
AWRA 2011 ANNUAL WATER RESOURCES CONFERENCE
Albuquerque, New Mexico

November 7-10, 2011

Copyright © 2011 AWRA

**SIMILAR MINIMUM FLOWS OR LEVELS DO NOT NECESSARILY MEAN SIMILAR PROTECTION:
COMPARING COMPLIANCE MEASURES AMONG DIFFERENT WATER MANAGEMENT DISTRICTS IN
FLORIDA**

Adam Munson*, Joseph J. Delfino

ABSTRACT: There is considerable discussion concerning in-stream flow protection in the United States, and the promulgation of regulations protecting lotic waters continues. Recently, resource restrictions for lentic systems including both lakes and wetlands, have been implemented. In many parts of Florida ground water and surface water features interact complicating the evaluation of the effects of water use. A further complication is interjected due to long-term climatic cycles and climate change. Scientists generally propose MFLs for lentic systems throughout the state based on similar ecologic observations and protection levels, but compliance with these levels is evaluated very differently. In some areas compliance is based on a modeled condition in the underlying aquifer and compliance is then measured through modeled drawdown of the head below the lake. This approach provides long-term assurance that the lake remains in compliance regardless of actual lake levels but it relies on modeled conditions and essentially sets an aquifer MFL. Here, compliance is essentially measured once and its provisions will remain constant in the absence of changes to the model or the MFL. Actual levels observed in the lake are not part of the compliance evaluation unless the lake MFL is updated at some unspecified point in the future. Another approach in current use is to create empirical models that relate past rainfall observations to lake levels. The lake levels and rainfall are then monitored on a monthly basis moving forward and changes in the relationship are examined. In this approach, compliance is measured monthly and changes in the relationship between rainfall and lake level signal potential anthropogenic impacts. This compliance measure provides less certainty to the regulated community but also links compliance with actual conditions occurring in those waterbodies that the MFLs were adopted to protect.

* Lecturer, University of Florida, Gainesville, FL 32607 USA, Phone: 352-333-0944, Email: abmunson@mail.ufl.edu