Does eelgrass act as an ocean acidification refuge for shellfish in the Salish Sea?

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Bonnie J Becker
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Dark (pre-dawn) ~30 cm from top ~30 cm from bottom Bare x 3
Grass x 3

Light (mid-morning) ~30 cm from top ~30 cm from bottom Bare x 3
Grass x 3

Summer 2015
Proportion of Larvae at Surface

Hypothesis

Dark

Bare

Grass

Light

Bare

Grass
Pacific oyster (Crassostrea gigas)

Olympia oyster (Ostrea lurida)

Mussels (Mytilus spp.)

Large clams >251 μm length

Small clams <250 μm length

D-shaped veliger (mixed species)
Species by Site

- Willapa Bay
- Case Inlet
- Port Gamble
- Fidalgo Bay

Number of Larvae per Sample

- Olympia
- Pacific
- Mussel
- Small Clam
- Large Clam
- D-hinge
- Unknown

Willapa Bay: 100
Case Inlet: 20
Port Gamble: 150
Fidalgo Bay: 10
Preliminary Conclusions

• Seagrass could be a refuge from low pH for bivalve larvae, but…
  – Likely will be species-specific and size-dependent behaviors
  – Other ecological drivers are also present
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Time’s Up!

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