Diversity of larvae from the Charleston Area
Haley O’Brien, David Schwartz, and Gorka Sancho
College of Charleston, Charleston, SC

Introduction
If zooplankton can’t swim effectively, will different areas around Charleston Harbor have different diversity of zooplankton?

- Factors that may influence larval diversity, density and dispersal:
  - Location
  - Plankton type (holoplankton vs. meroplankton)
  - Ebb or Flood tides
  - Flow rate
- Is there a need for complex mathematical models to explain dispersal of passive drifters?

Materials and Methods
- 10 zooplankton tows at 5 sites:
  1. Charleston Harbor
  2. Pitt St Bridge
  3. Stono Marina
  4. Breech Inlet
  5. Ashley River
- 2 tows per location, one each at flood and ebb tides
- Flow rates recorded at each tow using a flowmeter
- Samples counted and larval type classified at Grice Marine Lab

-Zooplankton observed (outline = holoplankton, no outline = meroplankton):

Conclusions
- No strong difference in number of individuals across ebb or flood tides
- No strong correlation between number of species observed and flow rate
- No strong correlation between the volume of biota and flow rate
- More Holoplankton found in more open sites (Harbor and Breech Inlet)
  - Spartina alterniflora makes up bulk of biomass everywhere
- Differences in zooplankton diversity differ only by location, but there is no conclusive data to support why.
- Understanding diversity in adult populations would be helpful in understanding larval diversity
- Stronger mathematical models are required to understand zooplankton dispersal

Flow Data:
- Diversity vs. Flow Rate:
  - There is no strong correlation between the number of species observed and the flow rate recorded (in m/s).
- Density vs. Flow Rate:
  - There is no strong correlation between the volume of biota and flow rate recorded (in m/s).

Works Cited

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