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# Coral Reef Ecosystem Restoration Off Southeast Florida

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Significant coral reef community development along the eastern shelf of the United States continues northward of the Florida Keys through Miami-Dade, Broward, Palm Beach, and Martin Counties, Florida (to Latitude 27° N). These Southeast Florida high-latitude coral communities have approximately 30 species of stony corals, stony coral coverage of 2-3%, and a diverse assemblage of reef gorgonians, sponges, and fishes.

This system lays within 3 km of the coast offshore a highly urbanized area comprising a population of over 5 million people (the population of Broward County alone exceeds 1.7 million). These reefs are important economic assets: a 2001 economic assessment estimated the annual reef input for Miami-Dade, Broward, and Palm Beach Counties at 5.8 billion dollars. Potential impacts to the system include those from commercial and recreational fishing and diving, sewer outfalls, marine construction activities (fiber optic cables, channel dredging, gas pipe lines), and major shipping ports and ship groundings. Southeast Florida has three major shipping ports; Port of West Palm Beach, Port Everglades (Broward County), and the Port of Miami. At Port Everglades alone, over 5,300 ships call on an annual basis. This heavy ship traffic very near and within a coral reef system has resulted in nearly one ship grounding per year offshore Broward County since the early 1990's.

Nearly all reef damage events involve some level of injury assessment, triage and restoration, and monitoring. Triage generally involves the uprighting and caching of dislodged and fragmented stony coral colonies. At a minimum, restoration activities include the reattachment of these stony coral colonies. Restoration may also include the reattachment of dislodged octocorals and sponges and the removal of rubble generated by the damage event.

This work summarizes restoration activities and monitoring results from several representative reef damage events that have occurred offshore Broward County, Florida. Discussion will include the effectiveness of past and current restoration and monitoring activities. Recommendations for improved restoration activities and more effective recovery monitoring will also be discussed.

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