



Florida Department of Environmental Protection

Basin Management Action Plan (BMAP) Jackson Blue Spring Basin

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Topics

- BMAP Overview
- Ongoing Projects
- Nutrient Source Inventory Loading Tool (NSILT)
- Florida Springs and Aquifer Protection Act
- BMAP Schedule



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BMAP Overview



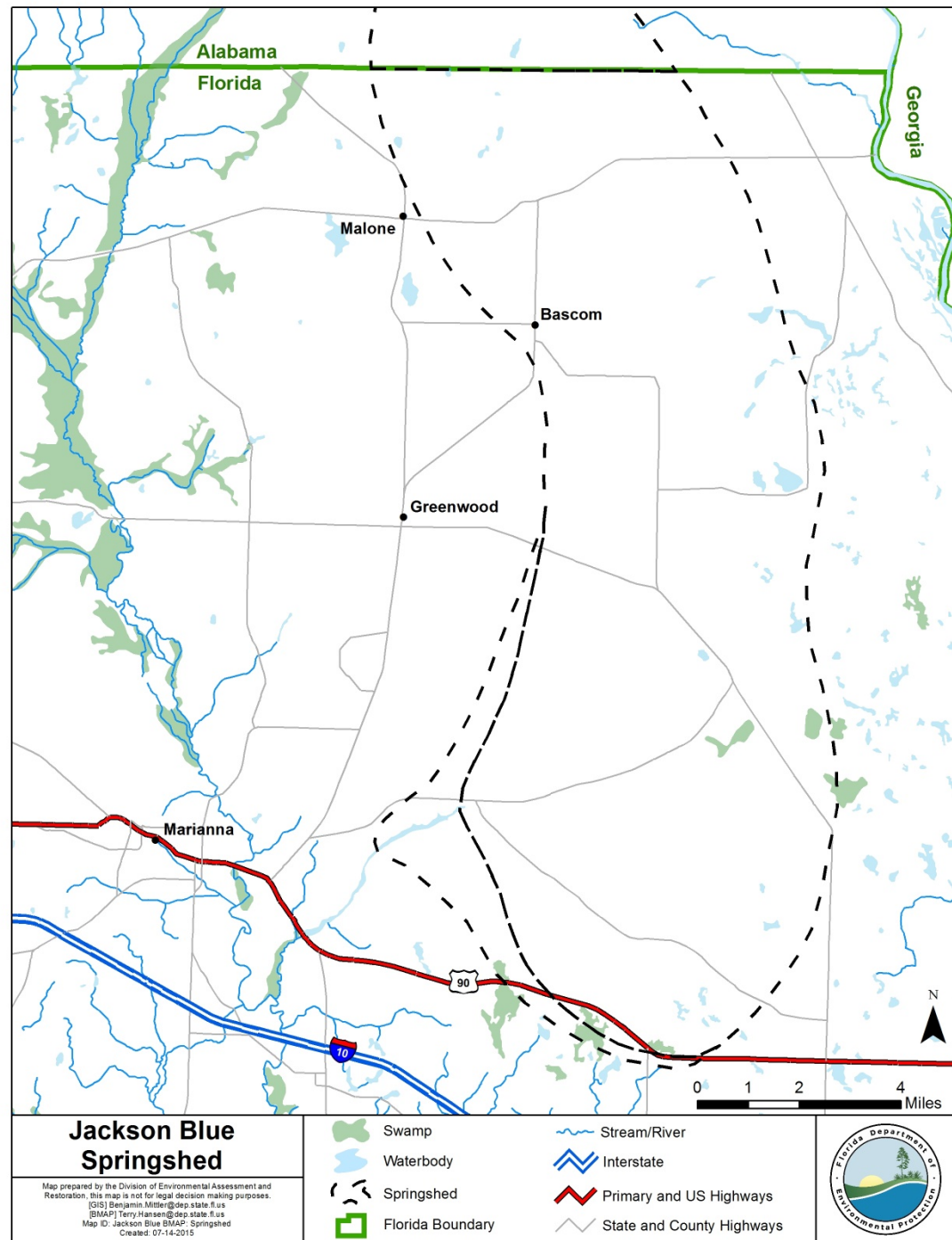


BMAP Area

Total contributing area:
154 square miles

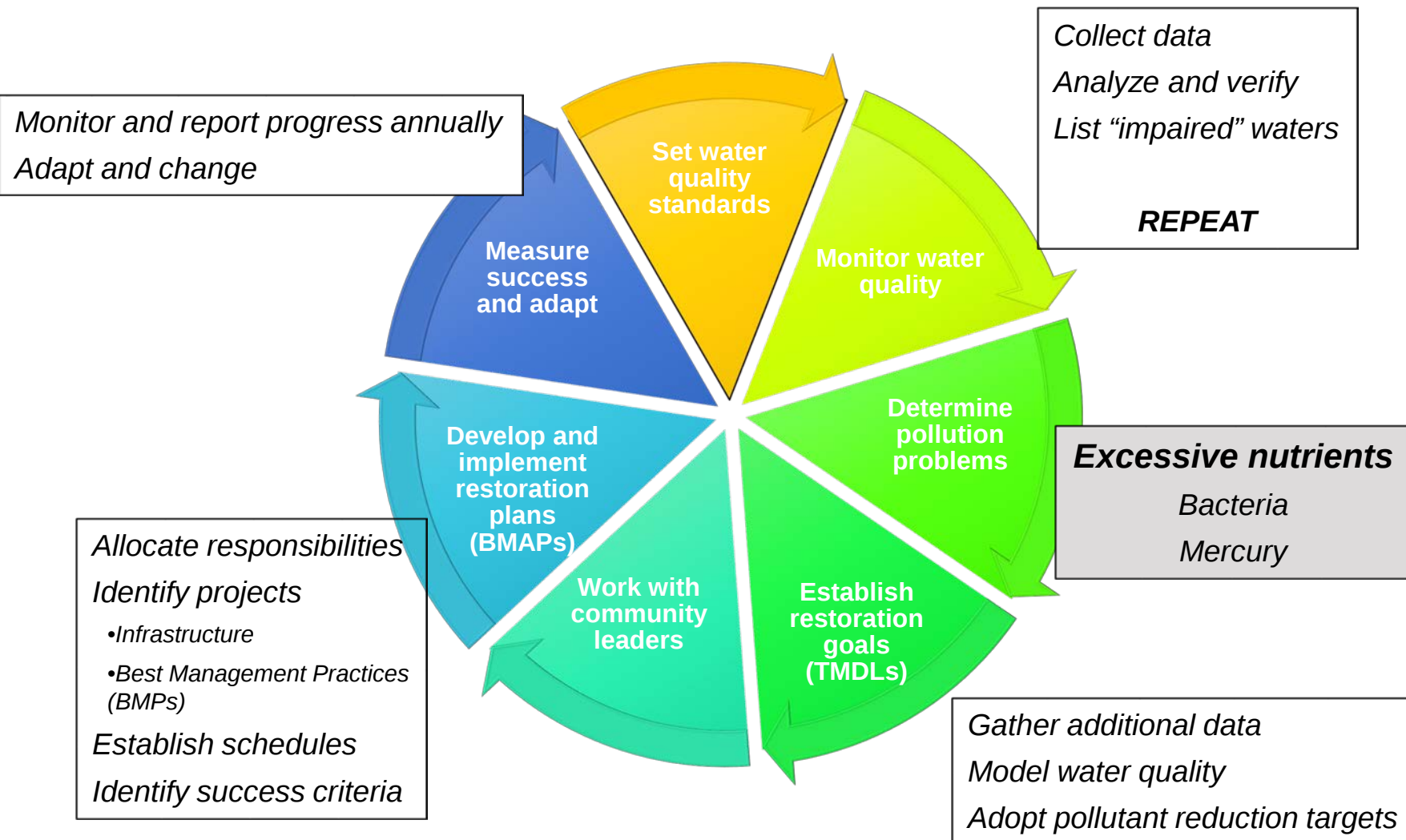
- 8% in Alabama
- 92% in Florida

BMAP address Florida
Portion





Water Quality Framework





BMAPs

- Florida Department of Environmental Protection (DEP) method for restoring water quality to an impaired water body
- BMAPs are adopted by DEP through a Secretarial Order
- BMAPs are enforceable
- BMAPs are reviewed annually and updated every five years



