

# An Assessment of Oyster Reef and Shoreline Habitat Use by Estuarine Finfish in East Matagorda Bay, Texas

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*Abstract:* To assess the role of oyster reef as finfish habitat in Texas' estuarine systems, species abundance and diversity differences were compared between shoreline habitats and mid-water oyster reefs in East Matagorda Bay, Texas. Texas Parks and Wildlife 183-m gill nets were deployed overnight for a 10-week period during both spring and fall at oyster reef habitat (one net per week) and shoreline habitats (two nets per week). Metrics used to evaluate each habitat type included abundance, diversity, length and gender. Results indicate significant differences in abundance and diversity of sub-adult and adult finfishes among habitat treatments. Additionally, differences between spotted seatrout gender ratios (*Cynoscion nebulosus*) on oyster reefs versus shoreline habitats were observed with a greater proportion of male spotted seatrout found on oyster habitat. Non-parametric analyses using PRIMER indicate statistically significant differences ( $P < 0.001$ ) in community diversity and species assemblage with eight species of finfish contributing >59% of the dissimilarity between habitats.

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