



Darrell Smith
Coordinator

A large photograph of a river flowing through a dense forest. The water is calm, reflecting the surrounding trees and foliage. The scene is peaceful and natural.

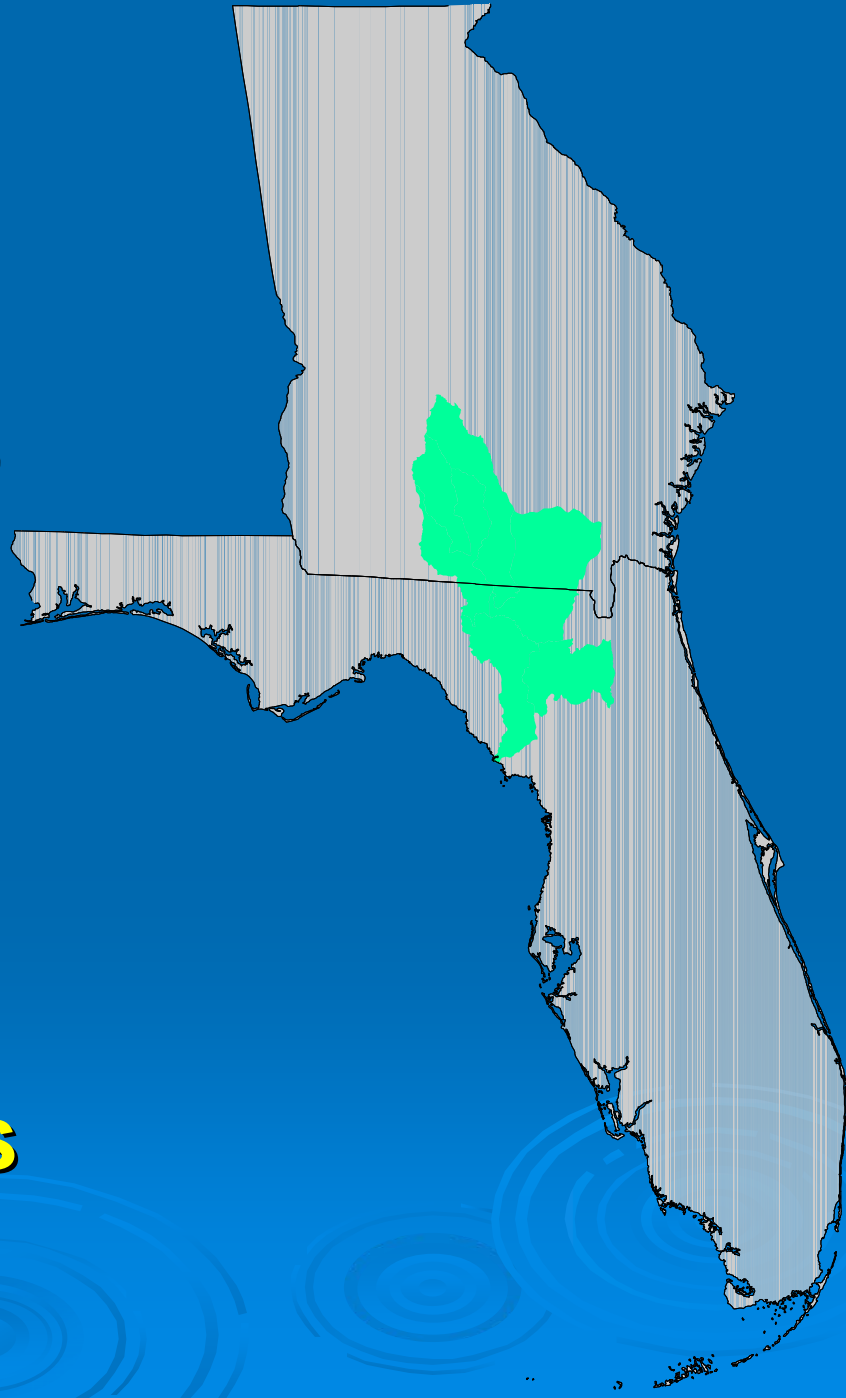
Public Perceptions and Practice: A Key to Sustaining Water Resources

