



Agriculture & Natural Resources Subcommittee

**Tuesday, January 6, 2015
2:00 p.m.
Reed Hall**

**Steve Crisafulli
Speaker**

**Tom Goodson
Chair**

Committee Meeting Notice

HOUSE OF REPRESENTATIVES

Agriculture & Natural Resources Subcommittee

Start Date and Time: Tuesday, January 06, 2015 02:00 pm
End Date and Time: Tuesday, January 06, 2015 04:00 pm
Location: Reed Hall (102 HOB)
Duration: 2.00 hrs

Presentation by the Department of Environmental Protection:

1. Update on numeric nutrient criteria implementation; and
2. Current status of Florida's water supply and future water use projections.

Presentation by the Department of Agriculture and Consumer Services regarding water supply as it relates to agriculture.

NOTICE FINALIZED on 12/19/2014 09:19 by Kaiser.Debbi

DACS Presentation

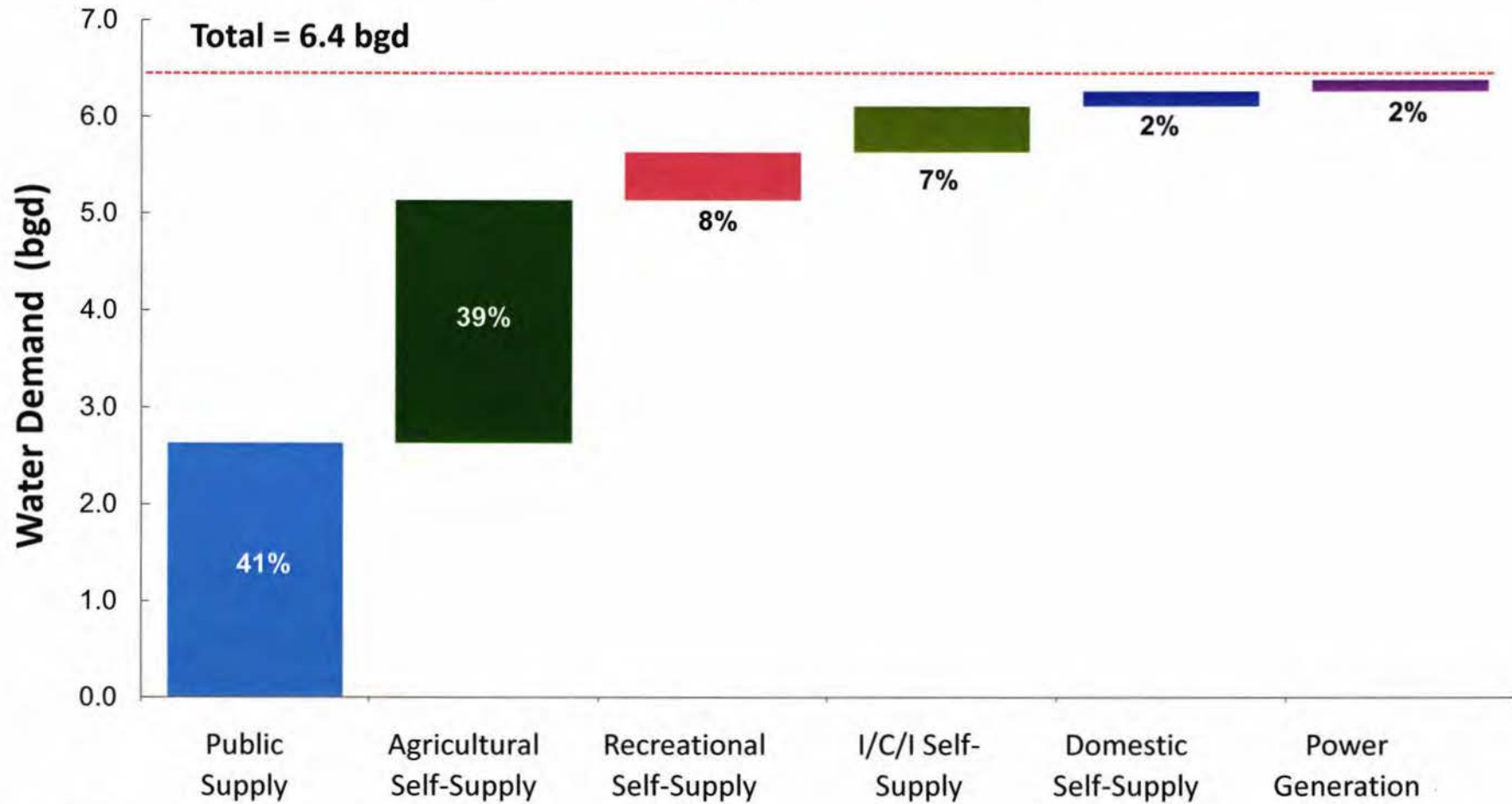
Agricultural Water Supply Planning

Florida House of Representatives
Agriculture and Natural Resources Sub-Committee
Rep. Tom Goodson, Chair
January 6, 2015

Rich Budell, Director
Office of Agricultural Water Policy



2010 Florida Water Demand



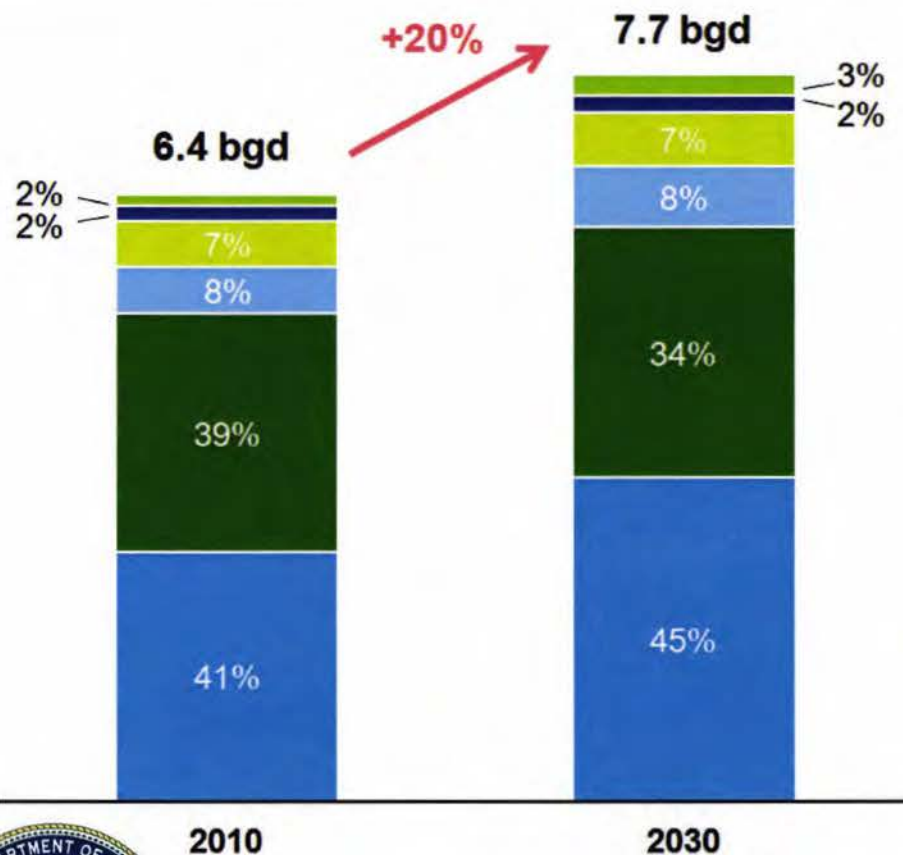
Notes:

- Water demand includes groundwater and surface water.
- I/C/I represents Industrial, Commercial, and Institutional.

Source: Water demand: 2010 demand estimates obtained from Florida Water Management districts

Projected water demand expected to increase 20%

Projected 2010 vs. 2030 Florida Water Demand



	<u>Growth (mgd)</u>	<u>Growth (%)</u>
Power generation	106	88%
Domestic	27	18%
I/C/I	83	18%
Recreational	147	29%
Agricultural	125	5%
Public supply	782	30%



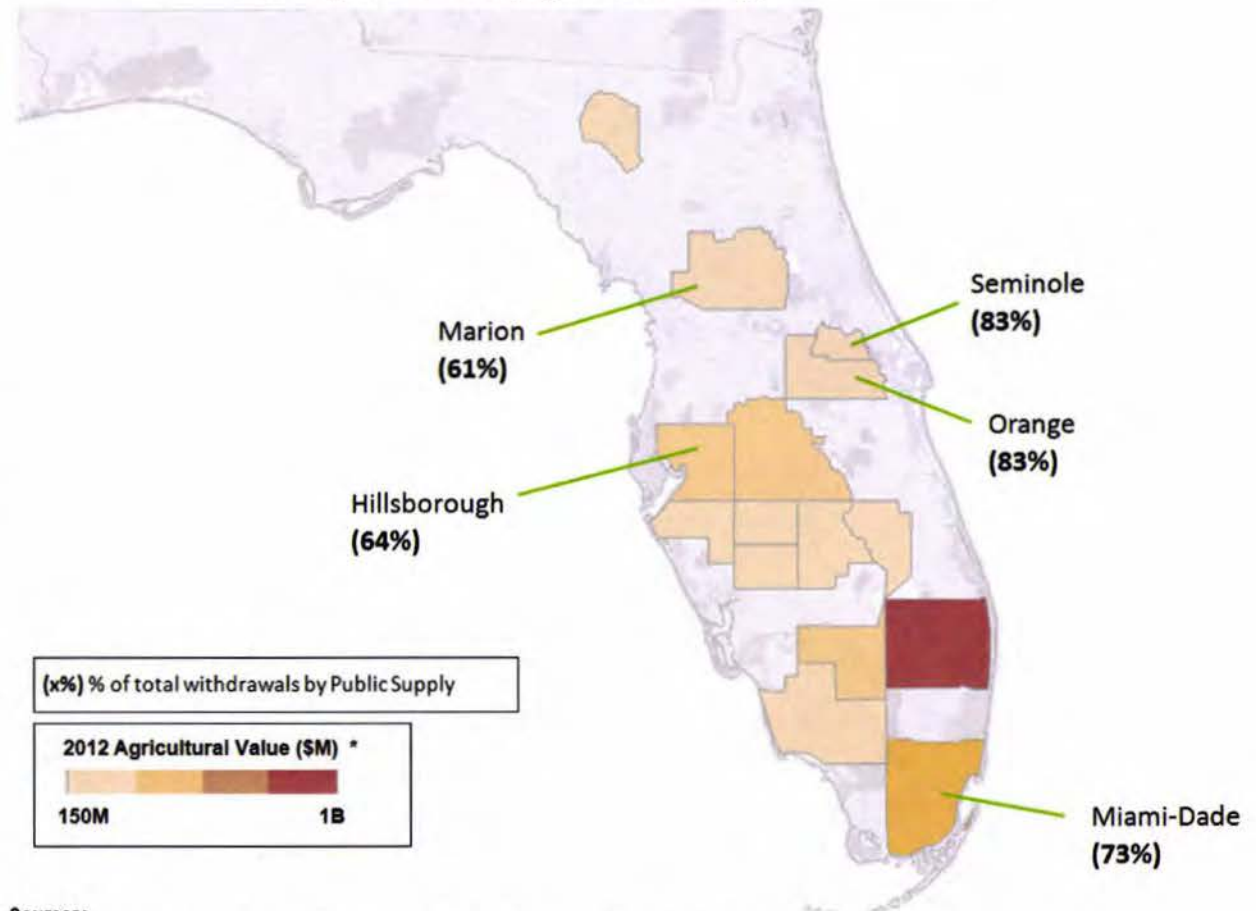
Source: Water demand: 2010 demand estimates and 2030 demand projections obtained from Florida Water Management Districts (WMDs).

