ABSTRACT

From 1988 to 1990, we investigated the effects of location, salinity, and depth on recruitment (settlement and survival for 3 weeks) and growth of the eastern oyster Crassostrea virginica in Pamlico and Core Sounds, North Carolina. We measured length and density of spat settling on oyster cultch deployed at deep (~3 m) and shallow (~1 m) depths at 6 sites in areas with low salinity and 6 sites in areas with high salinity. These data were compared with similar data taken at some of these sites by the North Carolina Division of Marine Fisheries since 1981 as part of their cultch planting program.

Recruitment was generally greater in the high salinity sites, compared to the low salinity sites. Recruitment was less at shallow depths compared to deeper depths. In all three years the highest recruitment occurred in August and September, corresponding to the months of maximum water temperature. Recruitment was highly variable in space and time, but appeared to diminish from 1988 to 1990. Recruitment was reduced by sedimentation and a variety of sessile organisms. All sites appeared to have a similar potential for growth.

Management implications of the data are discussed, but decisions must await more detailed information on oyster ecology.