Regulatory Framework

- The process for preparing BMAPs is found in:
 - Section 403.067, Florida Statutes (F.S.), known as the Florida Watershed Restoration Act (FWRA)
 - Spells out issues that are addressed within a BMAP





Jackson Blue Total Maximum Daily Load (TMDL)

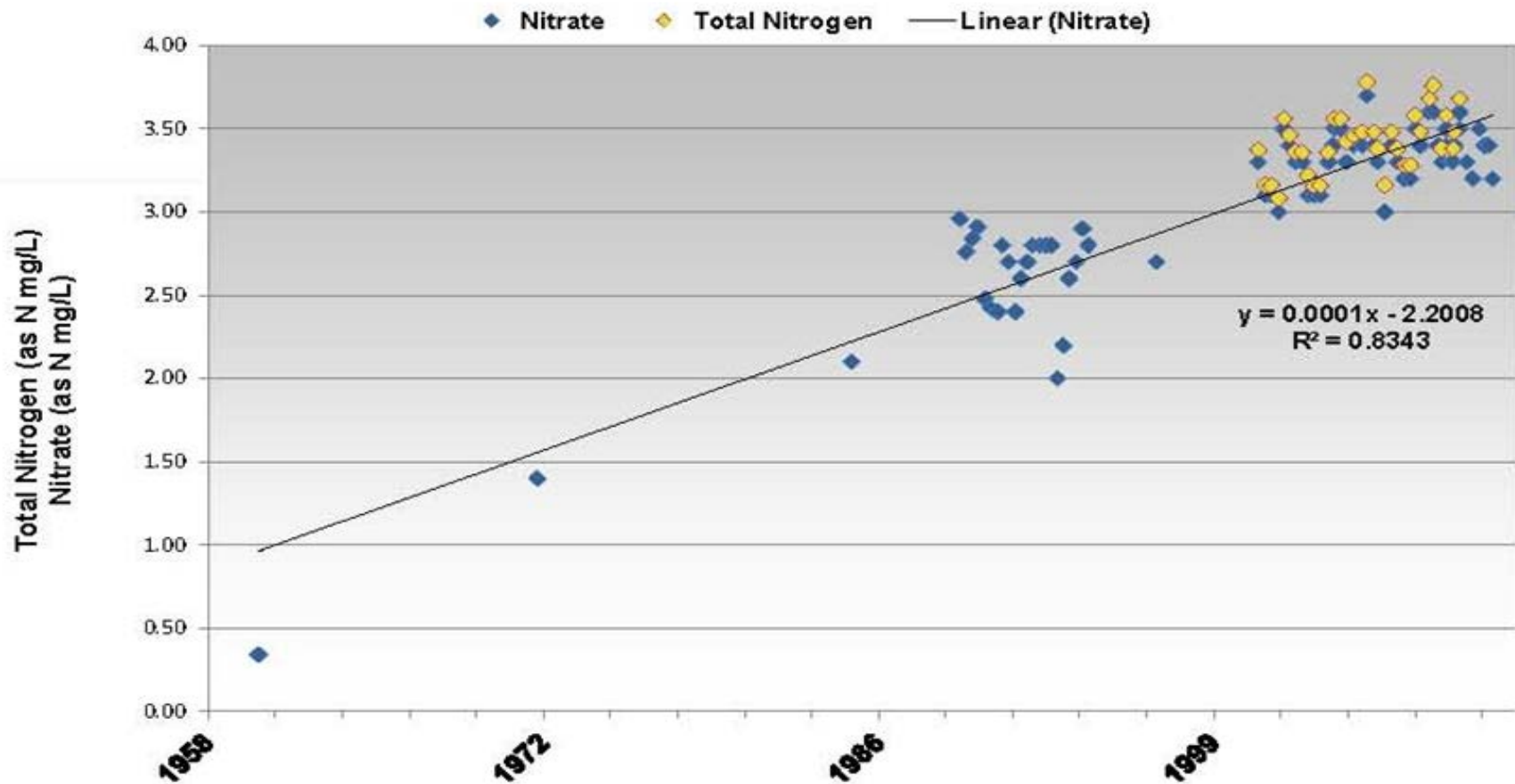
- TMDL report dated January 2013
- Spring and Mill Pond impaired for excessive algae
- TMDL is 0.35 milligrams per liter (mg/L) nitrate as a monthly average
- BMAP goal is an unimpaired waterbody

Waterbody Identification (WBID)	Parameter	TMDL (mg/L)	TMDL % Reduction	Wasteload Allocation for Wastewater	Wasteload Allocation for Nonpoint Source Discharge Elimination System (NPDES) Stormwater (% Reduction)	Load Allocation (% Reduction)
Jackson Blue Spring (WBID 180Z), Merritts Mill Pond (WBID 180A)	Nitrate, as monthly average	0.35	90%	N/A	N/A	90%



