

# The Florida Agriculture Industry Helping to Protect and Save Water

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Office of Agricultural Water Policy

August 2, 2014



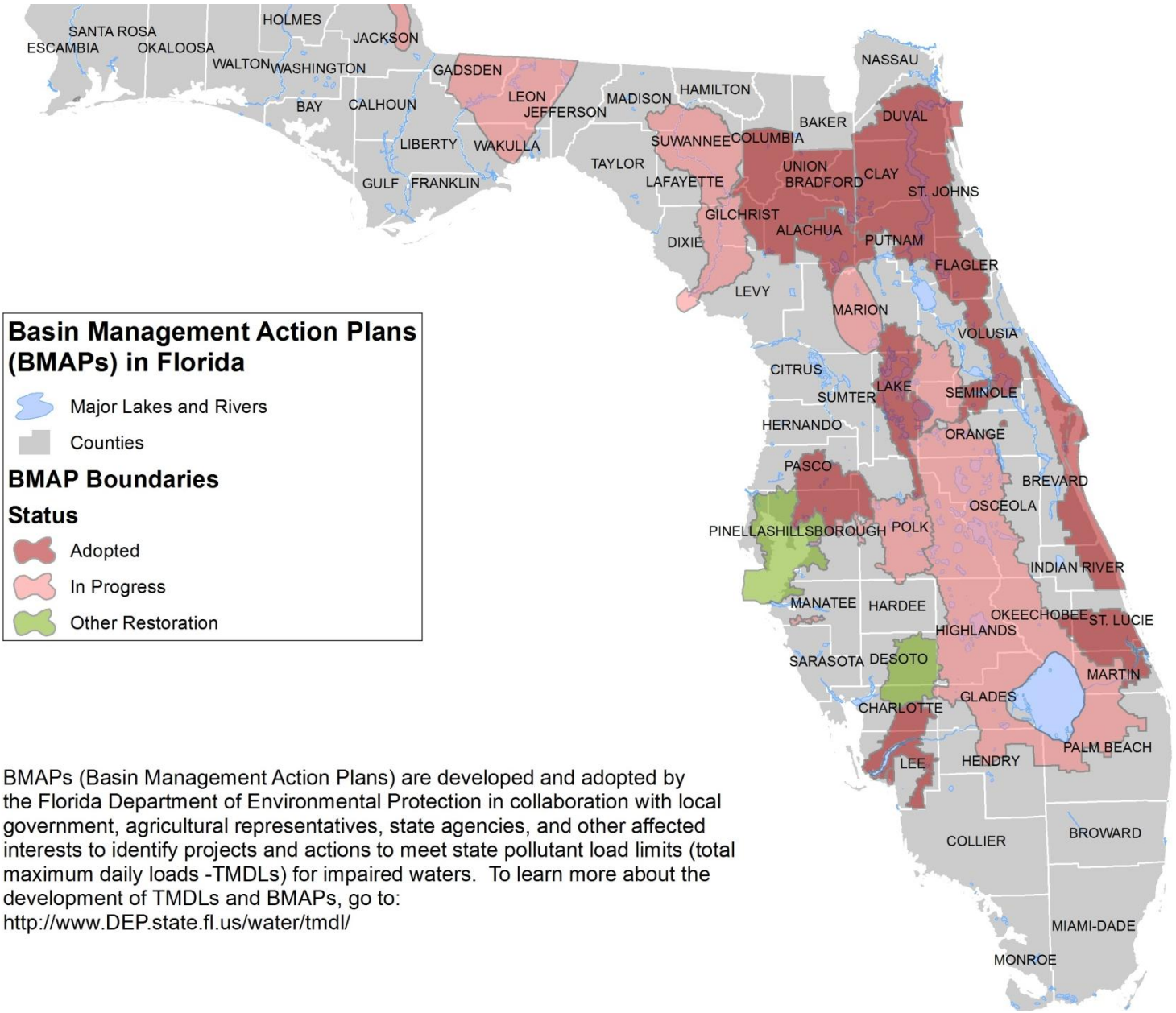
# Water Quality Issues




The screenshot shows a web browser displaying an NPR Miami Herald Environment article. At the top left is the NPR logo with links for 'topics', 'programs', and 'listen'. Below it is a blue banner with the text 'Miami Herald Environment'. A navigation bar contains links for 'Home', 'News', 'Sports', 'Business', 'Lifestyle', 'Entertainment', 'Opinion', 'Obituaries', and 'Sub'. The article title is 'Lake Okeechobee dumping spells pollution problems for coastal rivers', dated Thursday, 07.25.13, by Curtis Morgan. A small image of a lake is visible below the title. The author's contact information is 'BY CURTIS MORGAN' and 'CMORGAN@MIAMIHERALD.COM'. On the right side, there is a partially visible word 'ooming y'.




