Chapter 41

Aquacultured coral and restoration

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ABSTRACT

The Coral Reef Task Force estimates that 70% of the world’s coral reefs are threatened and 10% have been destroyed. Portions of Caribbean coral reefs have lost up to 80% of coral species and continue to be under increasingly destructive pressures from various sources, including dredging, ship groundings, pollution, illegal collecting and harsh weather conditions. Florida’s coral reefs, the only shallow water reefs in the continental United States, have suffered considerable loss. Restoration of damaged coral sites is limited by the availability of coral colonies. Aquaculture is emerging as a viable method of large-scale production of coral colonies (especially Indo-Pacific species) using fragmentation for the aquarium trade. Recent efforts have shown that many species of Atlantic Scleractinia can be fragmented and grown successfully in tanks and on underwater lease sites. Can these aquacultured fragments be utilized in reef restoration? Two primary questions emerge concerning the feasibility and direction of this effort: i) will aquacultured corals become a vector for disease introduction when returned to a restoration site, and ii) is the survival and growth success of reintroduced fragments affected by culture techniques? The research outlined in this paper will provide information on techniques and protocols to help answer these questions and improve coral restoration efforts.