Historic Nitrogen Trends

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





Flow vs. Concentration

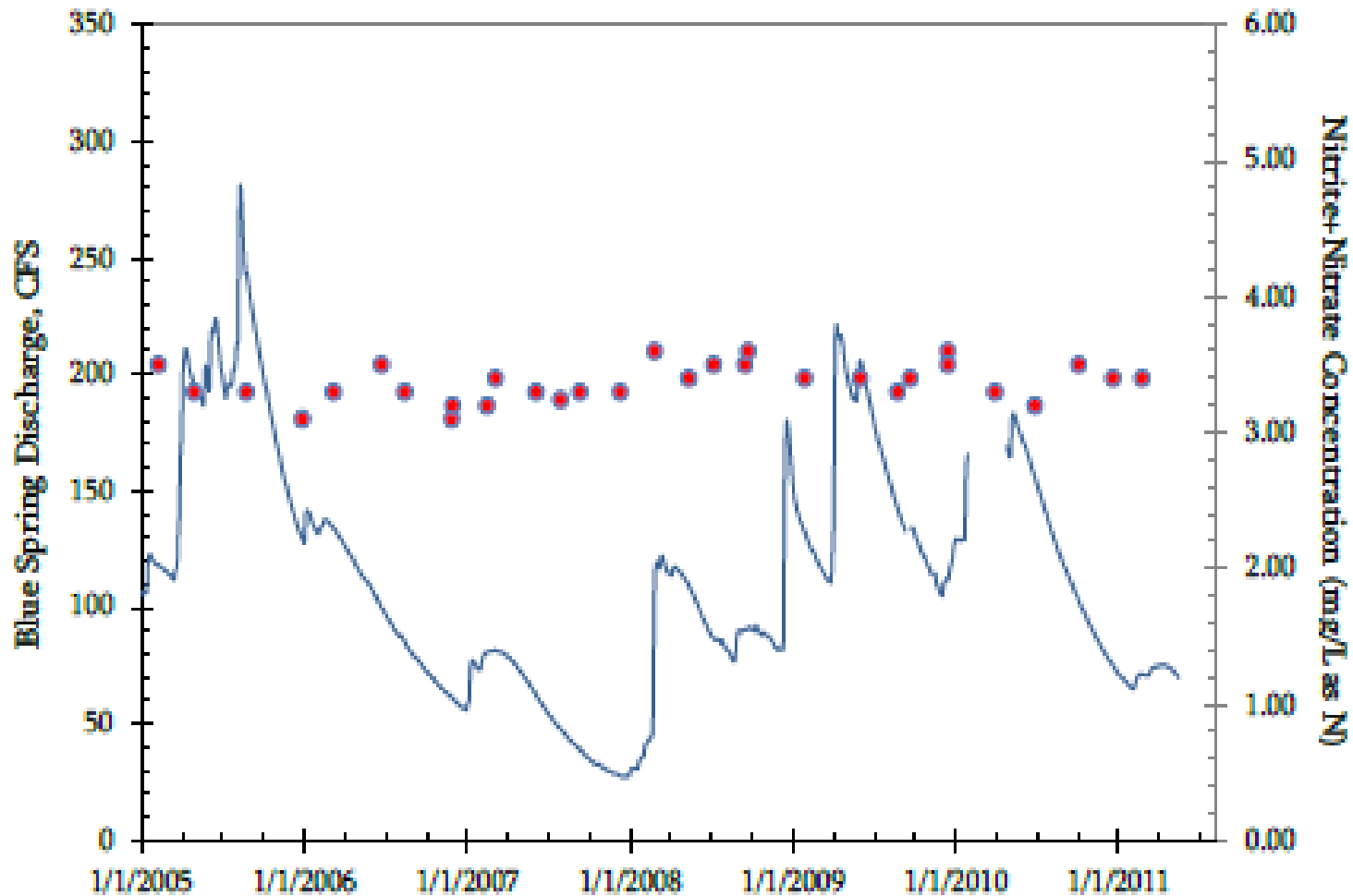


Figure 11. Discharge vs. Nitrite+Nitrate Concentration

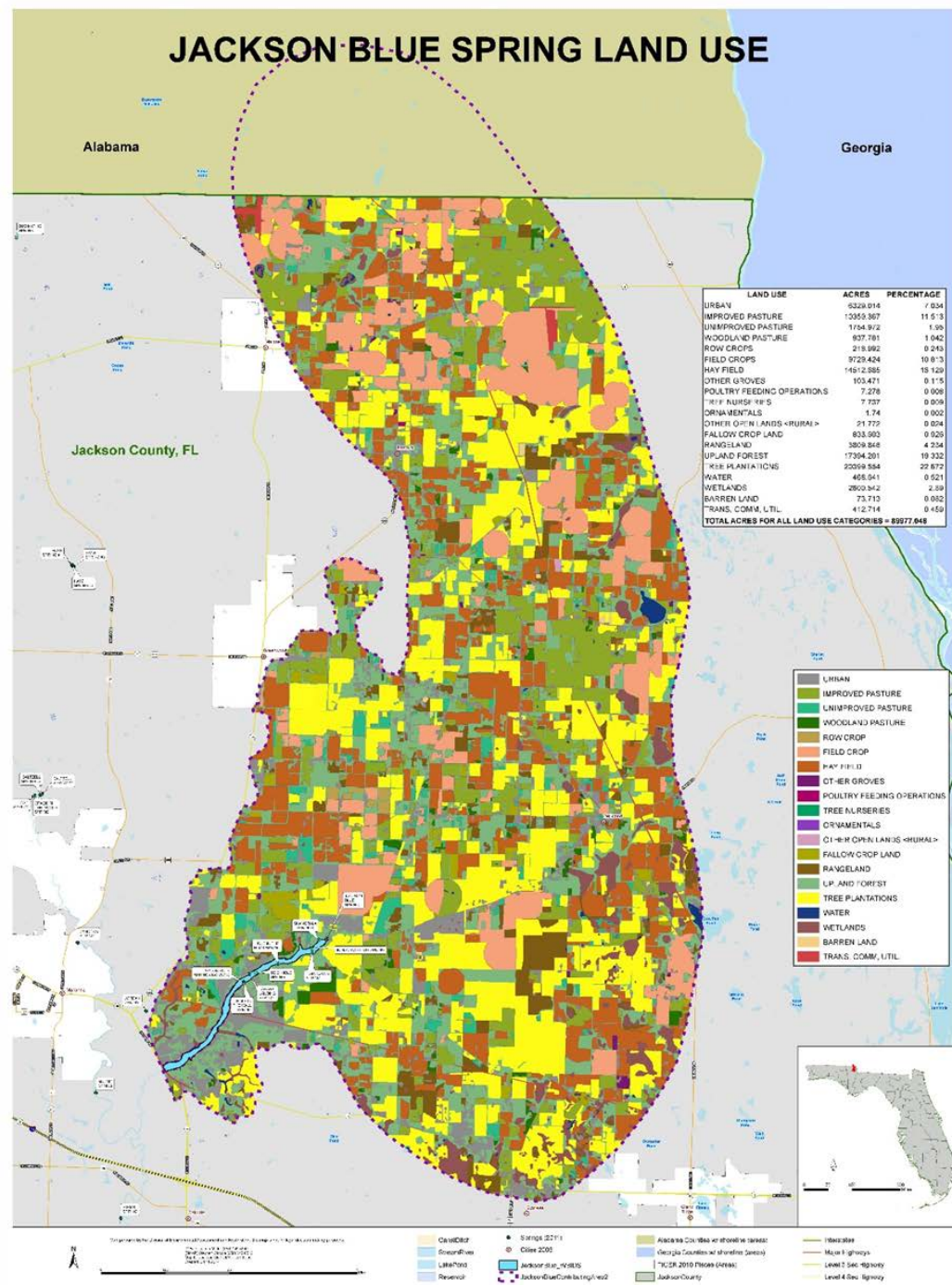


Land Use

LEVEL 1 LAND USE CODE	LAND COVER DESCRIPTION	ACRES	% TOTAL
1100	Low-Density Residential	4,250.27	4.72%
1200	Medium-Density Residential	1,405.18	1.56%
1300	High-Density Residential	52.79	0.06%
1400	Commercial	147.83	0.16%
1500	Light Industrial	3.86	0.00%
1600	Extractive/Quarries/Mines	186.20	0.21%
1700	Institutional	80.19	0.09%
1800	Recreational (Golf Courses, Parks, Marinas, etc.)	159.71	0.18%
1900	Open Land	42.98	0.05%
2000	Agriculture	38,488.82	42.78%
3000 + 7000	Rangeland	3,883.56	4.32%
4000	Forest/Rural Open	37,793.76	42.00%
5000	Water	468.64	0.52%
6000	Wetlands	2,600.54	2.89%
8000	Communication and Transportation	412.71	0.46%
	TOTAL	89,977.04	100.00%



