



Florida Department of Environmental Protection

Sediment Oxygen Demand (SOD) and Nutrient Benthic Flux (NUTFLX) Laboratory

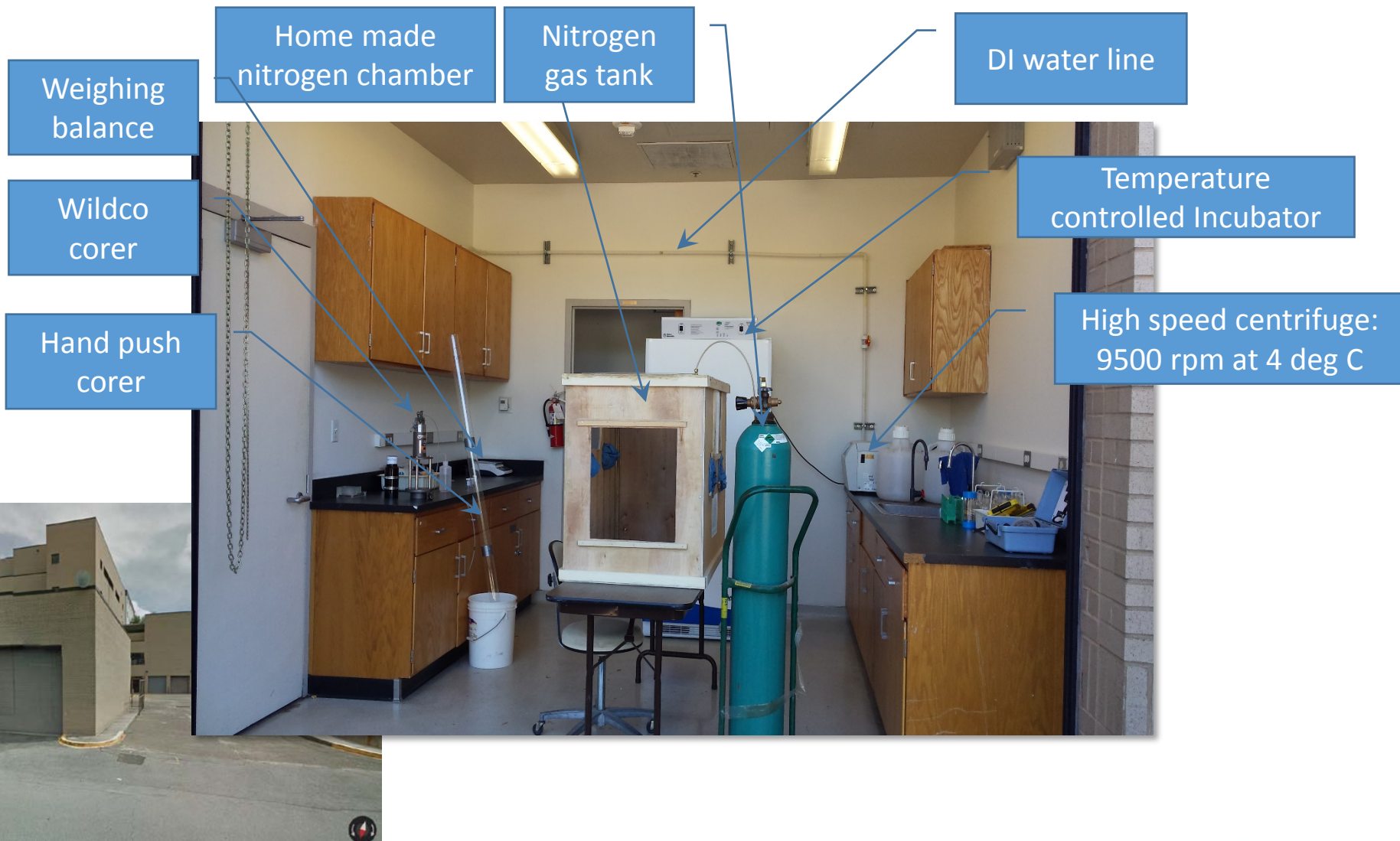
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**Watershed Evaluation and TMDL Program
May 16, 2017**





SOD and NUTFLX Lab





Home made nitrogen chamber





What they are and Why we care

- **Sediment Oxygen Demand (SOD, mg/m²/day):**
 - Overall consumption of dissolved oxygen (DO) from the overlying water column by biogeochemical processes at the sediment-water interface
 - Major DO consumption by sediments (SOD) should be quantified to develop TMDLs for lakes, streams, and estuaries with DO impairments
- **Sediment Nutrient Flux (NUTFLX, mg/m²/day):**
 - It is known as internal recycling of nutrients, representing the transport of dissolved chemical species such as nutrients across the sediment- water interface
 - In developing TMDLs, recycled inorganic nutrients can be an important source of nutrients, contributing to the total nutrient load of impaired lakes, streams, and estuaries

