Oyster *Crassostrea virginica* Spat Settlement as it Relates to the Restoration of Fish River Reef in Mobile Bay, Alabama

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**ABSTRACT**

Oyster spat settlement at four oyster reefs in Mobile Bay, Alabama, USA, was studied from August through October 1998 and May through mid November 1999. Spat collectors at the reefs were replaced every 2 wk and spat-set estimated as number of oysters per meter square per day. Water quality data at Fish River Reef was monitored using remote sensors. Spat-set data revealed significant variation between the four sites and between the 2 yr. Spat settlement was 5 to 10 times greater at the other three reefs than at Fish River Reef. Dates and intensity of oyster settlement at Fish River Reef were different from dates and intensity of oyster settlement at Shell Bank Reef, both on the eastern side of the bay. However, settlement was similar between Cedar Point Reef and White House Reef, both on the western side of the bay. Spat set appears to occur 3 wk after a rapid decline in water temperature, provided adequate oxygen concentrations are present at the time of settlement. Data collected suggest that intensity of settlement at Fish River Reef is considerably less than at other reefs in this study but could be adequate to reestablish the reef, if cultch and environmental conditions are suitable. The data also suggest that the source of larval oysters at Fish River Reef is different from the source of larval oysters at the other sites tested in the present study.