Vegetation

Characterizing shoreline vegetation such as dunegrass and willows can give valuable information on the habitat of the upper beach and marine-terrestrial connectivity. This may change depending on shoreline armoring, development in the uplands, and new plantings of vegetation at restoration sites. Vegetation stabilizes the shoreline and provides habitat for terrestrial insects that are prey resources for juvenile salmon.

Materials

- Two 50 m measuring tapes, one for the transect and one for vegetation measurements
- 0.25 m^2 pvc quadrat (0.5 x 0.5 m)

Sampling Summary

- Generate a plant species list
- Percent cover of over and understory vegetation
- Canopy diameter of trees
- Health ratings of vegetation
- Dunegrass: 50 m transect parallel to shore. N=5 measurements for patch width and 0.25 m^2 quadrats for shoot density and percent cover

Scale of Effort

$ Cost – low, simple materials and data are all field-based

$ People – low, 2-3 people can establish transects and record vegetation data

$ Fieldwork time – low, 1 day, once a year in July when vegetation is lush

$ Processing time – low, entering field data into computer format

$ Technical expertise – medium, identification of plant species

Additional Resources

Reports that have used this method:
Toft et al. 2010

Also see Chappell 2006 for species information of vegetation in the Puget Sound region

Suggested citation: Shoreline Monitoring Toolbox. Washington Sea Grant.
Website: shoremonitoring.org

Methods

Start by generating a plant species list for the site, noting native and introduced species. Estimate the percent cover of over (trees) and understory (e.g., dunegrass, salal) vegetation in increments of 5% at different areas; this is best done in ~5 x 5 m patches, choose a subset depending on the size of the site and location of key vegetation features. Measure the canopy diameter of trees at their widest point by using a transect tape. Give each vegetation area a health rating between 1 (dead) and 5 (vigorous growth), noting specific plants/trees that are characteristic of the rating. At patches of dunegrass establish a transect parallel to shore along its length, or for 50 m if the patch is very long. At five random points along the transect measure the width of the dunegrass patch, and use a 0.25 m^2 quadrat to estimate shoot density and percent cover in increments of 1%. Sample in a summer month such as July when vegetation is lush.

Data to record in the field

Date, time, site name, sample numbers, vegetation data. It is advisable to take a digital photo of the transect and specific vegetation types for documentation.

Processing

Enter the field data into computer spreadsheets. Monitoring over time can generate growth parameters for different vegetation types and detail any changes in over and understory structure. Vegetation data can be used as causal factors for other data types such as insects and shorebirds.