

The Evaluation of Brown Marsh Recovery on Talahi Island, Chatham County, GA

Contact Name(s): Mary Carla Curran

Contact Affiliation/Info: Dept. of Natural Sciences and Mathematics; P.O. Box 20600; Savannah State University, Savannah, GA 31404

Participating Investigators/Affiliation: Mary Carla Curran and Ben Maher, Savannah State University

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Study Site Location(s): Talahi Island, Chatham County, GA

Keywords: Fauna, Monitoring, *Spartina*

Project Type: Descriptive

Project Outline:

Specific Aims

To have undergraduates collect data in healthy and dieback areas to compare differences

To determine whether the dieback area is recovering

Methodology

We employed a modified version of the protocol designed by the Georgia Coastal Research Council (GCRC) but condensed to fit into a two-hour marine ecology laboratory exercise. Two 5-m transects were placed through both the live and dead marsh. 0.5 m² quadrats were randomly placed at the 1-, 3- and, 5-m mark in the live and dead marsh. Live and dead *Spartina* shoots were counted within the quadrats. Heights of the five tallest live *Spartina* shoots were measured in cm in the live and dead marsh in the second transect. Sediment core samples for meiofauna (3-cm deep) were taken from each quadrat in the first transect. The core samples were brought to the laboratory and stained with a 10% formalin-rose Bengal mixture for at least 48 h. The samples were then sieved with a 500-um sieve onto a 63-um sieve. The samples were observed under dissecting microscopes at 20X to identify and count meiofaunal taxa (nematodes, copepods, nauplii, ostracods, oligochaetes, polychaetes, and forams). Results from the 3 quadrats obtained in each area were pooled for comparisons between live and dead marsh.

Results to Date

- Mean height of tallest *Spartina* is higher in the live marsh (30-128 cm) than dead marsh (22-76 cm) and peaked in Sept-Oct.
- The mean density of live shoots in the live marsh was always higher (21-55 shoots per 0.5 m²) than in the dead marsh (2-16 shoots per 0.5 m²). Density tended to increase at both sites over time.
- Mean number of total meiofauna tended to be higher in the dead marsh (116-772 individuals per 10 cm²) than the live marsh (90-705 individuals per 10 cm²) although variability was high. The numerically dominant meiofaunal taxon (80%) was nematodes.

Lessons Learned

Based on *Spartina* density, the dieback area may be recovering slowly.

Publications, reports, or web-accessible materials

Suggested citation: Georgia Coastal Research Council, 2004. Proceedings of the Marsh Dieback Workshop, held February 3-4, 2004, Savannah Georgia.