Land Use





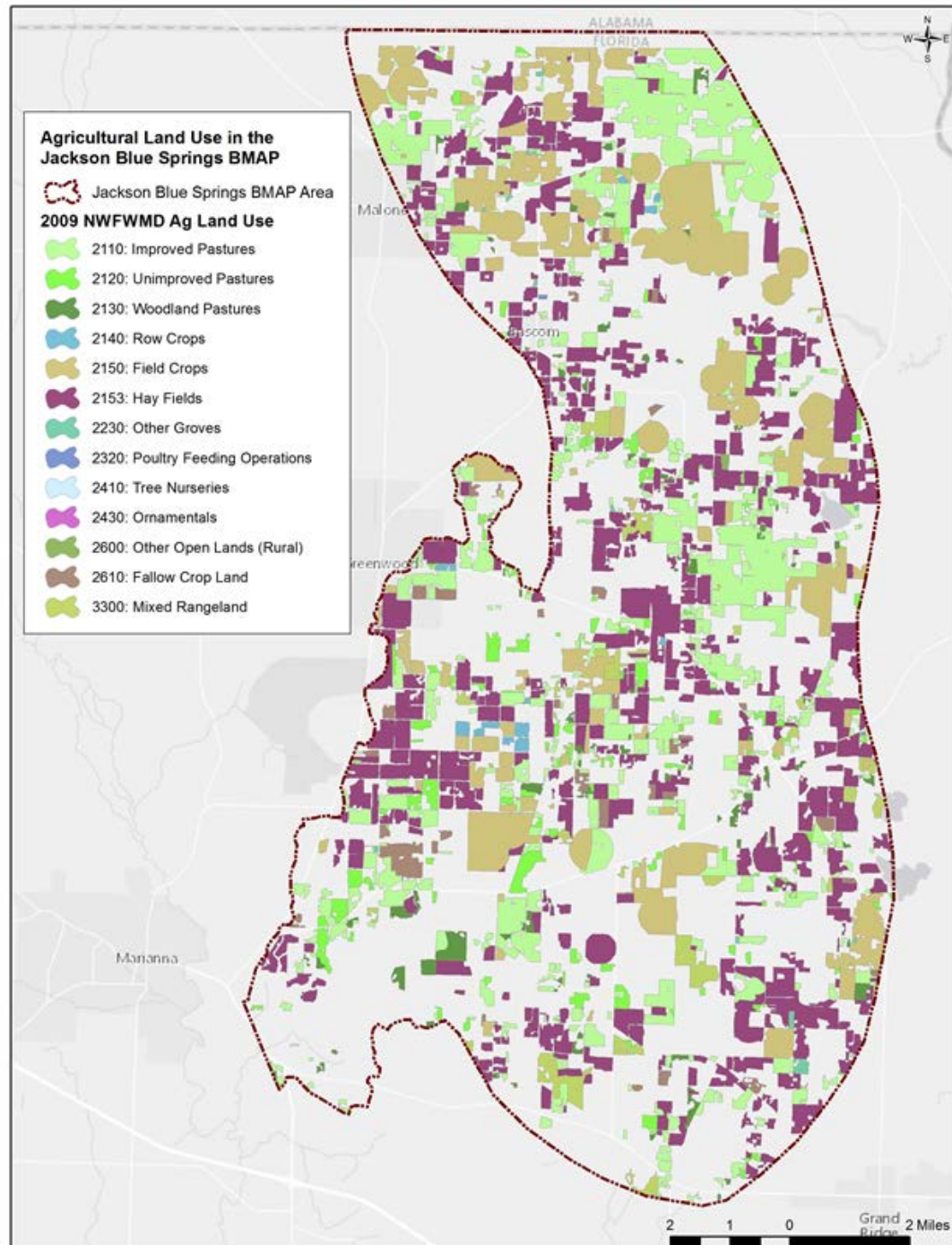
Agricultural Land Use

Agricultural Land Use in the Jackson Blue Springs BMAP

Jackson Blue Springs BMAP Area

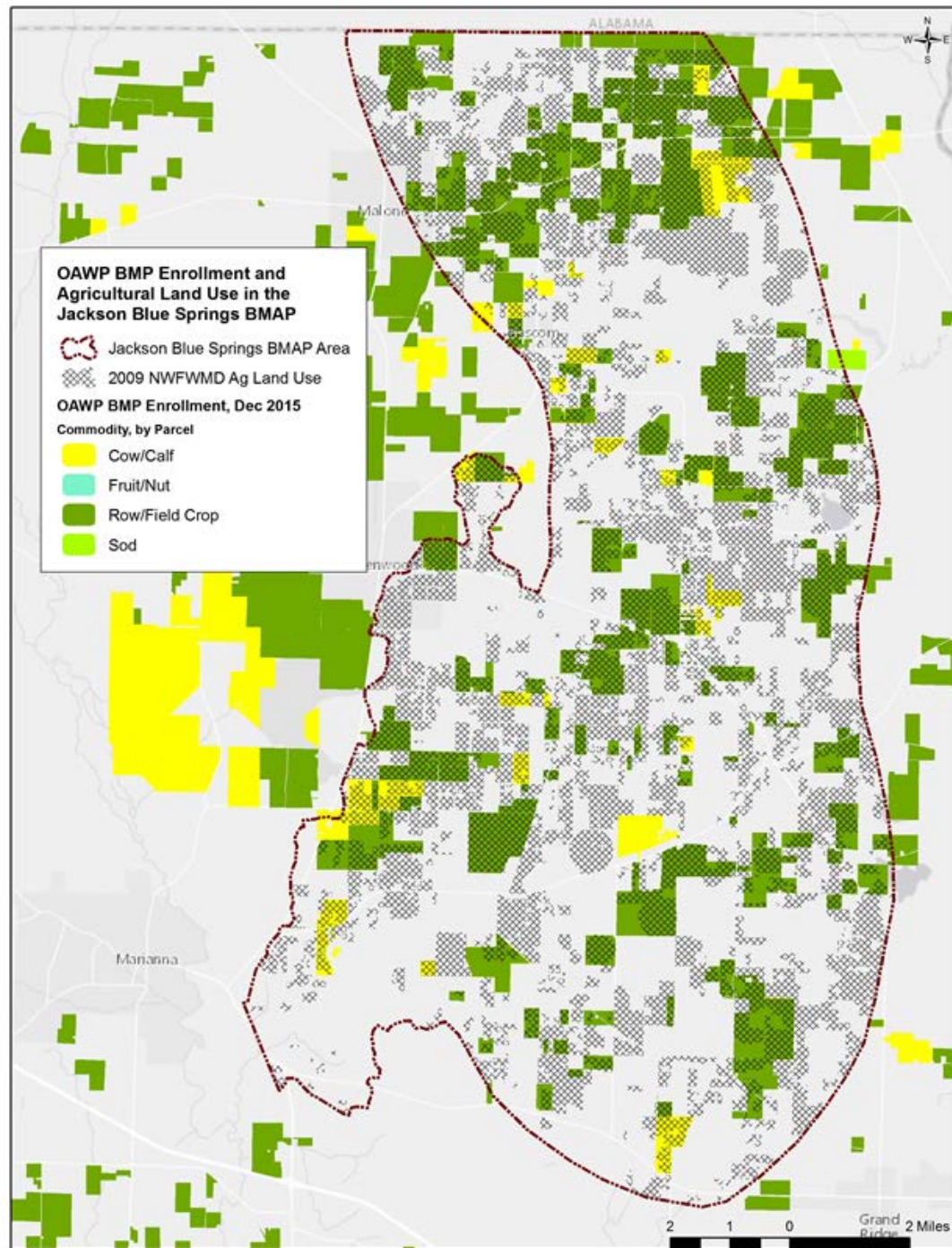
2009 NFWMD Ag Land Use

- 2110: Improved Pastures
- 2120: Unimproved Pastures
- 2130: Woodland Pastures
- 2140: Row Crops
- 2150: Field Crops
- 2153: Hay Fields
- 2230: Other Groves
- 2320: Poultry Feeding Operations
- 2410: Tree Nurseries
- 2430: Ornamentals
- 2600: Other Open Lands (Rural)
- 2610: Fallow Crop Land
- 3300: Mixed Rangeland





Agricultural BMP Enrollment





Agricultural Enrollment

2009 Northwest Florida Water Management District (NFWWMD) Land Use	2009 Acres	Related Florida Department of Agriculture and Consumer Services (FDACS) BMP Programs	Acreage Enrolled	Related Notices of Intent (NOIs)
Pasture and Rangeland	14,093.62	Cow/Calf	3,000.89	23
Row/Field/Mixed Crops	9,655.17	Vegetable/Agronomic Crops	16,631.87	44
Hay Fields	14,412.68	Vegetable/Agronomic Crops	N/A	N/A
Fallow Cropland	833.6	No enrollment needed	45.16	1
Other Groves	103.47	Specialty Fruit and Nut	N/A	N/A
Tree Nurseries	7.74	Statewide Nursery	0.0	N/A
Ornamentals	1.74	Statewide Nursery	0.0	N/A
Poultry Feeding Operations	7.28	Conservation Plan Rule/Future Poultry Manual	0.0	N/A
Other Open Lands – Rural	21.77	No enrollment needed	N/A	N/A
Total	39,137.07	N/A	19,677.92	68



Stakeholders

- Reduce nutrient footprint
- Agricultural producers:
 - Enroll in FDACS BMPs or monitor
- Homeowners:
 - Observe fertilizer ordinances
 - Healthy septic tank process





