



Status and Future of Our Water Supply – St. Johns River Water Management District

Presented by

**Tom Bartol, P.E., Director
Division of Water Supply
St. Johns River Water Management District**

October 12, 2011



Overview

- **Assessing future water supply needs**
- **Per capita water use**
- **Groundwater level trends**
- **Ensuring sustainable water supplies**



Water Supply Assessment Statutory Requirements

Subparagraph 373.036(2) (b) 4, *Florida Statutes*

- **Districtwide assessment which determines**
 - Existing and projected water use (through 2030)
 - Existing and proposed sources of water and conservation efforts
 - Areas where projected uses cannot be sustained with proposed sources without unacceptable impacts to water resources and related natural systems



Regional Water Supply Planning Requirements

Chapter 373, *Florida Statutes*

- 20-year planning horizon (2030)
- Public process
- Coordination with water supply entities, local governments, and other affected parties
- Identifies:
 - Water supply development projects adequate to meet projected water supply needs
 - Water resource development projects
 - Sources of project funding





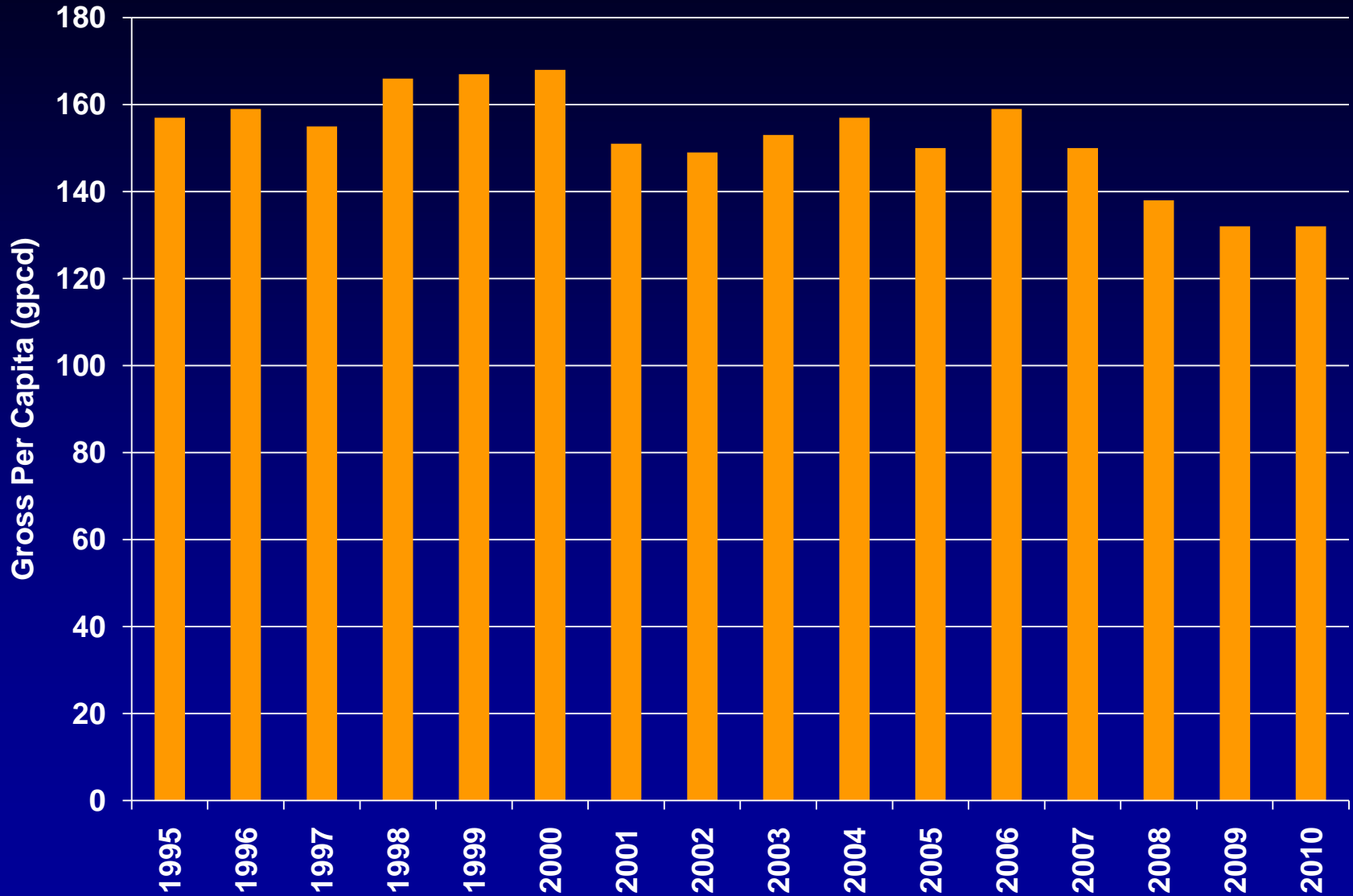
Relationship Between Assessment and Plan

