

## **BIOLOGICAL METRICS FOR DEVELOPMENT OF MINIMUM FLOWS AND LEVELS IN THE SUWANNEE RIVER BASIN**

*Louis Mantini and Sean King*

Suwannee River Water Management District, Live Oak, FL, USA

The Suwannee River Water Management District (District) establishes and implements Minimum Flows and Levels (MFLs) for their priority water bodies by assessing whether water flow and or water level reductions due to withdrawals will cause significant harm to the water resources or ecology of the system. State Water Policy (Rule 62-40.473, F.A.C.) provides guidance in MFL development and identifies ten important environmental or ecological Water Resource Values (WRVs) for consideration in protection of a specific water body. WRV metrics are quantitative surrogate measures of water resource values that are relatable to flow. The association between flow (or stage or velocity) and a WRV metric is referred to as a response function. The District has recently led the development of several response functions for biological WRV metrics that are being applied to MFLs for the Upper and Middle Suwannee River segments. These metrics include fish passage over shoals, fish and invertebrate instream habitat, floodplain habitat, and Gulf sturgeon spawning. This presentation will demonstrate how WRVs are chosen for a water body, and describe how these biological metrics are identified and related to hydrologic or hydraulic characteristics to determine protective water levels or flows.

**PRESENTER BIO:** Louis Mantini is an Environmental Scientist with the SRWMD. He holds a B.S. in Microbiology and an M.S. in Fisheries Science. His work experience includes food microbiology, freshwater fisheries management, and wetland science. Louis is also a Professional Wetland Scientist.