Overview

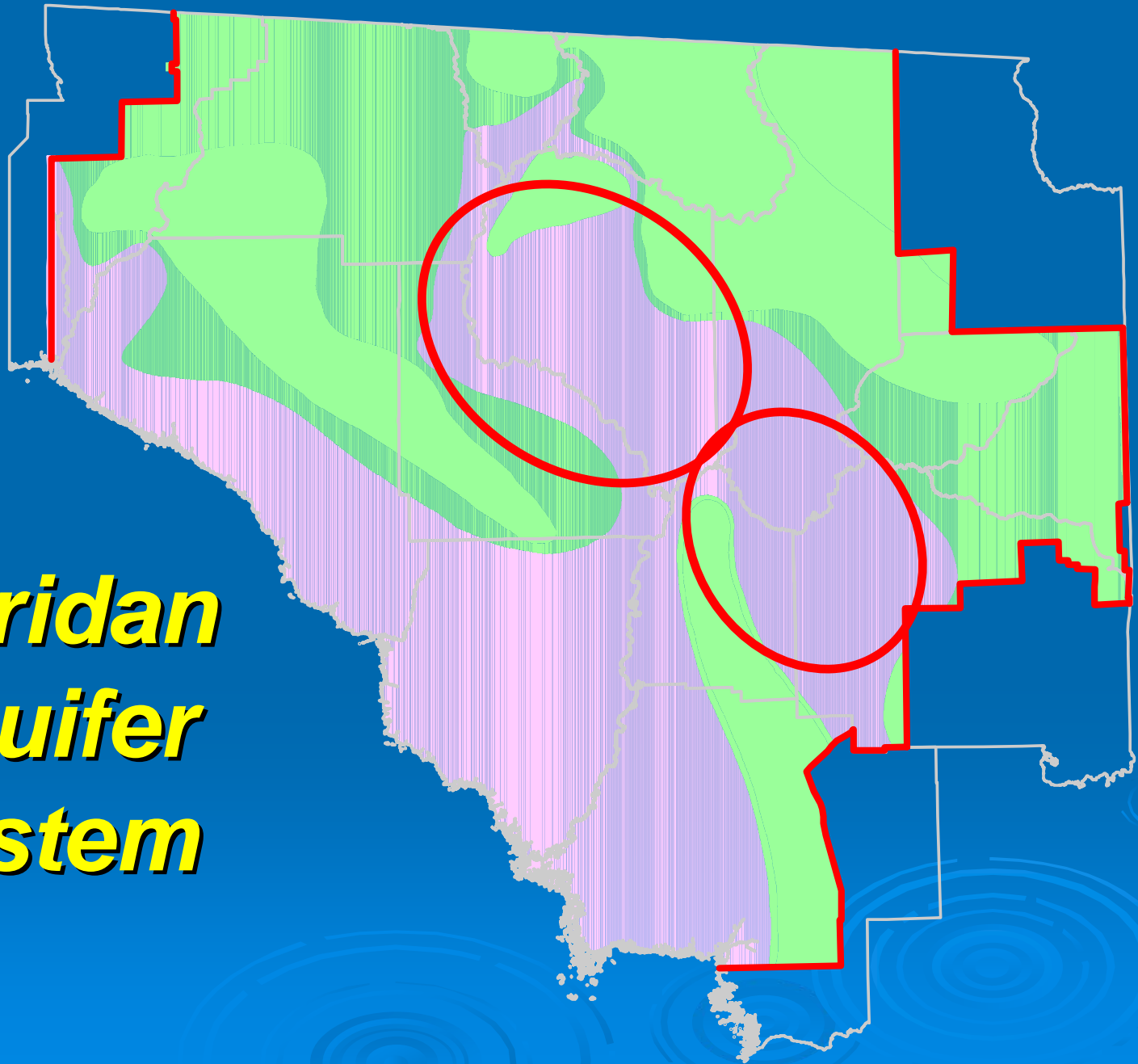
- **Watershed Background**
 - Water quality issue
- **Suwannee River Partnership**
 - Approach
 - Results
- **Observations**
 - What has worked for us

