Guidelines at WAC 173-26-241 (3) (c).*

*Ecology finds that the SMP-Guidelines only provide fairly general limits related to live-aboards, requiring that jurisdictions prohibit future over-water residential uses (WAC 173-26-241(j)) and limit impacts to shoreline resources from boaters living in their vessels (WAC 173-26-241 (c) (v)). Further, the SMP-Guidelines do not provide explicit standards or requirements dictating the way that a local jurisdiction should manage live-aboard's within boating facilities. As provided in the City's response to comments on this issue<sup>15</sup> (See attachment D), their intent in placing limits on the types of vessels (with dwelling units) allowed in the City, is based on their past experience in managing these uses and to satisfy applicable SMP-Guideline requirements. Therefore, the City's*

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<sup>13</sup> Ecology provided a comment letter to the PLUS-committee dated July 15, 2013 with detailed feedback related to recommendations in the On Water Residents Stakeholder Group's final report.

<sup>14</sup> Larger slips are identified within the report as moorage for sailboats or large power boats that cannot be lifted out of the water and stored in a dry stacked facility (Property Counselors, 2009; 36).

<sup>15</sup> Comment and response in lines "F-12" and "F-13 on page 35 of Attachment D.

*approach is unique, but appears to be consistent with the underlying requirements in the SMP-Guidelines.*

*Related to floating on-water residences, Ecology finds that consistency with recent amendments to the SMA (ESSB 6450) can be achieved through the City's acceptance of required (attachment B) and recommended (attachment C) changes attached to this decision.*

**Shoreline Environment Designations:** Ecology's decision does not include any required (attachment B) or recommended (attachment C) changes to the City's shoreline environment designations.

**SMP Definitions:** as a part of Ecology's required changes (attachment B), a new definition for "floating on-water residences" is necessary to integrate legislative amendments to the SMA (ESSB 6450). In addition, the City requested a number of amendments adding, revising, or deleting a number of definitions from the locally adopted SMP. The changes requested by the City are provided as recommended changes and are provided in Attachment C.

*Therefore, Ecology finds that the proposed SMP as approved by the City under Ordinance 124105 is not consistent with all applicable SMP-Guideline requirements as specifically identified within Attachment B (Required Changes). However, Ecology also finds that the SMP can be amended to be compliant with the SMP-Guidelines through the City's acceptance of required changes listed within attachment B and recommended changes listed in attachment C.*

**Consistency with Chapter 90.58 RCW:** The proposed amendments have been reviewed for consistency with the policy and procedural requirements of RCW 90.58.020 and the approval criteria of RCW 90.58.090.

**Consistency with "applicable guidelines" (Chapter 173-26 WAC, Part III):** The proposed amendment has been reviewed for compliance with the requirements of the applicable Shoreline Master Program guidelines (WAC 173-26-171 through 251 and -020 definitions). This included review of a SMP Submittal Checklist, which was completed by the City and submitted to Ecology as part of the City's formal submittal package following local adoption of the updated SMP.

**Consistency with SEPA Requirements:** The City submitted evidence of SEPA compliance. The City issued a Determination of Non-Significance for the proposed SMP amendments on June 29, 2012. Notice of the SEPA determination was published in *Daily Journal of Commerce*, the City provided an opportunity for the Public or interested parties to comment on the DNS between June 29 and July 20, 2012. Ecology did not provide comment on the City's DNS.

**Other Studies or Analyses supporting the SMP update:** Ecology reviewed a large number of reports, studies and information related to the City's SMP update, all of which are included in the master file record, or are listed as "references" at the end of this document.

## CONCLUSIONS OF LAW

After review by Ecology of the complete record submitted and all comments received, Ecology concludes that the City's SMP proposal, subject to and including Ecology's required changes (itemized in **Attachment B**), is consistent with the policy and standards of RCW 90.58.020 and RCW 90.58.090 and the applicable SMP guidelines (WAC 173-26-171 through 251 and .020 definitions). This includes a conclusion that the proposed SMP, subject to required changes, contains sufficient policies and regulations to assure that no net loss of shoreline ecological functions that is anticipated to result from implementation of the new master program amendments (WAC 173-26-201(2)(c)).

Ecology concludes that the proposed SMP amendment, subject to the required changes in attachment B and recommended changes in attachment C, meet the intent of the provision for no net loss of shoreline ecological functions (WAC 173-26-201(2)(c)).

Ecology concludes that the City of Seattle has chosen not to exercise its option pursuant to RCW 90.58.030(2) (f) (ii) to increase shoreline jurisdiction to include land necessary for buffers for critical areas located within shorelines of the state. Therefore, as required by RCW 36.70A.480(6), for those designated critical areas with buffers that extend beyond SMA jurisdiction, the critical area and its associated buffer shall continue to be regulated by the City's critical areas ordinance. In such cases, the updated SMP shall also continue to apply to the designated critical area, but not the portion of the buffer area that lies outside of SMA jurisdiction. All remaining designated critical areas (with buffers NOT extending beyond SMA jurisdiction) and their buffer areas shall be regulated solely by the SMP.

Ecology concludes that those SMP segments relating to shorelines of statewide significance provide for the optimum implementation of Shoreline Management Act policy (RCW 90.58.090(5)).

Ecology concludes that the City of Seattle have complied with the requirements of RCW 90.58.100 regarding the SMP amendment process and contents.

Ecology concludes that the City of Seattle have complied with the requirements of RCW 90.58.130 and WAC 173-26-090 regarding public and agency involvement in the SMP amendment process.

Ecology concludes that the City of Seattle have complied with the purpose and intent of the local amendment process requirements contained in WAC 173-26-100, including conducting open houses and public hearings, notice, consultation with parties of interest and solicitation of comments from tribes, government agencies and Ecology.

Ecology concludes that the City of Seattle have complied with requirements of Chapter 43.21C RCW, the State Environmental Policy Act.

Ecology concludes that the City of Seattle SMP amendment submittal to Ecology was complete pursuant to the requirements of WAC 173-26-110 and WAC 173-26-201 (3) (a) and (h) requiring a SMP Submittal Checklist.

Ecology concludes that it has complied with the procedural requirements for state review and approval of shoreline master program amendments as set forth in WAC 173-26-120.

## DECISION AND EFFECTIVE DATE

Based on the preceding, Ecology has determined the proposed amendments are consistent with the policy of the Shoreline Management Act, the applicable guidelines and implementing rules, once changes set forth in **Attachment B** and **Attachment C** are accepted by the City. Ecology approval of the proposed amendment with required changes is effective on the date at which Ecology receives written notice that the City has agreed to the required changes.

As provided in RCW 90.58.090(2)(e)(ii) the City may choose to submit an alternative to all or part of the changes required by Ecology. If Ecology determines that the alternative proposal is consistent with the purpose and intent of Ecology’s original changes and with RCW 90.58, then the department shall approve the alternative proposal and that action shall be the final action on the amendment.

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