Top producing agricultural counties compete for water

Key Observations

- 5 of the top 15 agricultural producing counties face potential competition for water from public supply
- Demand from public supply in these counties averages over 60% of water demand compared to the overall public supply average of 41%

2012 Top 15 Counties by Agricultural Value (\$)



Sources:

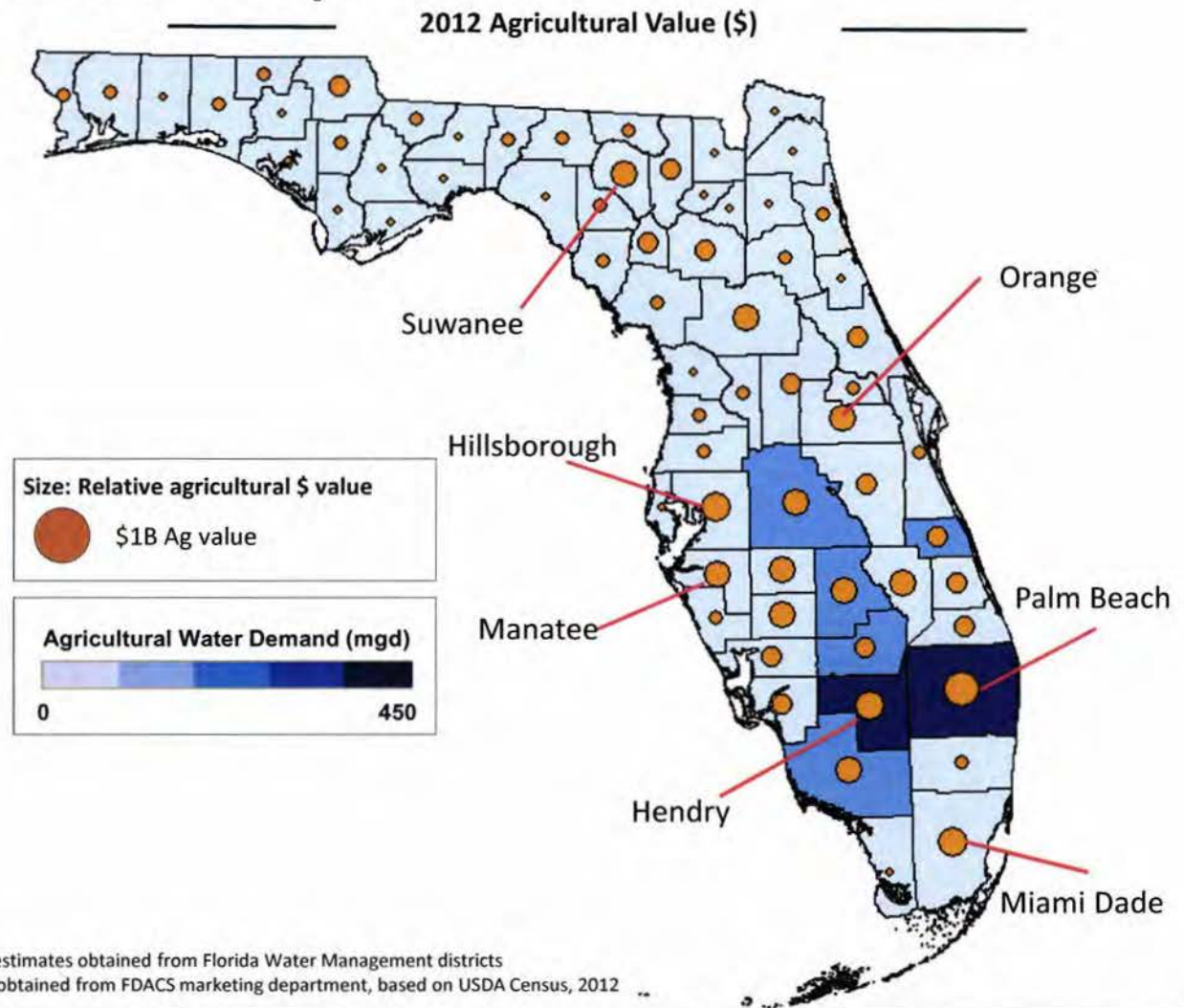
- Water demand: 2010 demand estimates obtained from Florida Water Management districts
- Agricultural \$ value: 2012 data obtained from FDACS marketing department, based on USDA Census, 2012



Agricultural value (\$) & water demand aren't always related

Key Observations

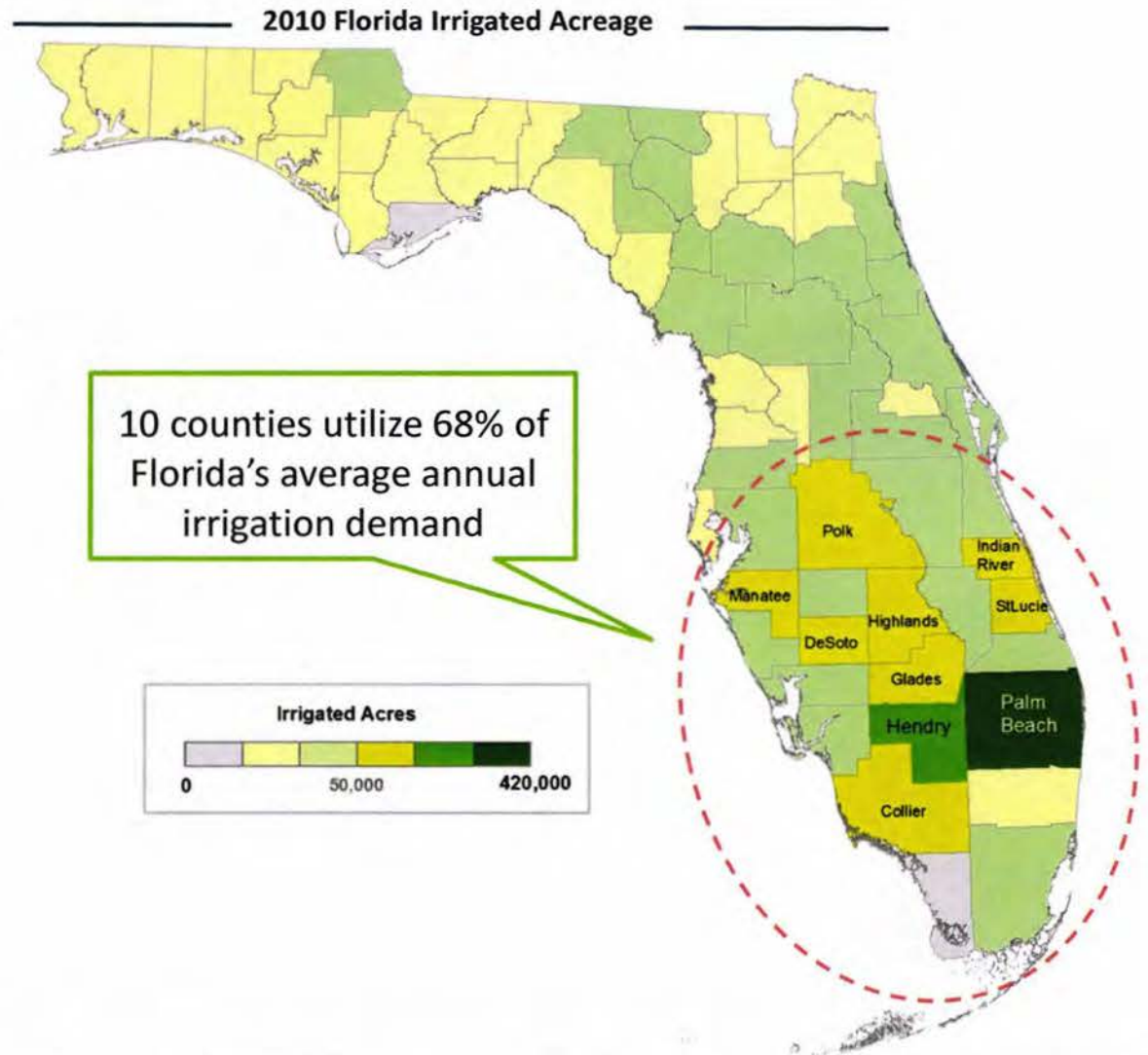
- 98% of Hendry county water goes towards agriculture
- 57% of Palm Beach county water goes towards agriculture



Irrigated Agricultural Acreage by County

Key Observations

- The top 2 counties in agricultural water demand, Palm Beach and Hendry, use 39% of the total average annual irrigation demand
- Palm Beach: 419,000+ ac, 721 mgd
- Hendry: 194,000+ ac, 294 mgd



Agricultural Water Supply Planning

- Agricultural irrigation returns 40 to 50 percent of pumped water to surface water or aquifer
- 85 percent of water used is for food production
- Water use estimates decreased by 8 percent between 2005 and 2010
 - During the same time period, production has increased
- Tapped into alternative water supplies
 - Storm water and irrigation capture and reuse
 - Use of reclaimed water
- Commitment to efficient use
 - Mobile Irrigation Laboratory evaluations
 - Technology upgrades



Agricultural Water Supply Planning

- Agriculture is a “self-supplier” of water and cannot pass on the cost of wells, pumps etc.
- In 2012, domestic supply overtook agriculture as the largest water user
- By 2030 domestic supply demand will increase by 30 percent - agricultural supply demand will increase by only 5 percent
- Competition issues
 - Dover/Plant City
 - Central Florida Water Initiative
 - Lake Okeechobee
 - North Florida Regional Water Supply Partnership



Why do we plan for water supply?

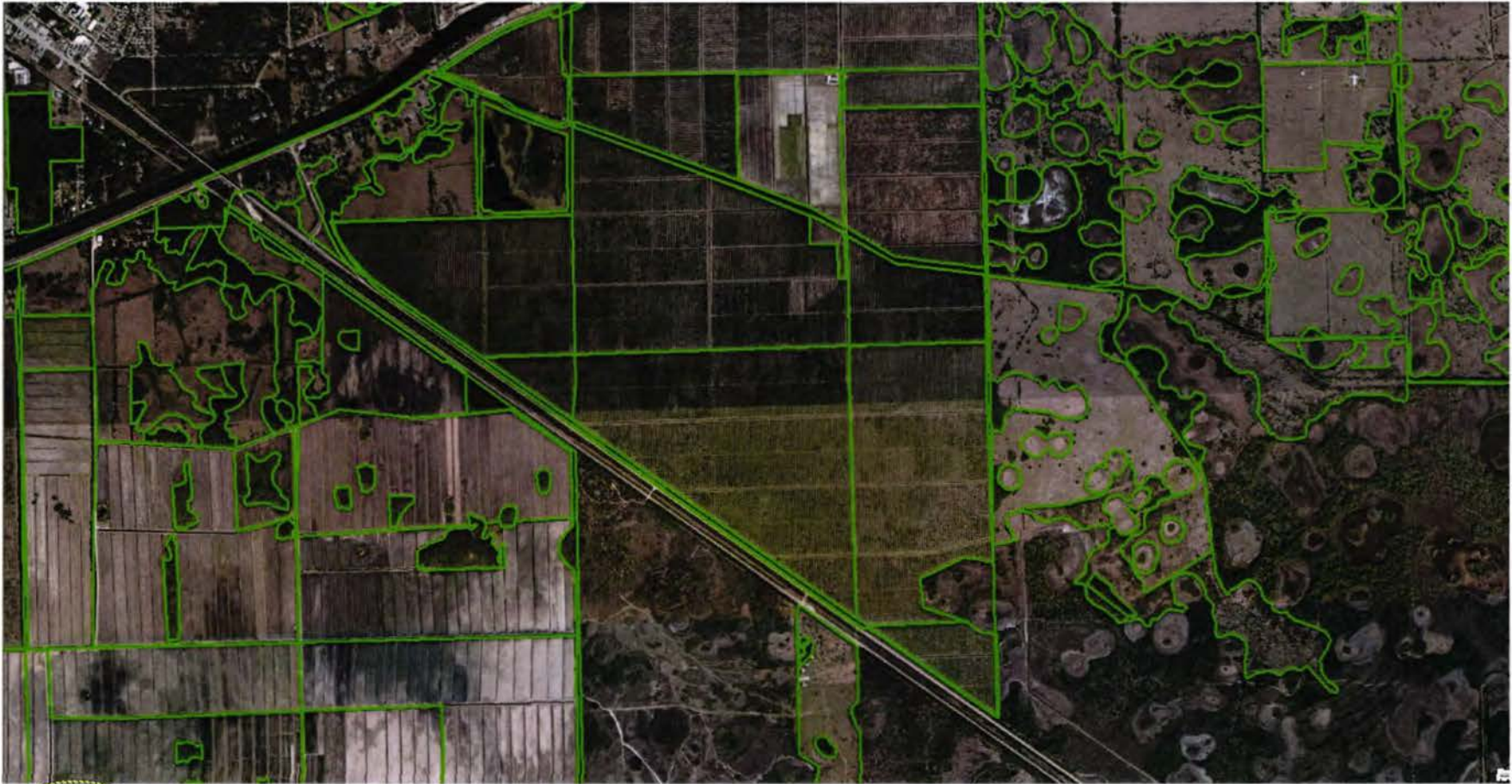
s. 373.705(2)(a) F.S. (1997)

It is the intent of the Legislature that:

“Sufficient water be available for all existing and future reasonable – beneficial uses and the natural system, and that the adverse effects of competition for water supplies be avoided.”

