2018-001	Allied Group	Testing nanobubble technology in canals and small tributaries located in the Satellite Beach area.
2018-002	Applied Ecology	Spatial Interpretation of Land Use/Land Cover Over Time with Analysis of Riparian buffer will directly support management and
2018-002	AquaFiber	A Self-Contained, Real-time Restoration system for the IRL will combine nutrient removal technologies with hydraulic muck dredging in a self contained, real-time system that can be deployed on a floating barge to avoid the use of land-based muck storage sites. Heavy inorganic particles (shell, sand, etc.) will be separated and returned to the IRL. The system will process up to 10,000 gallons per day.
2018-002	Arc Surveying and Mapping	Application of Resistivity Survey Technique to Better Define Muck Sediment coverage and Depth for Restoration and Dredging Efforts Within the IRL. Project will provide an electrical resistivity survey of muck deposits and refine transect spacing to 100-foot from 450-foot.
2018-002	Bethune-Cookman University	GIS-Based model of Surface Water Runoff will better estimate loading of nutrients entering the Halifax River via surface runoff from a poorly studied and highly urbanized basin. Study will focus on 3 canals: Halifax, Reed and LPGA. The study will identify which canals have highest nutrient loads and will estimate the benefits from a to-be-developed stormwater park that would prefilter water prior to release.
2018-002	Dredging and Marine Consultants	Forum to identify Fine-Grained, Organic-bearing Dredge Material Processing Technologies and Costs Applicable to IRL Muck
2018-002	Embry-Riddle Aeronautical university	Development of an Autonomous Hybrid (Surface and Underwater) ASUV. Project will design, build, test and deliver an ASUV able to provide systematic and near synoptic observations of water quality, habitat and seagrass quality. The vehicle will remotely monitor, record and transmit observations on water and air and deliver images taken at precise locations.
2018-002	FAU-Harbor Branch	Integration of static, mobile network platforms, and unmanned aircraft system to adaptively collect real-time water quality, types, and movement data in the IRL
2018-002	FAU-Harbor Branch	Synoptic Assessment of IRL Light Availability for Seagrass Restoration Using Satellite Passive Remote Sensing with Ground-Truthing. Project will utilize passive multi-spectral remote sensing at 10 m spatial resolution, repeated approximately weekly. Light attenuation algorithms will be modified and refined based on imagery data and maps will be developed. The ability to regularly update light attenuation will support updates to seagrass restoration targets and identification for suitable restoration sites.
2018-002	FAU-Harbor Branch	Land-Based sources of Nutrient and Mercury Loading to the IRL. Project will sample phytoplankton, macroalgae, water and sediments from degraded sites within the IRL. Samples will be analyzed using stale isotopes to determine anthropogenic sources of pollution and to estimate mercury contamination at urbanized sites.

2018-001	Allied Group	Testing nanobubble technology in canals and small tributaries located in the Satellite Beach area.
2018-002	FAU-Harbor Branch	Quantification of IRL Internal Nutrient Loading Processes at High Frequencies Using in situ Electrochemical Techniques. Project will utilize in situ electrochemical sensors in combination with traditional techniques to monitor at high frequency complex deposition, mixing and remineralization processes to help determine fluxes of organic and inorganic nitrogen, phosphorus.
2018-002	Florida Atlantic University	Utilization of Restored Habitats by Sportfish and Baitfish in the IRL. Project will utilize acoustic telemetry to tag up to 60 individuals of several species and monitor their usage of restored habitats in the vicinity of Flagler Park.
2018-002	Florida Oceanographic	Phenotypic Response of Seagrass Genotypes to Environmental Stressors in the IRL. Project will use established genotypes in a seagrass nursery, isolating new ones as necessary, and conduct a series of mesocosm experiments to determine physiological responses to environmental stressors such as light availability and salinity. The goal is to cultivate stress-tolerant genotypes for use in restoration.
2018-002	Florida Tech	Biological Responses to Muck Aeration in the IRL. Project will examine impacts of muck aeration on both benthic infauna and plankton
2018-002	Florida Tech	Effects of Increased Flushing on Salinity in the IRL (Banana River). Project will seek alternative locations for a pilot flushing study in the Banana River and determine the salinity effects of increasing flushing in the vicinity. A variety of permanent and temporary structures will be tested and model tests will predict flushing rates, residence time and potential salinity changes.
2018-002	Florida Tech	Efficacy of Sediment Aeration as a Complement to Muck Dredging in the IRL, Phase II. Project continues work already underway to study the efficacy of aeration as a muck reduction technique. This phase of the project will test the use of nanobubble technology, direct oxygen injection and potentially chemical oxidants into sediments. The efficacy of aeration techniques will be compared to environmental muck dredging in Satellite Beach canals during 2018.
2018-002	Florida Tech	Hyperspectral Imaging of the IRL from Ponce Inlet to St. Lucie Inlet. Project will make 2 flights each month and provide information regarding chlorophyll concentrations, algae blooms, turbidity and other water quality parameters.
2018-002	Florida Tech	Efficacy of Mineral Accretion as an Environmentally Friendly Method of Promoting Growth of Oysters and Filter Feeders in the IRL. Project will identify suitable materials and methods for promoting mineral accretion as a means of replacing plastic oyster mats currently in use.

