



# SHORELINE ARMORING



## What is shoreline armoring:

- Shore erosion control practices using hardened structures that armor and stabilize the shore
- Examples: bulkheads, concrete walls, rip-rap

Segment	Lake Edge Condition (feet / % of segment)			Relative Ranking of Segment
	Vertical	Boulder	Natural / Semi-Natural	
B Juanita Bay and Yarrow Bay Park/ Wetlands	317 3%	461 4%	9,855 93%	High/Good
C Residential	4,919 53%	2,793 30%	1,652 18%	Low/Poor
D Urban	5,145 42%	5,831 48%	1,266 10%	Low/Poor
<b>TOTAL (percent of total length)</b>	<b>10,381 32%</b>	<b>9,085 28%</b>	<b>12,773 40%</b>	

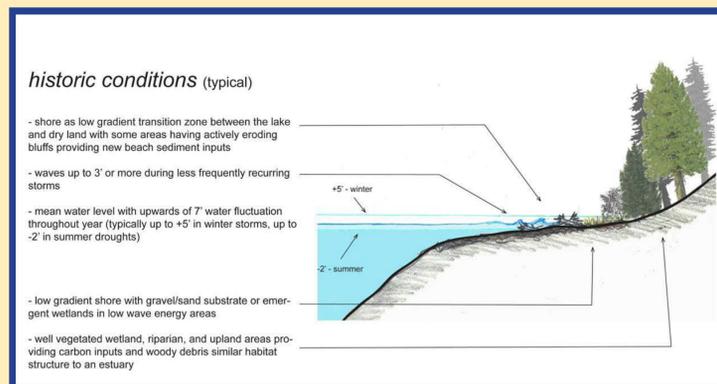
## Juvenile Chinook Salmon Habitat needs:

- Shoreline areas with shallow depths (<1m)
- Gentle slope
- Fine substrates such as sand and gravel
- Overhanging vegetation/small woody debris
- Small creeks: mouths and shallow, low-gradient upstream portions

## Impacts of shoreline armoring:

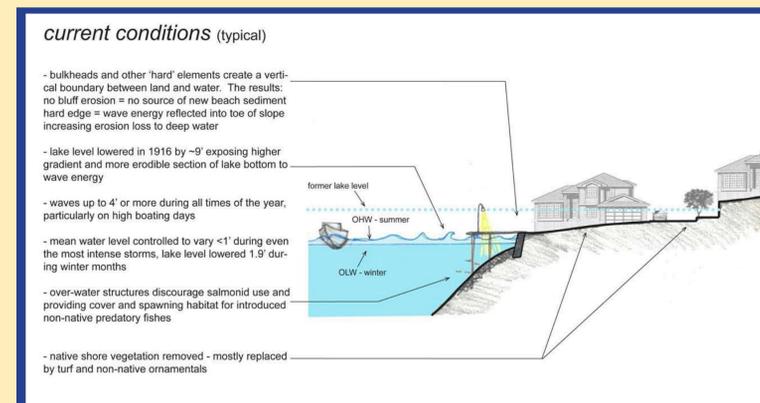
- Reduces natural gravel recruitment from erosion
- Causes excessive erosion on neighboring unarmored properties
- Can increase water depth by transporting nearshore sediment to deeper water and produces “wave bashing” effect – very turbulent nearshore
- Decreases habitat complexity
- Increases predator habitat (bass, sculpin)

## Historical Shoreline



Graphic by Zach Thomas, University of Washington

## Current Shoreline



Graphic by Zach Thomas, University of Washington