# TMDLs BMAPs



**Basin Management Action Plans (BMAPs) in Florida**

-  Major Lakes and Rivers
-  Counties

**BMAP Boundaries Status**

-  Adopted
-  In Progress
-  Other Restoration

BMAPs (Basin Management Action Plans) are developed and adopted by the Florida Department of Environmental Protection in collaboration with local government, agricultural representatives, state agencies, and other affected interests to identify projects and actions to meet state pollutant load limits (total maximum daily loads -TMDLs) for impaired waters. To learn more about the development of TMDLs and BMAPs, go to: <http://www.DEF.state.fl.us/water/tmdl/>



# Water Supply Issues

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# Water keep



By Barni

### Water

## Saltwater intrusion threatens South Florida's water supplies

Published 15 September 2011

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South Florida's water supply is becoming increasingly endangered by saltwater that is steadily seeping in from the ocean and contaminating supplies; despite the best efforts of local communities to stop the problem, saltwater intrusion is spreading

Judiciary

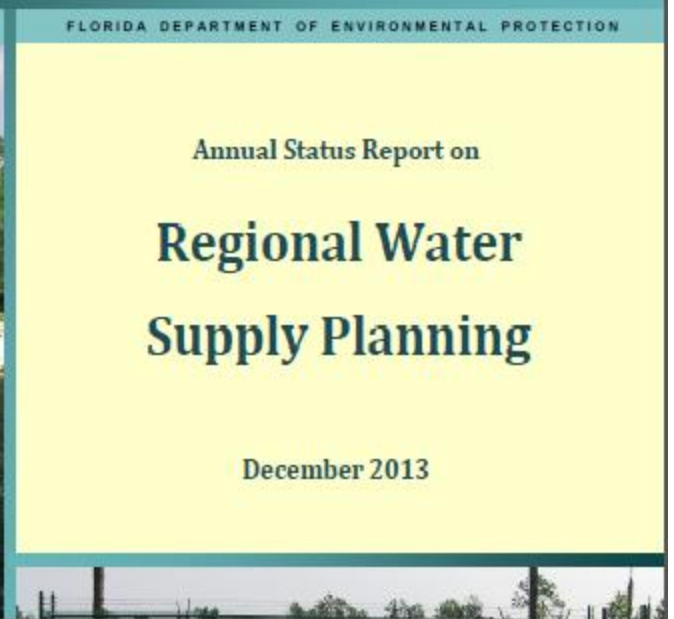
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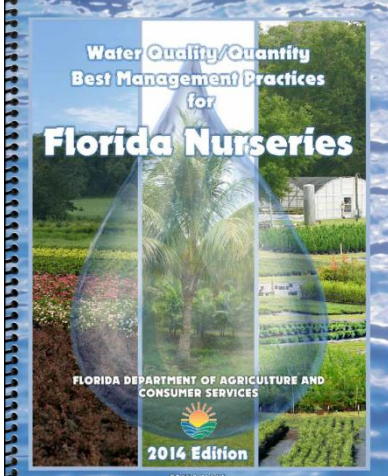
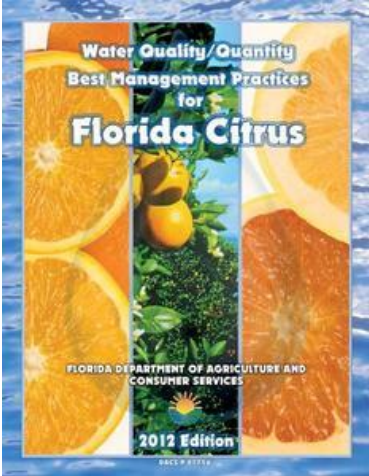
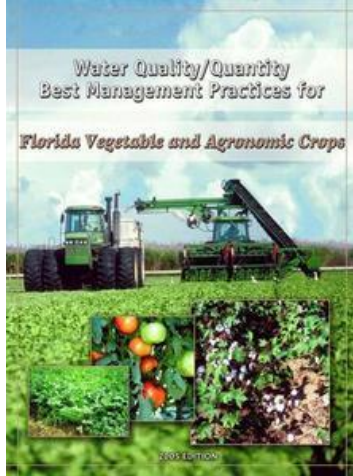
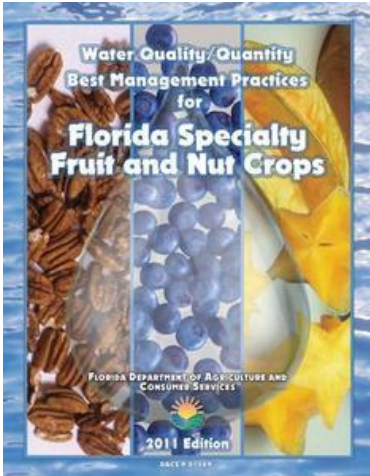
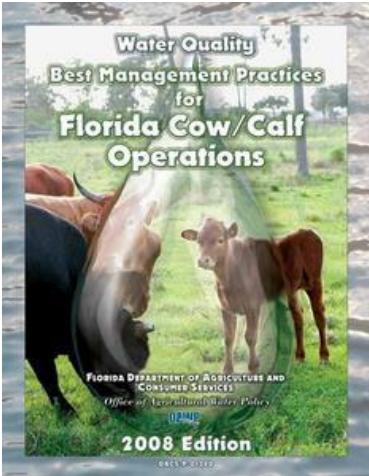
# Florida Water Supply Planning

