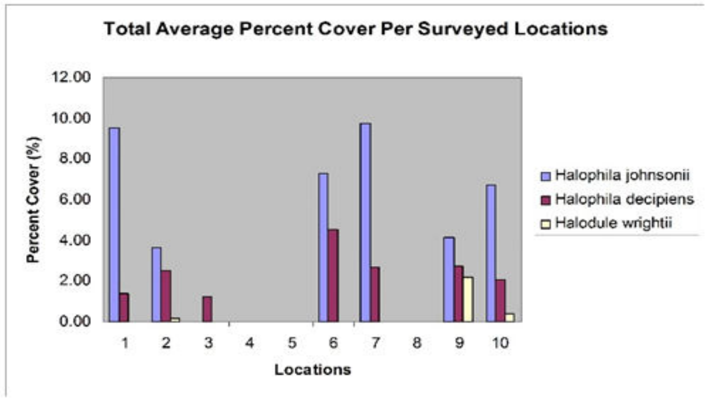
Southern Boulevard and Flagler Memorial Bridges

Services Provided: Marine Benthic Surveys	
Client:	FDOT District 4 / Jacobs & E-Sciences
Location:	Palm Beach County, FL



DESCRIPTION OF WORK:

FDOT conducted Project Development and Environment (PD&E) studies on the replacement of two separate bridge projects that are located in Palm Beach County, Florida. These include the Flagler Memorial Bridge and the Southern Boulevard Bridges (Bascule and Tide Relief Bridge). Both these bridge projects are located in Lake Worth Lagoon and cross over the Intracoastal Waterway connecting the City of West Palm Beach on the west to the Town of Palm Beach on the barrier island on the east. Annual marine benthic surveys for the Flagler Memorial Bridge were conducted for three years with approximately 35 acres of benthic being surveyed. Marine Benthic surveys have also been conducted for the Southern Boulevard Bridge project from 2006 – 2015 with over 25 acres surveyed. This survey data was utilized in the PD&E and permitting phases to determine impacts to seagrass and marine benthic communities due to the bridge replacement and to coordinate mitigation opportunities. Annual benthic surveys were conducted order to monitor the dynamic nature of the seagrasses and other benthic habitats.

Our work effort included field preparation; conducting the benthic survey and seagrass delineation using SCUBA; developing Geographic Information Systems (GIS) maps of the surveyed area and collected georeferenced data; tracking spatio-temporal changes of seagrass beds, conducting a statistical analysis of seagrass spatial dynamics, and, preparation of a final report documenting the results of the survey and recommendations. The main methodology for the marine benthic survey was based on the National Marine Fisheries Service (NMFS) “Recommendations for Sampling H. johnsonii at a [Large-Area] Project Site.” Coordination on this methodology has occurred with NMFS, US Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD). The results of the survey revealed the presence of seagrass, including the federally threatened species Halophila johnsonii, H. decipiens, Halodule wrightii, and other benthic habitats and organisms (e.g. mud flats, algae mats, sponges and other invertebrates).