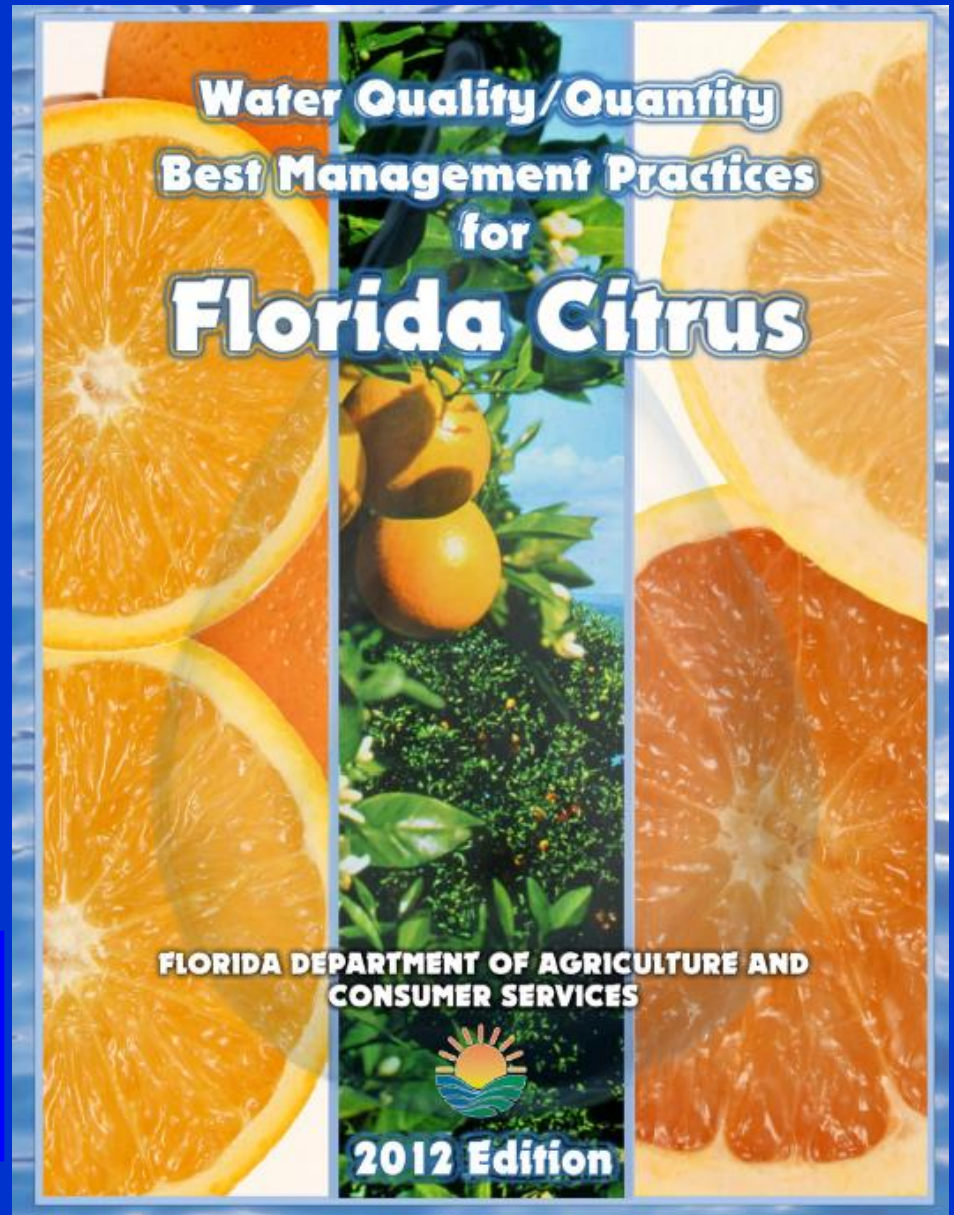


# Citrus BMPs

Brian Boman  
Indian River REC



**UF** UNIVERSITY of  
**FLORIDA**  
IFAS



# TMDL

(Total Maximum Daily Load)

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- ! Defined as the maximum amount of a pollutant that a waterbody can receive and still meet WQ standards (1972 Clean Water Act)
- ! A portion of the allowable amount of each pollutant will be allocated to each of the contributing sources.