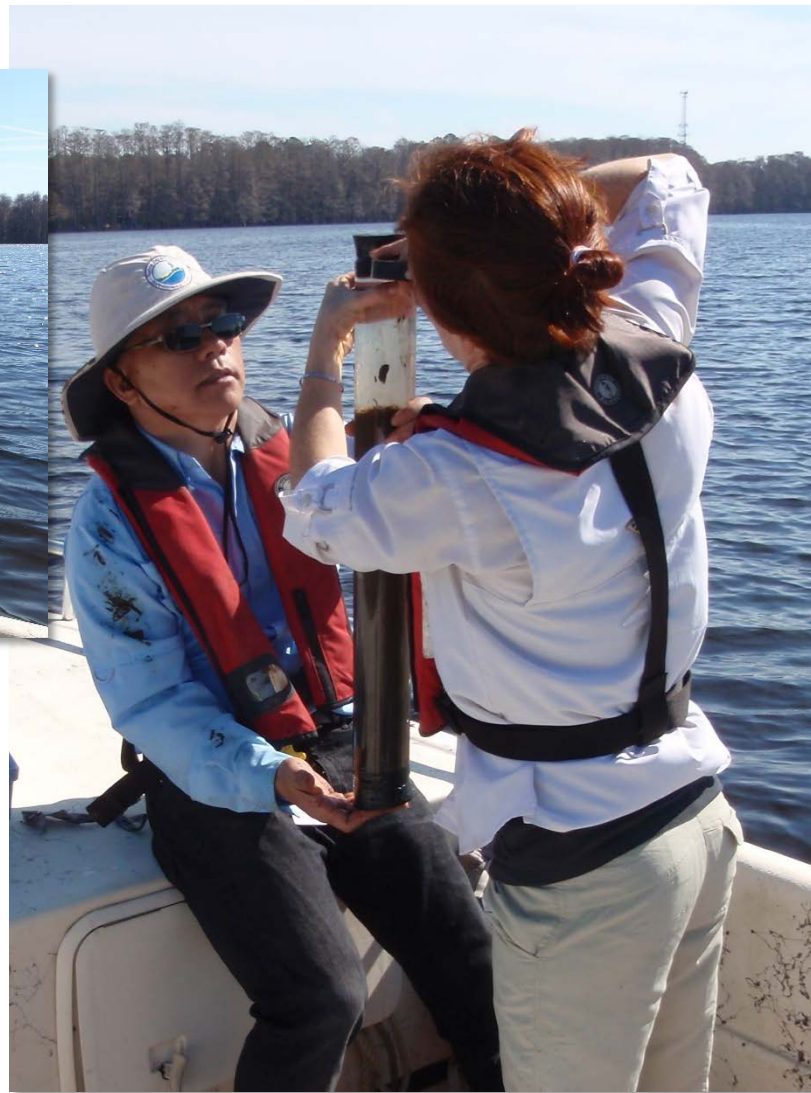


How we sample





How we sample





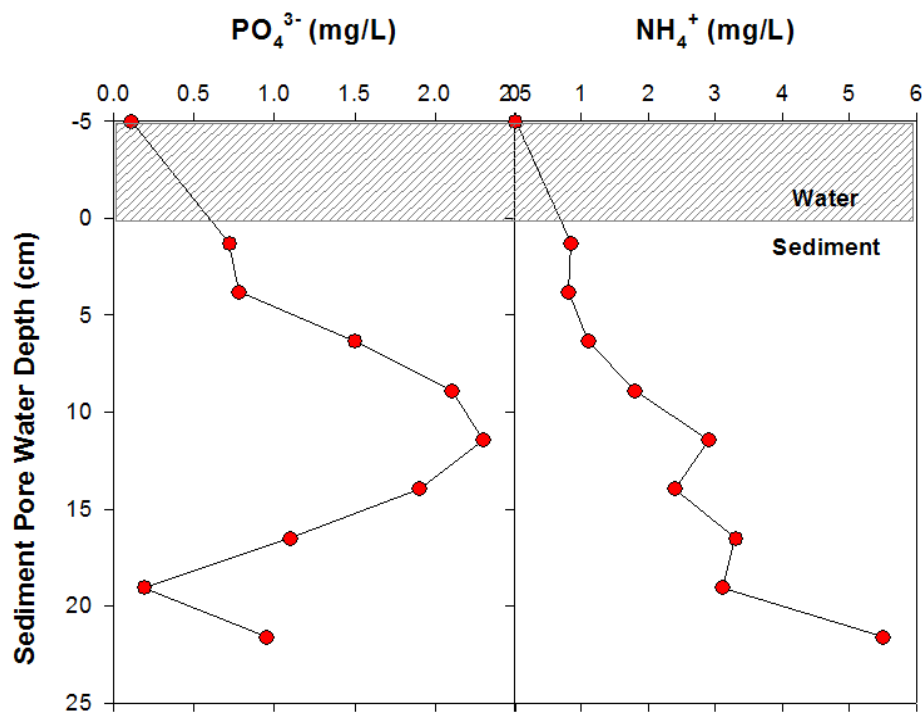
How we prepare and measure





What we expect

An Example of NUTFLX Results (Lake Munson):





What we plan to do

- There are ~150 waterbodies with DO and/or Nutrient impairments on the 2022 priority list. Observed results of SOD and sediment nutrient flux may be used for future **TMDL development for a small sub-set of selected impaired waterbodies from this list**
- EPA Athens Lab conducted field SOD measurements using in-situ chambers for estuaries, streams, and lakes in 10 States including Florida during the period of 1977-2001
- Similar to the EPA data collection, **Florida-specific SOD and nutrient flux database can be created for Florida waterbodies** as SOD, sediment nutrient flux, and other constituents are measured for TMDL development



Questions?