DEP  
WMDs  
FDACS  
Local  
Governments





# BMP Manuals





# Examples of BMPs - Sedimentation/Erosion Control

## Conservation Tillage



## Cover Crops



## Grassed Waterways/Filter Strips



# Examples of BMPs – Dairy Operations

Before



After





# Dairy Wastewater Treatment



# Examples of BMPs – Poultry Operations

Before



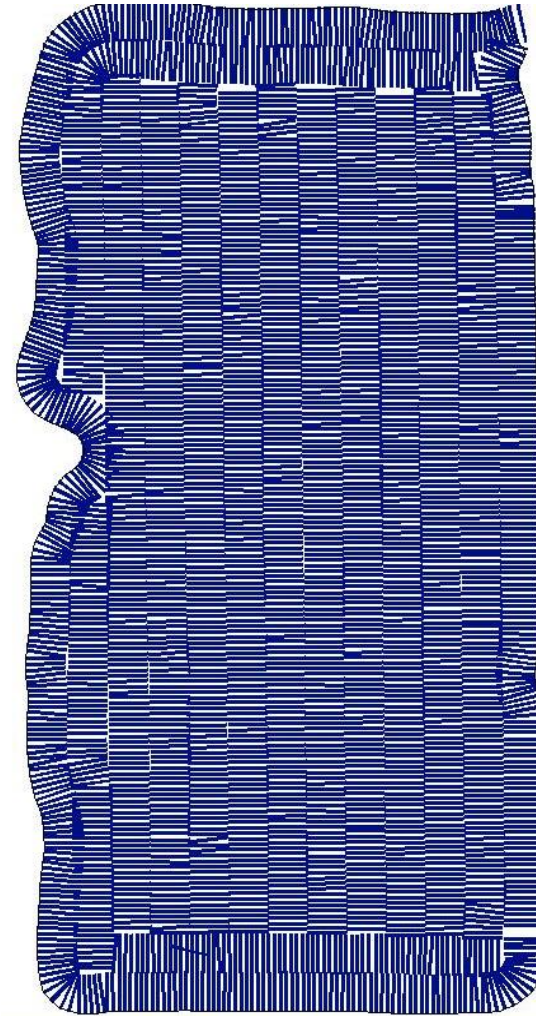
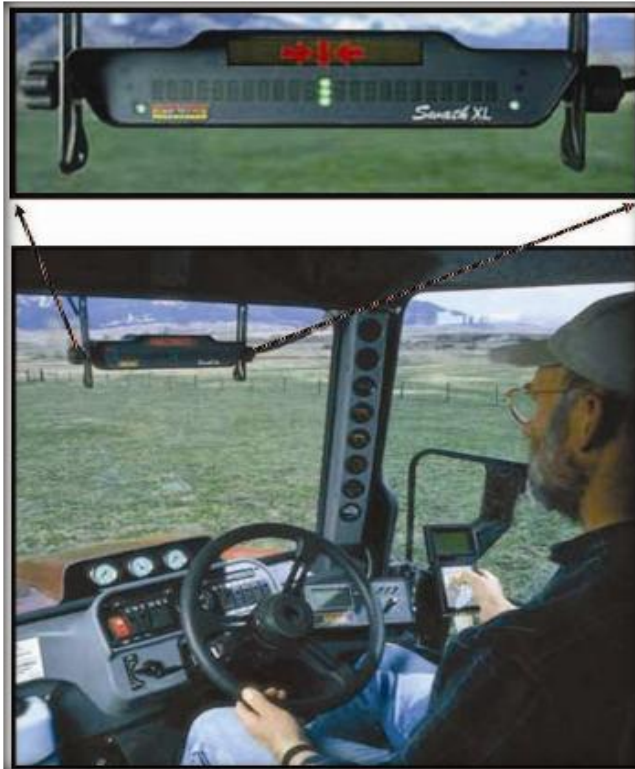
After