# BMAP

(Basin Management Action Plan)

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A plan developed with stakeholder input to meet the TMDL for a particular basin

**Strategies include: permit limits on wastewater facilities, urban and agricultural best management practices, conservation programs, financial assistance and revenue generating activities, etc.**

**Rely on local input and local commitment**

**Adopted by Secretarial Order to be enforceable**

# Florida TMDL/BMP Overview

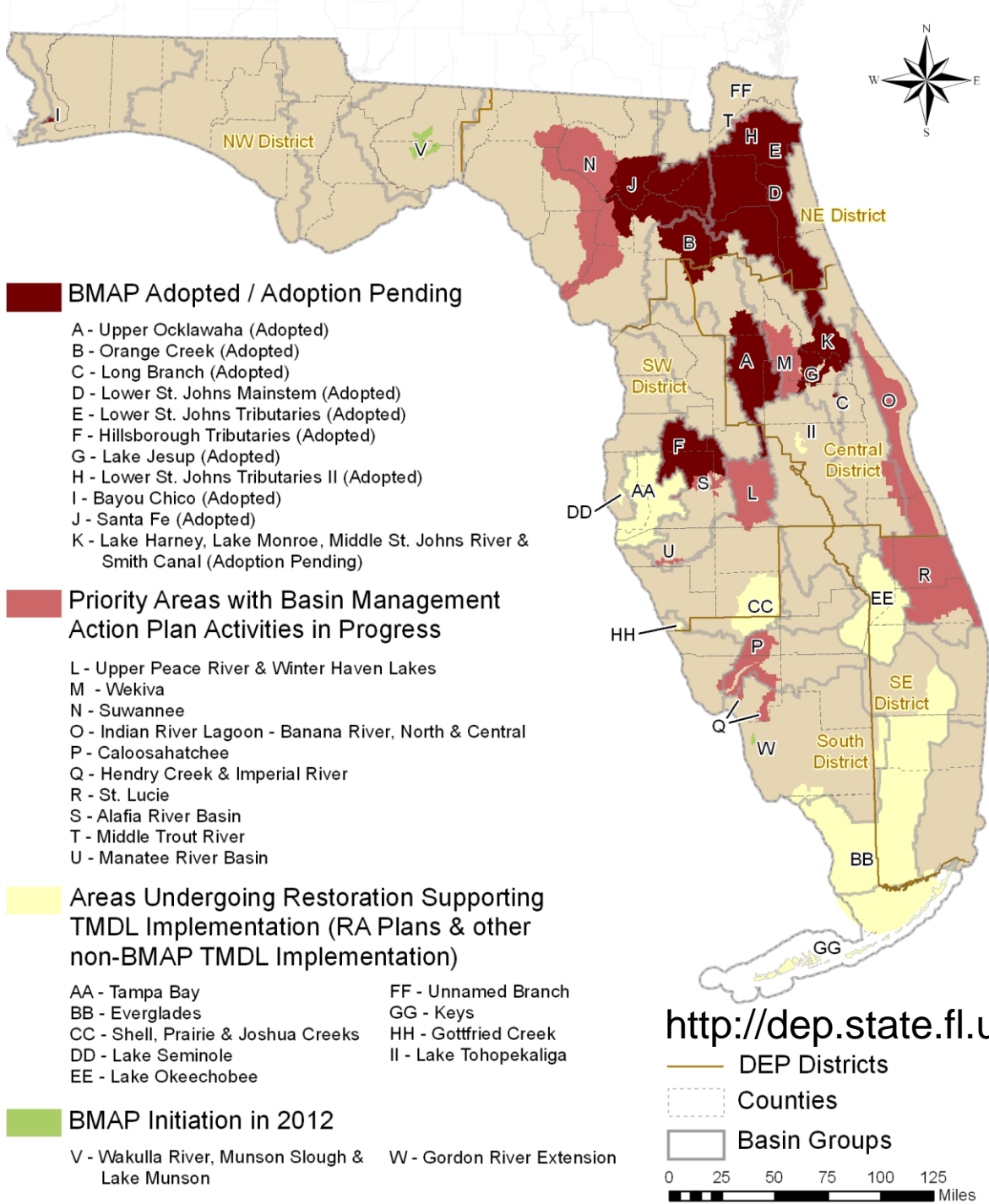
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1999 – Legislature enacted Florida Watershed Restoration Act (FWRA)

