

DEVELOPMENT OF ENVIRONMENTAL FLOW ANALYSES FOR SPRING SYSTEMS IN THE SUWANNEE RIVER BASIN

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The Suwannee River Water Management District (SRWMD) applies environmental flow analyses to develop minimum flows and levels (MFLs) for priority waterbodies. These MFLs set the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area. As required by state rule, ten water resource values (WRVs) are considered during the MFL development process to address important recreational and environmental aspects of each waterbody as applicable. Over the past two decades, the SRWMD has developed and adopted MFLs for a majority of its rivers and is nearing completion on MFL evaluations for the Upper and Middle Suwannee River segments and associated priority springs. These river and spring MFLs are based on a suite of environmental flow analyses that relate changes in flows or levels to relevant WRV metrics, such as maintaining instream fish and invertebrate habitats and adjacent floodplain wetland communities. While the SRWMD utilizes several analytical methods that were initially developed by other water management districts, we are working to refine these methods and develop new methods with particular focus on springs. The SRWMD contains over 450 identified springs including nineteen first magnitude spring systems and fourteen Outstanding Florida Springs. This presentation will review environmental flow analyses that the SRWMD has applied to springs MFLs and discuss ongoing efforts to develop new analytical approaches.

PRESENTER BIO: Dr. King is the Minimum Flows and Water Levels Office Chief at the Suwannee River Water Management District where he serves as a technical expert in aquatic ecology and water resources engineering and leads the establishment of MFLs for priority rivers, springs, lakes, and groundwater systems.