

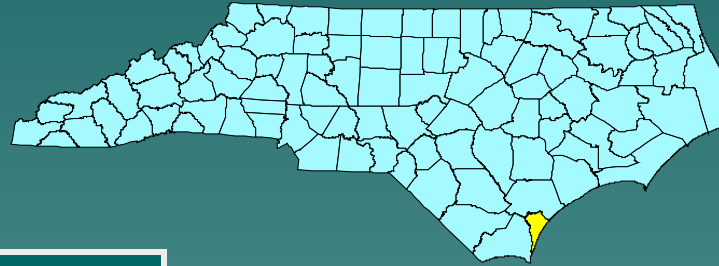
# Characterization of Oyster Reefs in Southeastern NC

*UNCW*

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# *Study Area*







## Reef Complexes

### Multi-habitat Assemblages



### Isolated Habitats

# Research focus

- ◆ Evaluate oyster function
  - Habitat
  - Filtration
  - Eco-system engineers
- ◆ Evaluate oyster populations
  - Survivorship
  - Long-term health
  - Restoration
- ◆ Relation of oyster reef function and health to watershed properties





# Approach

- ◆ Recruitment survivorship and genetic population structure
- ◆ Utilization by larval fish and crustaceans; adjacent benthic community patterns
- ◆ Isolated, contiguous with other habitats, multiple patch sizes, varied reef morphologies, sampled multiple estuarine systems
- ◆ Timing of utilization and persistence
- ◆ Form and function interrelation ship.
  - Reef shape, size, and position influence function.
  - Reef edge and vertical relief influence the degree of use and function.



Breder traps



Excavations




Settlement tiles



Student Power





- ◆ Develop accurate and cost effective broad scale oyster reef survey methodology
    - Live vs. dead
    - High vs. low complexity
    - Degree of fragmentation
  - ◆ Relate oyster reef morphology to watershed properties and meso-scale function
    - Is nekton assemblage related to dominant morphology
    - Does form indicate filtration efficiency
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- A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, partially overlapping the background.



- ◆ Boundary



- ◆ Live vs. dead




- ◆ Higher order properties







- ◆ Interaction between edge complexity, vertical complexity and general reef morphology directly impact the value of the various functional aspects of oyster reefs
  - ◆ The ability to generally categorize or specifically identify key characteristics of oyster habitat within the tidal creek systems will allow us to better evaluate directional changes potentially caused by shifts in watershed characteristics that vary on a multi-year scale
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