- FWRA requires TMDLs for all pollution sources – urban and agriculture included
- FDEP lead agency – coordinates efforts with FDACS, WMDs, Soil & Water Cons. Districts, environmental groups, local governments, etc.
  - FDEP - Develop TMDL
  - FDACS - Develop Ag BMPs and Assist with Implementation

# Ag BMPs

- **2005 Legislature:** In basins where TMDLs & BMAPS have been established, ag landowners must either:
  - enroll in available BMP programs
  - or conduct the water quality monitoring necessary to prove that discharges from their lands do not exceed loadings specified by the TMDL.
- **Recognized as Best Available Technology for Non-point Sources**



**BMAP Adopted / Adoption Pending**

- A - Upper Ocklawaha (Adopted)
- B - Orange Creek (Adopted)
- C - Long Branch (Adopted)
- D - Lower St. Johns Mainstem (Adopted)
- E - Lower St. Johns Tributaries (Adopted)
- F - Hillsborough Tributaries (Adopted)
- G - Lake Jesup (Adopted)
- H - Lower St. Johns Tributaries II (Adopted)
- I - Bayou Chico (Adopted)
- J - Santa Fe (Adopted)
- K - Lake Harney, Lake Monroe, Middle St. Johns River & Smith Canal (Adoption Pending)

**Priority Areas with Basin Management Action Plan Activities in Progress**

- L - Upper Peace River & Winter Haven Lakes
- M - Wekiva
- N - Suwannee
- O - Indian River Lagoon - Banana River, North & Central
- P - Caloosahatchee
- Q - Hendry Creek & Imperial River
- R - St. Lucie
- S - Alafia River Basin
- T - Middle Trout River
- U - Manatee River Basin

**Areas Undergoing Restoration Supporting TMDL Implementation (RA Plans & other non-BMAP TMDL Implementation)**

- |                                     |                        |
|-------------------------------------|------------------------|
| AA - Tampa Bay                      | FF - Unnamed Branch    |
| BB - Everglades                     | GG - Keys              |
| CC - Shell, Prairie & Joshua Creeks | HH - Gottfried Creek   |
| DD - Lake Seminole                  | II - Lake Tohopekaliga |
| EE - Lake Okeechobee                |                        |

