Sustainable Habitats for Crassostrea virginica

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Crassostrea virginica, or Eastern oyster, is a vital indicator species native to the eastern United States coast, specifically the Apalachicola Bay region. In recent years, water pollution and overharvesting have threatened their habitats and reduced the overall population of these bivalves. This project aims to solve this problem using readily available biophilic materials to mold an artificial oyster bed, capable of rebuilding oyster populations. These biophilic materials include a fast-dry concrete mix and crushed oyster shell. After conducting research in 2020, it was confirmed that these materials do not affect water quality, making them ideal for the growth of the notoriously selective oyster. Dissolved oxygen, pH, and temperature were not disturbed by the use of these substrates. The materials are also inexpensive and easy to manipulate, making it viable for volunteer use. This year, these testing blocks will be placed in the Apalachicola Bay for about 2 months, and the spat growth will be counted and analyzed. Hopefully, there will be a statistically significant difference between each concrete ratio. If there is a difference, meaning that more spat are attracted to a concrete mix with more oyster shell, these inexpensive concrete mixes could be used across the bay for educational purposes, and they could be a great resource for volunteer and citizen science efforts in the future.

Awards Won: