Aquifer Storage and Recovery at the South Florida Water Management District – CERP and Beyond

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ABSTRACT

The South Florida Water Management District (SFWMD) is responsible for overall water management across a huge area of southern Florida including the cities of Miami, Fort Myers, Naples, West Palm Beach, and southern Orlando. As part of their overall responsibilities, the SFWMD also is charged with water supply planning for a rapidly growing population of over five million persons. Due to the rapidly growing population, water supply demands have soared over the last decade. The SFWMD has funded several Aquifer Storage and Recovery (ASR) projects – through an "Alternate Water Supply Grant" program - for utilities to conduct water banking and managing peak flows during high demand periods.

Concurrently, the Comprehensive Everglades Restoration Project (CERP) is moving ahead at a fast clip. The CERP includes a proposal to construct 330 ASR wells to provide a flexible water storage and supply for Lake Okeechobee and other urbanized areas as well as important natural areas. The CERP ASR Program includes construction of several ASR pilot projects and a south-Florida-wide ASR Regional Study, including the development of a regional groundwater model. The schedule for the eventual construction of the CERP ASR system will likely take place through 2020.

During the past few years, south Florida has also experienced numerous hurricanes and wet weather periods that have caused massive degradation of the water quality in Lake Okeechobee and necessitated the release of huge quantities of water into the estuary systems, damaging the ecosystems there. In October 2005, Governor Jeb Bush initiated the Lake Okeechobee and Estuary Recovery (LOER) plan to help restore the ecological health of Lake Okeechobee and the St. Lucie and Caloosahatchee Estuaries. The SFWMD is one of the key agencies charged with implementing this plan, which includes construction and operation of new ASR systems in tandem with other measures.

This paper will endeavor to discuss the ASR programs along with the progress each one has made. It will also focus upon the unique technical challenges of each program and why cutting edge science has been required to solve some of the more complex issues. Lastly, the paper will discuss and comment upon ongoing and future policy issues that have been identified.