- **Water Supply Assessment**
 - Identifies existing and potential problems based on projected 20 year planning horizon water demands (2030)
- **Water Supply Plan**
 - Identifies solutions to problems identified in Water Supply Assessment

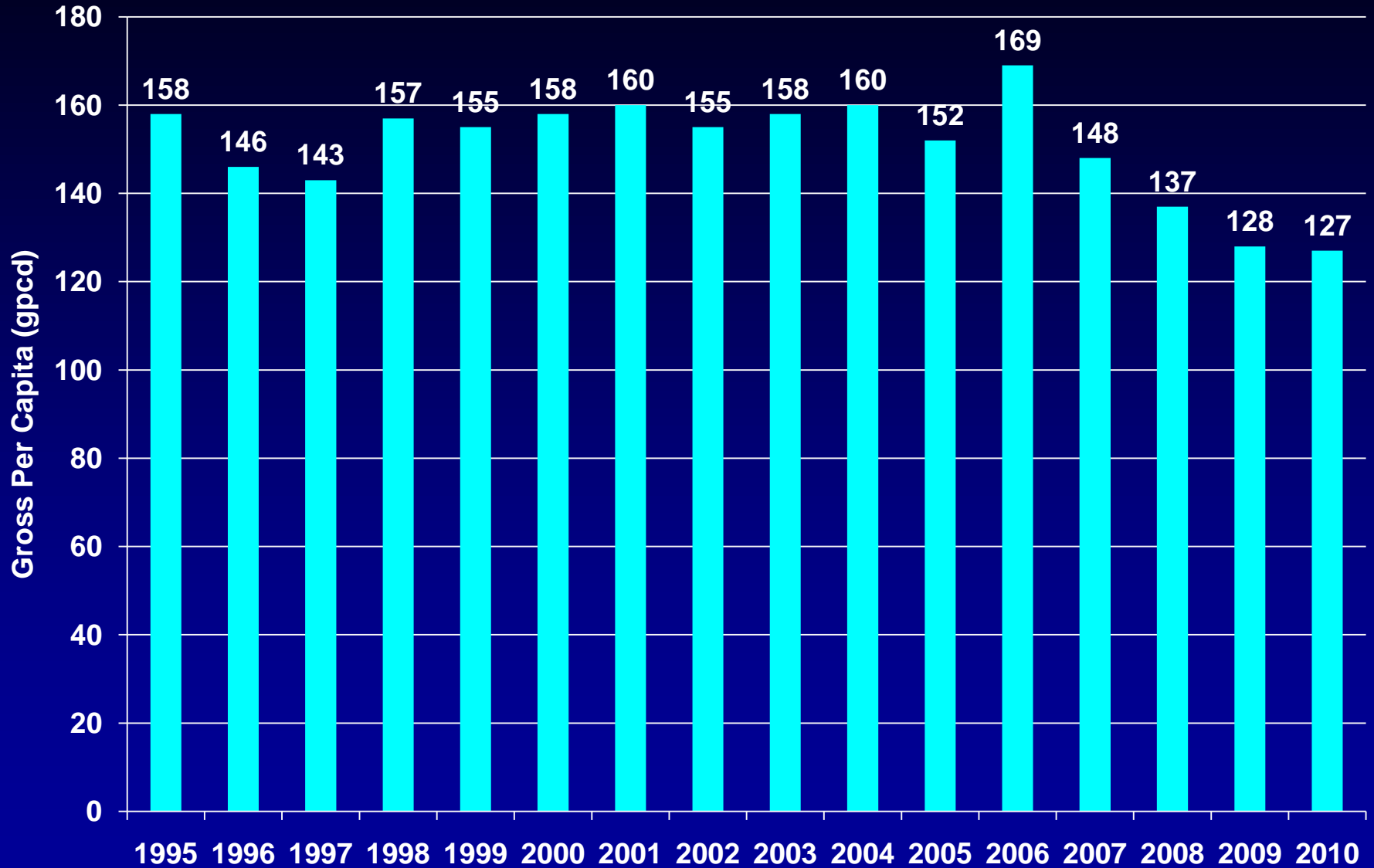
District Population and Water Use 1995 to 2030