2018-001	Allied Group	Testing nanobubble technology in canals and small tributaries located in the Satellite Beach area.
2018-002	Florida Tech/FAU-Harbor Branch	Status of IRL Elasmobranchs (sharks, Skates and Rays) to Support Development of New Technological Approaches to Community-Level Ecosystem Monitoring. Project will survey elasmobranch in the IRL using gillnet, longline and DNA sequencing technologies to assess habitat utilization and changes in community assemblages. eDNA sequencing will be utilized to provide a non-invasive tool for assessing biodiversity of whole communities.
2018-002	Joseph Gilio	Do Submerged and Emerged Aquatic Vegetation assist in Attaining TMDLs in stormwater treatment lakes? Project will establish and model whether EAV and SAV in treatment ponds significantly account for attaining TMDLS. Modeling and field testing of samples will be included.
2018-002	Loggerhead Marine Life Center	Evaluation of Sea Turtle Health. Project will document the effects of biotoxins, toxicants, and disease prevalence in IRL Green Turtles. Resulting data will be expanded to other IRL species, and the implications for human health will be examined.
2018-002	Louisiana Universities Marine Consortium	Monitoring Biomass and Demographic Shifts of Oyster Reef-Associated Fish Community in Response to Freshwater Discharges in the IRL and St. Lucie River Estuary. Project will study how salinity changes as the result of tides and freshwater discharges influence demographics, social behaviors and trophic interactions of fish community dependent on oyster reefs. Methods include in situ monitoring using sonar, seine netting, remote sensing, and other methods. Will also develop an outreach program using 3-d printed maps of oyster reefs and acoustic videos.
2018-002	Nova Southeastern University	Optimizing Acoustic Detection and Estimation of Biomass for submerged Aquatic Vegetation in the IRL. Project will use acoustic sensors to differentiate among SAV species and estimate biomass present. Statistical analysis and modelling will quantify distribution and biomass of key species.
2018-002	Smithsonian Marine Station	Assessing the Potential for Clam Restoration in the IRL. Project will assess clam physiological responses, growth rates and survivorship to determine the viability of using clams in shoreline restorations, particularly near private residences where an oyster reef may not be palatable.
2018-002	Smithsonian Marine Station	Developing DNA monitoring of harmful micro-organisms in the IRL with a focus on harmful algal blooms. MetaBarcoding as a method for Identification of microalgae and bacterial communities in the IRL. Project will utilize a novel DNA sequencing technique to produce a baseline of planktonic species present in the IRL. Applications of this method would include water quality monitoring for HABs. Microorganisms present in environmental samples are utilized without culturing and sorting to sequence short DNA chains, providing a rapid profile of the organisms present.

2018-001	Allied Group	Testing nanobubble technology in canals and small tributaries located in the Satellite Beach area.
2018-002	Tropical Ecoscience, Inc.	Determine Spotted Seatrout Population Spawning Status and Vulnerability to Human and Natural Disturbance in the IRL. Project will conduct acoustic transects by citizen scientists to record sounds at channel markers on Spring tides over a 6-month period in 3 IRL regions. Spotted seatrout spawning activities will be isolated and maps will be developed for future assessment and study.
2018-002	University of Central Florida	Mapping Mosquito Lagoon Erosional history: Can Restoration Reverse Land Loss Trends? Project will analyze trends in land loss, provide maps of land loss through time, and capture potential impacts of restoration efforts. A historic imagery analysis in ArcGIS will be conducted and targeted fieldwork to determine development impacts as well as restoration impacts.
2018-002	University of Central Florida	Documenting Microplastics on Oyster Reefs and Water throughout the IRL. Project will be conducted at 20 oyster reef within the IRL and adjacent waters. Citizen scientists will collect water samples from 20 reef locations as well as 30 other sites in the IRL; a graduate student will collect oyster samples from 20 reef locations.
2018-002	University of Central Florida	Developing a Shoreline Restoration Suitability Model for North IRL And Mosquito lagoon, Phase II. Phase I of the project,
2018-002	University of Florida	Leveraging Natural Selection in Bivalves of the Northern IRL to Enhance Water Quality and Accelerate Ecosystem Recovery. Project will collect surviving IRL bivalves, particularly clams, spawning and rearing them in culture until they can be transplanted back to affected areas. Survival will be monitored to potentially identify strains of stress-resistant bivalves, which could then be placed into aquaculture for use in restoration.
2018-002	University of Florida	Using a 3-Way Symbiosis (Lucinid-Microbe-Seagrass) to Increase Seagrass Restoration Success in the IRL. Project will investigate the role of clams in the Lucinidae family, their obligate symbionts, and their associated sediment microbiomes in reducing accumulation of sulfides in sediments. It is anticipated that reducing this stressor will increase plant resistance to and recovery from additional stressors. Baseline data can potential aid the development of novel restoration techniques.
2018-002	University of Florida	Developing Reliable Estimates for Nutrient Removal and Water Quality Improvement Through Oster Reef Restoration. Project will directly measure denitrification from oysters located in the IRL and will examine nutrient cycling at oyster reefs in Martin County.
2018-002	University of Florida	Harmful Algal Blooms in the IRL. Project will sample a network of sites spanning the IRL to document the composition, abundance and biomass of phytoplankton in an effort to explain and forecast HABs and reduce pollutant loading. Water samples will be collects twice per month for phytoplankton analysis. Data will be analyzed and reported.