# Cost Sharing BMPs - Nutrient Management

## Tractor-Mounted Navigation Equipment





# Examples of BMPs – Fertilizer Management

## Variable Rate Technology



## Precision Applicator



# Water Resources Protection

## Variable Rate Technology

- Uses photoelectric sensors to measure tree canopy
- Efficient technology, especially when resetting trees in mature groves
- Study demonstrated that fertilizer inputs can be reduced by up to 40% using VRT spreading equipment (Schumann, 2007)



# Estimated Nitrogen Reduction from Farms Implementing BMPs

- **272 Crop farms using BMP Tools on 175,000 acres**
- **At 50 lbs N/acre reduction**  
Estimated reduction in lbs of N applied per year **8,750,000**  
**(4,375 tons)**





# Nitrogen Fertilizer Sales

## Total N Sold

(Alachua, Baker, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Jefferson, Lafayette, Levy, Madison, Suwannee, Taylor, Union)

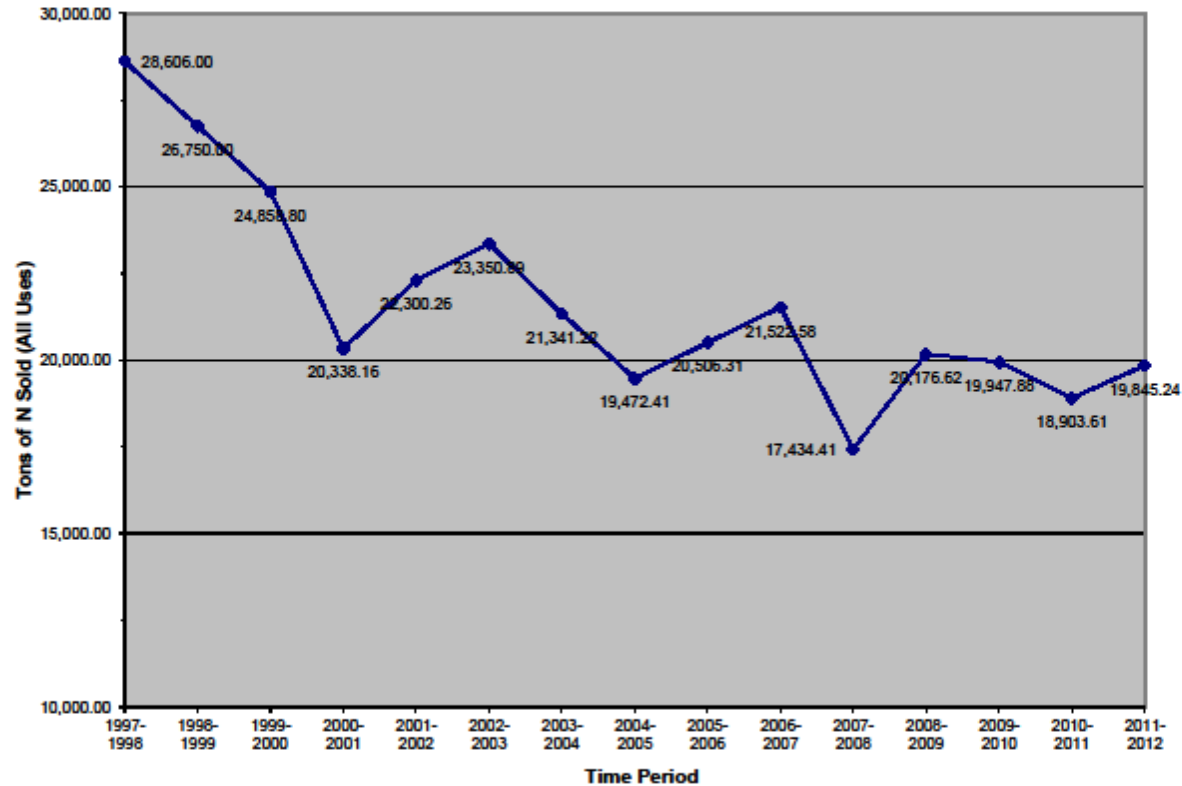


Chart is based on FDACS Bureau of Compliance Monitoring, Archive Fertilizer Tonnage Data. Total Fertilizer and Nutrients by County Reports (1997-2012)



# Water Resources Protection



Replace  
Water  
Control  
Structures



Proper management of water can achieve a 50% reduction in nitrogen losses and water use (Shukla, 2011)



