

BREATHING LIFE INTO A SPRING: EVALUATING RESTORATION ACTIVITIES TO BETTER PRIORITIZE A HIERARCHY OF NEEDS IN FLORIDA'S SPRINGS

Greg Owen¹, Matt Cohen²

¹Alachua County Environmental Protection Department, Gainesville, FL, USA

²University of Florida, Gainesville, FL, USA

Ecological experiments emerge as crucial tools for establishing the preferential ordering of restoration activities and for screening out those activities that may have limited value. Understanding the “hierarchy of restoration needs” helps managers support their decision making process when evaluating restoration activities. In order to examine a hierarchy of restoration needs in Florida’s iconic springs we experimentally evaluated competing restoration actions. For over a one year period researchers monitored the response in plant and algal growth in experimental treatments while manipulating the variables of dissolved oxygen, introduction of grazers, introduction of plants, and removal of algae at Hornsby Springs, located in Alachua County Florida. We found dissolved oxygen to be the main driver of submerged aquatic vegetation growth and that subsequent restoration activities like the introduction of plants and snails would only be successful when the correct initial conditions of dissolved oxygen levels were met. This experiment provides evidence to support the case that restoration activities in Florida’s springs ecosystems will have the best chance of success when the initial conditions of dissolved oxygen are met.

PRESENTER BIO: Gregory Owen is a Senior Planner at the Alachua County Environmental Protection Department. Owen has 12 years of experience working with ACEPD’s Water Resources Division. He oversees and implements water quality and restoration projects. Owen is also pursuing a Masters degree from the University of Florida with focus on springs ecology and restoration.