

Florida Keys Aquatic Preserves Seagrass Monitoring Program

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The Florida Keys Aquatic Preserve Seagrass Monitoring Program was established in 2021 in Lignumvitae Key Aquatic Preserve (LKAP) to create a long-term, high-quality data set of seagrass community species and analyze temporal changes. LKAP is situated between Lower Matacumbe and Upper Matacumbe key and consists of 6,700 acres of submerged land overlapping with Lignumvitae Key Botanical State Park. This area is the first major tidal connection site between Florida Bay and the Atlantic Ocean. Benthic monitoring at a high resolution allows for close study of changes in the community and variance between different seagrass flats. Seagrass monitoring occurs semiannually, taking measurements including the Braun Blanquet Cover Abundance (BBCA) scoring, percent coverage, and shoot counts to contribute to the overall assessment of seagrass health in the aquatic preserve. Shoots are collected at each site to analyze morphometric attributes, nutrient content, and isotope ratios. Data analysis is ongoing and will reveal trends as they become apparent. Seagrasses in Florida Bay have experienced die-off in previous years which had not reached LKAP, however the creation of this long-term dataset along with analysis of seagrass samples can reveal shifts in seagrass health, sources of eutrophication, and reduce response time to seagrass loss events by environmental managers.