# Examples of BMPs - Irrigation Management

Mobile Irrigation Labs



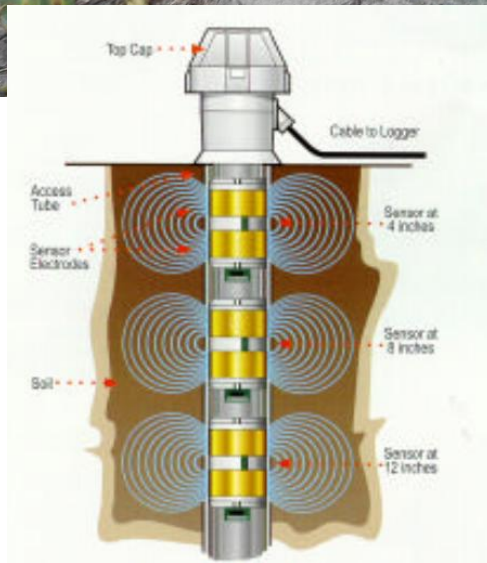
Tailwater Recovery

Irrigation System Retrofits



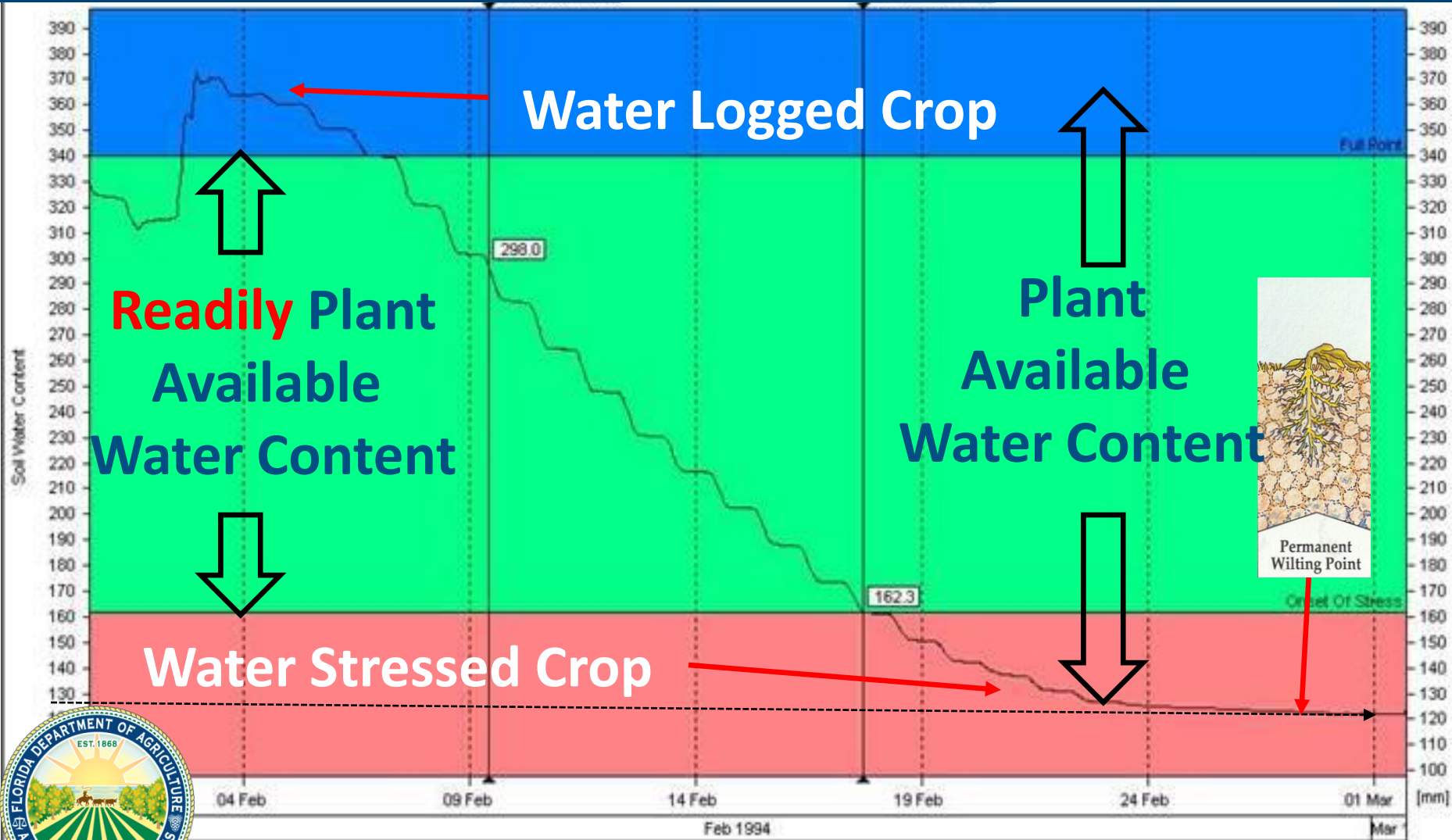


# Irrigation and Nutrient Management



# Critical Crop Water Thresholds

Summed Soil Water Profile Graph



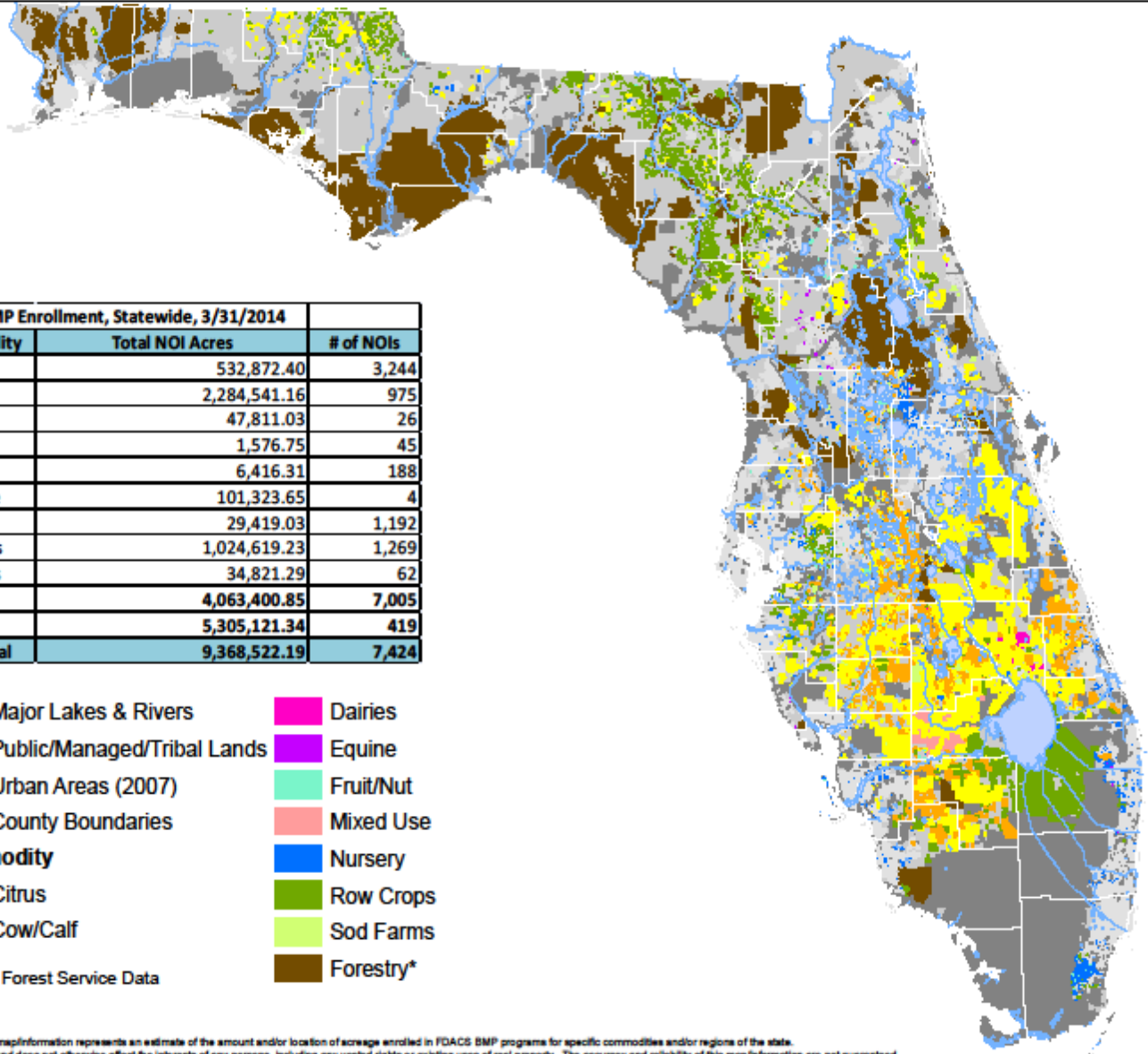
# Mobile Irrigation Labs Since 2004

- 6,560 Irrigation Evaluations
- On 260,000 acres
- Water Savings
  - More than 60 mgd





# Statewide BMP Enrollment



FDACS BMP Enrollment, Statewide, 3/31/2014		