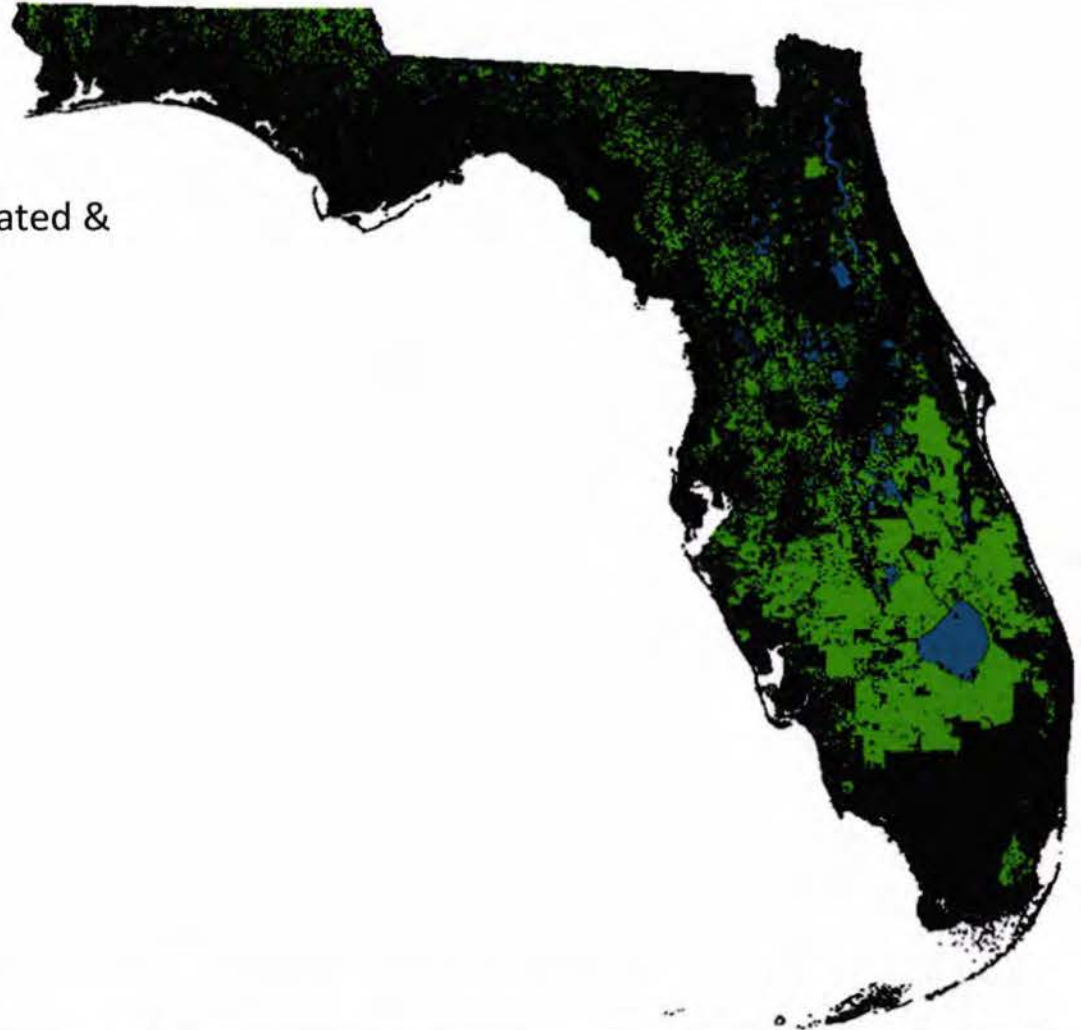


Ag Land Geodatabase (ALG) Development



Agricultural Acreage in Florida

2010 Florida Agricultural Acreage

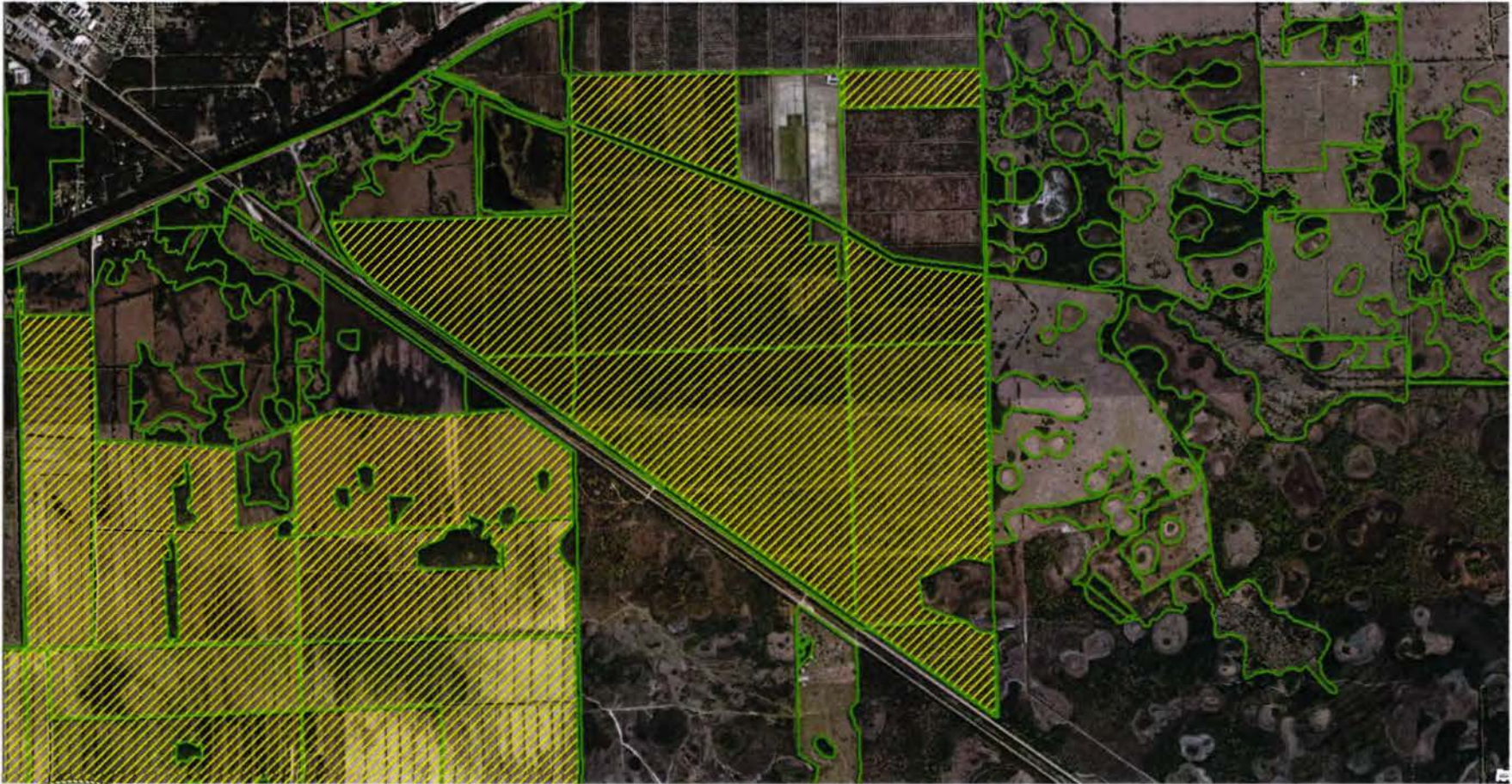


Key Observations

- 2010 Statewide agricultural acreage (irrigated & non-irrigated lands) is 8,613,770 acres



Irrigated Land Geodatabase (ILG) Development



Irrigated Agricultural Acreage in Florida

2010 Florida Agricultural Acreage

Key Observations

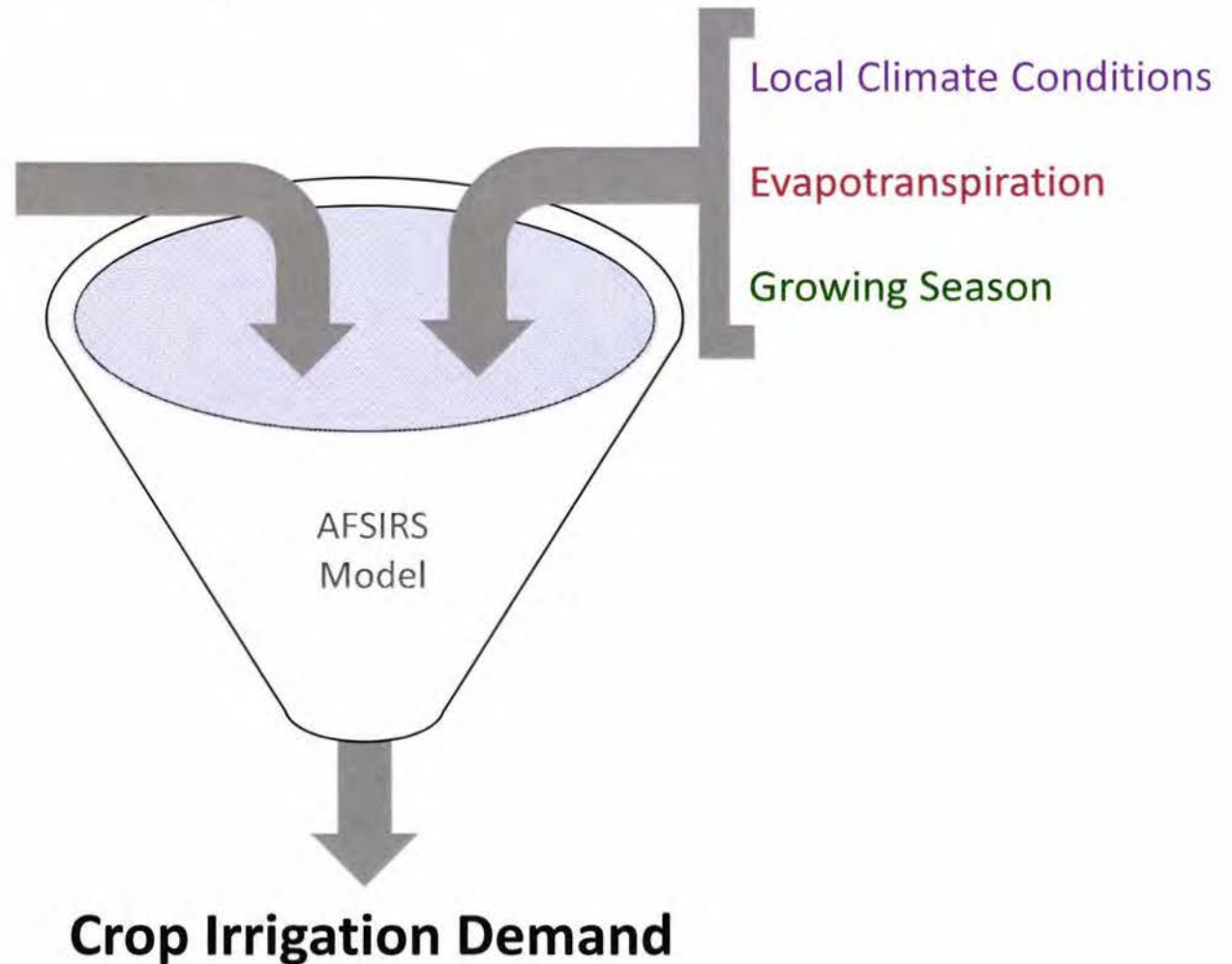
- In 2010, there were 1,738,961 acres of irrigated Ag lands in Florida
- Less than 20% of all agricultural lands are irrigated



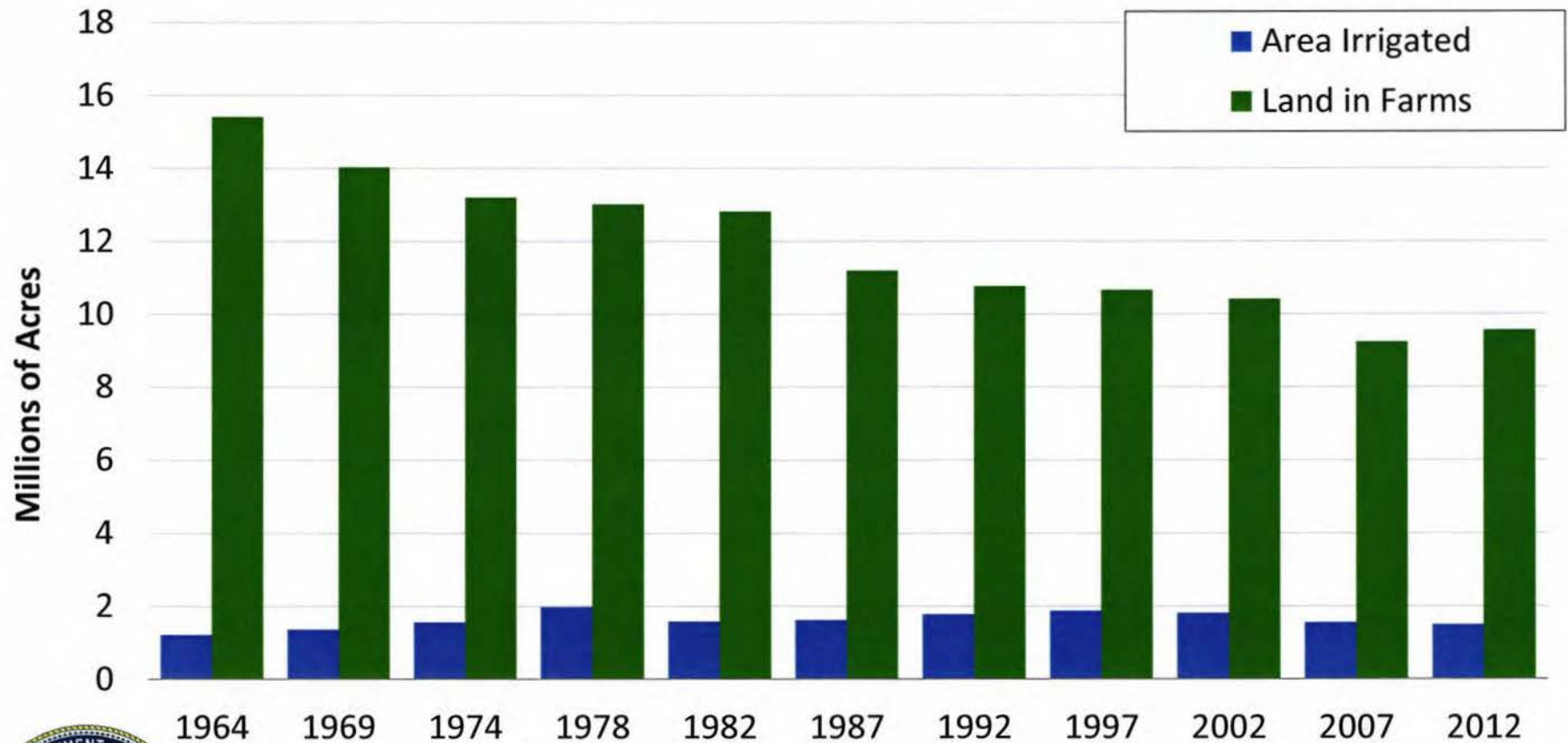
Calculating Crop Irrigation Demand

Irrigated Lands Geodatabase

- Crop Type
- Irrigation System Type
- Soil Type
- Water Table Depth



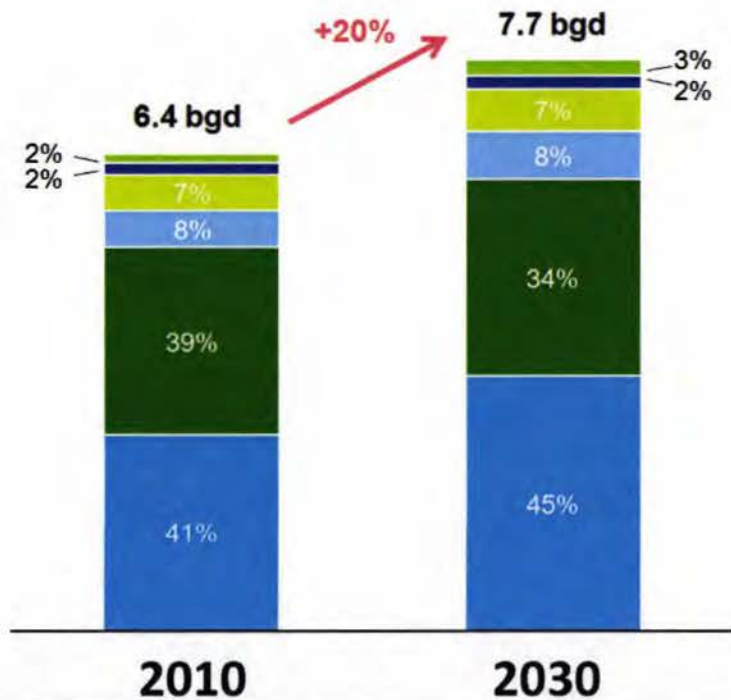
Historical Land in Farms & Irrigated Acreage



Sources:
1997 and 2012 National Ag Census—State Data—Florida

Meeting Florida's Growing Water Demands

- Will require a variety of alternative water supply projects, resource optimization strategies, and conservation measures.
- Irrigated agricultural lands geodatabase will ensure future agricultural demand estimates are as precise as possible.



