

Factors Limiting Spiny Lobster Distribution and Abundance in Florida Bay: A Preliminary Report

**MARK J. BUTLER, WILLIAM F. HERRNKIND, JOHN H. HUNT, and
JENNIFER M. FIELD**
*Old Dominion University
Department of Biological Science
Norfolk, Va. 23529-0266*

ABSTRACT

Florida Bay is the primary nursery region for the Caribbean spiny lobster, *Panulirus argus*, in south Florida. Recent studies have suggested that lobster nurseries may be confined to the southwestern portion of the Bay because of limited postlarval transport or inappropriate salinity/temperature regimes. Within nursery areas, habitat and other ecological factors affecting postalgal-phase juvenile lobsters, as opposed to postlarval supply, may determine local population abundances. We recently initiated a multidimensional project to investigate these hypotheses. In the laboratory, we are determining the salinity and temperature tolerances of postlarval and algal-phase juvenile spiny lobsters. Those experiments, coupled with field monitoring of natural settlement at over 25 sites throughout Florida Bay, will yield insight into the factors that delineate nursery habitat in the region. To understand what regulates juvenile lobster abundance within nurseries, we are manipulating habitat abundance and settlement at twenty-seven 0.1 hectare field sites. This experiment will also provide a critically needed test of whether enhancement of appropriate habitat actually bolsters local juvenile lobster production or merely accentuates aggregation.