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Projects Underway





Projects Underway

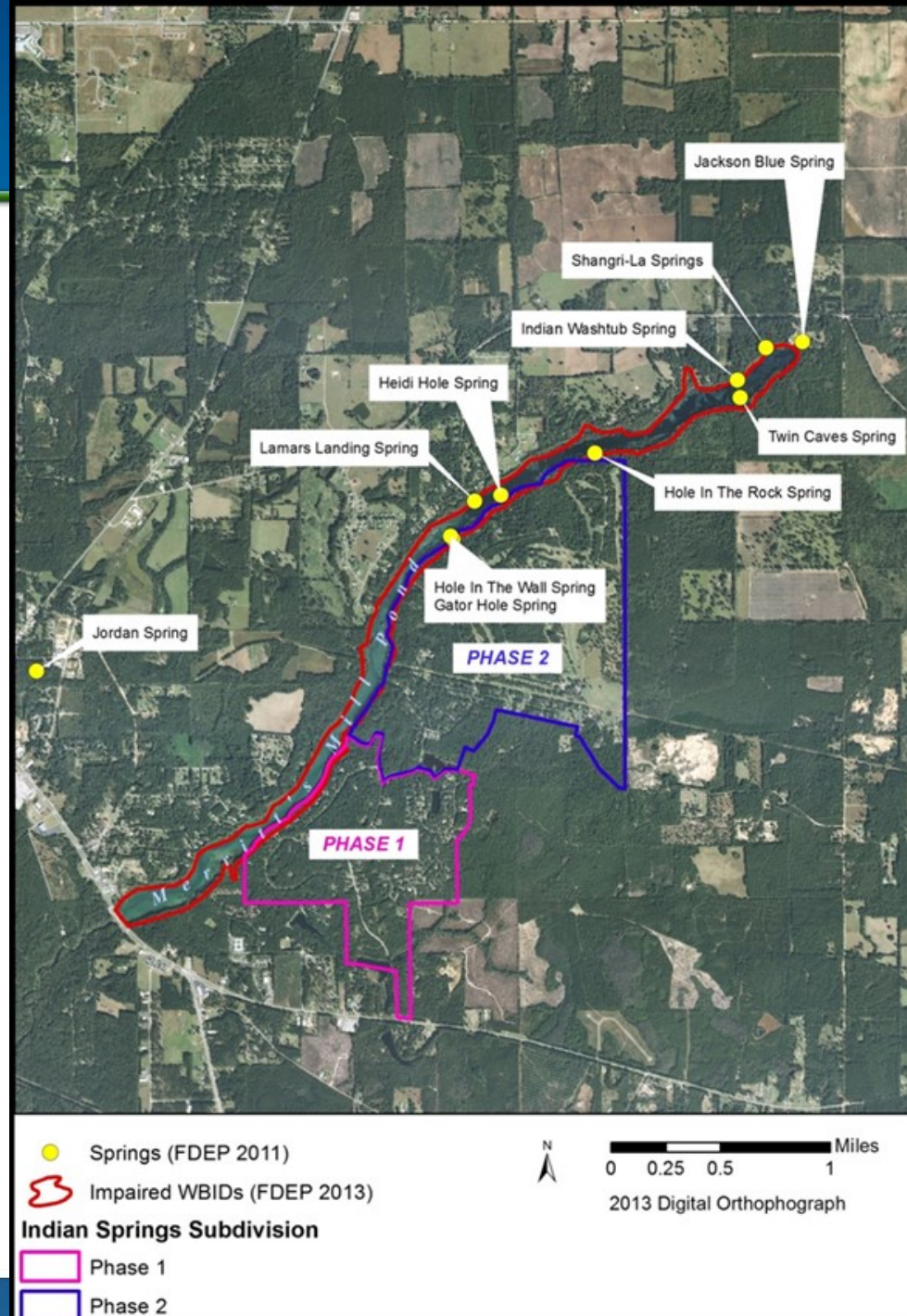
- Indian Springs Sewering Project
- NWFWMMD Land Acquisition
- Dye Trace in Jackson Blue Springshed
- Installation and sampling of monitoring wells (by NWFWMMD)
- Real Time Water Quality Monitoring





Indian Springs

- Indian Springs
 - Phase 1—125 homes and 25 vacant lots in lower section of neighborhood (\$1.95 million)
 - Phase 2—175 homes

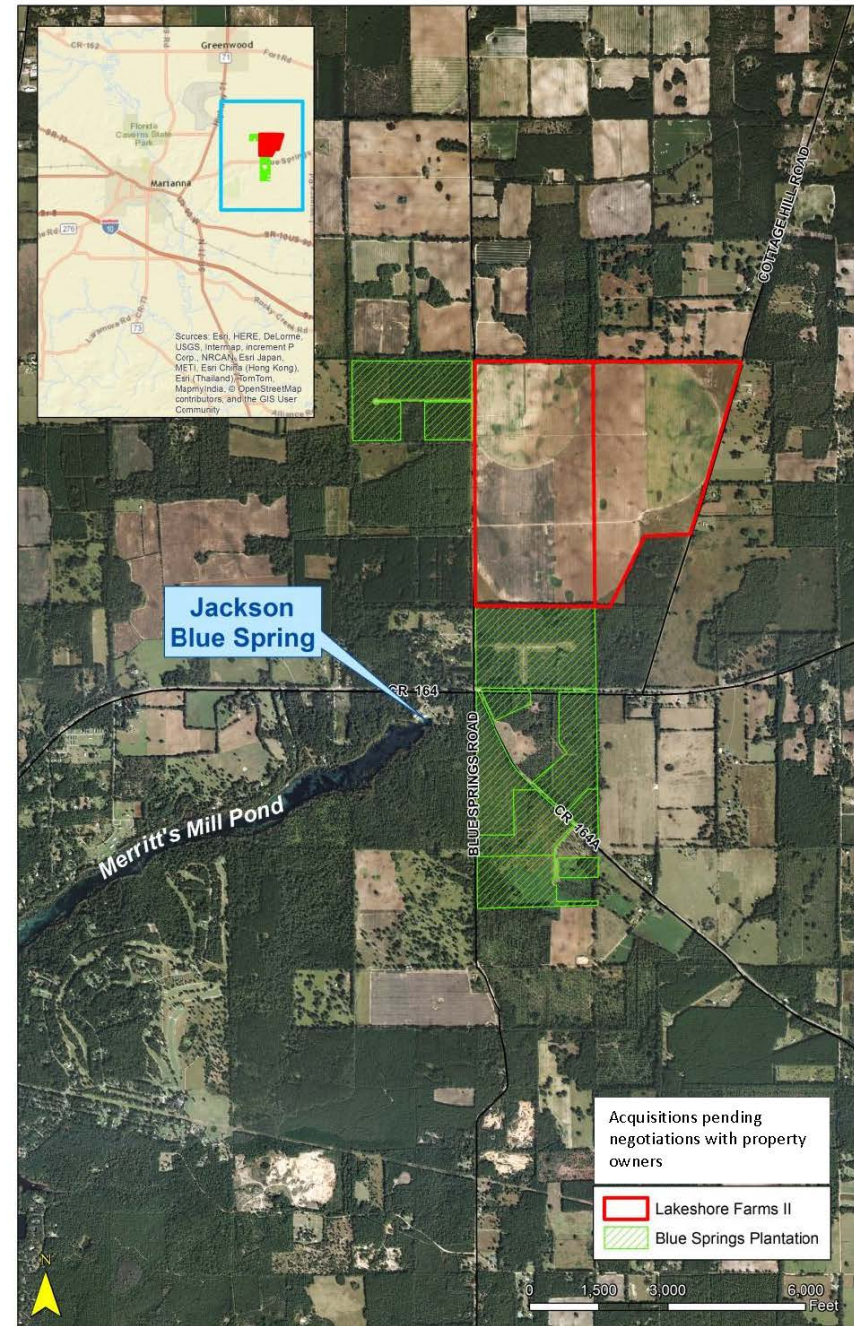




Land Acquisition

NWFWMD

- Land Acquisition
 - Jackson Blue Springshed (\$4.7 million)
 - 394 acres, Blue Springs Plantation Inc.
 - 598 acres, Lakeshore Farms