Agricultural Water Supply Challenges

- Diversity of Florida agriculture
- Changing economic conditions
- Climate events (droughts, storms)
- Pests and diseases
- Changing markets and consumer preferences
- Projected population growth from 7 to 9 billion by 2050
- Food production will have to increase 70 percent



Questions?

Rich Budell

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DEP Presentation

Florida Department of Environmental Protection



Florida Water Policy Overview and Numeric Nutrient Criteria Update

State Affairs Committee and
House Agriculture & Natural Resources
Subcommittee

January 6, 2015

Drew Bartlett, Deputy Secretary
Water Policy & Ecosystem Restoration





Water Resource Protection

- *Water Quantity*

Water Management Districts and Office of Water Policy, s.373.026, F.S.

- *Water Quality*

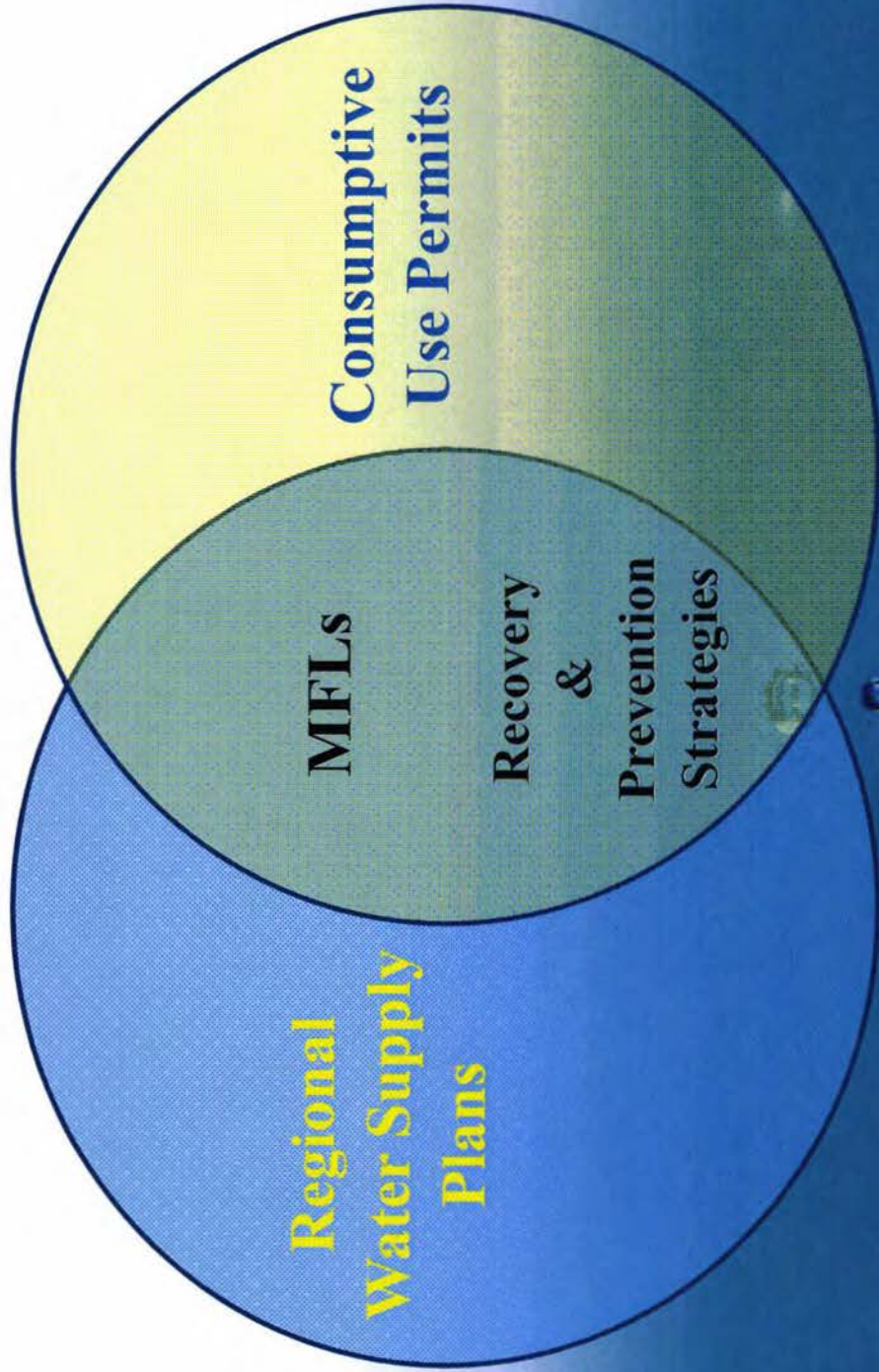
Division of Environmental Assessment & Restoration, s.403.067, F.S.

Division of Water Resources, Chapters 373 and 403, F.S.





Quantity: Water Supply Planning and Regulatory Framework





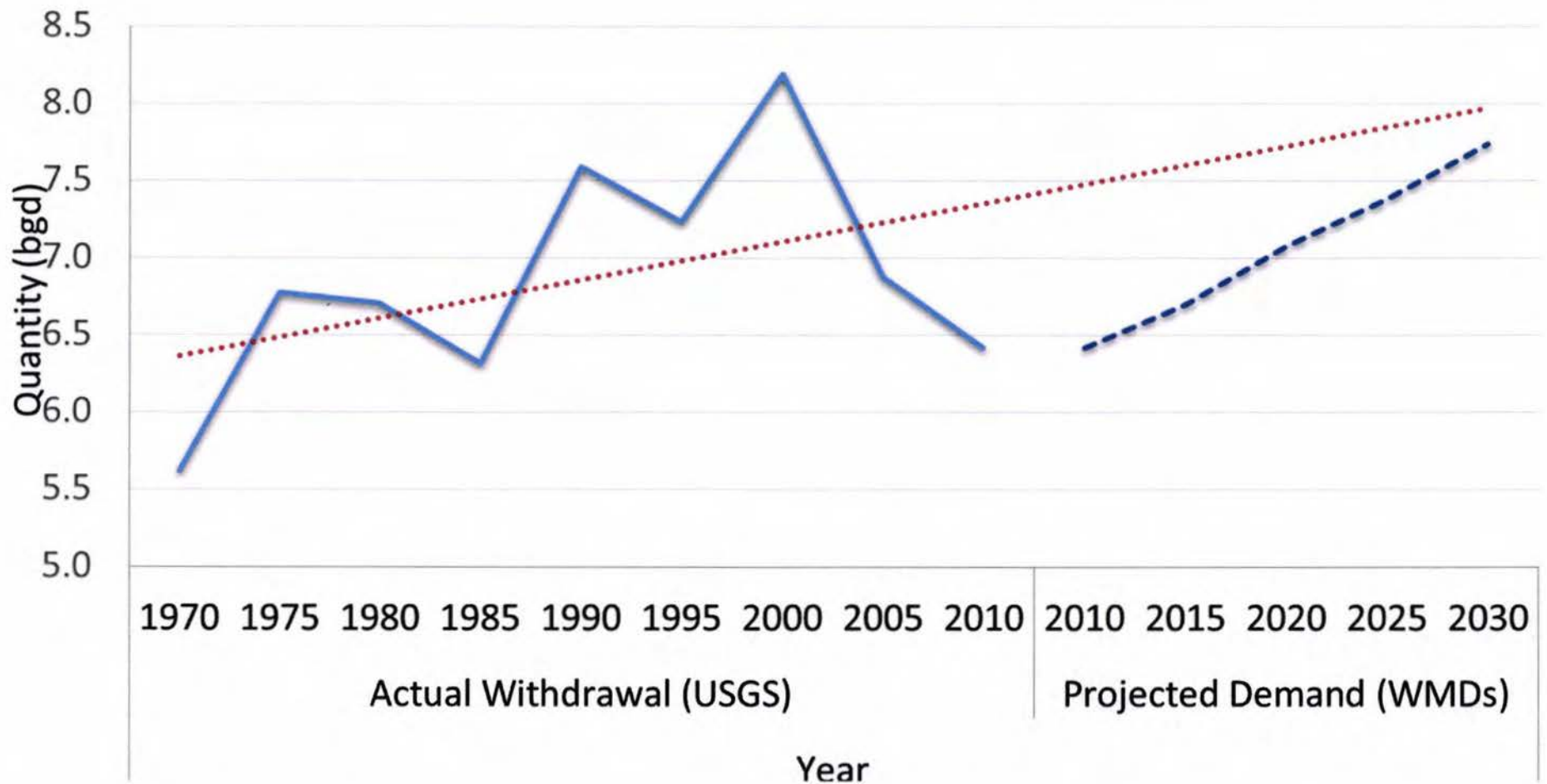
Water Management District Regional Water Supply Plans

20-year Projected Water Supply Needs

	Net Demand Change	Future Demand Not Met	Future Demand Not Met after Conservation	Potential Water from AWS Projects
Statewide Total	1418 mgd	611 mgd	322 - 376 mgd	2006 mgd
CFWI	300 mgd	250 mgd	208 mgd	405 mgd