Commodity	Total NOI Acres	# of NOIs
Citrus	532,872.40	3,244
Cow/Calf	2,284,541.16	975
Dairies	47,811.03	26
Equine	1,576.75	45
Fruit/Nut	6,416.31	188
Mixed Use	101,323.65	4
Nursery	29,419.03	1,192
Row Crops	1,024,619.23	1,269
Sod Farms	34,821.29	62
<b>Sub Total</b>	<b>4,063,400.85</b>	<b>7,005</b>
Forestry	5,305,121.34	419
<b>Grand Total</b>	<b>9,368,522.19</b>	<b>7,424</b>

- Major Lakes & Rivers
- Public/Managed/Tribal Lands
- Urban Areas (2007)
- County Boundaries
- Commodity**
- Citrus
- Cow/Calf
- Dairies
- Equine
- Fruit/Nut
- Mixed Use
- Nursery
- Row Crops
- Sod Farms
- Forestry\*

\* Florida Forest Service Data

Disclaimer: This map information represents an estimate of the amount and/or location of acreage enrolled in FDACS BMP programs for specific commodities and/or regions of the state. It is not binding, and does not otherwise affect the interests of any persons, including any vested rights or existing uses of real property. The accuracy and reliability of this map information are not guaranteed, and are affected by continual changes in land use, crop production, and other socioeconomic factors. Date current as of March 31, 2014.

