

Recent Research and Restoration Efforts at the University of North Carolina Wilmington



Overview of Relevant Research

- Oyster biology
 - Life history
 - Population genetics
 - Physiology and ecology
- Ecosystem function
 - Habitat
 - Filtration
 - Shoreline stabilization
 - Fisheries / mariculture
- Restoration approaches
 - Objectives
 - Design and ecological considerations
 - Monitoring approaches



Targeted Restoration Efforts

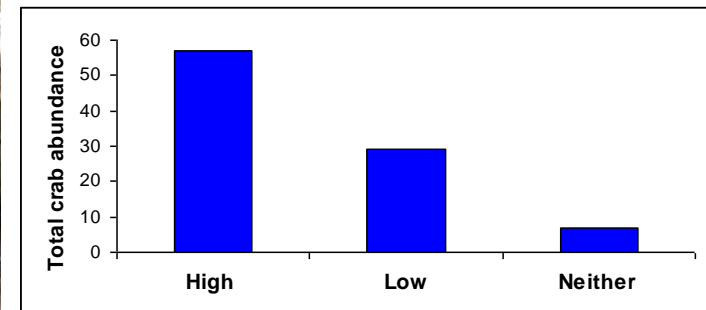
- Assessment of development trajectories for created reefs (loose shell and bagged reefs)
- Interactive impacts on oyster settlement and survival
- Identification of community development benchmarks for oyster ecosystems
- Partitioning of ecosystem services between biotic and abiotic factors
- Assessment of landscape factors that may govern reef development and ultimate function.
- Genetic selection of stocks for local performance markers

Benthic Ecology Laboratory

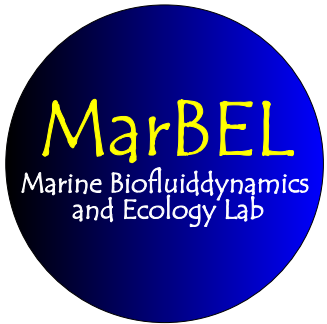


- Oyster biology
- Factors affecting reef function
 - Density and size
 - Edge and surface complexity
 - Fragmentation
 - Proximity of other habitats
 - orientation
- Restoration approaches
 - Seeding, method, location, objectives; long-term monitoring
- Aquaculture techniques and siting

Troy Alphin
Martin Posey



Oyster Reef Research

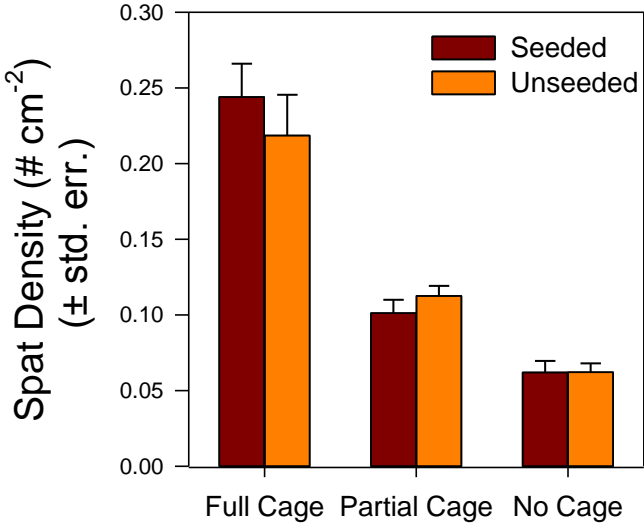


- Oyster larval settlement and recruitment
 - Chemical inducers and seeding impacts on recruitment to natural and created reefs
 - Impacts of predation on oyster recruitment
- Predation on early stage juveniles
 - Predation on juvenile oysters in varying habitat settings; impacts of specific predators.

Dr. Christopher Finelli
Dr. John Carroll



Caged vs Open



Shellfish Research Hatchery



Mission statement

To conduct and facilitate research that will both inform and contribute to North Carolina's efforts to restore declining populations of ecologically and commercially important shellfish and to build a sustainable shellfish aquaculture industry.

Dr. Ami Wilbur

- Current research programs
 - Selective breeding of oysters
 - Assessment of the triploid advantage
 - Flow through culture of bay scallops
 - Culture of sunray Venus clams
- Research facilitation
 - Provision of
 - Oyster larvae, seed, adults
 - Scallop seed
 - Microalgae
 - Experimental space

