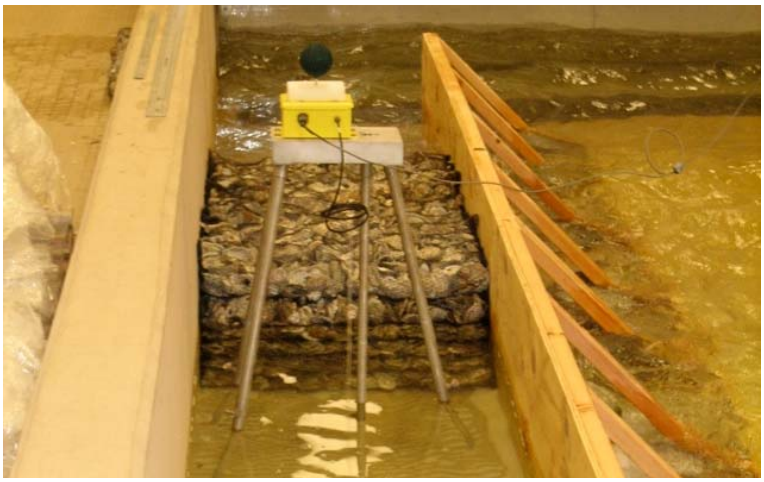
Wave Attenuating Capability of Bagged Oyster Shell: Implications for the Design of Living Shorelines

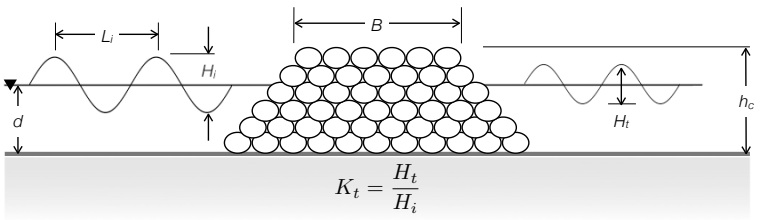


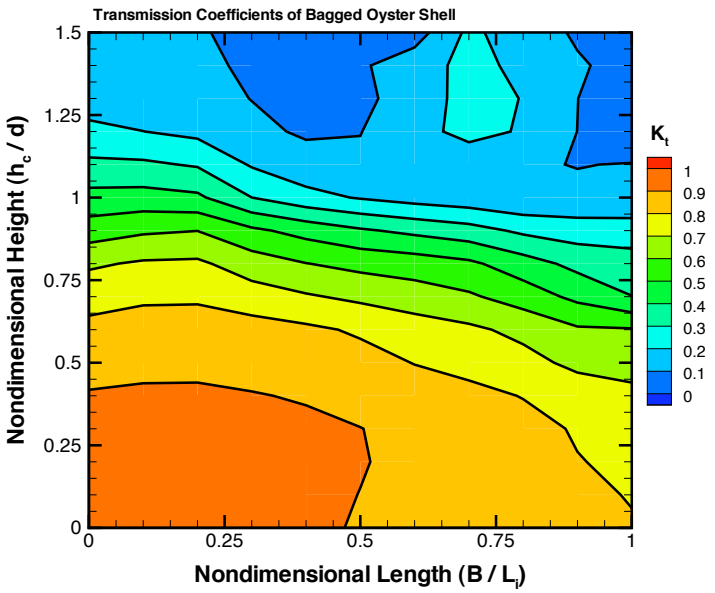
Research Objectives

1. Determine the wave attenuating capabilities of bagged oyster shell
2. Characterize wave transmission as a function of nondimensional height and length
3. Compare measured transmission coefficients to values computed using semi-empirical methodologies found in published literature

Project Description

The performance of bagged oyster shell was tested in the University of South Alabama's wave basin facility. Wave attenuation was evaluated by comparing incident and transmitted wave heights cast in terms of a traditional transmission coefficient, K_t. Such values are available for common engineering materials, but not for bagged oyster shell. Two dimensionless parameters were evaluated to determine the sensitivity of the transmission coefficient to depth of submergence and size.





Research Outcomes

1. Forty-three unique measurements of wave transmission using bagged oyster shell
2. Relationships between structure height and size and their associated transmission coefficient have been elucidated
3. The transmission coefficient is more sensitive to structure height than size
4. Transmission coefficients can be estimated using existing semi-empirical methodologies

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