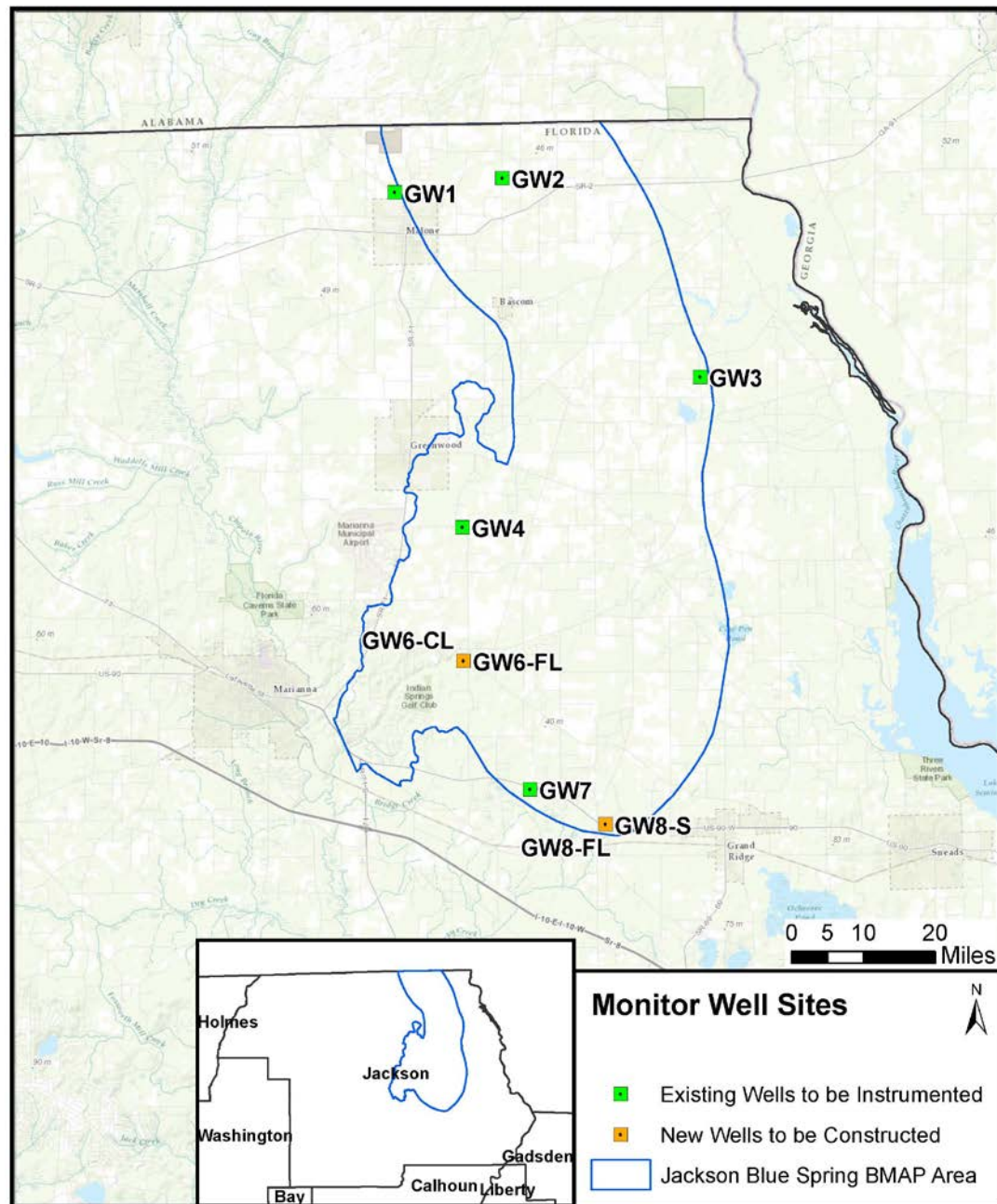
Sources: Esri, DEPR, Delorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Well Installation

