



# PROJECT PROFILE

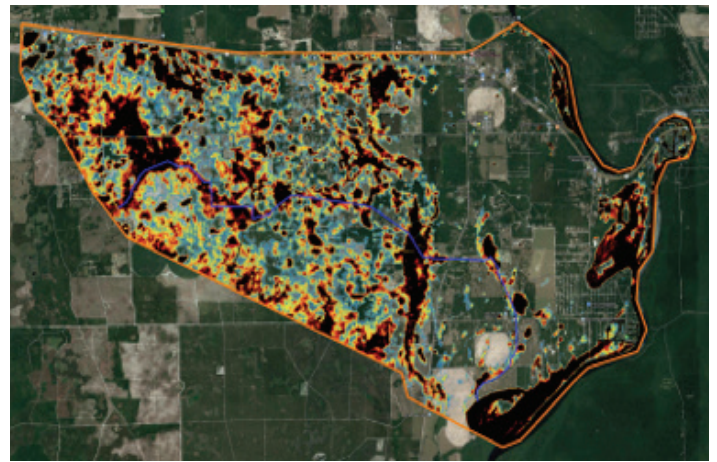
## Lower Suwannee Aquifer Recharge Project

**Client:** Dixie County  
(performed as a subconsultant)

**Location:** Dixie County, FL

**Service Areas:** Environmental Modeling  
Civil & Water Resources Engineering

**Services Provided:** Field Evaluation  
Hydrologic & Hydraulic Modeling  
Environmental Restoration  
Monitoring Protocols



### Project Activities

Drummond Carpenter, PLLC developed a 2-D coupled groundwater/surface-water model of the Lower Suwannee drainage basin to identify aquifer recharge opportunities within the watershed as part of a state of Florida springs restoration grant for Dixie County. Project goals included assessing and designing improvements throughout the 37,500-acre watershed to increase infiltration, enhance aquifer recharge, promote springflow, rehydrate wetlands, and provide sustainability and resiliency improvements. Drummond Carpenter's model was developed using ICPRv4 software and calibrated from continuous surface water and groundwater monitoring data. The calibrated model characterized complex surface water drainage patterns and groundwater interactions within the watershed. Insights from modeling identified locations where recharge to the Floridan Aquifer could be enhanced through infrastructure improvements and new recharge facilities. Drummond Carpenter assisted Locklear and Associates in the design of drainage infrastructure improvements. The ICPRv4 model evaluated the effectiveness of these designs under simulated design-storm scenarios to estimate flood risk, while a long-period continuous simulation provided a quantified estimate of the annual enhanced aquifer recharge. In addition to enhanced recharge, the modeled improvements demonstrated flood mitigation benefits for local residential and agricultural areas. It is anticipated that this effort will be incorporated into a larger multi-basin aquifer recharge project that is currently funded and scheduled to commence in 2020.

### Outcomes

The development and assessment of the watershed model was detailed in a final model calibration report. The model and the report provide insight into enhanced aquifer recharge in the Lower Suwannee drainage basin. Conclusions drawn from the Lower Suwannee model and report will be incorporated into a larger multi-watershed project and help improve the broader understanding of groundwater and surface water dynamics throughout Dixie County.