Suwannee River Basin in Georgia and Florida

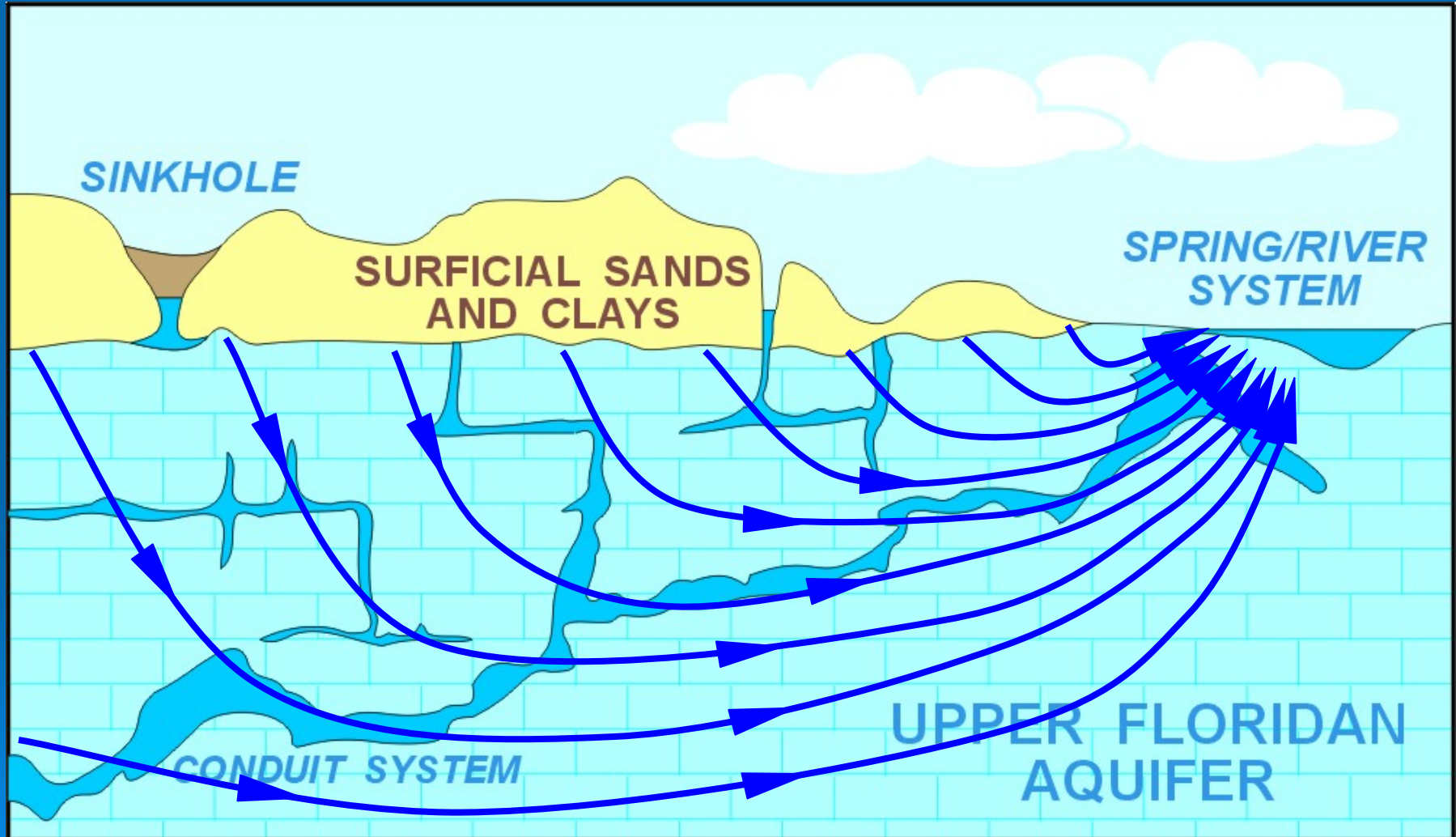
9,950 Square Miles



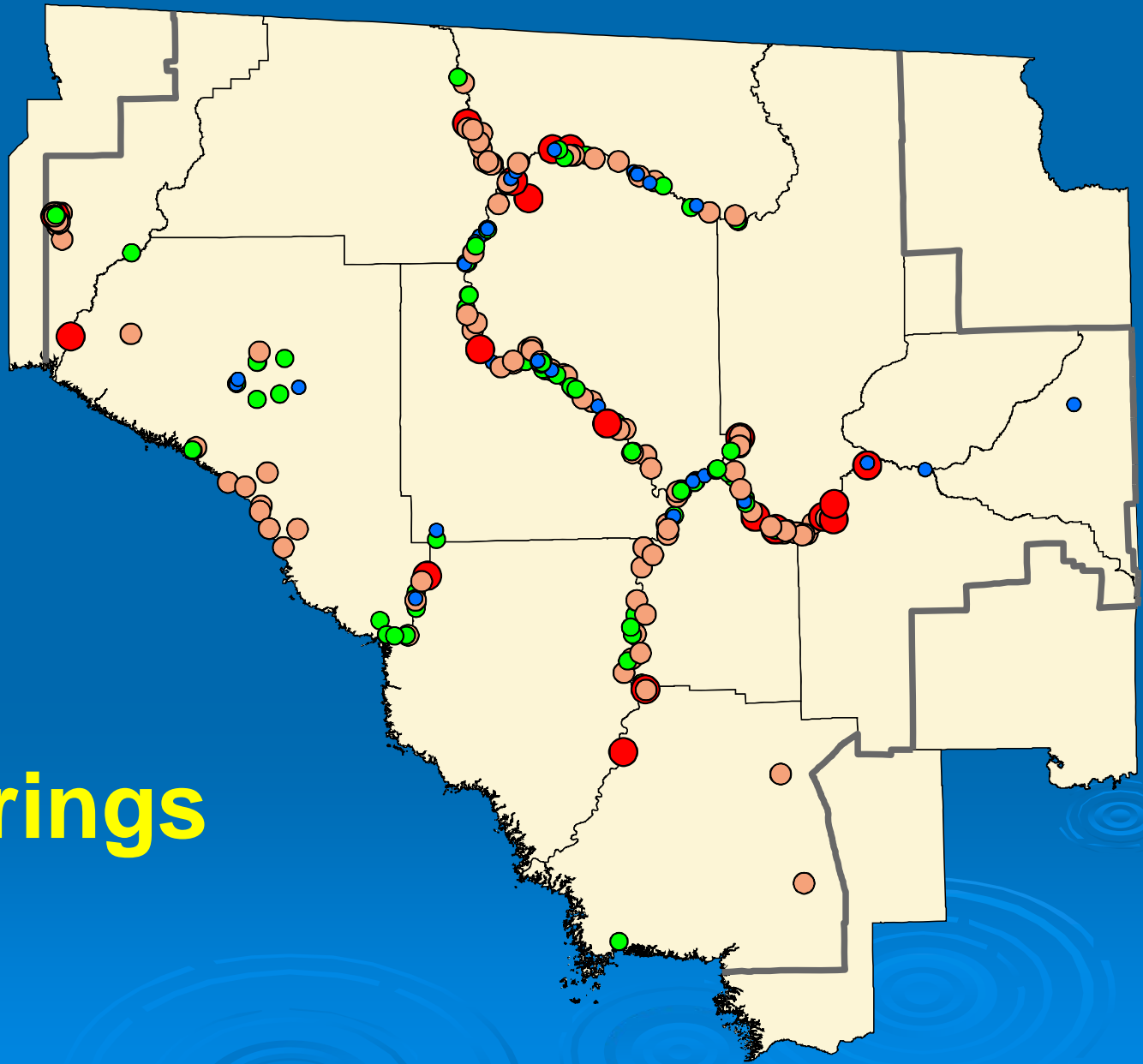
***Floridan
Aquifer
System***



Karst Features



Springs











Agriculture & Forestry



Water Quality Concerns

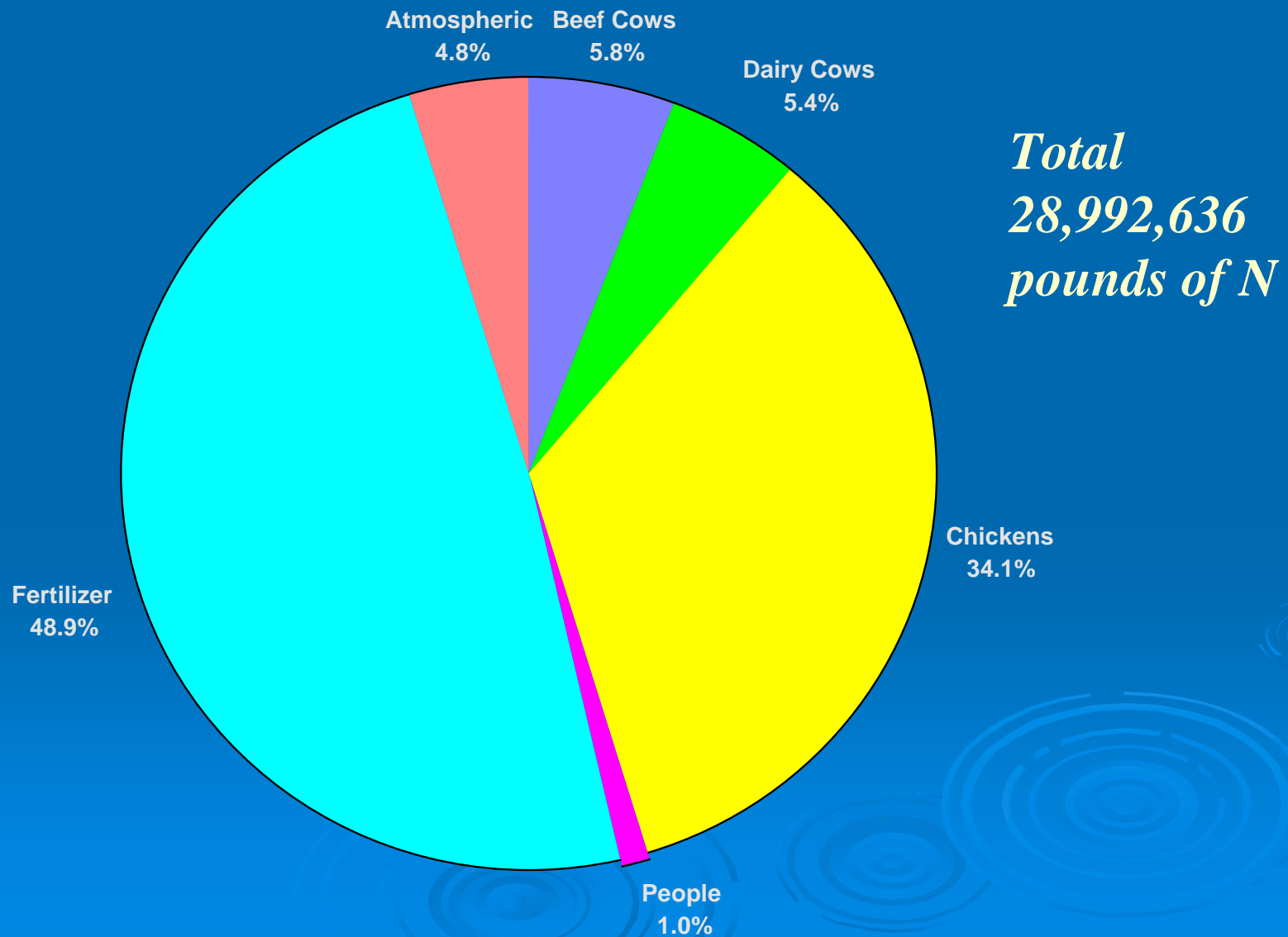
Increasing trend for Nitrate-N concentration

Suwannee & Santa Fe Rivers



Estimated Nitrogen Inputs

Suwannee County



Suwannee River Partnership

Established to address
water quality issues

62 Members -

- Federal Agencies
- State Agencies
- Local Government
- Conservation Districts
- Agricultural Groups
- State Universities
- Industry Associations
- Environmental Awareness Groups



Partnership Approach

- **Involve everyone** in the solution
- **Provide incentives** to use BMPs
- **Develop quality assurance** programs
 - *Regional and Farm Water Quality Monitoring*
 - *BMP Research*
 - *BMP Follow-up and Verification*
- Provide supporting **education**
- **Recognize** participants
 - Farmers (CARES)
 - Homeowners (FY&N)



Performance Measures

Measure

- **BMP Implementation**
 - *Farmer Participation*
 - *BMPs Implemented*
 - *Structures Installed*
 - *CARES Recipients*
- **Research**
 - *Document BMPs Work*
- **BMP Quality Assurance**
 - *Compliance*
- **Education and Outreach**
- **Water Monitoring & Analysis**

