Eelgrass

Eelgrass beds are an important ecological component of the nearshore, providing food and shelter for juvenile salmon and other fishes, crabs, small invertebrates, birds, and spawning habitat for herring. Eelgrass is also an important fixer of carbon as a primary producer. Eelgrass rhizome and roots stabilize sediments, and the leaves provide structure for a diverse food web.

Materials

- 50 m transect tape
- 0.5 x 0.5 m quadrat

Sampling Summary

- 50 m transect parallel to shore
- 0.25 m^2 quadrat (0.5 x 0.5 m)
- N=12 random quadrats per transect
- Transects at 0' MLLW, others as appropriate
- Measure % cover, and density of live shoots of *Zostera marina*

Scale of Effort

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

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

$ Fieldwork time – low, at least once June-September during daytime low tides at MLLW

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

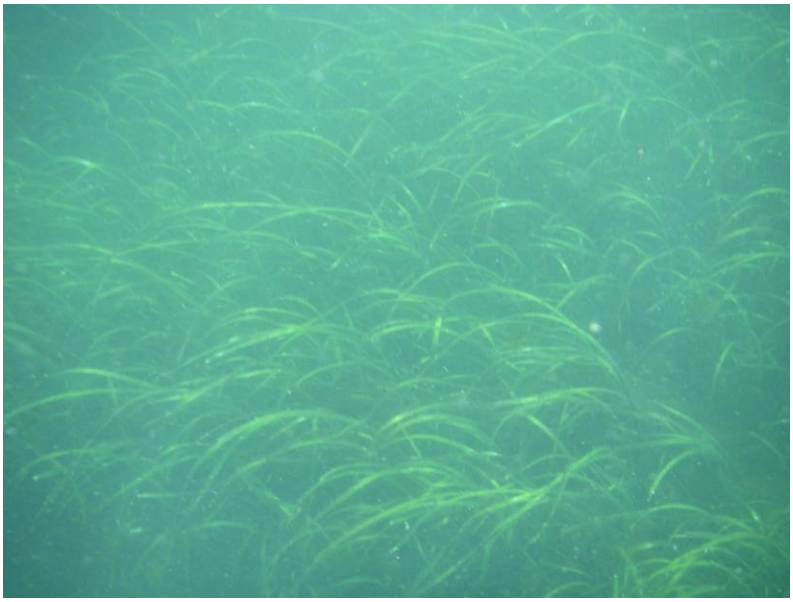
$$ Technical expertise – medium, knowledge on eelgrass and algae identification is useful

Additional Resources

Related methods:
SeagrassNet – Includes more data collection, also has data upload

Hydraulic Project Approval (HPA) protocols – For subtidal SCUBA surveys

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



Methods

At twelve random points along a 50 m transect parallel to shore at 0' MLLW, place a 0.25 m^2 quadrat on the beach surface and conduct a visual estimate of the percent cover and live shoot density of the native *Zostera marina*. MLLW is a good target elevation – *Z. marina* occurs +2.3 to -12.4 m MLLW, so elevations may vary dependent on the site and multiple transects may be necessary. Focus sampling during daytime low tides June-September and plan for a -2' MLLW low tide to allow assessment of the site characteristics and ensure time for sampling when the eelgrass beds at MLLW are exposed. The introduced *Zostera japonica* occurs higher in the intertidal and has shorter and narrower leaves than *Z. marina*, but some overlap may occur.

Data to record in the field

Date, time, site name, transect elevation, sample number, eelgrass data. It is advisable to take a digital photo of the survey location and of some example quadrats from above for documentation.

Processing

Enter the field data into computer spreadsheets. Calculate density of eelgrass shoots as #/m^2. Calculate average shoot density and % cover. Data can be placed into context with eelgrass monitoring conducted by the DNR Submerged Vegetation Monitoring Project (SVMP), see their Marine Vegetation Atlas mapping tool to see extent of eelgrass and kelp in your vicinity.