

SHORELINE AREA (Reach Code): Marine 2

REACH NUMBER: 28

Land Use	Current Land Use	Residential on bluff tops. Little Squalicum park and public access dominates marine area.(Ref# 8, 54, 71)
	Zoning	19.1 acres water, 6.8 acres residential, 5.6 acres industrial, 2.7 acres public. (Ref# 54)
Potential Species Present	Wildlife species	Old pier used as roost area by large numbers of cormorants. Seabird nesting, and dabbling duck and soft sediment shorebird concentration areas at the western edge of the reach. Diving bird concentration area offshore. Bald eagle winter foraging area. (Ref#3, 70, 71, 105)
	Fish species	Sand lance and surf smelt spawning areas in reach. Bull trout, Chinook, chum and Coho presence presumed. (Ref# 39, 94)
	PHS species/habitat	Surf smelt (forage fish) (vulnerable aggregations) (Ref# 3, 92, 70, 71, 105)
	TSE species	Bald eagle (FT). Chinook in bay (FT & SC). Bull trout (FT), Puget sound Coho (FCo) presence presumed. (Ref# 92, 93, 105)
	Invasive wildlife/fish species	No data
Physical Environment	Acres of land in reach	34.2 acres total with 11.6 acres of land and 22.6 acres of water (Ref#13)
	Aquatic vegetation	5.1 acres green algae, 0.1 mixed algae (Ref# 97, 98)
	Slope	Slopes 20-100% dominate adjacent to the shoreline. Upland areas of 0-10% slopes also present. (Ref# 47, 103)
	Buildings	22 buildings covering 0.60 acres total (Ref# 16)
	Culverts/stormwater utilities	No retention basins indicated. One storm sewer outfall near Bellingham Plywood. (Ref# 41, 42, 40)
	Geology	Glacial marine drift and continental glacial outwash. Land slide hazard area indicated on slopes 15-35% or greater near mouth of Little Squalicum Creek. (Ref# 21, 51, 63)
	Tributary Creeks	Little Squalicum Creek enters east of pier (Ref# 8, 42, 71)
	Impervious surface	43% impervious, 32% semi-pervious, 25% pervious (Ref# 12)
	Invasive plant species	No data
	Roads/transportation	0.4 miles rail. No roads (Ref# 35, 44, 46)
	Soils	Infiltration rates: 15.6 acres very slow with high runoff potential (Hydrologic soil Group D). Erosion rates: 21.8 acres severe risk, 12.4 acres slight risk (Ref# 51, 63)
	Topography	0' to 75' range; 14' mean (Ref# 47)
	FEMA	26.3 acres in 100 year floodplain, no floodway (Ref# 19)
	Terrestrial Vegetation	Predominately native shrub/tree communities on bluff and within little Squalicum green area. Invasive present include Him. Blackberry and Traveler' Joy clematis (Ref# 8, 71)
Marine Aquatic Function	Aquatic substrate type	1.8 acres artificial, 10.9 mixed fine, 5.4 acres sand, 1.6 acres mixed coarse, 0.3 acres cobble (Ref# 3, 99)
	Creosote structures	Pier is built on creosote piles (Ref# 71, 73, 74, 99)
	In-water structures	Cement plant pier (Ref# 71, 73, 74, 99)
	Bulkheads	Rock bulkhead at southern edge of reach (associated with Mt. Baker Plywood fill) (Ref# 8, 18, 71)
	DOE 303(d)	Inner Bay, no data. Outer Bay – Category 5 dissolved O2, Category 2 pH, Category 1 for Fecal, pH, and temperature (Ref# 81)
	Toxic sites/land fills	Little Squalicum Creek Site. Sediments (confirmed) halogenated organics, pesticides, petroleum, phenol, dioxin, PAH's, base/neutral/acid organics. Groundwater (confirmed) petroleum, phenol, dioxin, PAH's. (Ref# 79, 80)
	Bathymetry	-7.0' to 0.0' range'; -0.4' mean (Ref# 25, 31)

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	Wave energy	20.2 acres partially enclosed (Ref# 3, 99)
	Point source pollution	No data
	Waterways/dredge beds	None indicated (Ref# 3, 99)
	Drift cells	At break over between drift cells, generally southeast (Ref# 3, 99)
Marine Foreshore	Beach characterization	No data
	High-Low tide lines	9.1 acres
	Erosion/accretion zones	Erosion area in bluff west of pier. (Ref# 71, 8)
Historic & Cultural	Historic aerials	See Waterfront Futures website (Ref# 99)
	Archeological sites	No data (Ref# 77)
	Historic sites	None indicated (Ref# 77)
	Parks & public access	Little Squalicum Park (Ref# 33, 34, 36, 48)
Function Analysis	Reach Function	
	• Hydrologic	Most of reach unimpaired. There is a slight impairment on the west side of the Mt. Baker Plywood site where rip rap and fill are located. (Ref# 1, 2, 5, 71)
	• Shoreline Vegetation	Most of reach unimpaired with the exception of some canopy removal for views. The west side of the Mt. Baker Plywood site is impaired (Ref# 1, 2, 5, 69, 70, 71)
	• Habitat	<ul style="list-style-type: none"> • Terrestrial Habitat – Slightly impaired by canopy removal for views. Impaired in vicinity of Mt. Baker Plywood site. (Ref# 1, 2, 5, 69, 70, 71) • Intertidal Habitat – Unimpaired in most of reach but some impairment at the east end of reach at Mt. Baker Plywood site (Reach provide high function for forage fish spawning.) (Ref# 1, 2, 5, 69, 70, 71) • Shallow Water and Deep Water Habitat – Shallow water habitat slightly impaired by cement plant pier; rip rap and fill at Mt. Baker Plywood site. Deepwater Habitat unimpaired. (Ref# 1, 2, 5, 69, 70, 71)
	Limiting Factors	<ul style="list-style-type: none"> • Creosote piles and shading from Cement Plant pier (Ref# 1, 2, 5, 69, 70, 71) • Rip rap and fill at Mt. Baker Plywood site (Ref# 1, 2, 5, 69, 70, 71) • Possible water quality concerns from discharge from Little Squalicum Creek. (Ref# 71)
	Functions	<p>All functions appear to be sustainable</p> <p>None</p>
	Priority Actions	Removal of rip rap and fill at Mt. Baker Plywood site (BBDP action # 3) (Ref# 73)
Current Enhancement Projects	None identified (Ref# 1, 73)	
Preservation/Enhancement Opportunities	<ul style="list-style-type: none"> • Removal of cement plant pier (however, could decrease cormorant roosting habitat) (BBDP action # 1). (Ref# 73) • Beach nourishment to expand backshore of Squalicum Beach for forage fish spawning habitat. (Ref# 1, 73) 	