1995	2030	Percent Change
Population		
3,516,495	6,371,119	81
Total Water Use (mgd)		
1,343.59	1,580.33	18
Public Supply Water Use (mgd)		
464.82	882.17	90

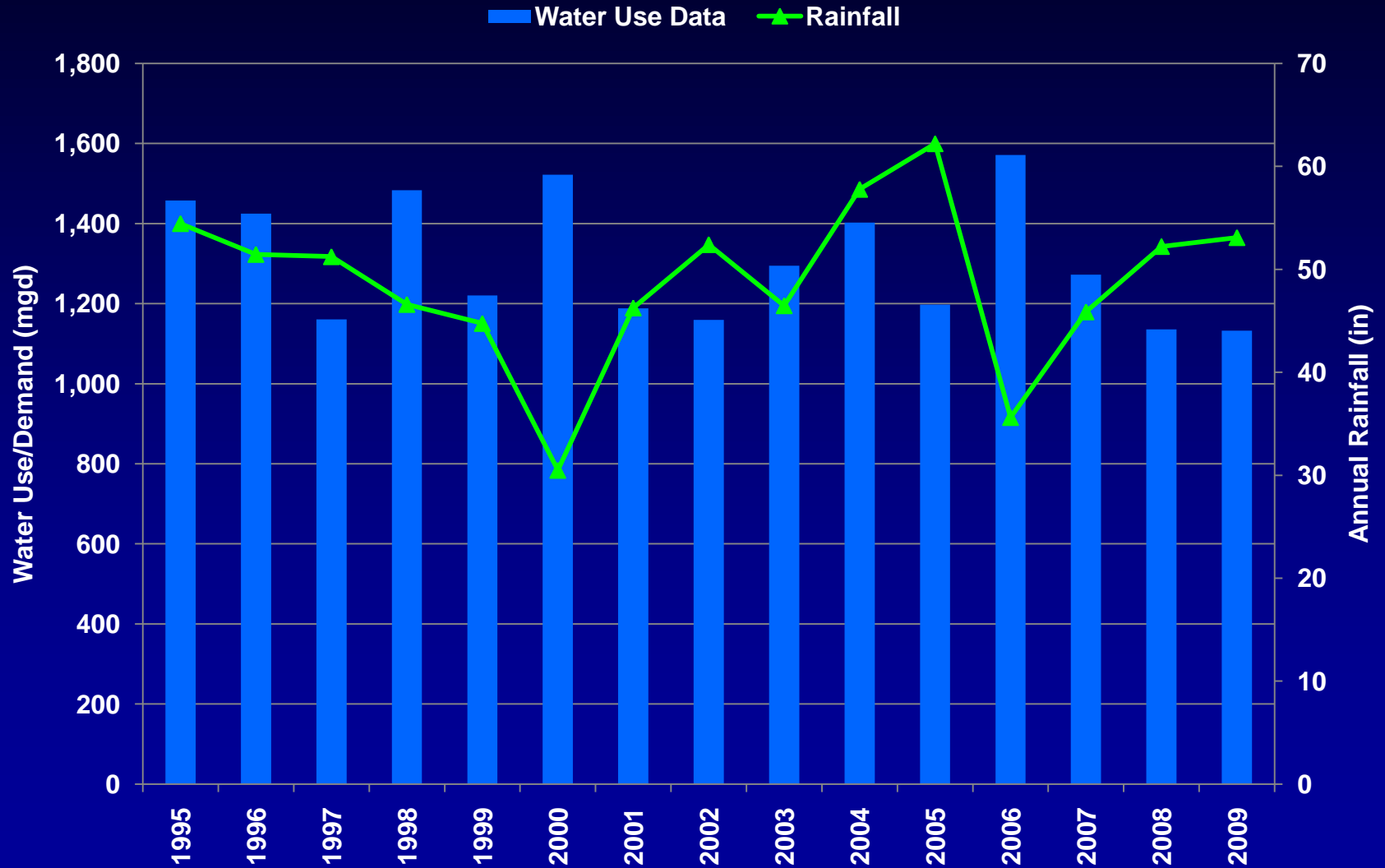
Districtwide Gross Per Capita



Gross Per Capita – Alachua County




Water Use and Rainfall



***“Central Florida Coordination Area
Statistical Analysis” Report
By Intera, Inc.***

And

***“Statistical Evaluation of Hydrologic
Data In Northeastern Florida and
Southern Georgia” Report By
University of Florida***



“Statistical Evaluation of Hydrologic Data In Northeastern Florida and Southern Georgia”

Objective

- **Determination if long-term trends exist in data sets related to:**
 - **Groundwater levels**
 - **Rainfall data**
 - **Spring discharge**
 - **Stream flow**

Significant Water Level Trends

Confidence Level	Decreasing Trends	Increasing Trends	No Trend	Poor Data	Total
80%	29	1	153	15	198