Historical v. Projected Water Use





Minimum Flows and Levels

MFL →

Recovery ⇒

Prevention ⇒

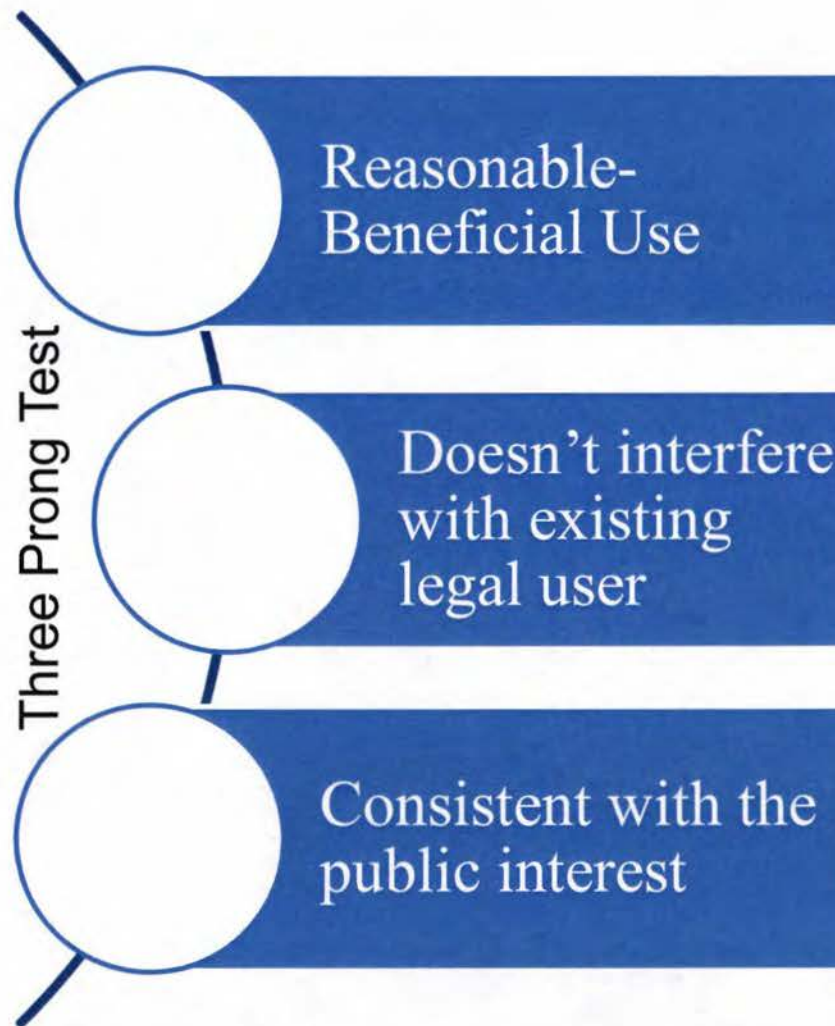
- Regulatory – Water Use
- Projects – Water Supply
- Water Conservation

- 365 MFLs established for water bodies
- 97% of MFLs are being met or have approved Recovery or Prevention Strategies



Consumptive Use Permitting

- CUPs Limit:
 - Duration of use
 - Amount to be used
 - Type of use
- Criteria for Issuance:
 - Not harmful to resources
 - Meet the “Three Prong Test”