**BMAP Initiation in 2012**

- V - Wakulla River, Munson Slough & Lake Munson
- W - Gordon River Extension

# Basin Management Action Plans (BMAPs)

<http://dep.state.fl.us/water/watersheds/bmap.htm>

- DEP Districts
- - - Counties
- ▭ Basin Groups

0 25 50 75 100 125 Miles

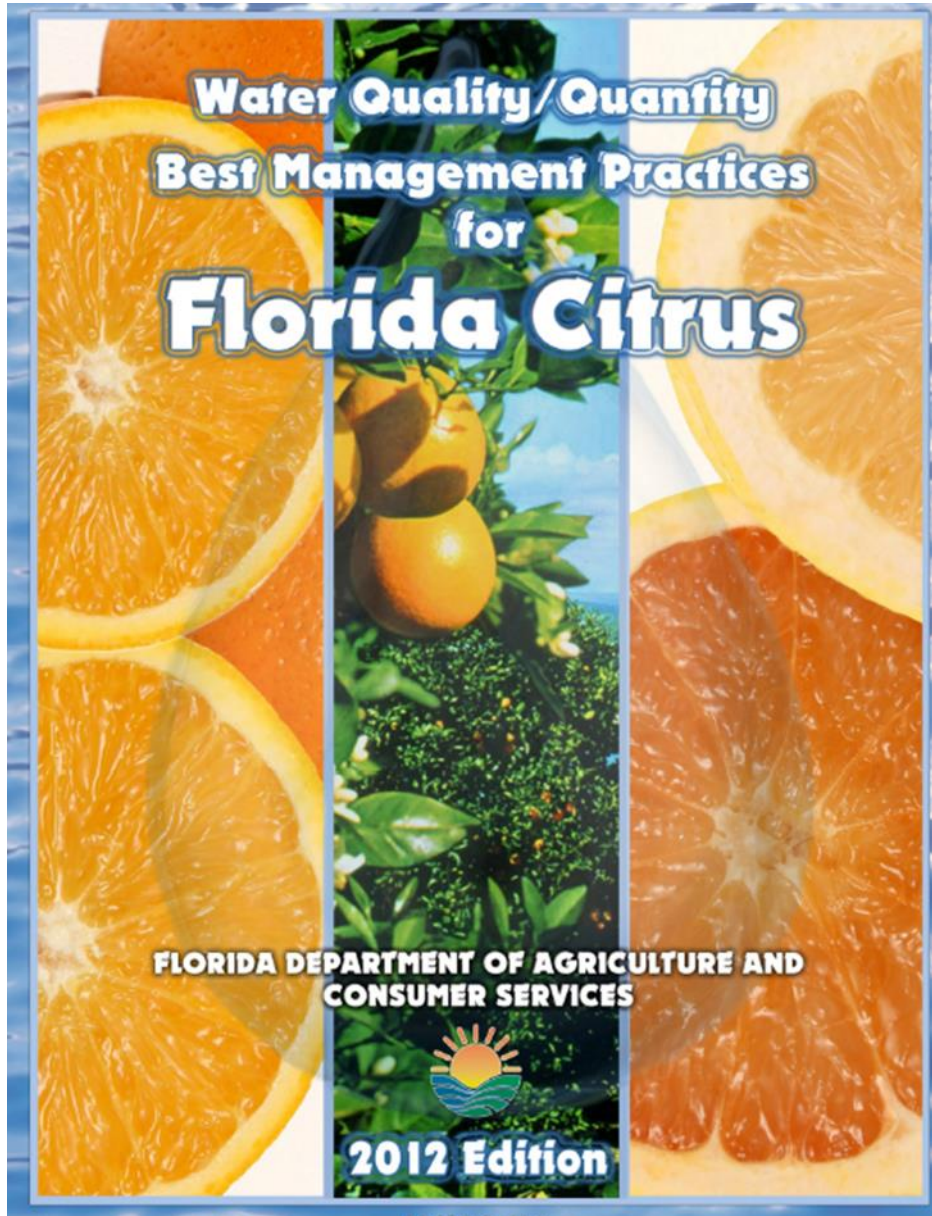
Nov. 2012 map

# Incentives

Producers implementing BMPs that have been verified by DEP to be effective...

- ...receive a “**presumption of compliance with state water quality standards.**”
- ... obtain a “**waiver of liability**” concerning water quality damages associated with the agricultural operation
- ...are eligible for **cost-share** funds.
- ...can receive **permit exemptions** to ERP to improve drainage structures.





# 5M-16.001 Purpose

The purpose of this rule is to effect pollutant reduction through the implementation of agricultural best management practices (BMPs) that may be determined to have minimal individual or cumulative adverse impacts to the water resources of the state.

Adopted Jan. 9, 2013



# 5M-16.003 Presumption of Compliance with State Water Quality Standards

In order to meet the requirements for a presumption of compliance and release from Section 376.307(5), F.S., the producer must:

- (1) **Submit** a Notice of Intent to Implement, as provided in Rule 5M-16.004, F.A.C., that identifies the applicable BMPs;
- (2) **Implement** all applicable BMPs in accordance with the timeline requirements in Rule 5M-16.004; and
- (3) **Maintain** records to document the implementation and maintenance of the identified BMPs, in accordance with Rule 5M-16.005.

# 5M-16.004 Notice of Intent to Implement BMPs

(1) The NOI shall include:

(a) The name of the property **owner**, the **location** of the property, the property **tax ID** number(s), and any other pertinent property identification information;

(b) The amount of **acreage** on which BMPs will be implemented;

(c) The name and **contact information** of a person to contact;

(d) The **signature** of the land owner, lease holder, or authorized agent;  
and

(e) A BMP **Checklist** with a schedule for implementation, as contained in the manual. . . Except as provided in the manual, all applicable BMPs must be implemented as soon as practicable, but no later than 18 months after submittal of the NOI.

(2) Submittal of the NOI enables the producer to receive assistance with BMP implementation.

# 5M-16.005 BMP Record Keeping

- ❖ BMP participants must keep records, as directed in the manual, to document the implementation and maintenance of the practices submitted to FDACS pursuant to this rule.
- ❖ These records are subject to inspection upon request, in accordance with a mutually agreed upon time and manner, and must be retained for a period of at least five years.

# 5M-16.006 Previously submitted NOIs.

In order to retain a presumption of compliance with state water quality standards:

(1) NOI for *Nitrogen Best Management Practices for Florida Ridge Citrus*

(a) **Within two years** of the effective date of this rule, submit a new NOI and BMP checklist

(b) Implement the applicable BMPs on the checklist

# 5M-16.006 Previously submitted NOIs

## Flatwoods citrus growers

NOIs submitted prior to Jan. 9, 2013 must continue to implement the applicable BMPs on the checklist, and must follow the relevant guidelines contained in *Nutrition of Florida Citrus Trees, Second Edition, UF-IFAS Publication SL 253* (January 2008).

(a) *Water Quality/Quantity BMPs for Indian River Area Citrus Groves* (May 2000), as revised January 2005 (Rule 5M-2)

(b) *Best Management Practices for Citrus Groves in the Peace River and Manasota Basins* (October 2004, Rule 5M-5)

(c) *Best Management Practices for Gulf Citrus* (March 2006, Rule 5M-7)



# 5M-16.006 Previously submitted NOIs

Flatwoods citrus growers who are re-establishing inactive groves or are renovating groves that were enrolled with IR, PR, or GC manuals must submit a new NOI and BMP checklist

NOIs & BMP checklists for IR, PR, GC manuals submitted after Jan. 9, 2013 will be deemed invalid

# Manual Chapters

<b>BEST MANAGEMENT PRACTICES</b> .....	<b>9</b>
<b>1.0</b> Grove Development and Renovation.....	11
<b>2.0</b> Nutrient Management.....	13
<b>3.0</b> Irrigation Management .....	18
<b>4.0</b> Drainage Management.....	27
<b>5.0</b> Sediment and Erosion Control Measures .....	30
<b>6.0</b> Water Resources Protection .....	32
<b>7.0</b> Integrated Pest Management .....	35

# NOI form



ADAM H. PUTNAM  
COMMISSIONER

Florida Department of Agriculture and Consumer Services  
Office of Agricultural Water Policy

FDACS-OAWP  
1203 Governor's Sq. Blvd.  
Suite 200  
Tallahassee, FL, 32301

## NOTICE OF INTENT TO IMPLEMENT Water Quality/Quantity BMPs for Florida Citrus

Rule 5M-16.003, F.A.C.

- **Complete all sections of the Notice of Intent (NOI).** Each NOI may list only properties that are within the same county and are owned or leased by the same person or entity, and on which applicable BMPs will be identified and implemented under this manual.
- Submit the **NOI**, along with the **BMP Checklist**, to the Florida Department of Agriculture and Consumer Services (FDACS), at the address below.
- **Keep a copy of the NOI and the BMP checklist in your files** as part of your BMP record keeping.

You can visit <http://www.flrules.org/Gateway/reference.asp?No=Ref-01666> to obtain an electronic version of this Notice of Intent to Implement (NOI) form.

**If you would like assistance** in completing this NOI form or the BMP Checklist, or with implementing BMPs, contact FDACS staff at (850) 617-1727 or [AgBmpHelp@freshfromflorida.com](mailto:AgBmpHelp@freshfromflorida.com).

**Mail this completed form  
and the BMP Checklist to:**

**FDACS Office of Agricultural Water Policy**  
1203 Governor's Square Boulevard, Suite 200  
Tallahassee, Florida 32301

### Person To Contact

Name: \_\_\_\_\_

Business Relationship to Landowner/Leaseholder: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone: \_\_\_\_\_ FAX: \_\_\_\_\_

Email: \_\_\_\_\_

Landowner or  Leaseholder Information (check all that apply)

NOTE: If the Landowner/Leaseholder information is the same as the Contact Information listed above, please check:  Same as above. If not, complete the contact information below.

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone: \_\_\_\_\_ FAX: \_\_\_\_\_

Email: \_\_\_\_\_

**Complete the following information for the property on which BMPs will be implemented under this NOI.** You may list multiple parcels if they are located within the same county and are owned or leased by the same person or entity.

