Vital Sign: Wetland Substrate

[shortened name: Wetland_Substrate]

Parks Where Vital Sign will be Implemented:
BICY, EVER - deferred

Justification/Issues being addressed: Wetland Substrate ranked 35th among the 44 SFCN vital signs. Many biogeochemical processes critical in nutrient cycling and sediment generations in the fresh water wetlands community in Everglades National Park and Big Cypress National Preserve are dependent on substrate type (marl vs. peat). Understanding the regional pattern of peat and marl and changes between these substrates is critical to interpret other processes occurring within the fresh water marshes. The extended hydroperiods proposed through CERP restoration may promote conversion from marl to peat substrates. These conversions between substrates can affect the hydroperiod in specific community types. For example, changes in soil surface elevation in cypress strand and domes dictate the hydroperiod which drives cypress community dynamics (seedling recruitment, survival, decomposition). Long-term resource management of forest wetlands requires an understanding of how soil surface elevation changes in response to seasonal wetting, shrink-swell of soils, and fire.

General Monitoring Questions to be addressed by the Vital Sign:

- What are the status and trends in the extent and distribution of substrate types at landscape scales over time? Have abnormal changes occurred?
- What are the status and trends in soil surface elevation change in cypress strands and domes over time, especially in relation to hydrology, water quality, fire, and other processes?

Measures:
Extent and distribution of substrate type (marl vs. peat), sediment elevation changes in cypress strands/domes

Basic Approach: Deferred due to insufficient funds/staff time

Principal Investigators/Key Contacts and NPS Lead: N/A

Development Schedule, Budget, and Expected Interim Products: N/A

References
CERP RECOVER MAP funded a study on bathymetry of coastal creeks.