

**SHORELINE AREA (Reach Code): Marine 3 – Squalicum Wtway**
**REACH NUMBER: 29**

Land Use	Current Land Use	Industrial. Bellingham Plywood and Bellingham Cold Storage dominate this reach with the Squalicum Creek Waterway between them. (Ref# 8, 54, 71)
	Zoning	17.7 acres water, 17.1 acres industrial (Ref# 54)
Potential Species Present	Wildlife species	22.1 mustelid habitat, 14.9 pinneped habitat, seabird nesting and roosting areas (glaucous-winged gull and Caspian tern), offshore diving bird concentration area in winter. (Ref# 3, 70, 71, 105)
	Fish species	None indicated, but salmonids utilizing Squalicum Creek would be expected to extend out into the Waterway (at minimum), offshore crab densities moderate and offshore pandalid shrimp densities present, but low. (Ref# 39, 94)
	PHS species/habitat	Bull trout (FT), chinook in bay (FT&SC) (Ref# 3, 92, 93, 70, 71, 105)
	TSE species	Bull trout (FT), chinook in bay (FT&SC) (Ref# 92, 93, 105)
	Invasive wildlife/fish species	No data
Physical Environment	Acres of land in reach	9 acres total with 4.8 acres of land and 4.2 acres of water (Ref# 13)
	Aquatic vegetation	1.4 acres green algae, 1.1 acres mixed algae, 0.1 acres marsh (Ref# 97, 98)
	Slope	0-5% slopes dominate (Ref# 47, 103)
	Buildings	12 buildings covering 0.39 total acres (Ref# 16)
	Culverts/stormwater utilities	Storm sewer in reach. No additional facilities or culverts indicated. (Ref# 41, 42, 40)
	Geology	Artificial fill, modified land. Seismic Hazard Area (man-made fill) is indicated in the reach. (Ref# 21, 51, 63)
	Tributary Creeks	None indicated ((Ref# 8, 42, 71)
	Impervious surface	80% impervious, 18% semi-pervious, 1% pervious (Ref# 12)
	Invasive plant species	No data
	Roads/transportation	No roads (Ref# 35, 44, 46)
	Soils	Infiltration rates: 13.6 acres very slow with high runoff potential (Hydrologic soil Group D). Erosion potential: 34.7 acres severe risk. (Ref# 51,63)
	Topography	0' to 20' range; 6' mean (Ref# 47)
	FEMA	22.0 acres in 100 year floodplain, 0.1 acres in floodway (Ref# 19)
	Terrestrial Vegetation	No significant vegetation present (Ref# 8, 71)
Marine Aquatic Function	Aquatic substrate type	3.1 acres of artificial (rock bulkhead), 1.9 acres mixed fines (Ref# 3, 99)
	Creosote structures	Numerous creosote piles and treated wood structures (Ref#71, 73, 74, 99)
	In-water structures	7 in water structures present in reach include docks and jetties. (Ref# 71, 73, 74, 99)
	Bulkheads	Bellingham Plywood fill and Bellingham cold storage facility have extensive bulk heading. (Ref# 8, 18, 71)
	DOE 303(d)	Cat. 2 for 1,2,4-Trichlorobenzene (sediment samples exceeded limits in 97) and mercury (sediment samples exceeded limits in 96) (Ref# 81)
	Toxic sites/land fills	<b>Mt Baker Products site.</b> Sediment (confirmed) halogenated organics, EPA priority pollutants, metals, petroleum, PAH's. Groundwater (confirmed) EPA priority pollutants, metals (suspected) halogenated organics, petroleum, PAH's (below MTCA cleanup levels) non-halogenated solvents. (Ref# 79, 80)
	Bathymetry	-43.0 to 0.00 range; -8.7' mean (Ref#25, 31)
	Wave energy	5.1 acres partially enclosed (Ref# 3, 99)
	Point source pollution	No data
Waterways/dredge beds	Squalicum waterway (Ref# 3, 99)	

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	Drift cells	Northerly (Ref# 3, 99)
Marine Foreshore	Beach characterization	No data
	High-Low tide lines	0.2 acres beach
	Erosion/accretion zones	No data
Historic & Cultural	Historic aerials	See Waterfront Futures website (Ref# 99)
	Archeological sites	No data
	Historic sites	None indicated (Ref# 77)
	Parks & public access	None (Ref# 33, 34, 36, 48)
Function Analysis	<b>Reach Function</b>	
	<ul style="list-style-type: none"> <li>Hydrologic</li> <li>Shoreline Vegetation</li> <li>Habitat</li> </ul>	<p>Impaired by shoreline armoring and flashy hydrology of Squalicum Creek (Ref# 1, 2, 5, 71)</p> <p>Impaired – vegetation absent from most areas. Non-native where present(Ref# 1, 2, 5, 69, 70, 71)</p> <p>Impaired –</p> <ul style="list-style-type: none"> <li>Functioning at low levels in terrestrial (Ref# 1, 2, 5, 69, 70, 71)</li> <li>Functioning at low levels within intertidal (Ref# 1, 2, 5, 69, 70, 71)</li> <li>Functioning at moderate levels in shallow deep water habitat (Ref# 1, 2, 5, 69, 70, 71)</li> </ul>
	<b>Limiting Factors</b>	<ul style="list-style-type: none"> <li>Existing infrastructure limits establishment of shoreline vegetation and connectivity for terrestrial species. (Ref# 1, 2, 5, 69, 70, 71)</li> <li>Degraded water quality inputs from Squalicum Creek (Ref# 1, 2, 5, 69, 70, 71)</li> <li>Armoring of shoreline eliminates most intertidal habitat in reach(Ref# 1, 2, 5, 69, 70, 71)</li> <li>Dredging, infrastructure and existing uses decrease preexisting estuarine habitat associated with Squalicum Creek (Ref# 1, 2, 5, 69, 70, 71)</li> </ul>
	<b>Functions</b>	
	<ul style="list-style-type: none"> <li>Sustainable</li> <li>Not Sustainable</li> </ul>	<p>Shallow and deep water habitat could be improved with enhancements.</p> <p>Intertidal habitat could be reestablished in specific locations</p> <ul style="list-style-type: none"> <li>Hydrology – extensive alteration</li> <li>Shoreline vegetation – existing uses preclude reestablishment</li> <li>Terrestrial habitat- existing land use</li> </ul>
	<b>Priority Actions</b>	See Preservation/Enhancement field. All of these tasks were rated as a high priority to improve habitat opportunity. (Ref# 73)
	<b>Current Enhancement Projects</b>	Removal of wooden piles, pier, log raft structures and log rafts (WFF action#5) is planned. (Ref# 73)
<b>Preservation/Enhancement Opportunities</b>	<ul style="list-style-type: none"> <li>Remove fill on south side of Mt. Baker Plywood and restore mudflat (BBDP action # 4) (Ref# 73)</li> <li>Removal of wooden piles, pier, log raft structures and log rafts (BBDP action # 5) (Ref# 73)</li> <li>Change elevations of creek estuary to provide intertidal/shallow water habitat (BBDP action # 6) (Ref# 73)</li> <li>Remove fill in vicinity of Bellingham Cold Storage (BBDP action # 7) (Ref# 73)</li> </ul>	