

# CORAL GABLES WATER QUALITY ASSESSMENT PROJECT

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# GOAL: ASSESSMENT OF WATER QUALITY AND HABITAT CONDITIONS IN THE CORAL GABLES WATERWAY TO INFORM MANAGEMENT AND RESTORATION

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Task 1) Design and implement a water quality monitoring program to understand nutrient loading impacts on water quality in the Coral Gables Waterway and Tributary Canals, including stormwater outfalls

Task 2) Characterize the Nutrient Loads into and from Watershed

Task 3) Undertake field data collection at select critical junctures of the waterway system for tidal stage and velocity measurements to inform model development

Task 4) Develop Education and Outreach Materials and Contribute to Policy Development

Task 5) Report on Data Synthesis and Project Management

2-3 year project pending findings and availability of funds

# EXTENSIVE SAMPLING

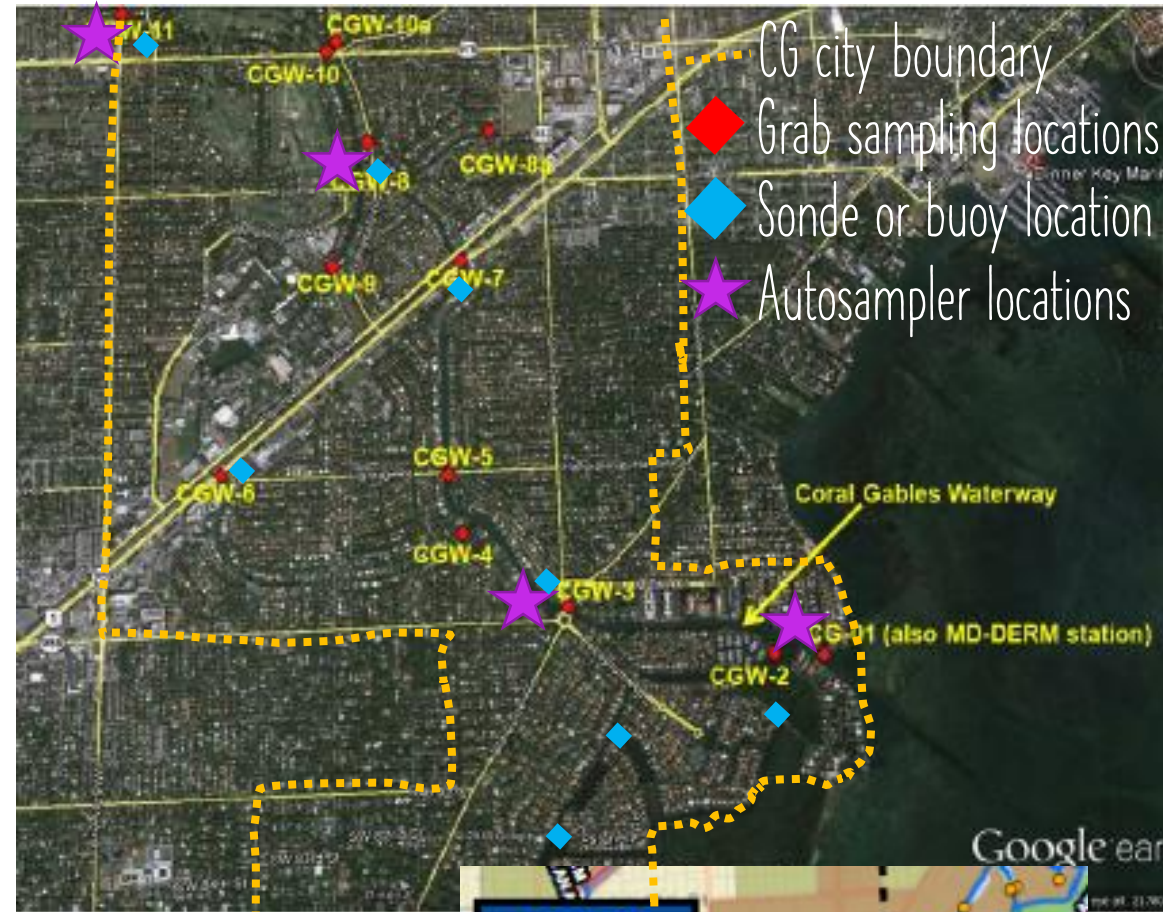
- 15 stations, ebb tide sampling
- Monthly dry season (Nov – May)
- Biweekly wet season (June – Oct w/ 3 after significant rain events)
- Grab samples (nutrients, salinity, chlorophyll, E. coli, Enterococci and qPCR microbial source tracking assays) and sonde (DO, temp, pH, salinity) measurements at all stations
- 3 wet & 2 dry also w/metals, BOD, TSS & wastewater tracers & 50 stormwater outfall samples at TBD locations)



Sonde



Grabs



- CG city boundary
- Grab sampling locations
- Sonde or buoy location
- Autosampler locations

# INTENSIVE SAMPLING

- 1) CHLOROPHYLL AND DISSOLVED OXYGEN, ETC
  - Mooring network deployed at 8 locations
  - 5 from U Mass; and in-kind contributions 2 from NOAA and 1 from FIU
- 2) TOTAL NITROGEN, PHOSPHORUS AND SUSPENDED SEDIMENTS
  - Autosampling at 4 stations



Sonde

Autosampler



# OUTCOMES & BENEFITS TO THE CITY

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- Provides a guide to municipal managers for the cost-effective management of nutrient sources in the watershed to improve water quality in the canal system and the quality of the discharge to Biscayne Bay, by identifying which portions of the watershed are contributing the most load from different land use types and explore the potential contribution of associated septic systems
- Assists the City of Coral Gables with watershed nutrient management and infrastructure planning for adaptation to ongoing rising sea levels and planning for potential future accelerated rise rates.
- Supports education and outreach that engages residents to be part of the water quality solution