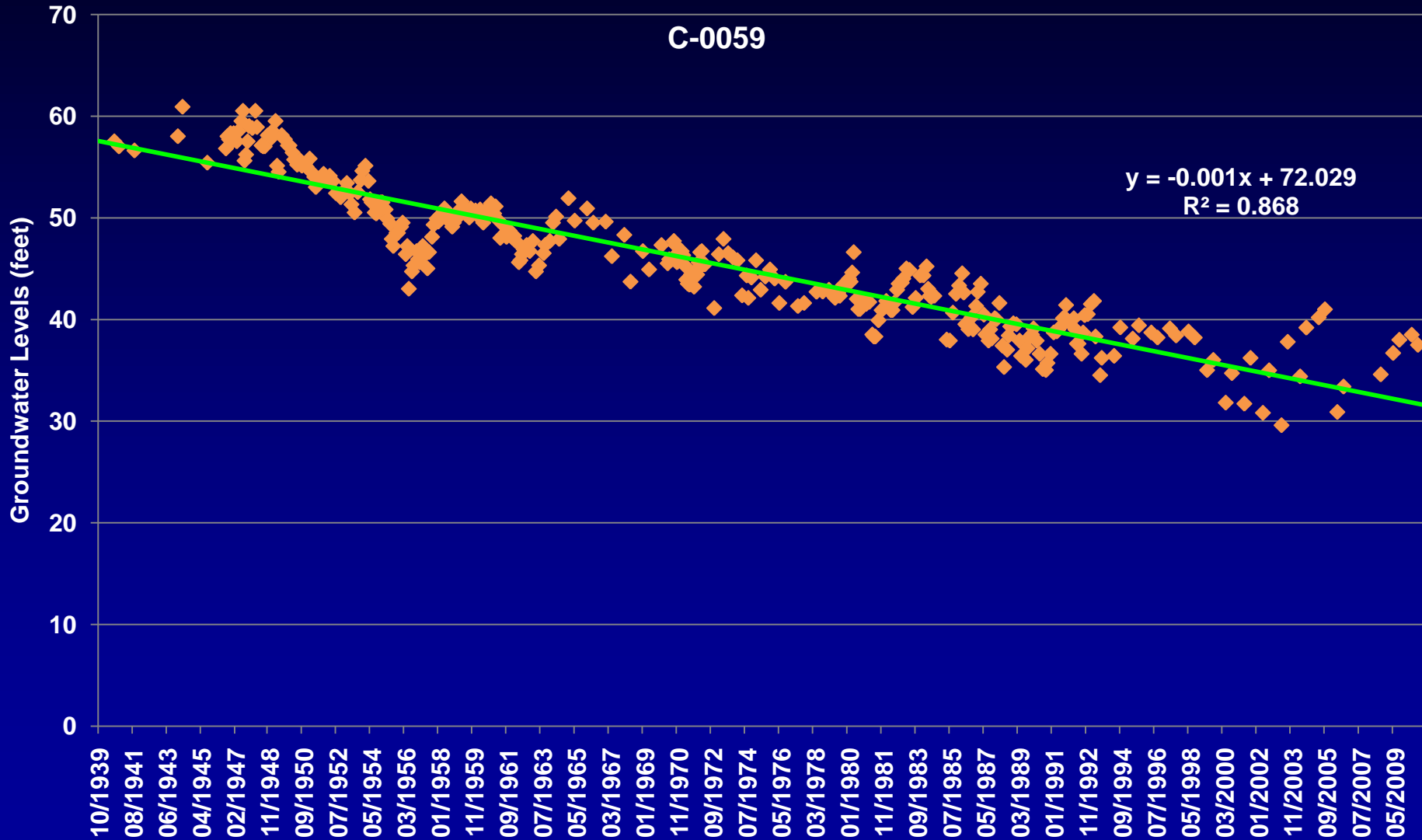
* Only one increasing trend detected (St. Johns County's Well 105)