BMP Implementation **Dairy**

● **48 of 54 (89 %) Dairies**

- *35 Farms have fully implemented plans*
- *5 Farms are more than 75% complete*





***Waste
Collection***



***Manure
Application***



***Solid Separator
Systems***



***Lined Waste
Storage***



Litter Storage



SUWANNEE
RIVER PARTNERSHIP

Poultry



**Dead Bird
Composter**



Litter Application

Poultry Plans Implemented

● 163 of 164 (99 %) *Poultry Farms*



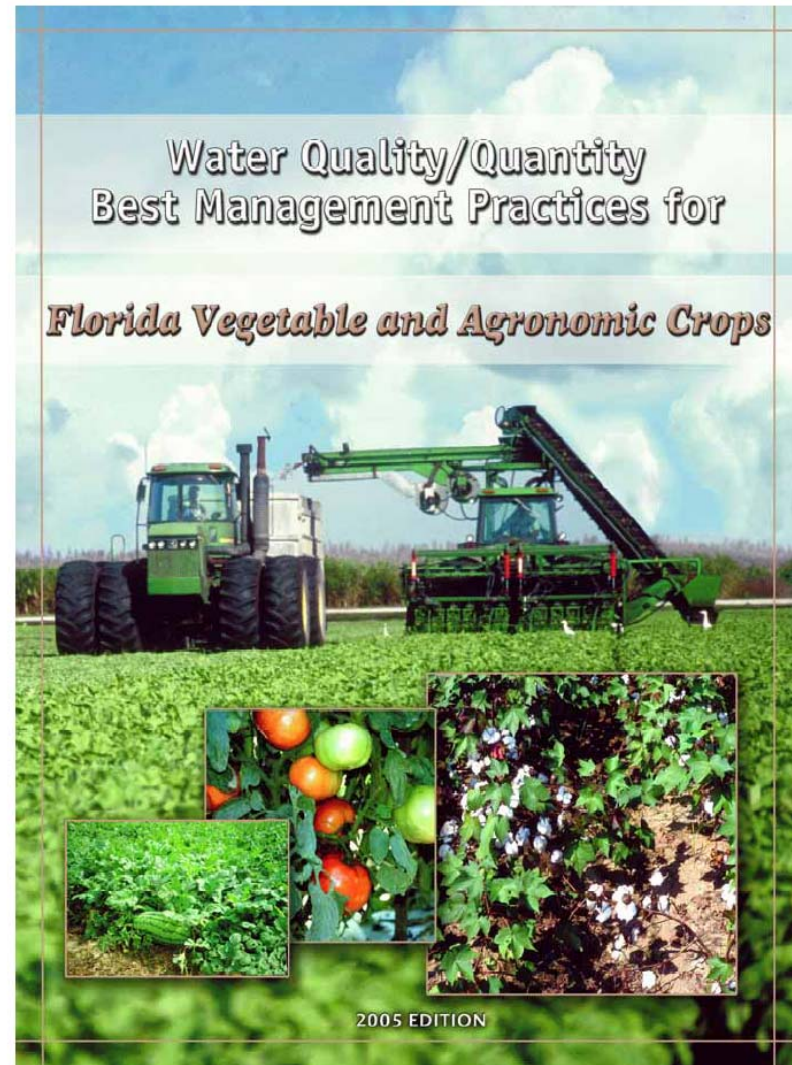
Crop Program

- **Improve Irrigation & Fertilizer Mgt.**
- **Improve Irrigation Systems**
- **Establish Progressive Farms**

Crop Program

Manage Fertilizers

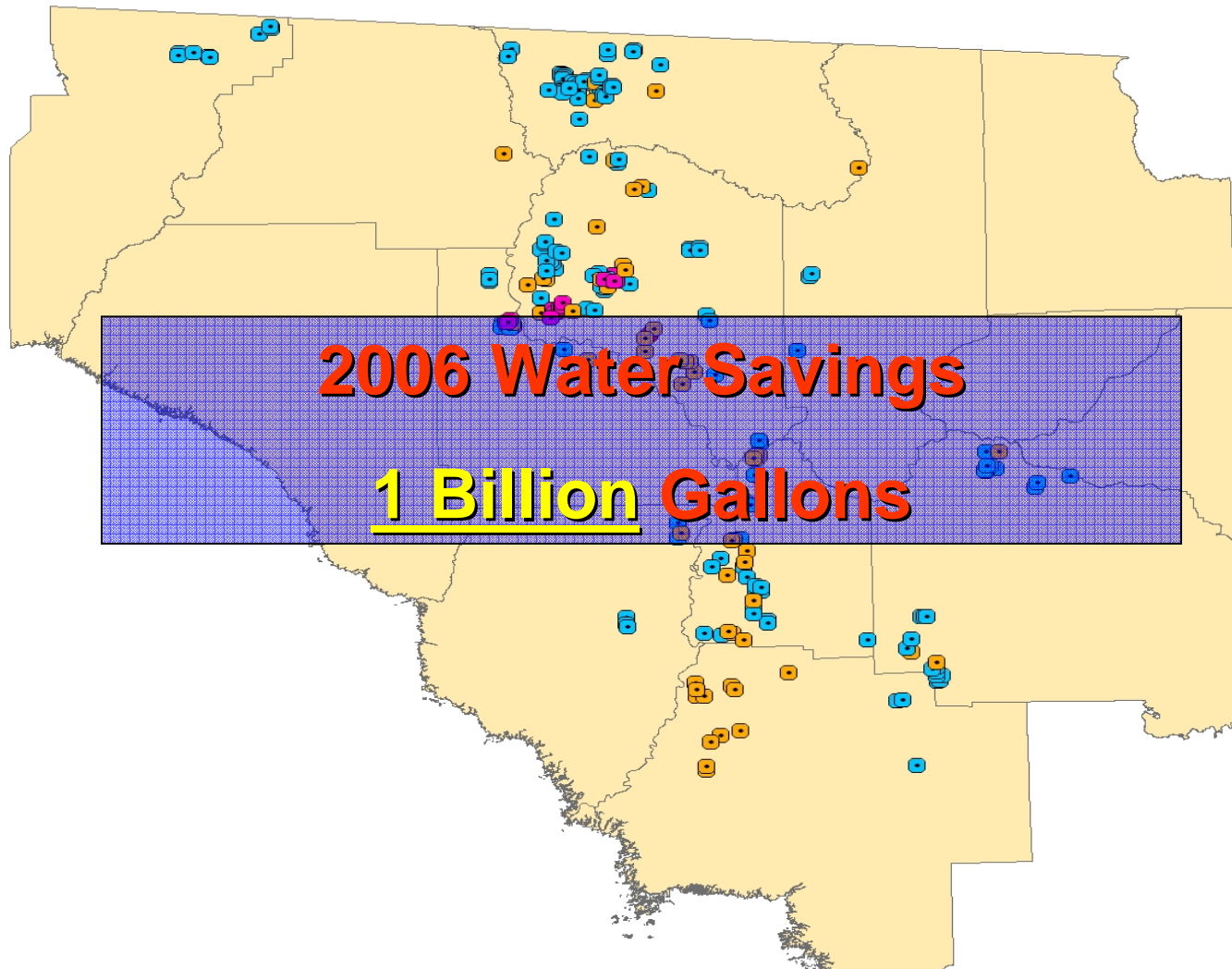
- NRCS Conservation Practices
- Split Applications
- Proper Placement
- Recommended Rates and Timing
- Controlled Release Fertilizers



