Effects of Different Surfaces on Invertebrate larvae settlement in Charleston Harbor
Courtney Owen & Stephanie Lehr, Department of Biology, College of Charleston

Introduction
- Charleston Harbor contains organisms that produce benthic larvae
- These larvae will settle on substrates in the harbor
- Factors that influence such settlement are poorly understood
- There could be no choice in the behavior, and settlement is passive
- Or settlement can be active when presented with cues and choice of substrate

Question & Prediction 1
**How do different settlement surface materials affect larvae settlement**
- We believe Circular PVC will always contain more larval settlement -

Question & Prediction 2
**The Differences in settlement between Mount Pleasant and James Island**
- We believe settlement plates in Mount Pleasant will have more larval settlement -

Materials & Methods
- Three units of settling block A were placed in Grice Cove (yellow dot)
- One unit of settling block B was placed in waters off of Mount Pleasant (pink dot)
- We left the 4 blocks at each location for 21 days

Results
- Larvae belonging to the barnacle genus *Chthamalus* were found on Flat and Pipe PVC plates.
- The larvae preferred the PVC pipe substrate.

Results
- There was not a significant difference in the settlement of substrates by *Chthamalus* larvae at our two locations.

Conclusion
- When presented with different substrates, barnacle species belonging to the genus *Chthamalus* actively chose the PVC substrate.

Conclusion
- When presented with a substrate, *Chthamalus*, can successfully settle within Charleston Harbor’s intertidal zone.
- Differing locations of substrates within the intertidal zone have no effect on the settlement success of benthic barnacle larvae.

Acknowledgements
Gorka Sancho, Adair Dempsey, and the entire Grice Marine Lab staff.