

## **GIS TOOL FOR DISTRIBUTED WATER MANAGEMENT PROJECTS IN THE CENTRAL FLORIDA WATER INITIATIVE REGION**

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The greater Orlando area is one of the most rapidly growing areas in Florida and is experiencing water shortages. It sits at the headwaters of three watersheds which makes rainwater flow away from it. The region is heavily drained, accelerating the exit of regional water. The Central Florida Water Initiative (CFWI) was initiated to address these issues and covers 5,300 square miles centered around the Orlando region.

To identify projects that can help enhance and sustain water resources in the region, Audubon worked with Soil and Water Engineering Technology, Inc. to develop a GIS-based mapping tool that could identify suitable locations for passively storing surface water and/or recharging ground water. The tool used four primary considerations to evaluate potential areas: hydrography, topography, land use and soils. Secondary data sets (GIS layers) that are in the interactive tool include property values, number of landowners, proximity to conservation and greenway lands, listed species, wetlands, flood zones, and other parameters of interest.

Due to the geology of the region, areas that recharge the aquifer are different from those that hold surface water. Recharge areas have deep sandy soils that allow water to freely move downward, while surface storage areas have soils that reduce or prevent downward penetration. Therefore, the mapping tool separated recharge areas from surface storage areas. Recharge areas should be managed to hold water on-site for percolation and surface storage areas can hold surface water but are relatively poorer at recharge.

Basins larger than 400 acres were selected as a minimum effective size for a project. In all, 224 possible surface storage project locations were identified. This tool, which is a GIS web-based interactive tool, will be made available to agencies, local governments, landowners and regional stakeholders to help evaluate possible projects.

**PRESENTER BIO:** Paul Gray has been a staff scientist in Audubon Florida's Everglades Restoration Program for 26 years and works on land, water, and biodiversity conservation.