ABSTRACT

The Great Salt Pond, St. Catherine, Jamaica, is an enclosed shallow mangrove lagoon that is periodically opened to the sea. An extreme annual range of salinity (15.5 °/oo - 74.1 °/oo) is the predominant characteristic of the environment which is very unstable. The factors governing the changes in salinity are the amount of precipitation, the rate of evaporation and the state of the sandbar. Under extreme dry conditions the pond becomes hypersaline.

Special consideration is given to the benthic, zooplanktonic and fish communities and it is found that the species diversity is low, but provided that tolerable salinities prevail large populations of animals develop. During the hypersaline period, when the sandbar is closed, the population densities and the number of species in the communities decrease and all but a few animal species become extinct. The pond is rapidly recolonized by euryhaline marine species when the sandbar is breached and normal salinities prevail.

An important biological feature of the pond is the production of detritus and the majority of the fauna are at least partly dependent upon this

source of energy. Given tolerable environmental conditions secondary production is high and the pond provides a nursery ground for commercially important species of fish, shrimp and crabs.