Operation Name: \_\_\_\_\_

County: \_\_\_\_\_

Tax Parcel Identification Number(s) from County Property Appraiser

Please submit a copy of your county tax bill(s) for all enrolled property, with owner name, address, and the tax parcel ID number(s) clearly visible. If you cannot provide a copy of the tax bill(s), please write the parcel owner's name and tax parcel ID number(s) below in the format the county uses. Attach a separate sheet if necessary (see form provided).

Parcel No.: \_\_\_\_\_ Parcel Owner: \_\_\_\_\_

Parcel No.: \_\_\_\_\_ Parcel Owner: \_\_\_\_\_

Parcel No.: \_\_\_\_\_ Parcel Owner: \_\_\_\_\_

Parcel No.: \_\_\_\_\_ Parcel Owner: \_\_\_\_\_

Parcel No.: \_\_\_\_\_ Parcel Owner: \_\_\_\_\_

Additional parcels are listed on separate sheet. (check if applicable)

Total # of acres of all parcels listed (as shown property tax records): \_\_\_\_\_

Total # of acres on which BMPs will be implemented under this NOI: \_\_\_\_\_

In accordance with section 403.067(7)(c)2, Florida Statutes, I submit the foregoing information and the BMP Checklist as proof of my intent to implement the BMPs applicable to the parcel(s) enrolled under this Notice of Intent.

Print Name: \_\_\_\_\_

(check all that apply)  Landowner  Leaseholder  Authorized Agent (see below)\*

\*Relationship to Landowner or Leaseholder: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Staff Assisting with NOI: \_\_\_\_\_

### NOTES:

1. You must keep records of BMP implementation, as specified in the BMP manual. All BMP records are subject to inspection.
2. You must notify FDACS if there is a full or partial change in ownership with regard to the parcel(s) enrolled under this NOI.
3. Please remember that it is your responsibility to stay current with future updates of this manual. Visit the following website periodically to check for manual updates: [www.floridaagwaterpolicy.com](http://www.floridaagwaterpolicy.com)

BMP #	BMP Group	In Use	Planned	Will not implement <i>Check reason below</i>			
		Check / or AMU	Month / Year	NA	TNF	ENF	Other
2.2	<b>Level I - Determining Fertilizer Rates</b>						
1.	Base P fertilization rate on soil and/or leaf tissue tests results from a private or public lab that uses a standard testing method recommended by UF-IFAS Extension Soils Testing Laboratory. Keep a copy of all laboratory test results to track changes over time.						
2.	Comply with UF-IFAS recommended rates for N as established in Chapter 8 in document SL 253. This information has been excerpted and is contained in Appendix 4.						
3.	Use leaf tissue test results to determine the need for and appropriate rates of supplemental fertilizer applications, and to diagnose the effectiveness of N, K, and micronutrient fertilization programs. Keep a copy of all laboratory test results.						
4.	Keep records of all nutrient applications. Include, at a minimum: date and location of application, total amount applied, acreage covered, fertilizer analysis or grade, rate per acre, and application method.						

Recommended N rates and minimum number of annual applications for bearing citrus trees

Year in grove	Oranges	Grapefruit	Other varieties	Lower limit of annual application frequency		
	lbs N/acre/year (range)			Controlled-release fertilizer	Dry soluble fertilizer	Fertigation
4 through 7	120 – 200	120 – 160	120 – 200	1	3	10
8 and up	140 – 250 Yield-based <sup>1</sup>	120 – 160 <sup>2</sup>	120 – 300 <sup>3</sup>	1	3	10

<sup>1</sup>See Fig. for specific production-based N fertilizer rate recommendations.

