



**The Southeast Coral Reef Evaluation and Monitoring Project (SECREMP) provides local, state, and federal resource managers with an annual coral reef status report for the Kristin Jacobs Coral Reef Ecosystem Conservation Area (Coral ECA).**



Figure 1. Map of the 22 SECREMP sites.

SECREMP was established in 2003 as an expansion of the FWC managed Coral Reef Evaluation and Monitoring Project (CREMP) in the Florida Keys. SECREMP provides local, state, and federal resource managers annual reports on the status and condition within Coral ECA (Miami-Dade, Broward, Palm Beach, and Martin counties) coral reef system as well as information on temporal changes in resource condition. Survey methods of the 22 sites (Figure 1) include photographic transects to quantify percent cover of major benthic taxa (stony corals, sponges, octocorals, macroalgae, etc.) and demographic surveys to quantify abundance, size distribution, and overall condition of stony corals, octocorals, and the giant barrel sponge. SECREMP is a partnership between DEP, FWC, and NSU that facilitates collaboration and knowledge sharing benefiting coral reef ecosystems nationwide. The Coral ECA experienced significant stony coral assemblage declines from 2015-2018 with significant losses

observed across all stony coral metrics examined (cover, live tissue area (LTA) and density). These losses were predominately driven by a significant increase in Stony Coral Tissue Loss Disease (SCTLD), which peaked in 2016 but has subsequently decreased in prevalence every year since. As regional disease prevalence has remained < 1% every year since 2018, total loss from this event can begin to be quantified, and recovery can start to be addressed. No significant decline in stony coral LTA or density was identified from 2018 through 2022, and density in 2022 was significantly higher than all previous years. The significant loss of LTA from 2015-2018 was driven by species susceptible to SCTLD, while species not susceptible have had no significant losses and dominated

density increases. This shift in species contribution to the stony coral assemblage could have a lasting impact as recovery begins to occur. Although the majority of SCTL D susceptible species had juvenile colonies (<4 cm) in the sample sites, juveniles were dominated by generalist, low relief species including *Porites astreoides*.

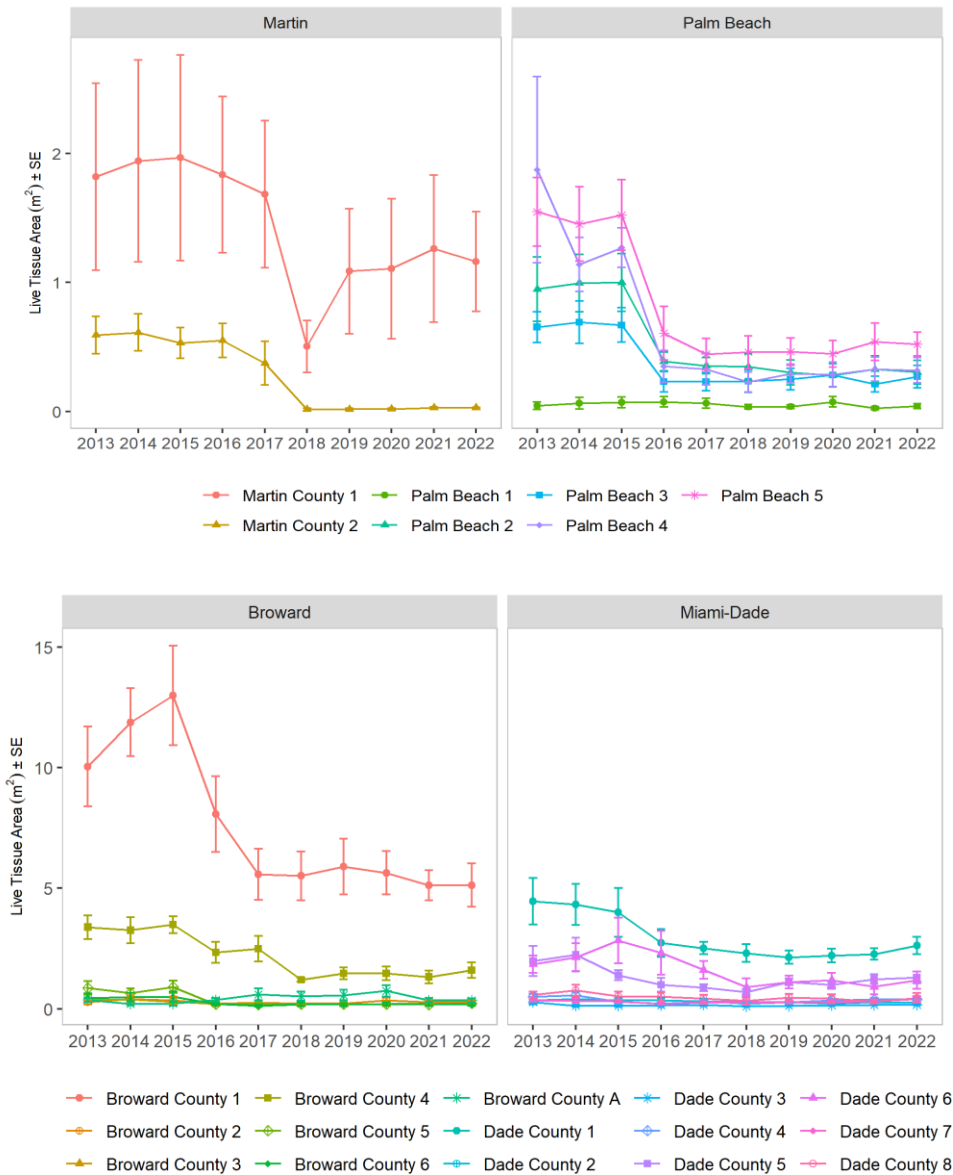


Figure 2. Mean ( $\pm$ SE) site LTA ( $m^2$ ) from 2013-2022 per 22  $m^2$  transect grouped by county. Broward County A does not include *Acropora cervicornis*.

Significant LTA losses occurred across all sites, habitat types, and counties within the Coral ECA (Figure 2). The timing and severity of losses during the disease event differed between areas and sites. In Martin County, substantial LTA losses were observed in 2018, but only MC1 has shown recovery dominated by *Porites astreoides*. Palm Beach County showed losses consistent across the 4 offshore sites beginning in 2016. Although LTA has since stabilized no significant recovery has occurred. In Broward County, site BC1 showed increasing LTA from 2013 to 2015 which then dropped significantly across 2016 and 2017. LTA has now stabilized at less than half recorded LTA in 2015. Miami-Dade County had significant declines, mainly beginning in 2015; however, site DC1 has stabilized and shown an

increasing trend in LTA across the last 2 years. LTA has remained stable over the last 4-5 years in the absence of a major disturbance event such as SCTL D. The lack of significant LTA increases demonstrates that ecosystem conditions generally need to improve to promote recovery. The chronic nature of disturbances to and the significant economic value of the coral reefs within the Coral ECA requires comprehensive, long-term monitoring to define and quantify change and to help identify threats to the ecosystem. The value for a long-term region-wide monitoring program is highlighted by the information in this report, which will be vital in planning and monitoring the potential future recovery of this resource.