A survey of bivalve recruitment in the Coos Bay Estuary, Oregon

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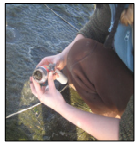
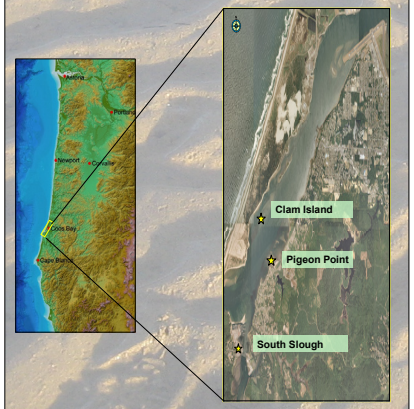
Introduction

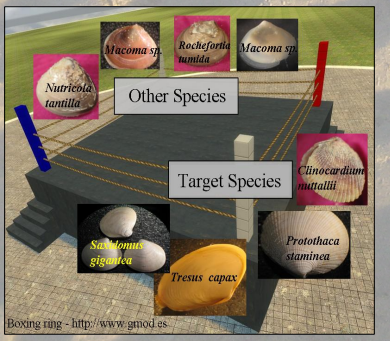
- **Larval bivalve spatial and temporal recruitment patterns:**
  - Critical in structuring adult populations within an estuary
  - Influenced by a number of physical and biological factors
- **Our study:**
  - An examination of bivalve recruitment, of 4 recreationally important species, *Tresus capax, Saxidomus gigantea, Protothaca staminea and Clinocardium nuttallii*
- **Hypotheses:**
  - Recruitment would be highest at Clam Island (CI), followed by Pigeon Point (PP) and South Slough (SS), respectively
    - Higher water exchange rates over CI and PP
      - Greater larval supply with higher water exchange
    - Higher recruitment at sites with high adult densities
      - Highest adult densities at CI and PP

Materials and Methods

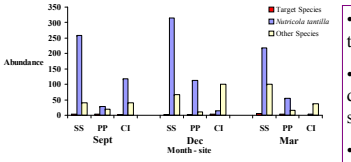
- Surveyed 3 regions of the Coos Bay Estuary (South Slough, Pigeon Point and Clam Island)
  - Conducted quarterly sampling (September, December, March)
- Environmental parameters measured:
  - Percent cover of algae, eelgrass and substrate recorded within a 1 m^2 quadrat
  - Measured anoxic layer depth
  - Collected sediment sample; measured % organic content
- Organismal sampling:
  - Collected samples with a PVC core (6 in diameter x 15 cm depth)
- Sample processing:
  - Sieved samples (4 and 1 µm mesh)
  - Preserved in 90% ethanol
  - Sorted samples with dissecting microscope
  - Identified and enumerated juvenile target clams
  - Other clams (e.g. microclams and non-target juveniles) were also enumerated within two categories, *Nutricola* and "other"



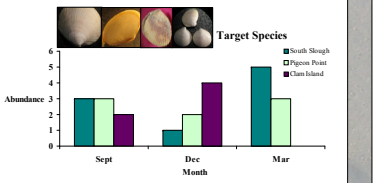


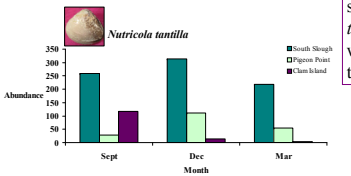


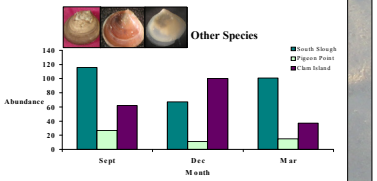
Results

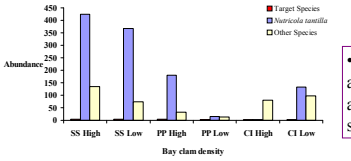


- Samples contained low target species abundance
- *Nutricola tantilla* dominated quarterly samples
- Abundance of "other species", (e.g. *Rochefortia tumida* and *Macoma sp.*) was also higher than the target species









- Target species abundance was low at low and high adult density sites

Conclusion

- Recruitment for the 4 target species, for the 2008-2009 settlement year was low

Acknowledgements

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