Conservation & Alternative Water Supply



Water Use Efficiency



Surface Water Storage



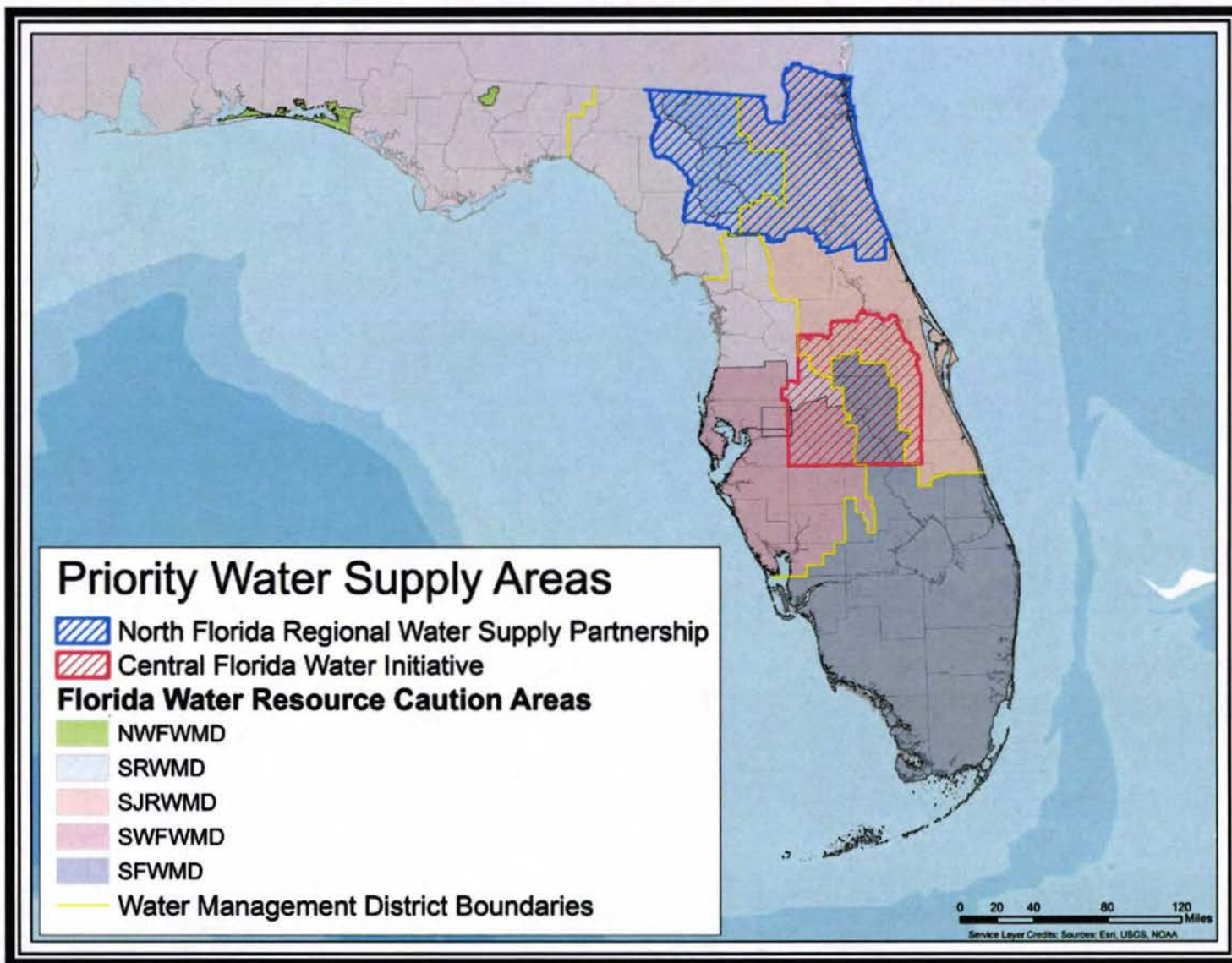
Reclaimed Water



Reverse Osmosis

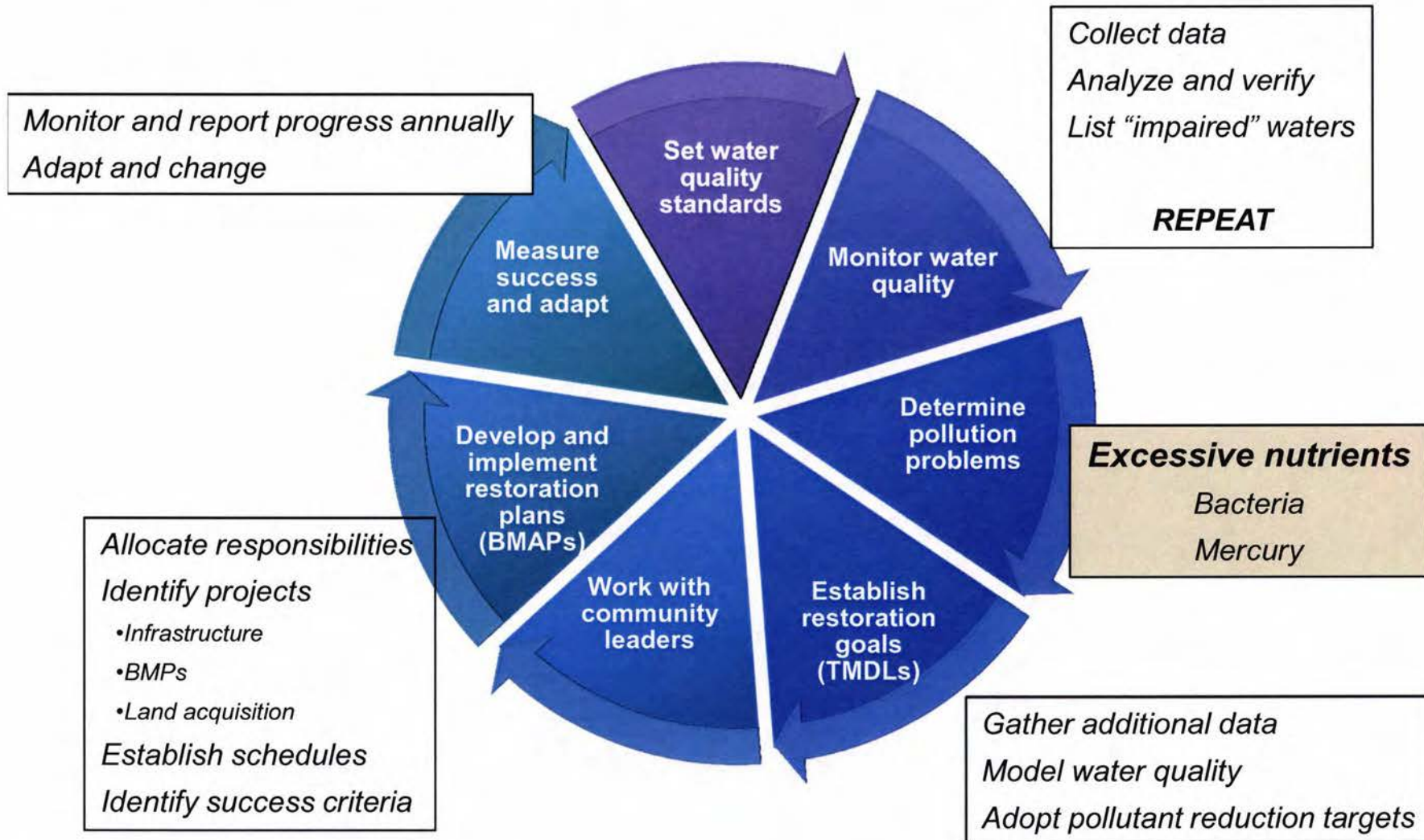


Water Supply Areas



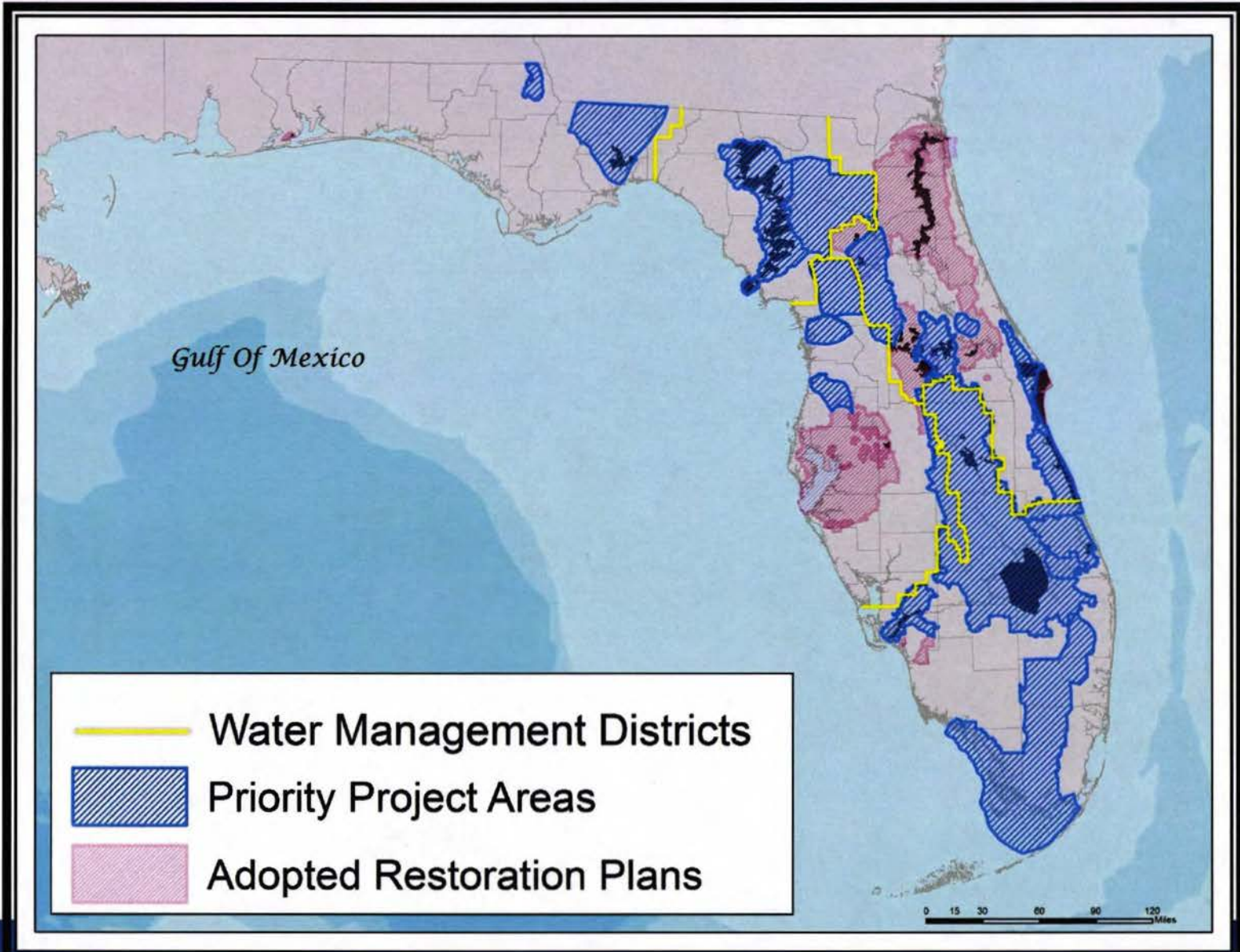


Water Quality Framework





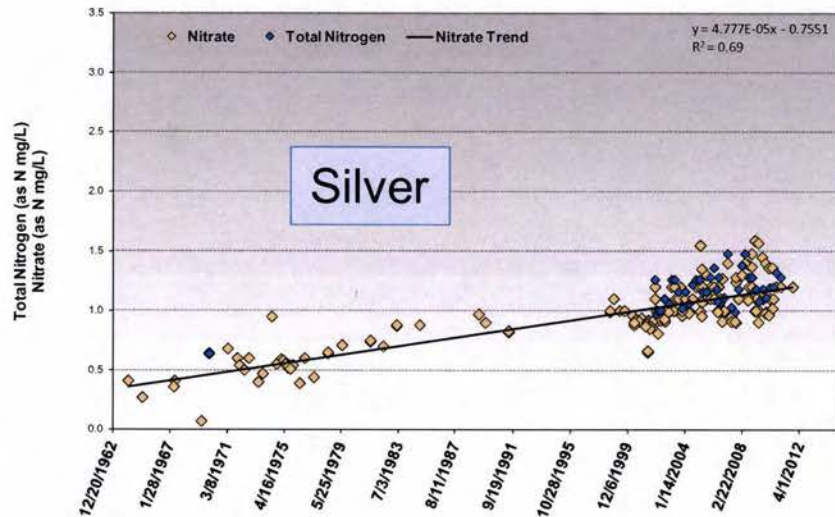
Priority Water Quality Areas



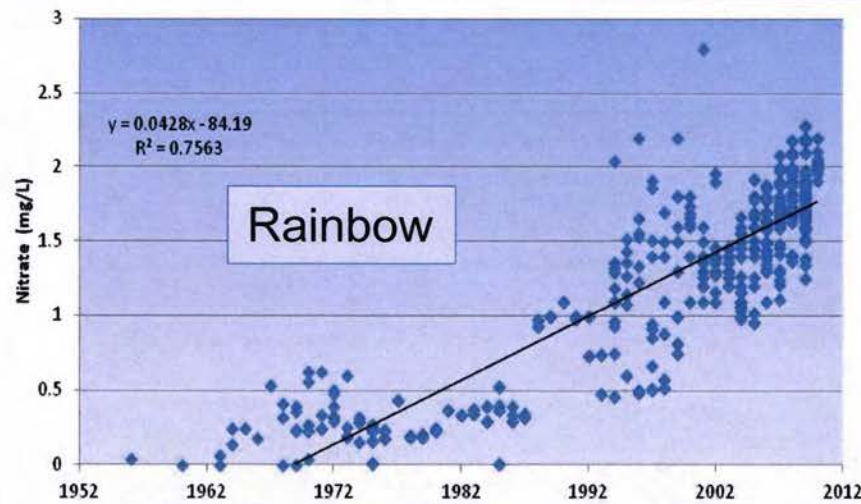
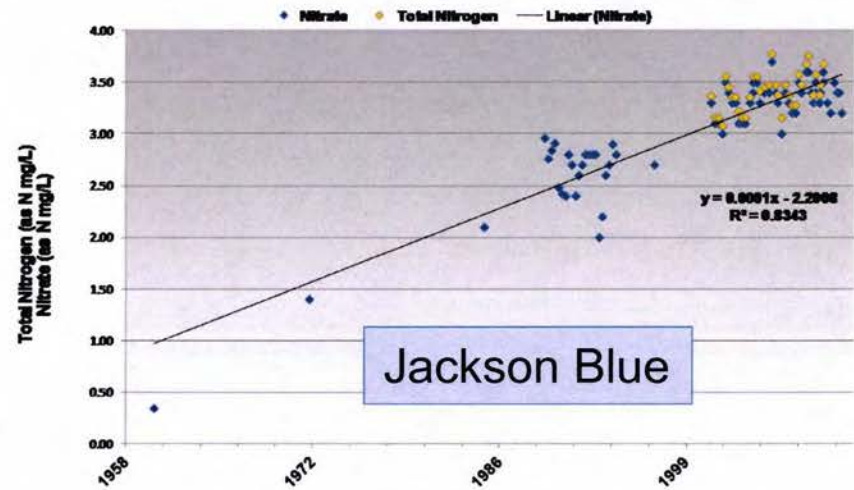


