

**SHORELINE AREA (Reach Code): SQUALICUM 1**
**REACH NUMBER: 1**

Land Use	Current Land Use	Light industrial dominates the mouth of the creek. Additional land use is business, railroad, and a major arterial. Some undeveloped land remains at the upper end of the reach. One dwelling is located in the reach. (Ref# 8,37,71)
	Zoning	6.3 acres Industrial, 1.3 acres multi-family residential (Ref# 54,104)
Potential Species Present	Wildlife species	Only garter snakes present in 30% of the reach; urban mammals in 13% of the reach with no mammals present in the remainder; 13% urban birds, 13% equal mix urban to non; 13% native amphibians. Movement: 13% only fish/avian easy movement, 3% large and medium animal movement possible. (Ref# 61,69,70,105)
	Fish species	Bull trout, Chinook, Coho, Chum, Sea-run Cutthroat, Steelhead (Ref# 69,70,94,105)
	PHS species/habitat	7% of reach has habitat for breeding and/or rearing use by PHS or SC. (Ref# 24,92,93,105)
	TSE species	Bull trout (FT), Chinook (FT & SC), Coho (FCo), and Cutthroat (FCo). (Ref# 92,93,105)
	Invasive wildlife/fish species	No data
Physical Environment	Acres of land in reach	8.9 acres total with 8.6 acres of land and 0.3 acres of water (Ref# 13)
	Aquatic vegetation	No data
	Slope	Steep bluffs along marine shoreline, with flat near shore environment that has been manipulated and filled. Creek flows through controlled channel at lowest extent. Slope class is 2-5%. Overall, creek flows through glacial drift valley. Lower floor of glacial channel is wide and relatively flat, which allowed for possible channel migration before human development in the valley. Valley walls are steep, 35-50%. (Ref# 21)
	Buildings	10 covering 0.26 acres total (may be incorrect). (Ref# 16)
	Culverts/stormwater utilities	No culverts. Sewer main follows creek through entire reach. No stormwater discharge points are indicated. (Ref# 39,40,41,42)
	Geology	Artificial fill and continental glacial outwash. Seismic Hazard Areas (man-made fill) and a Mine Hazard Areas. (Ref# 21,103)
	Tributary creeks	None indicated (Ref# 8,57,59,71)
	Wetlands	(Ref# 11,52)
	Impervious surface	57% impervious, 22% semi-pervious, 21% pervious (Ref# 12)
	Invasive plant species	No data
	Roads/transportation	Roeder Avenue and railroad. Total of 0.3 miles of road and 0.3 miles of railroad or 1.3 acres of transportation routes. (Ref# 14,35,36,44,45,46)
	Soils	Tend to be hydric with very low filtration and high runoff potential (Hydrologic soil Group D). (Ref# 51,63)
	Topography	0' to 71' range; 20' mean. (Ref# 47)
	FEMA	6.6 acres in 100 year floodplain, 1.2 acres in the floodway (Ref# 19)
	Terrestrial Vegetation	Vegetation is sparse in lower reach. Deciduous tree cover is present above railroad grade. Some shrub and herbaceous cover is present between the railroad grade and Roeder Ave – similar below Roeder. Some marsh habitat exists below Roeder.  In 72% of the reach: no habitat, areas of man-controlled monoculture, areas equal mix of native and naturalized non-native plants. Approximately 13% of the native plant community is medium quality; and approximately 13% is young forest with shrub and ground cover. Some mature patches are also present. (Ref# 8,20,71)

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<b>Riparian Function</b>	DOE 303(d)	Category 5 Polluted Water listed for dissolved oxygen, temperature and fecal coliform. Category 2 Water of Concern for pH. (Ref# 83,89)
	Channel confinement	Confined (Ref# 22,23)
	Channel gradient	1-2% (Ref# 22,23)
	Channel migration zone	No data
	Creosote structures	Creosote piles and bulkhead material present near mouth (Ref# 8,71)
	Fish passage blockages	Barrier at low tide at the mouth of the creek. Barrier is an access road. (Ref# 15,94)
	In-water structures	Structure holding access road at mouth. A second structure of some sort, culvert or tunnel, under Roeder Ave – this may be a bridge with culvert. Railroad bridge and Eldridge Road bridge are high structures. (Ref# 8,18,43,71)
	LWD presence	Incomplete data
	Non-point source pollution	No data
	Point source pollution	No data
	Riffle/pool analysis	No data
	Aquatic substrate type	No data
	Toxic sites/land fills	<b>Mt Baker Products Inc.</b> – ground water: EPA priority pollutants and metals; suspected: petroleum products, PAH, halogenated organic compounds, below MTCA clean-up levels non-halogenated solvents. Soil: EPA priority pollutants, halogenated organic compounds, metals, petroleum products and PAH. (Ref# 80)
<b>Historic &amp; Cultural</b>	Historic aerials	No data
	Archeological sites	No data
	Historic sites	None indicated (Ref# 77)
	Parks & public access	None indicated (Ref# 33,34,36,48,54)
<b>Function Analysis</b>	<p><b>Reach Function</b></p> <ul style="list-style-type: none"> <li>Hydrologic</li> <li>Shoreline Vegetation</li> <li>Habitat</li> </ul> <p><b>Limiting Factors</b></p> <ul style="list-style-type: none"> <li>Existing infrastructure</li> <li>Water quality</li> <li>In-stream flow</li> </ul> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>Sustainable</li> <li>Not Sustainable</li> </ul> <p><b>Priority Actions</b></p> <ul style="list-style-type: none"> <li>Repair fish barrier at mouth</li> <li>Relocate mouth of creek; change elevations of creek estuary to provide intertidal/shallow water habitat; and remove fill in vicinity of Bellingham Cold Storage (see Marine Reach 3)</li> <li>Water quality improvement</li> </ul> <p><b>Current Enhancement Projects</b></p>	<p>Impaired. Hydrology is flashy. Some bank armoring has occurred in the lower reach.</p> <p>Impaired. Vegetation is non-existent or non-native.</p> <p>Impaired. Water quality, bank armoring, natural shoreline habitat is absent, stream channelized, no in-stream structures.</p> <p>Sustainable as a fish passage with improvements.</p> <p>All three functions are not sustainable.</p> <p>(Ref# 4,24,61,62,69,70,71,75,89 for above)</p>

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**Preservation/Enhancement Opportunities**

- Enhance marsh habitat
- Control invasive, non-native species