Abstract

Maintaining regional competitiveness and economic viability for Port Bustamante - Kingston Harbour, Jamaica, required improved accessibility to “Post Panamax” (too large to pass through the Panama Canal) container vessels. Removal of the northern portion of the shallow coral reef at Rackham’s Cay, which was partially obstructing the western end of the east ship channel, was proposed. This aesthetically valuable reef was used by local fishermen and comprises part of the declared Palisadoes - Port Royal Protected Area. The proposal to transplant certain of the benthic species was advanced to mitigate loss of viable reef components. Between December 2001 and February 2002, sixty thousand items, consisting of reef building massive and branching corals; gorgonians; urchins (Diadema and Tripneustes spp.) and Thalassia meristems were relocated. During dredging, sedimentation rates from suspended solids in the water column were 0.003 g/cm²/day at the control site and 0.008 g/cm²/day at the dredge site. Coral cover in the relocation area increased from 15% to 20% while bare substrate decreased from 27% to 21%. This paper documents the mitigation required; some factors controlling the ecology of Rackham’s Cay reef; the methodology of the relocation process; and the level of post-dredging survivorship of relocated corals. Political and economic realities of some proposed developments often override ecological considerations. Transplantation of important marine benthic species although time consuming, technically challenging, and expensive, may be one way for developers and ecologists to achieve sometimes disparate goals. This project cost US$1.7 million. The items moved were neither unique nor endemic and remain vulnerable to natural and anthropogenic impacts. This project increased public awareness and interest regarding the ecological and economic importance of reef ecosystems. It is anticipated that future coastal and inland developments will benefit from the lessons taught by these mitigative interventions.

Keywords

Kingston Harbour, transplant, corals, impacts, dredging.