Improve Irrigation Systems



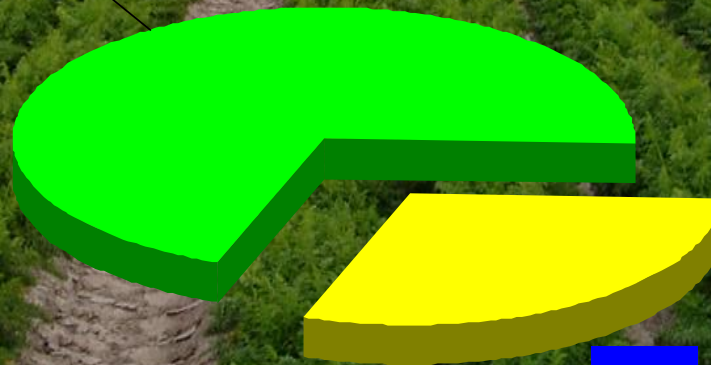
Irrigation Upgrades



Farmer Participation

- 110,000 + acres (70%) Crop Farms
- Over 120 Farmers have signed NOIs

Participating
70%



NP
30%

Performance Measures

Measure

● ***BMP Implementation***

- *Farmer Participation*
- *BMPs Implemented*
- *Structures Installed*

● ***Research***

- *Document BMPs Work*

● ***BMP Quality Assurance***

- *Compliance*

● ***Education and Outreach***

● ***Water Monitoring & Analysis***

Document BMPs Work

Research and models show farms using BMPs**

**FDEP Literature Review 2007

Have the potential to reduce Nitrate-N to ground water

- Up to 77% on poultry & dairy operations
- Up to 90% on dairy spray fields
- Up to 50% on crop farms

