

Shoreline Reaches:

The unit of division for the shoreline is described as a Reach (as described by the WA DNR), and each Reach was inventoried along its length, as well as at its midpoint for various shoreline features and conditions. Each reach is an average of 1,520 feet long, but vary from 163 ft to 2.1 miles. However, the median value is 1,080 ft.

Major Substrates:

Major Substrate is defined as the makeup of 50% or more of the ground surface material. For this project, quantities were grouped into 6 classes:

Mixed Coarse: 39% of the shoreline reaches.
Gravel: 24%
Cobble: 15%
Mud: 11%,
Sand: 10%, and
Clay: <1% of the total of the shoreline reaches.

Shoreline Types:

From the Ordinary High Water Mark upland 50 feet, this area is known as the backshore area. The following types and their percentages were found here during the inventory:

No Bank: 14%
Low Bank: 34%
High Bank: 31%
Marsh or Lagoon: 9%
Rocky: 4%
Varied: 7%

Shoreline Uses:

Use is described as the type of activity; or the character and form of improvements of the backshore area. Reaches labeled as "Undisturbed" include land observed to be managed in a more natural state. The following uses and their percentages were found during the inventory:

Marina: 5%
Commercial/Industrial: 8%
Undisturbed: 12%
Public: 17%
Family Residences: 58%

Landscaped Vegetation Points:

Vegetation types and quantities were also inventoried at mid-reach. One of the vegetation types measured was Landscaped Vegetation. The quantity found in the backshore area was grouped in 4 classes listed below. This number can be used as a measure of the development along the shoreline.

0-25% landscaping was encountered in 37% of the shoreline reaches
25-50% landscaping was encountered in 12%,
50-75% landscaping was encountered in 11%, and
75-100% landscaping was encountered in 39% of the shoreline reaches.

Overhanging Vegetation Points:

Another of the vegetation types inventoried was Overhanging Vegetation. The quantities found hanging over or below the Ordinary High Water Mark, along the shoreline, are grouped in the classes listed below:

0-25% Overhanging vegetation was encountered in 70% of the shoreline reaches
25-50% Overhanging vegetation was encountered in 12%,
50-75% Overhanging vegetation was encountered in 9%, and
75-100% Overhanging vegetation was encountered in 10% of the shoreline reaches.

Shoreline Conditions:

The shoreline was noted to be Intact in 83% of the shoreline reaches, with Erosion or Feeder Bluffs occurring in 16%.

Pocket Estuaries:

Potential Pocket Estuaries were noted during the field inventory, and were recorded as part of the mid-reach shoreline type inventory. They are defined as small, sub-estuaries within a larger estuary. 43 of the 497 Reaches were noted as having Pocket Estuaries within them.

Large Woody Debris:

Defined as logs having drifted ashore by tides or storms; approx. 1.5 feet in diameter and larger. Large Woody Debris (LWD) was absent on 59% of the reaches inventoried. It was Present on 41% of the reaches.

Tidal Construction:

Tidal Construction is defined as a structure within the nearshore area that extends below the Ordinary High Water Mark with the purpose of blocking wave impact. Structures that interfere with the natural transport of sediment were noted and accounted for 80% of the 242 sites inventoried.

Armoring:

Of the 150 miles inventoried, 59 miles were armored at or below the ordinary high water mark. This amounts to 39% of the shoreline being armored. These armored areas are not contiguous, and are spread out along the shoreline, often interspersed among the more pristine areas. See the map for the spatial relationship. Three types of armoring were inventoried:

Rip-Rap:	34%
Alternative Bank Protection:	3%
Typical Bulkheads:	63%

Water Outlets:

In this project all outlets, regardless of size were noted, and if grouped together in a bulkhead, they were noted as such. 2210 outlets were inventoried, equaling an average of 14.7 per mile. 754 of the occurrences were of grouped outlets, so the total individual number is actually higher. 3 distinct types were measured:

Culverts:	4%
Pipes or Tubing:	83%
Natural:	10%
Other:	3%

Overhanging Structures:

298 overhanging structures (located at or below Ordinary High Water) were inventoried, equaling an average of 1.98 per mile. Decks accounted for a little over half of these structures, at 58%. Houses, some including the decks as well, were the next largest category at 25%. Other building accounted for 14%, and boat hoists amounted to 3% of the total number inventoried.

Pilings:

448 occurrences of pilings were inventoried, grouped together in four categories. These pilings were those not associated with existing docks or piers.

1-5 Pilings: 315 occurrences
6-12 Pilings: 76 occurrences
13-25 Pilings: 29 occurrences
26+ Pilings: 28 occurrences

Debris Locations:

Debris Locations were defined as any presence of contamination that is not naturally occurring. 98 Debris Locations were observed.

Access Points:

These are typically private access points on waterfront property, providing the homeowner access to their shoreline beach property. *THESE ARE NOT PUBLIC ACCESS LOCATIONS*. Access points are found on an average of 12.7 per mile. 74% of them are constructed pathways, made of either concrete or wood construction. The remaining are typically a simple stone or dirt path.

Slides:

98 locations of slide activity were inventoried, amounting to an average of 1 site per 1.5 miles of shoreline.

Boat Launches:

479 Boat Launches were noted, and several attributes were collected. One significant feature was the potential for the boat launch to interfere with the natural flow of sediments along the shoreline. 34% of these boat launches were noted as being constructed in a way that intercepts this natural flow of sediments.

Piers, Docks, and Floats:

Piers, Docks, and Floats are loosely defined as points used as a landing place for marine transport, or for recreational purposes. 638 occurrences were noted, and several attributes were collected, including condition, material, and associated pilings. Pilings noted here, used in support of these structures, were not counted as parts of other piling counts within this Nearshore Inventory process.

Buoys:

285 reaches were observed with 906 Buoys, for an average of 3.17 per occupied reach. The median value is 2 buoys per occupied reach. Of the 494 reaches inventoried, there is an average of 1.83 buoys per reach. For the entire 150 miles of shoreline, that's an average of 6 buoys for every mile of shoreline.