

### Georgia's State Water Plan

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#### Overview of Results

#### Process

Detailed Results



#### Savannah River Basin

#### Ogeechee River Basin







#### **Dissolved Oxygen**

#### Nutrients



#### Ogeechee and Savannah Modeled Streams





#### Streamflow

- Stream Monitoring
- Wastewater Discharge
- Water Withdrawal
- Land Application Systems
- Weather
- Landuse
- Stream Hydrology
- Topography
- Water Quality Standards



- Models are run at "critical conditions" with the dischargers at their current discharge levels
- Watershed models account for both wastewater discharges and storm water runoff from various land uses
- Lake models look at the impacts of nutrients
- Models identify "unacceptable impacts"
  - not meeting state standards for dissolved oxygen and/or nutrients
- Not directly tied to impaired waters or total maximum daily loads (TMDLs)



# Discussions with the Scientific and Engineering Advisory Panel (SEAP)

- Calibrated the model to real world data
  - Streamflow
  - EPD Sampling Data
  - Wet and Dry Years



- Freshwater Cold Water Fishing (Trout) Dissolved Oxygen Standard
  - Daily average of 6.0 mg/L
  - Not less than 5.0 mg/L
- Freshwater Warm Water Fishing Dissolved Oxygen Standard
  - Daily average of 5.0 mg/L
  - Not less than 4.0 mg/L

### Dissolved Oxygen Standards

#### Coastal Fishing

- Daily average of 5.0 mg/L
- Not less than 4.0 mg/L
- Unless naturally lower, then allow for 0.1 mg/L deficit
- Naturally Low Dissolved Oxygen Permitting Policy
  - Allows for a 10% deficit to 3.0 mg/L and then allows for a 0.1 mg/L deficit

### **Dissolved Oxygen Results**

Available DO in Naturally Low DO Streams

Georgia

< 0.0 mg/L DO available for assimilative capacity None or exceeded capacity

> 0.0 mg/L to  $\leq$  0.2 mg/L of DO available Limited

> 0.2 mg/L to <a></a>0.5 mg/L of DO AvailableModerate

> 0.5 mg/L to 1.0 mg/L of DO Available Good

> 1.0 mg/L of DO available Very Good



#### Ogeechee and Savannah Model Results







#### Savannah Model Results





#### Savannah Model Results





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#### Savannah Harbor Model Results

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Nutrient Results – Total N

Wet year





Nutrient Results – Total P

Wet year



## Savannah River from Thurmond Dam downstream

- Revised Savannah Harbor Dissolved Oxygen TMDL and implementation plan will inform Councils as the move forward in their discussions on management practices for this stretch of the river
- Outstanding resource
  - Increase the level of protection on a waterbody

### **Resource Assessment Process**



Georgia