Performance Measures

Measure

● ***BMP Implementation***

- *Farmer Participation*
- *BMPs Implemented*
- *Structures Installed*

● ***Research***

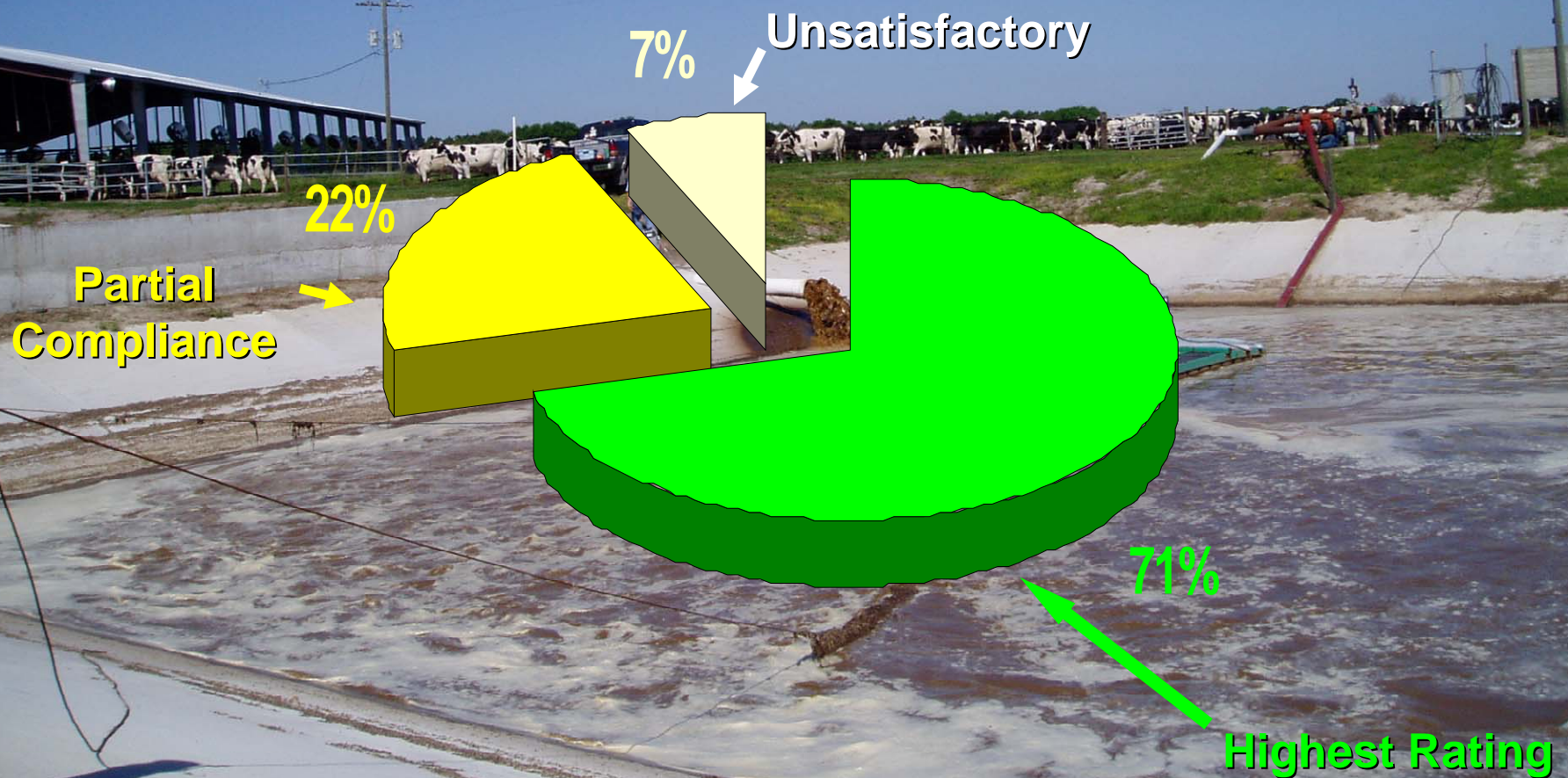
- *Document BMPs Work*

● ***BMP Quality Assurance*** ● ***Compliance***

● ***Education and Outreach***

● ***Water Monitoring & Analysis***

Dairy BMP Compliance



Poultry BMP Compliance

Partial
Compliance

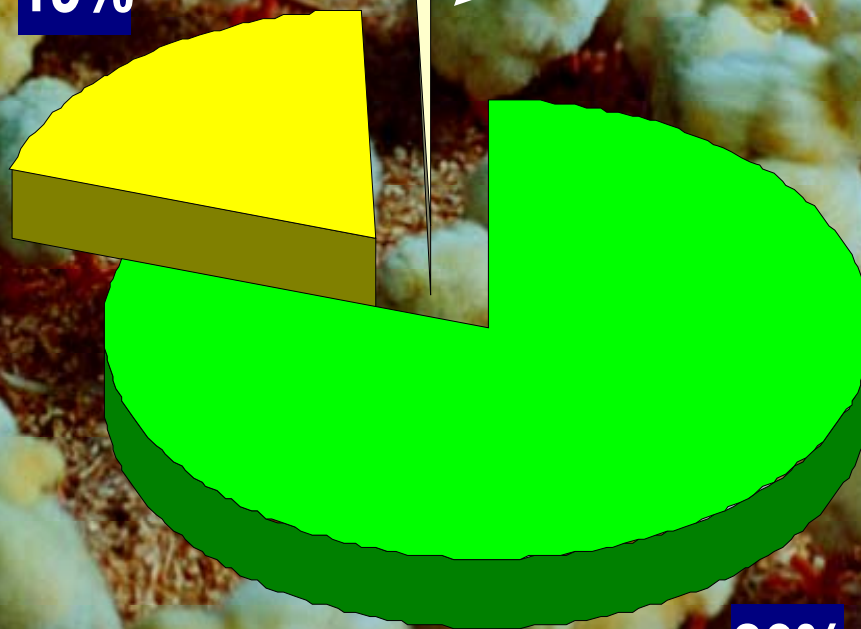
Unsatisfactory

19%

1%

80%

Highest Rating



Performance Measures

Measure

• ***BMP Implementation***

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- *Structures Installed*

• ***Research***

- *Document BMPs Work*

• ***BMP Quality Assurance***

- *Compliance*

• ***Education and Outreach***

• ***Water Monitoring & Analysis***

Farmer Education

Many farmer meetings have been held over the last eight years



- UF-IFAS Leadership
- BMP Implementation Team
- Management Tools



Florida-friendly Landscapes

CLOSE X



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High Springs

In High Springs, area springs and sinkholes are vulnerable to pollution from overuse and misuse of fertilizers and pesticides. This home's landscape features low-maintenance plants in mulched beds requiring little or no fertilizers. The landscape also includes low-maintenance bahia grass.

Florida Yards and Neighborhoods

Florida-friendly Landscapes

CLOSE X



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High Springs

Local springs and sinkholes are vulnerable to pollution from overuse and misuse of fertilizers and pesticides. This home's landscape features low-maintenance plants in mulched beds requiring little or no fertilizers.

Florida-friendly Landscapes

CLOSE X



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High Springs

Swales are features of many yards in High Springs and play an important role in preventing polluted stormwater from flowing into sinkholes leading to area springs.