SUMMARY

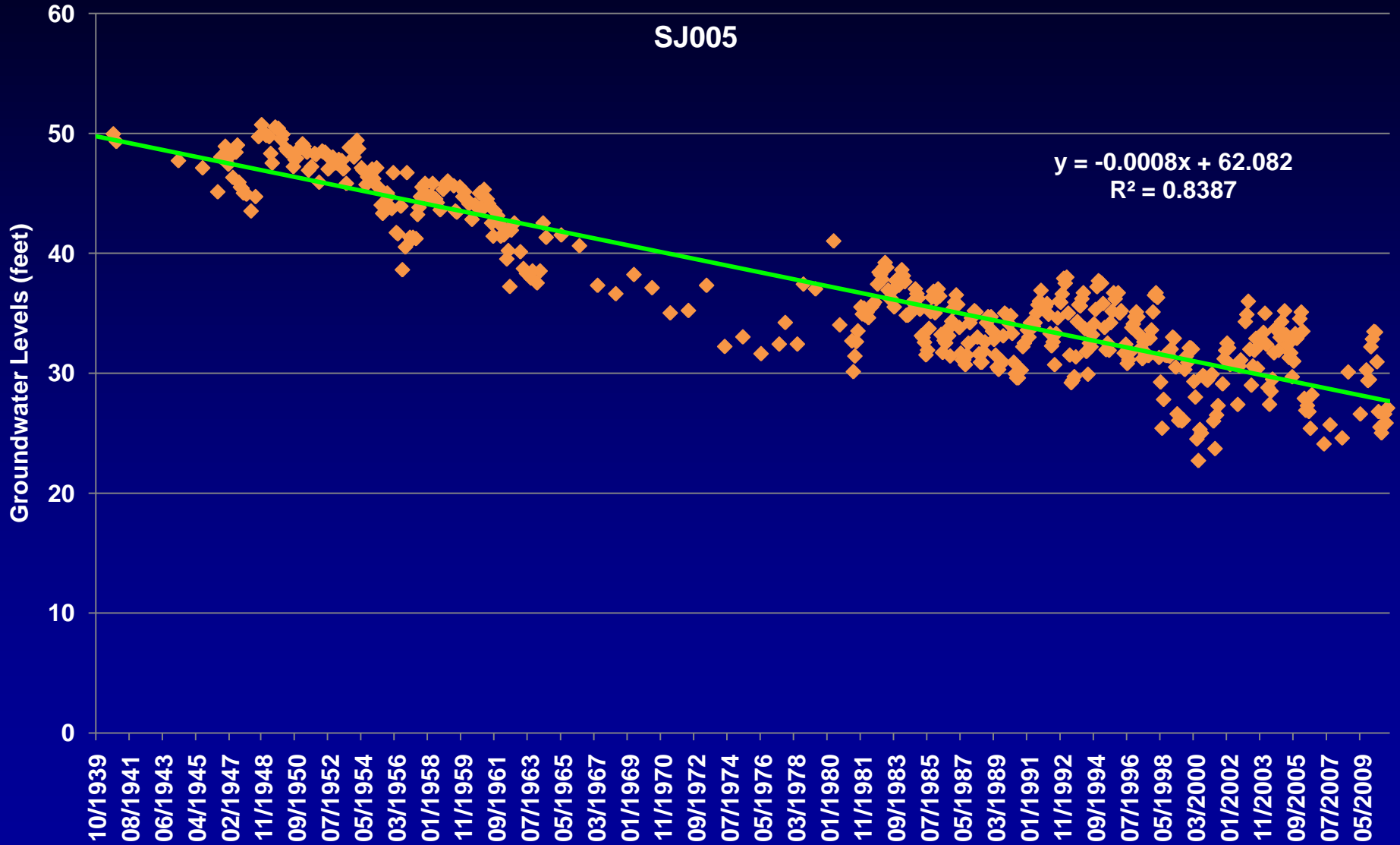
- Trend analysis indicates 12 wells possess decreasing trends at 95% confidence level
- The 12 wells are primarily in 2 areas centering in South Georgia and Duval County; 1 well located near Keystone Heights
- Rainfall Stations: No trends detected, except for one in Dixie County
- Stream Flow Stations: No trends detected
- Spring flow data did allow for statistical analysis



Groundwater Level – Clay County



Groundwater Level – St. Johns County



Strategies to Ensure Sustainable Water Supplies

- **Water Conservation**
- **Minimum Flows and Levels**
- **Water Supply Development**
- **Water Resource Development**



Water Conservation

- **Regulatory Tools**
 - Consumptive Use Permits (CUP)
 - Landscape irrigation restrictions
- **Technical Assistance**
 - Public supply conservation planning
 - Cost-sharing program
- **Education and Outreach**
 - Media messages and in school materials
 - Florida Water StarSM



Water Conservation Cost Sharing Program

- **FY 2011: Funded 18 projects, \$1.5 million**
- **FY 2012: Budget \$2.6 million**
- **Eligible projects:**
 - **Implementation of best management practices from Goal-based Water Conservation Plans**
 - **Automated tracking of utility customer data**
 - **Enforcement of landscape irrigation ordinances and related education efforts**
 - **New and innovative technology and practices**



Agricultural Mobile Irrigation Labs

- Complete survey and analysis of irrigations systems and recommendations for efficiency improvements
- Calibration of flow meters



Questions

