An underwater photograph of a coral reef. The water is clear and blue, with sunlight filtering down from the surface. Various types of coral are visible, including branching corals and large, rounded coral structures. The overall scene is vibrant and detailed.

Coral Gables Water Quality

Tiffany Troxter, Institute of Environment, Florida

International University

Assessment project

Maribeth Gidley (UM), Brian Howes (U Mass),

Piero Gardinali (FIU), Khandker Ishtiaq (FIU), Chris

Kelble (NOAA), Elizabeth Kelly (Miami

Waterkeeper), Roland Samimy, (Village of Key

Biscayne-U Mass), Chris Sinigalliano (UM), Rachel

Silverstein (Miami Waterkeeper)

Goal: Assessment of Water Quality and Habitat Conditions in the Coral Gables Waterway to Inform Management and

Restoration

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

2-3 year project pending findings

Extensive sampling

- 15 stations, ebb tide
- Monthly dry season ()
- 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, salinity) measurements at all s



Sonde **Grab**



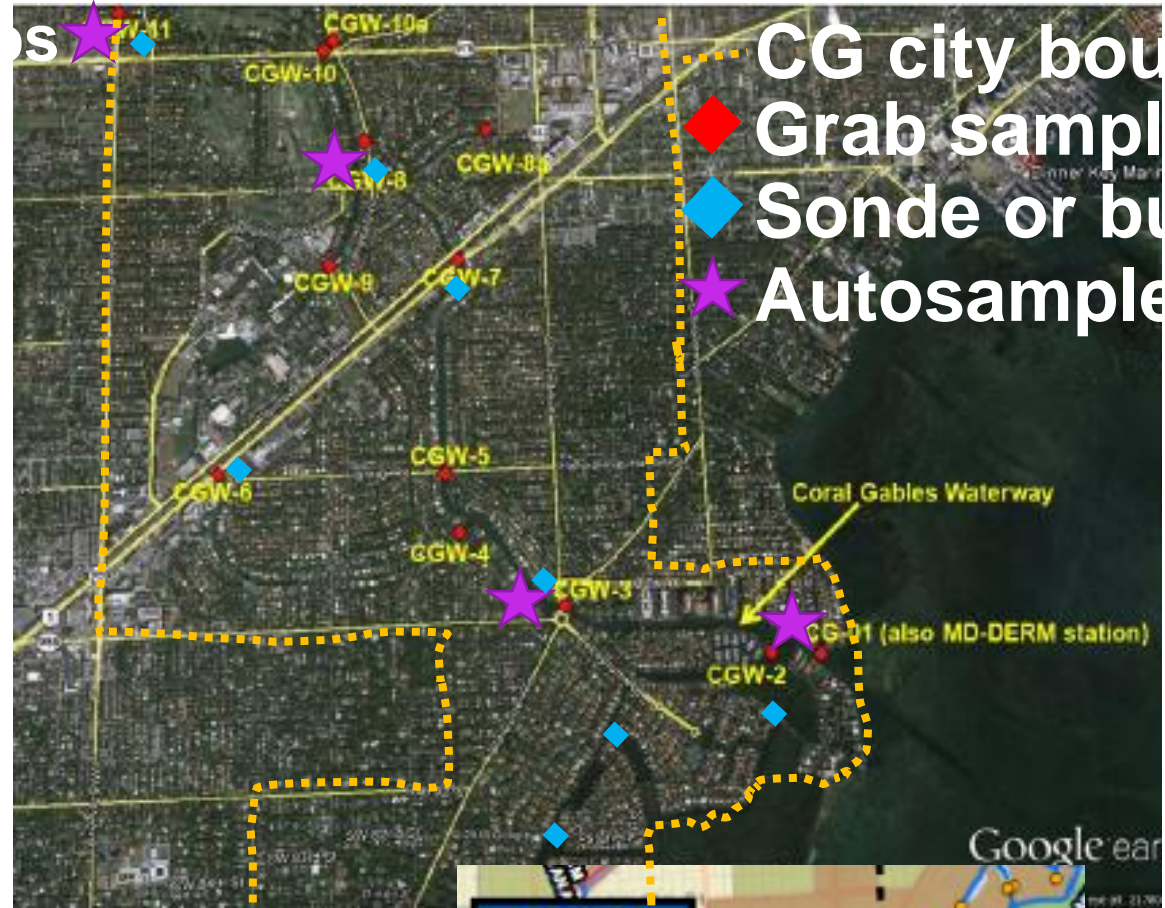
INTENSIVE sampling

- 3 wet & 2 dry also w/ metals, B
- 1) CSO & wastewater treatment & 5
- Mooring network deployed at 8 stormwater outfall samples at 8 locations
- 2) total nitrogen, phosphorus and suspended sediments 2 from NOAA and 1 from FIU
- Autosampling at 4 stations



Sonde

Autosampler



CG city boundary
Red diamond: Grab sample
Blue diamond: Sonde or bu
Purple star: Autosample



OUTCOMES & Benefits to the city

- 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

