MS Thesis
Department of Environmental Science and Policy
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Title: The Role of Symbiodiniaceae in Stony Coral Tissue Loss Disease Morbidity and Mortality

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ABSTRACT

In recent years, Atlantic-Caribbean reefs have faced unprecedented pressures from various anthropogenic and natural stressors. Stony coral tissue loss disease (SCTLD), whose pathogen remains unknown, has significantly reduced scleractinian coral populations in the region. To better understand the role of symbiotic dinoflagellates in the disease etiology, a semi-quantitative method was developed to analyze endosymbiont morbidity and mortality. Utilizing field-collected and laboratory manipulated apparently healthy and SCTLD-affected coral samples, results suggest that endosymbiont degradation contributes to the disease, but other stressors may confound experimental outcomes. Findings also support histopathology as a key diagnostic tool when investigating diseases with unknown pathogens.