Performance Measures

Measure

● ***BMP Implementation***

- *Farmer Participation*
- *BMPs Implemented*
- *Structures Installed*

● ***Research***

- *Document BMPs Work*

● ***BMP Quality Assurance***

- *Compliance*

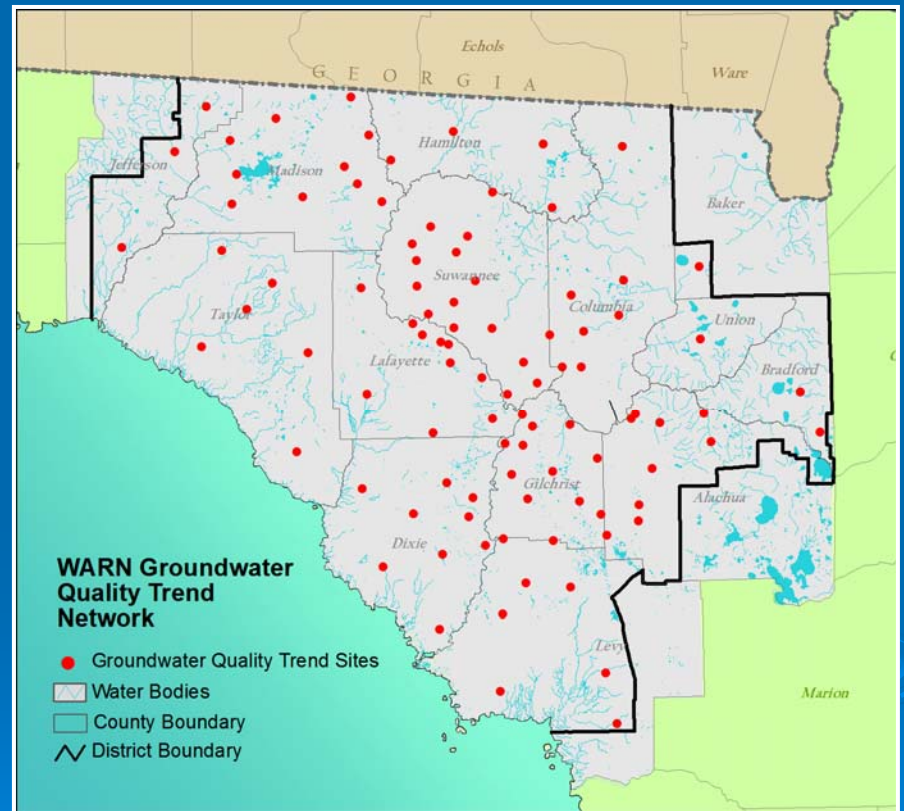
● ***Education and Outreach***

● ***Water Monitoring & Analysis***

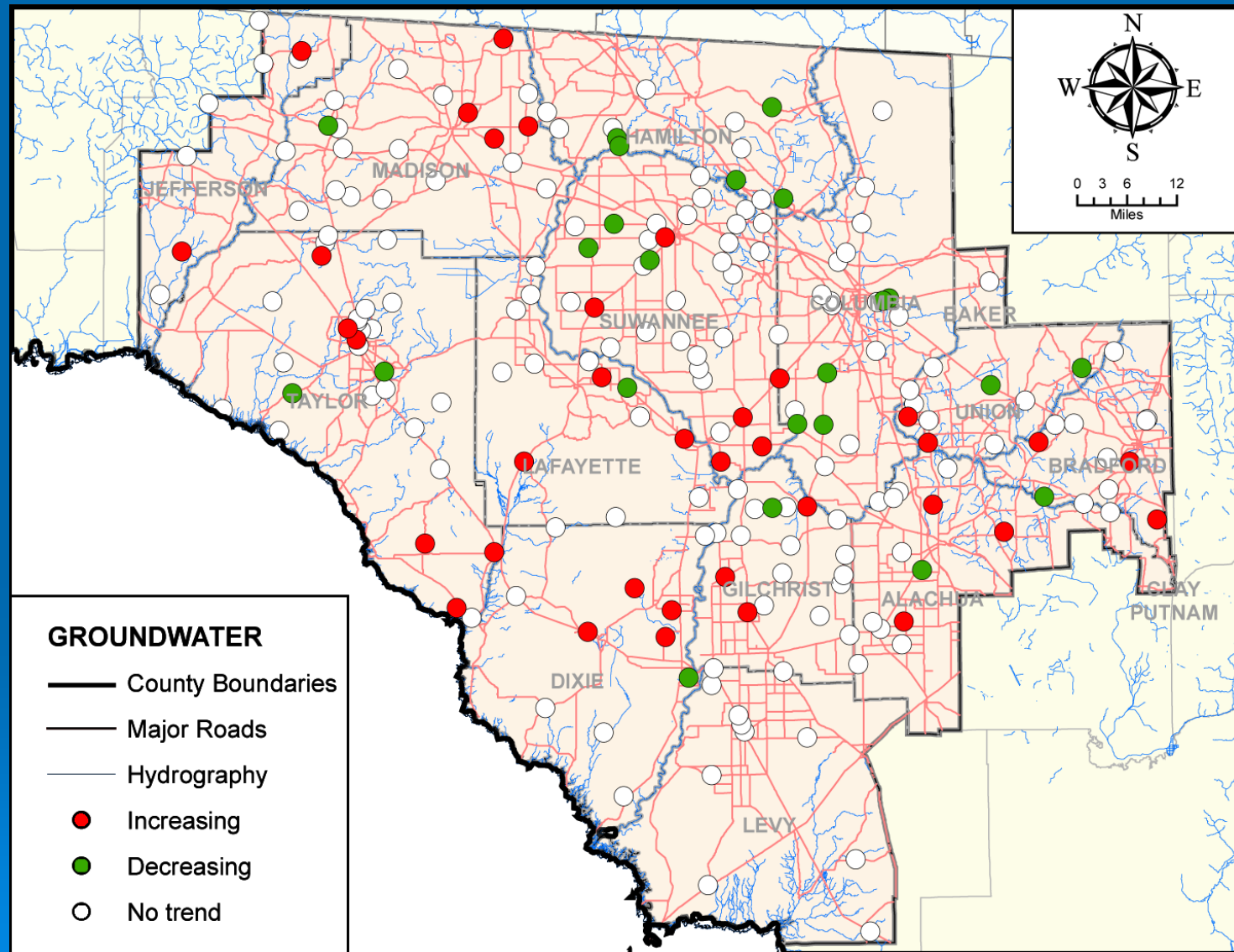
Water Quality Trends

Regional Network

Designed to
evaluate trends for
ground water,
springs, and rivers



Groundwater



Water Quality Trends

Regional Network Trend Report

- **Showed Decreasing, Increasing, & No Trends**
- **Most Likely Influenced by Climatic Events, Water Age, & BMP Efforts**
- **Recommended More Time is Needed**

Partnership Progress Summary

• **Farmer Participation**

- Dairy **90%**, Poultry **99%**, Crop **70%**

• **Structures Installed**

- Waste management systems (Dairy **40**, Poultry **163**)
- Irrigation systems improved (**1 Billion** gallons water saved 2006)

• **BMP Compliance** (achieving highest rating – Dairy 71%, Poultry 80%)

• **Research** (shows **50 – 90%** Reduction in N Loading)

• **Homeowners** beginning to implement BMPs

• **Water Quality Trends**

- Network in place to measure trends
- Trend evaluation (more time is needed)

What has worked for us

➤ **Leadership**

- Agency and organization leaders
- Can influence resources

➤ **Stakeholder involvement**

- Problem ownership
- Being part of the solution

➤ **Experienced staff**

- Knowledgeable & credible
- Can relate to the target groups

➤ **Using a non-regulatory approach**

What has worked for us

➤ **Incentives**

- Cost share improvements
 - Economics

➤ **Information to improve**

- Farmer and homeowner education workshops
- Progressive farms concept
- Newsletters

➤ **Recognize Participants**

- CARES Program
- Ag Industry Support
- Commissioner's Environmental Award
- USDA-NRCS National Awards