Well Locations

Well Construction and Instrumentation for Jackson Blue Spring BMAP Area

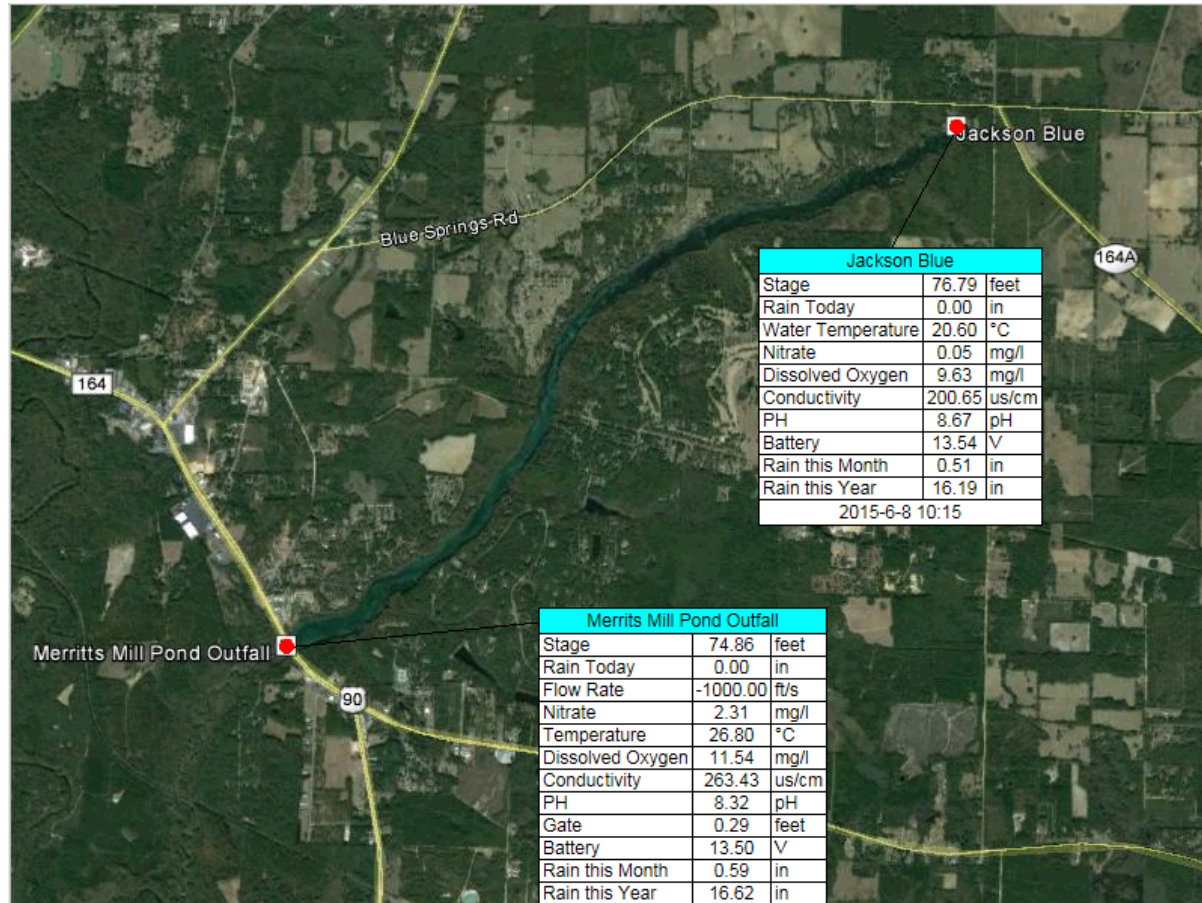




Real Time Water Quality Monitoring

<http://virtual.locherenv.com/vdv/index.html>

fdep / fdep





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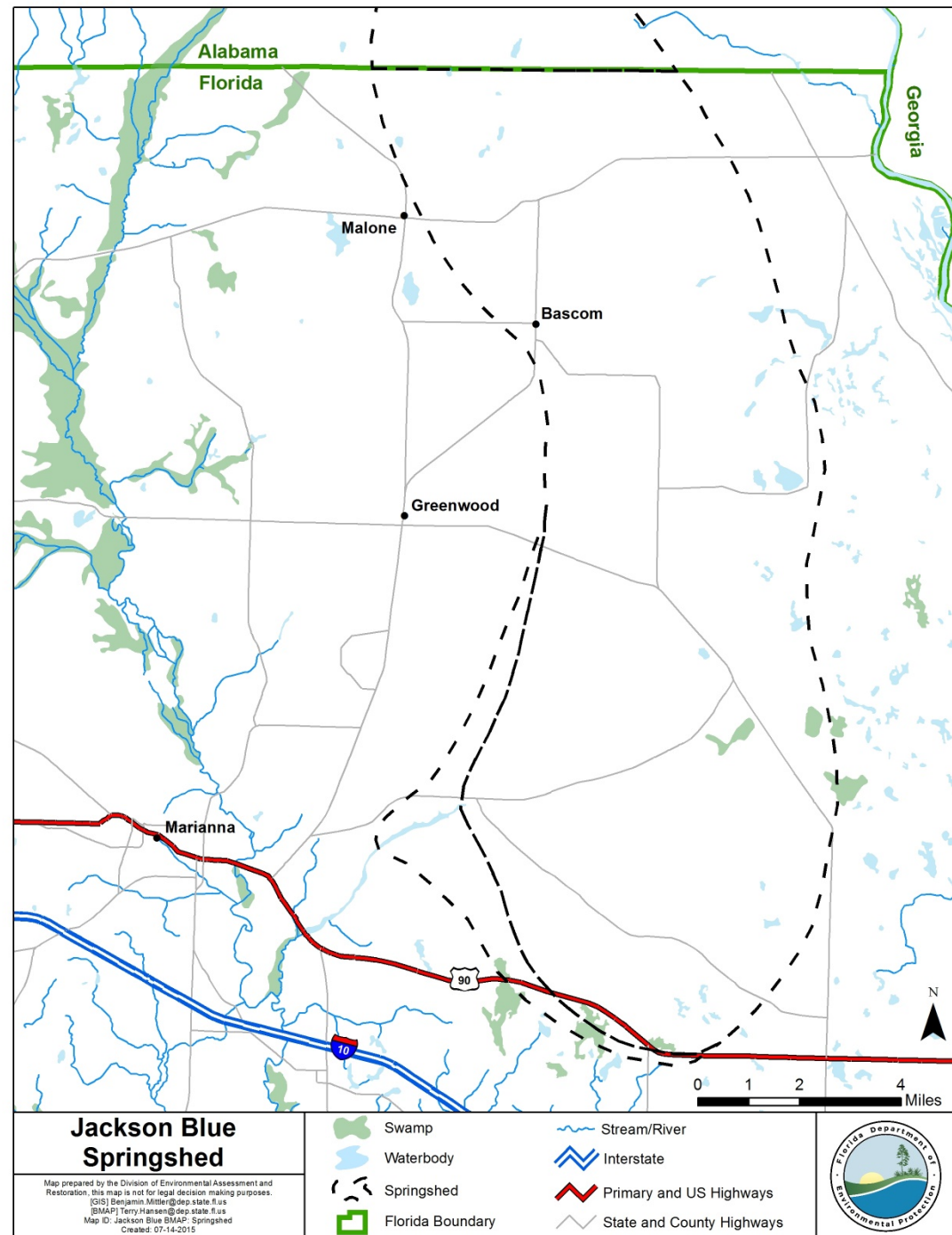
NSILT





NSILT

BMAP Area





Basin Land Use Input

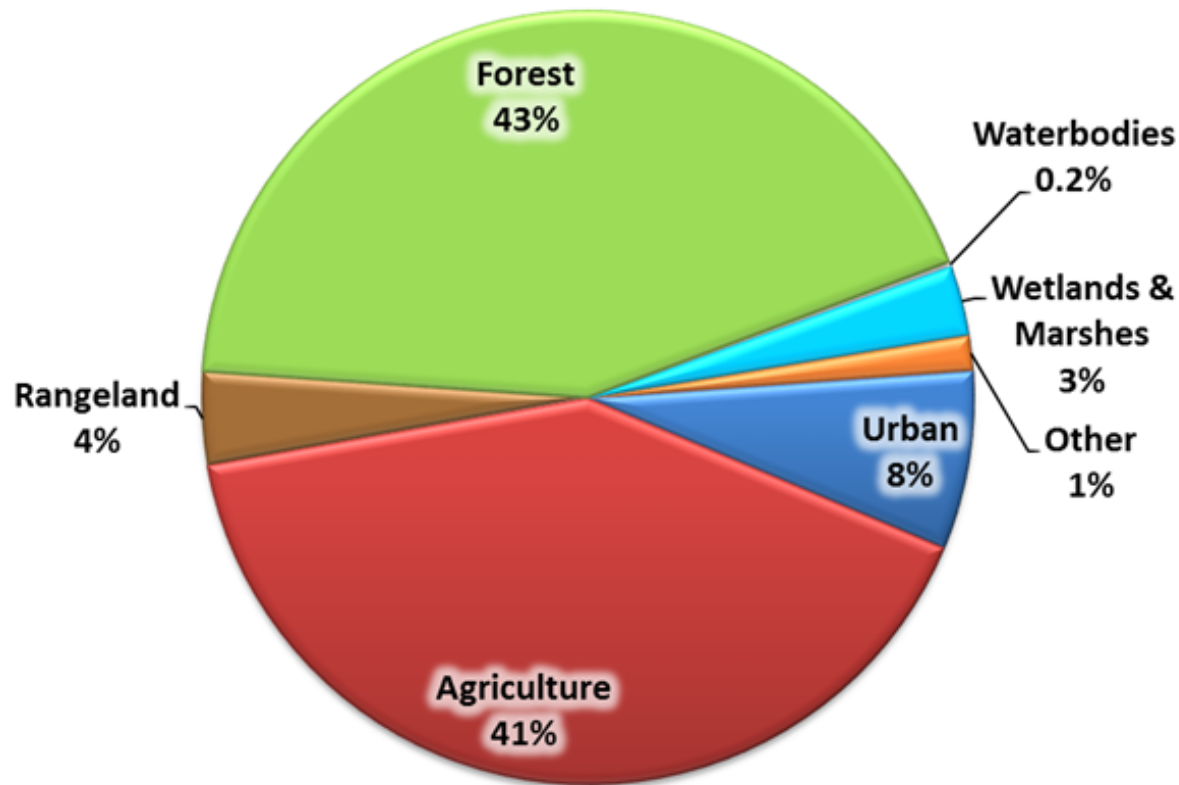
Category	Cropscene	Farm Service Agency (FSA) Aerial	Property Appraiser (PA)	NWFWMD	Florida Statewide Agricultural Irrigation Demand (FSAID) (irrigated only)	Composite
Total Crop	33,001	29,128	33,236	24,455	13,386	30,170
Total Pasture	3,705	5,899	7,258	13,051	104	12,271
Total Ag Lands	40,744	35,027	44,034	37,513	13,490	42,720

Cropscene	2014 data, annual product from the National Agricultural Statistic Service					
FSAID	2014 data, field verified land use for farming operations with consumptive use permits, created as part of a USGS/FDACS project, only irrigated acreage					
FSA Aerial	2013 data, land use created from aerial imagery from FSA taken while crops were in fields					
PA	2014 data, property appraiser data					
NWFWMD	2012 data, NWFWMD land use data based on aerial imagery					
Composite	DEP-created layer based on the above land use datasets representing an estimated average land use within 750 ft x 750 ft grid cells					



