

SHORELINE AREA (Reach Code): Marine 7 Cornwall Landfill
REACH NUMBER: 33

Land Use	Current Land Use	Vacant industrial land. (Ref # 8, 54, 71)
	Zoning	13.3 acres water, 12.6 acres industrial, 1.5 acres public (Ref # 54)
Potential Species Present	Wildlife species	10.1 acres of mustelid habitat; 11.0 acres of pinned habitat; areas of significant importance and vulnerability for water birds; sea haul outs indicated offshore (logs); high concentrations of winter marine birds offshore. (Ref # 3, 70, 71, 105)
	Fish species	Pandalid shrimp offshore, demersal groundfish off-shore. Presumed presence of Coho and Bull trout. (Ref # 3, 70, 71, 105)
	PHS species/habitat	Importance and vulnerability for water birds/ sea haul outs indicated offshore (logs), high concentrations of winter marine birds offshore. (Ref # 3, 70, 71, 105)
	TSE species	Chinook in Bay (FT and SC). Coho (FCo) and Bull trout (FT) presumed. (Ref # 92, 93, 105)
	Invasive wildlife/fish species	No data
Physical Environment	Acres of land in reach	27.4 acres total with 12.7 acres of land and 14.7 acres of water (Ref # 13)
	Aquatic vegetation	1.5 acres mixed algae, 0.2 acres eelgrass, 0.2 acres green algae (Ref #97, 98)
	Slope	0-5% slopes dominate. Small areas of 20-34% slopes present adjacent to shoreline. (Ref # 47, 103)
	Buildings	7 buildings covering 2.09 total acres (Ref # 16)
	Culverts/stormwater utilities	No detention facilities. Sewer and storm mains in reach. One stormwater outfall. (Ref # 41, 42, 40)
	Geology	Glacial marine drift and continental glacial outwash. 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	59% impervious, 31% semi-pervious, 10% pervious (Ref #12)
	Invasive plant species	No data
	Roads/transportation	0.1 miles rail, no roads (Ref # 34, 44, 46)
	Soils	Infiltration rates: 14.9 acres very slow with high runoff potential (Hydrologic soil Group D), 0.8 acres moderate (Group B). Erosion potential: 26.6 acres severe risk, 0.8 acres slight risk. (Ref # 51, 63)
	Topography	Range 0 feet to 87 feet; mean 8 feet (Ref # 47)
	FEMA	11.3 acres in 100 year floodplain, no floodway in reach (Ref # 19)
	Terrestrial Vegetation	No significant vegetation cover in reach, some weedy growth on Cornwall Ave landfill and some marine dune species on the beach at toe of Cornwall (Ref # 8, 71)
Marine Aquatic Function	Substrate type	1.8 acres artificial, 2.8 acres mixed fines, 0.2 acres mixed coarse (Ref # 3, 99)
	Creosote structures	Pilings and old dock structure at toe of Cornwall Avenue (Ref # 71, 73, 74, 99)
	In-water structures	3 structures – old ferry dock, many piles (Ref # 71, 73, 74, 99)
	Bulkheads	Entire reach riprap (Ref # 71, 73, 74, 99)
	DOE 303(d)	Inner Bay, no data. Outer Bay – Category 5 for dissolved O2, Category 2 for pH, Category 1 for Fecal coliform, pH, and temperature. (Ref # 81)
	Toxic sites/land fills	Cornwall Ave. Landfill – Sediment: area exceeds MCUL, (confirmed) metals (copper, lead, zinc), organics, PCB's, bis(2ethylhexyl)phthalate (suspected) EPA priority pollutants, PCB's, pesticides, inorganic contaminants. Groundwater: (confirmed) EPA priority pollutants, metals, fecal coliform, inorganic contaminants. RG Haley Intl Corp site (500 Cornwall). Sediments and Groundwater (confirmed) dioxin, PAH's, base/neutral/acid organics. Groundwater (confirmed) pentachlorophenol. (Ref # 79, 80)
	Bathymetry	-14.0 to 0.0' range; -4.1' mean (Ref # 25, 31)

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	Wave energy	4.8 acres partially enclosed (Ref #3, 99)
	Point source pollution	No data
	Waterways/dredge beds	None identified (Ref # 3, 99)
	Drift cells	South (Ref # 3, 99)
Marine Foreshore	Beach characterization	No data
	High-Low tide lines	2.98 acres beach
	Erosion/accretion zones	No data
Historic & Cultural	Historic aerials	See waterfront futures website http://www.waterfrontfutures.org/learnmore/lm_photo_gallery.htm (Ref # 99)
	Archeological sites	No data
	Historic sites	Old landfill (Ref # 77)
	Parks & public access	No direct shoreline access. Greenway trail on bank at upland edge of reach. (Ref # 33, 34, 36, 48)
Function Analysis	Reach Function	
	<ul style="list-style-type: none"> Hydrologic Shoreline Vegetation Habitat 	<p>Partially impaired – shoreline armoring (Ref # 1, 2, 5, 71)</p> <p>Impaired – absent in most areas. Non-native species dominate where present. (Ref # 1, 2, 5,69, 70, 71)</p> <p>Terrestrial – impaired (Ref # 1, 2, 5,69, 70, 71)</p> <p>Intertidal – impaired in most locations, but moderate to high function at toe of Cornwall Ave beach. (Ref # 1, 2, 5,69, 70, 71)</p> <p>Shallow and deepwater habitat – moderate to high function. Shallow water habitat limited. (Ref # 1, 2, 5,69, 70, 71)</p>
	Limiting Factors	<p>Old landfill – sediment and groundwater contamination</p> <p>Rip rap armoring shoreline (Ref # for above 1, 2, 5,69, 70, 71)</p>
	Functions	<p>All functions sustainable with enhancements</p> <p>None</p>
	Priority Actions	<ul style="list-style-type: none"> See preservation/ enhancement section. Action # 20 was rated as a high priority action. (Ref # 73) Conserve and enhance eelgrass beds (Ref # 1)
	Current Enhancement Projects	None identified (Ref # 1, 73)
	Preservation/Enhancement Opportunities	<ul style="list-style-type: none"> Remove garbage from in-water portion of landfill. Reform shoreline to create foreshore and backshore and intertidal habitat. Establish riparian plantings (BBDP action # 20). (Ref # 73) Create pocket marshes at stormwater outfalls. (Ref # 1)