

ABSTRACT

Evaluation of the Importance of Mangroves to the Ecology of West Harbour, Jamaica.

Barbara A. Chow

Mangrove areas of Jamaica have not been adequately described nor functionally assessed. In the absence of a comprehensive conservation policy, their degradation continues under increasing development pressure..

The overall objective of the West Harbour study was to obtain information necessary for formulating a comprehensive conservation program while specific objectives aimed to describe structural and biological attributes and quantify key interactions with adjoining ecosystems.

West Harbour is shown to be a microtidal lagoon in which the prevailing energetics maintain a stable physicochemical regime and facilitate net retention of suspended particles. That less than 10% of total Rhizophora net production is exported with tidal energies in contrast to contemporary scientific findings, is explained by the interrelationship between hydrodynamics and geomorphic parameters, factors which must necessarily be examined in the evaluation process.

Though the mangal is diverse and extensive, forest stands appear to be structurally suppressed in keeping with the climatic regime. Productivity estimates (litter fall) are, however, comparable with regional estimates and total litter production (Rhizophora and Avicennia) amounts to 35,279 mt.a⁻¹.

Ecological arguments for the conservation of the West Harbour mangal are presented and discussed with respect to its important role as a nursery habitat for juvenile and small sized fish, the commercially important lobster, Panulirus argus, and the endangered West Indian manatee, Trichetus manatus. The documentation of animal migrations is therefore interpreted and discussed as integral to the evaluation process.

Evaluation of the ecological role of the mangal in the physical enhancement (increase in size and complexity) of the lagoon environment is proposed and a number of structural indices indicated. The utility of applying the rapid assessment methodology of the study protocol is discussed from a development/management perspective.