The Springs Challenge

NITRATE AND TOTAL NITROGEN TRENDS (1964-2011)
SILVER SPRING MAIN - WBID 2772A

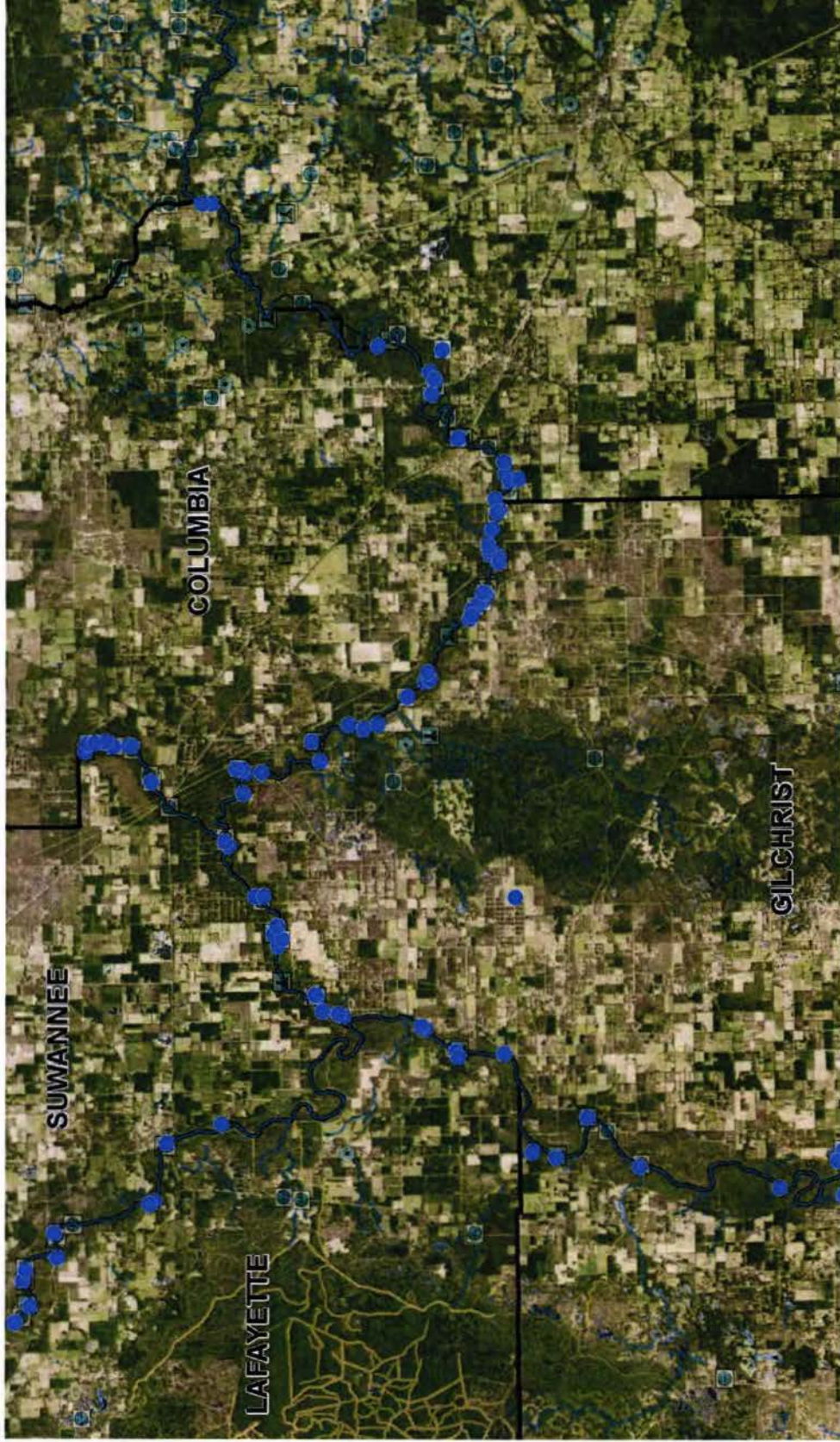


Nitrate and Total Nitrogen Trends (1960-2011)
Jackson Blue Spring - WBID 180Z



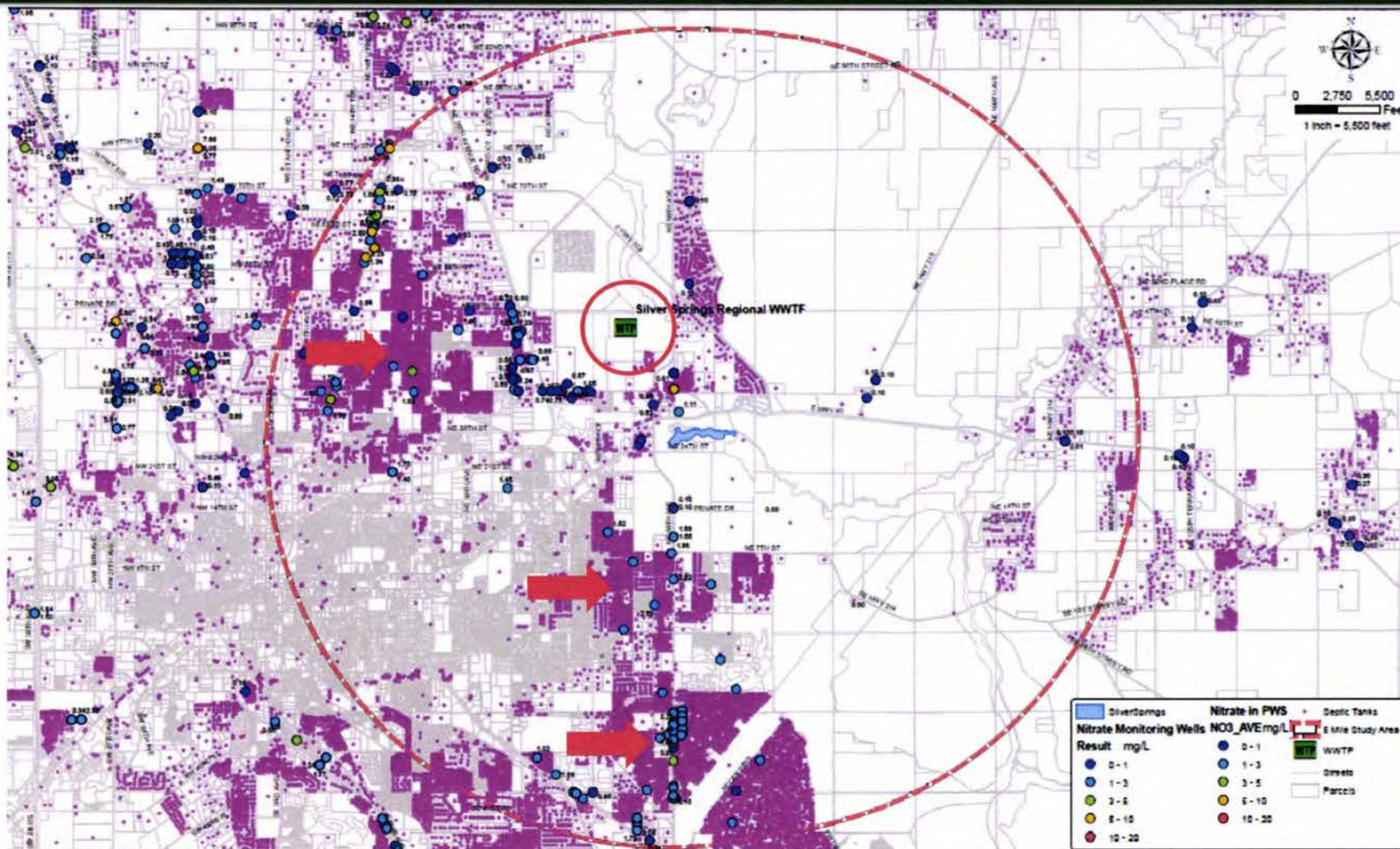


Santa Fe & Suwannee Rivers – Rural Setting





Silver Springs – Urban Setting



PBS

MARION COUNTY UTILITIES
Silver Springs Water Quality Improvement
Nitrate Content 5 miles from the Springs

FIGURE 3-2



South Florida Ecosystem Restoration

- **Comprehensive Everglades Restoration Plan**
A state and federal plan that provides framework to restore and protect the South Florida Ecosystem
- **Everglades Restoration Strategies**
A state plan to implement key water treatment and storage projects to deliver clean water
- **Key Projects**
 - Kissimmee River Restoration
 - Caloosahatchee River Protection
 - St. Lucie Estuary Protection





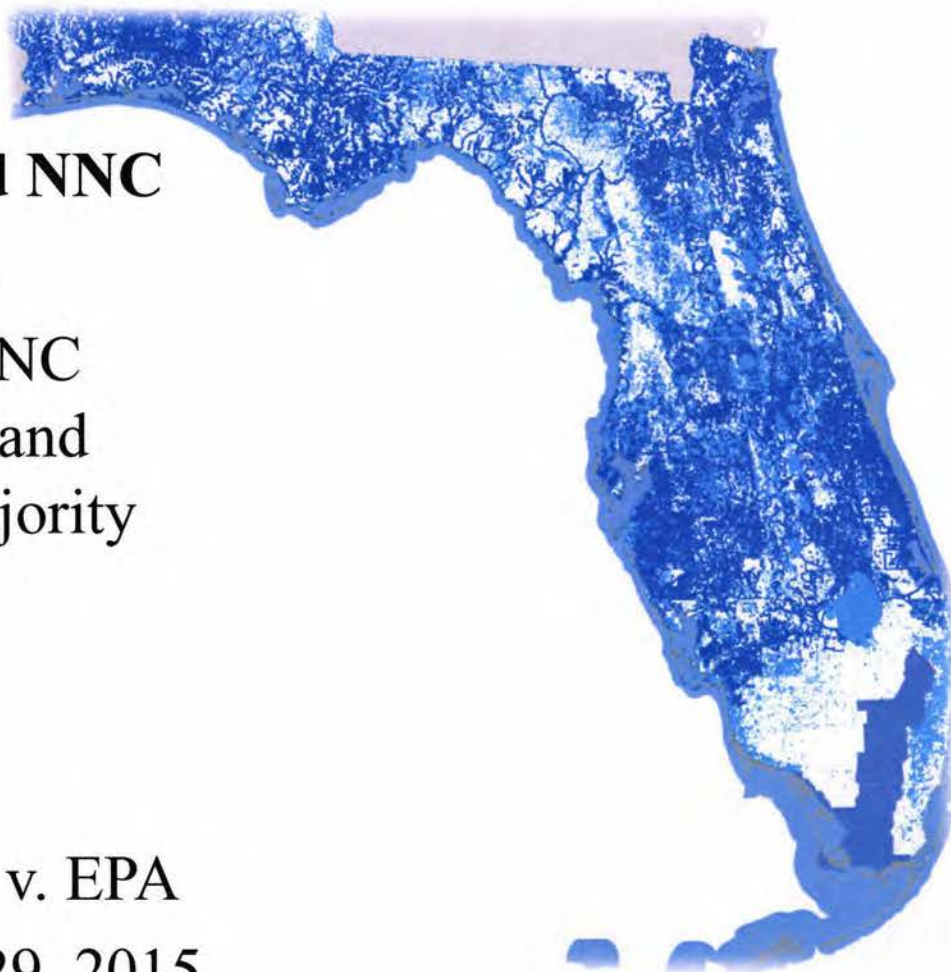
Numeric Nutrient Criteria in Florida

Comprehensive State – Adopted NNC

- ✓ Effective on October 27, 2014
- Florida has state-established NNC for all lakes, springs, estuaries and coastal waters, and the vast majority of flowing waters

NNC Appeal

- Florida Wildlife Federation v. EPA
- Oral argument set January 29, 2015





Contact



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Water Policy & Ecosystem Restoration
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