ENHANCEMENT OF ECOSYSTEM SERVICES THROUGH ACTIVE MANAGEMENT OF A EUTROPHIC AREA OF THE FLORIDA EVERGLADES

Susan Newman, Scot Hagerthey, Mark Cook, **Brent Bellinger**[1], Mac Kobza, Michael Manna, Kristin Seitz[2], Robert Shuford

Everglades Division, South Florida Water Management District, West Palm Beach, FL 33406, USA

[1]Soil and Water Science Department, University of Florida, Gainesville, FL 32611, USA

[2]Keith and Schnars, West Palm Beach, FL 33406, USA

Ecosystem services of wetlands are relevant when considering management decisions and assessing restoration success. However, many services (e.g., biochemistry, wildlife habitat) are difficult to quantify and value (e.g., monetize), requiring non-use valuations (e.g., indicators). In the Florida Everglades a multi-billion dollar restoration effort is underway to preserve or restore this anthropogenically-altered region. For example, excessive phosphorus inputs created monotypic cattail stands, replacing the complex sawgrass ridge/slough mosaic and eliminating associated ecological functions. Cattail expansion has increased anoxia and sediment accretion, and reduced wildlife abundance and diversity. In the Cattail Habitat Improvement Project (CHIP), a nutrient-impacted area was managed with the goal of enhancing ecological functioning and services. Open plots were established by removing cattail through a combination of herbicides and fire, resulting in re-establishment of native hydrophytes (macrophytes and algae), and enhanced floral diversity. Subsequent responses included greater aquatic primary production and enhanced microbial activity. Altered habitat structure and environmental conditions stimulated development of a more productive and diverse forage (fish and invertebrate) and consumer community. This study shows how active management of eutrophic wetlands enhanced multiple ecosystem services.