Land Use Summary

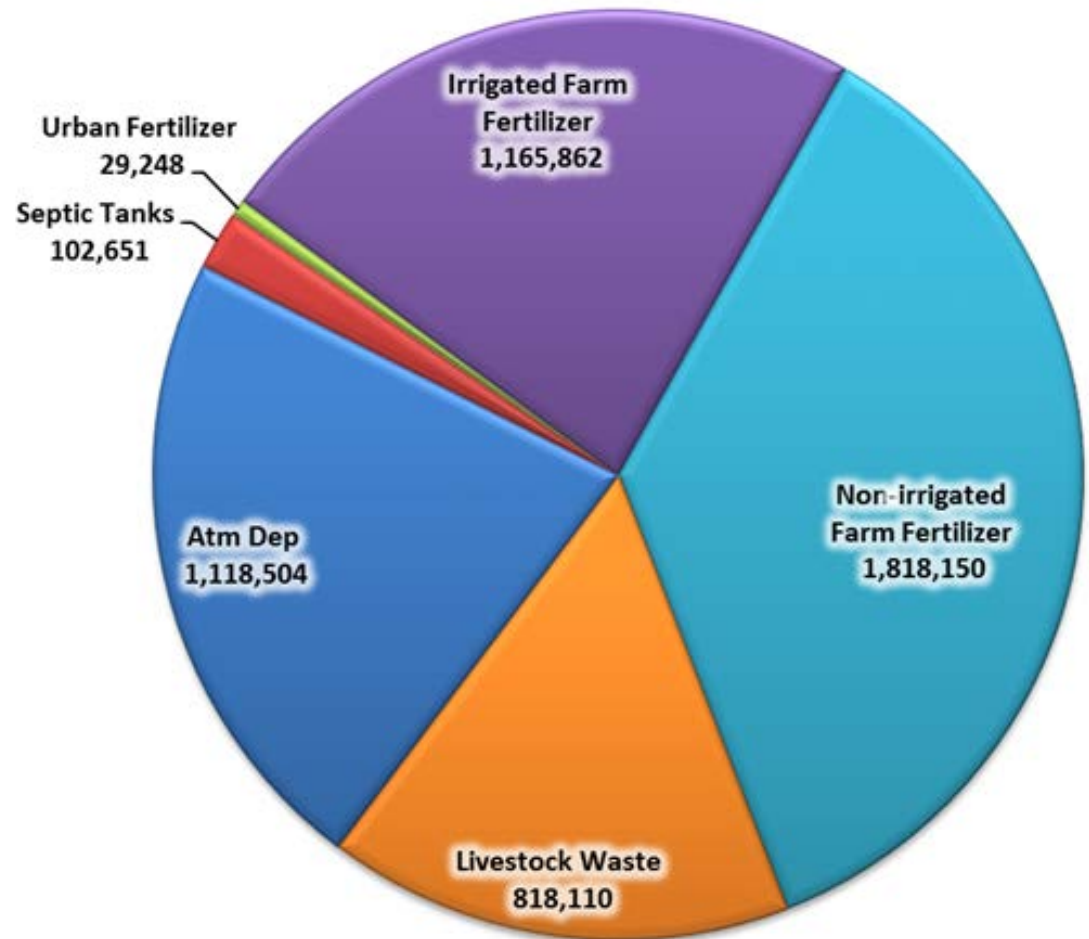
Jackson Blue BMAP Area Landuse Summary





Nitrogen Input to Land Surface

Total BMAP Area

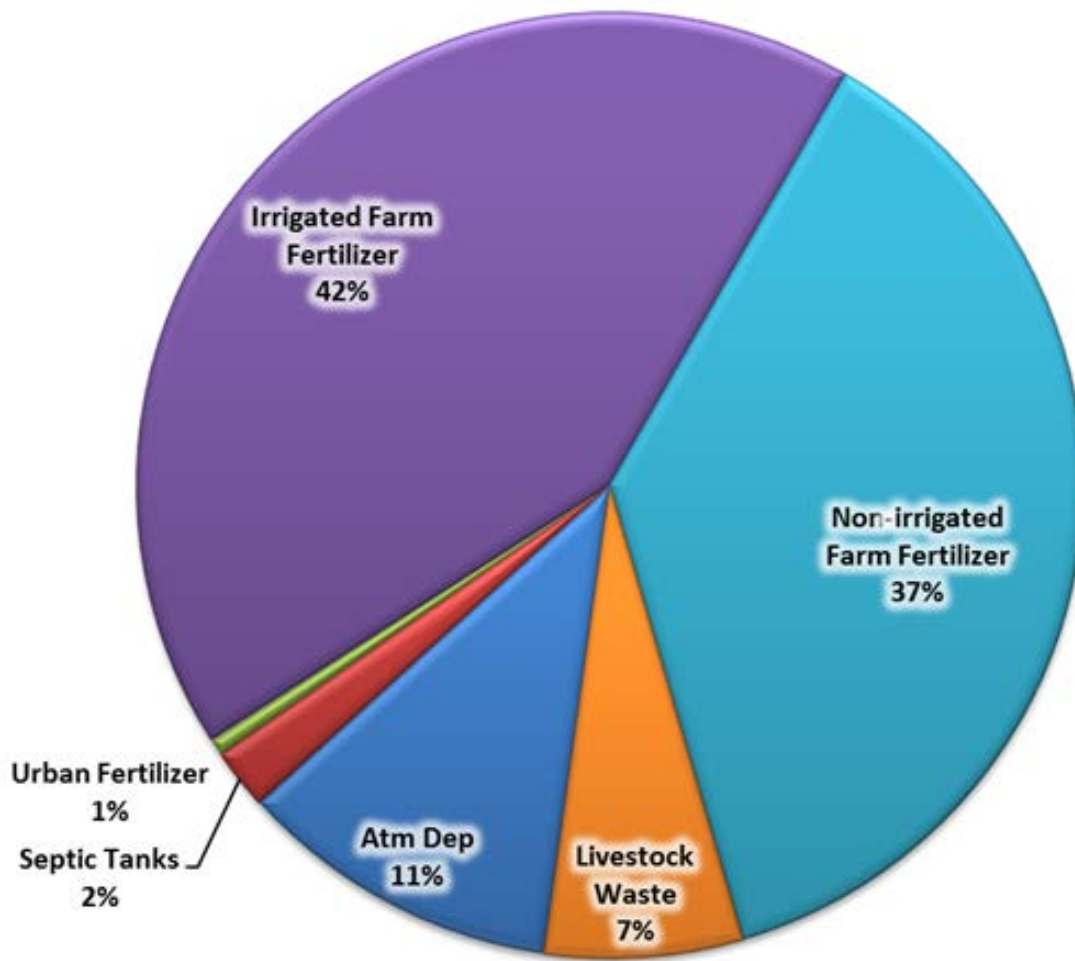


Units: Pounds of nitrogen/year



Nitrogen Load to Ground Water

Total BMAP Area



719,968 lb-N/yr



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Florida Springs and Aquifer Protection Act







Florida Springs and Aquifer Protection Act

- The 2016 Florida Springs and Aquifer Protection Act lists two main requirements for BMAPs for Outstanding Florida Springs (OFS):
 - BMAPs must be adopted within two years after initiation and must include detailed project, financial and water quality benefits information; five-year incremental milestones; and TMDL achievement within 20 years (373.807(1)(b), F.S.)
 - Any OFS BMAP adopted before July 1, 2016 must be revised to include the extensive new requirements by July 1, 2018 (373.807(1)(c), F.S.)



Florida Springs and Aquifer Protection Act

- After the BMAP is adopted:
 - **Funding**—Provides stakeholder the opportunity to access funding sources that require an adopted BMAP to be considered for receiving funds
 - **Focus**—Allows the development of priority focus areas (PFAs) for the listed springs and determine the required actions within the PFA
 - **Inventory**—Allows refinement of the NSILT to determine the required estimates of a project's nutrient load reductions
 - **Pilot Projects**—Allows development and implementation of innovative pilot BMP activities and effectiveness determination prior to required rulemaking



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BMAP Schedule





BMAP Schedule

- Comments due by May 20, 2016
- Adoption by June 1, 2016
- Development of 5-year, 10-year, and 15-year goals
- BMAP revision by July 1, 2018 with a detailed plan to meet TMDL in 20 years



Summary

- BMAP available online at this website:
[http://publicfiles.dep.state.fl.us/DEAR/BMAP/Apalachicola-Chipola/Jackson Blue Spring BMAP/](http://publicfiles.dep.state.fl.us/DEAR/BMAP/Apalachicola-Chipola/Jackson%20Blue%20Spring%20BMAP/)
- BMAP documents available at the following locations:
 - NFWFMD in Midway
 - Jackson County Library (Green Street)
- BMAP available by email by contacting
Terry.Hansen@dep.state.fl.us
- Please submit comments by May 20, 2016 to
Terry.Hansen@dep.state.fl.us



Stakeholder Actions

- Reduce nutrient footprint
- Agricultural producers:
 - Enroll in FDACS BMPs or monitor
- Homeowners:
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Questions?

