ABSTRACT

ASSESSMENT OF THE GREAT SALT POND AS A POTENTIAL SITE FOR MOLLUSCAN MARICULTURE

SANDRA M. WRIGHT

If suitability of sites for oyster culture could be determined by measuring key environmental parameters, a cost-effective method would be available for choosing such sites. This would provide a more scientific approach than the trial and error method presently used in many countries.

In Jamaica, there is a small-scale oyster farm at Bowden, St. Thomas. This, at present, is the only site which has been found suitable for collection of spat of Crassostrea rhizophorae, upon which the industry depends. However, several sites are used for grow out and, as the industry expands, oyster culture is likely to spread to a range of other sites.

The Great Salt Pond was the first of several sites chosen to investigate its suitability for oyster culture. Geographically, Bowden and the Salt Pond are very different and these differences are described.

Twelve oyster growth experiments, each lasting six weeks, were conducted from April 1988 to April 1989 at each site. One experiment was started each month, simultaneously at both sites. Along with growth measurements, salinity, temperature, dissolved oxygen, phytoplankton abundance and dissolved nutrients were measured.

Although the sites were geographically different, it was found that there was no significant difference between their physico-chemical regimes. This is perhaps one of several factors which resulted in similar growth rates at both sites.

Multiple regression analysis was performed on the data pertaining to the environmental parameters expected to affect the growth rates of oysters. It was found that salinity and phytoplankton abundance were the only two parameters which affected significantly the growth of the oysters.

This suggests that when a site is being assessed as a potential oyster culture site, that salinity and phytoplankton abundance are the major factors which ought to be investigated.