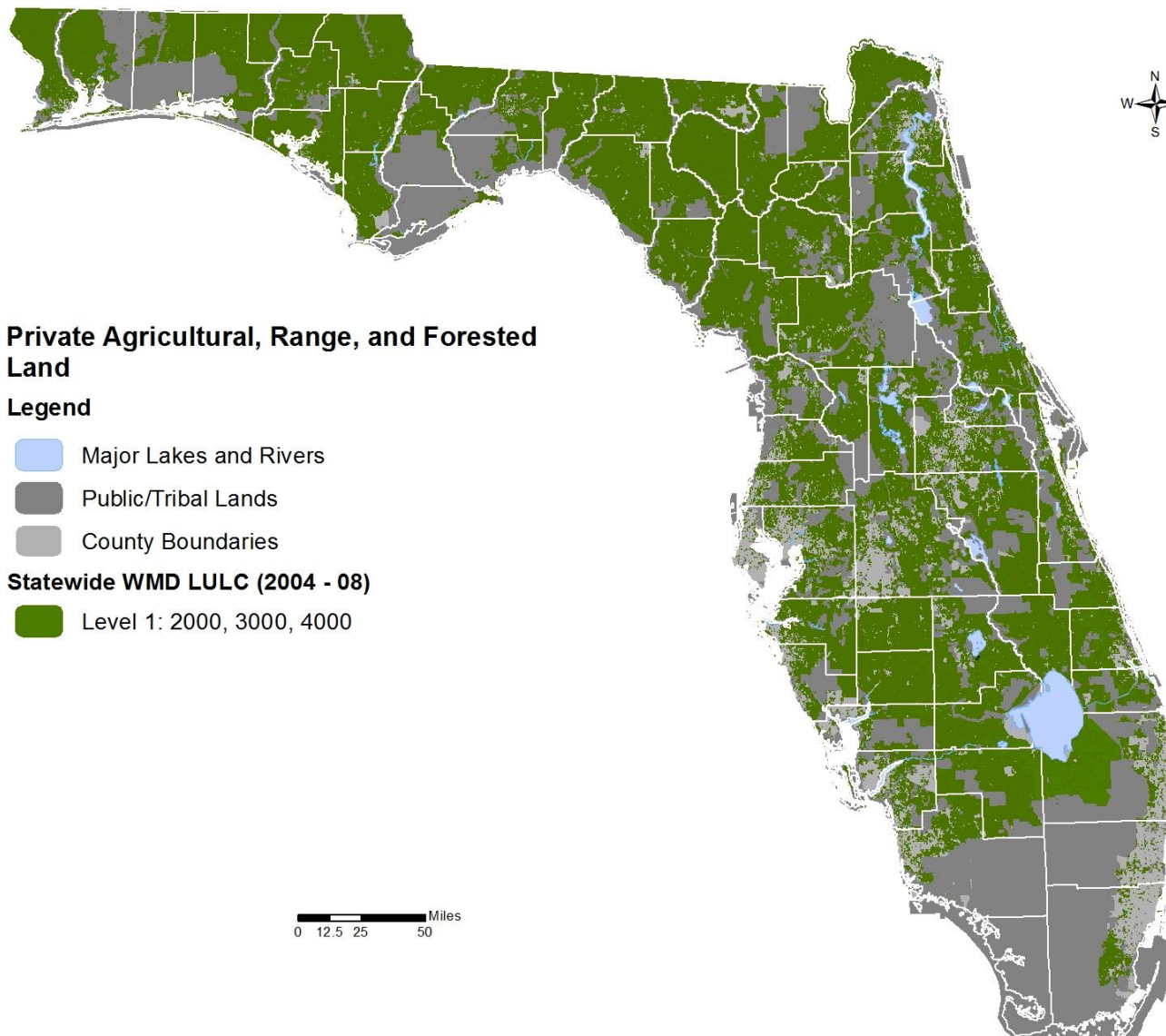


# Soil and Water Conservation Districts

- Priority Watersheds (TMDL – BMAP areas)
  - Cost Share Administration
  - Technical Assistance
  - Mobile Irrigation and Irrigation Management
  - 40 contracts for more than \$17.5 million
- AFCD \$50,000 Contract
- Energy-Water Initiative (Farm Audit Pilot)



# Agriculture Land Use







West Waterhole Project - 2,500 acres  
Lykes Bros. Inc.





# Beyond BMPs

## Integration of Nursery BMPs and Denitrification Wall



Dr. Mark Clark



# Commissioner Putnam

- **Agriculture is a key water stakeholder**; both as a user and as a source of water recharge, and water storage
- Responsible water policy **will utilize technology, sound science, public awareness and collaboration** to achieve its objectives
- **Flexible, Comprehensive, and Long-Term**





# Summary

- **Water Quality and Supply Issues**
- **Agriculture is working to help solve**
- **SWCDs are playing a key role**
- **Agriculture lands are critical**



# Thank You!

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