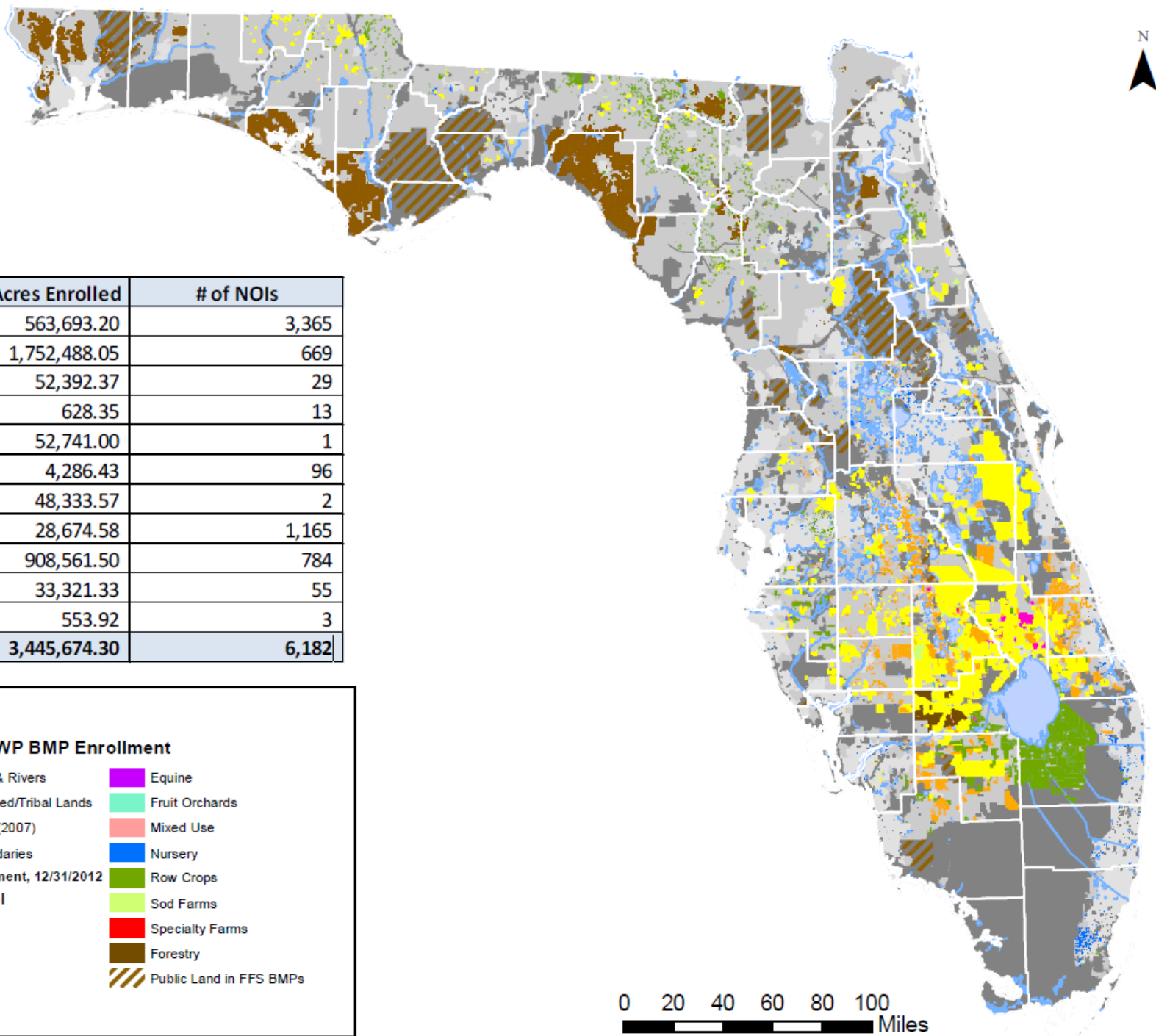
<sup>2</sup>For grapefruit groves producing more than 800 boxes/acre, the maximum recommended N rate is 180 lbs/acre.

<sup>3</sup>For Orlando tangelos, the maximum recommended N rate is 250 lbs/acre. For Honey tangerines (Murcotts), the maximum recommended N rate is 300 lbs/acre.

BMP #	BMP Group	In Use <i>Check / or AMU</i>	Planned <i>Month / Year</i>	Will not implement <i>Check reason below</i>			
				NA	TNF	ENF	Other
<b>2.3</b>	<b>Level I - Fertilizer Application</b>						
1.	Calibrate and adjust fertilizer application equipment to ensure the intended fertilizer rate is applied and that desired distribution and placement at the root zone are achieved.						
2.	When applying soluble fertilizers, use smaller, more frequent (split) applications to minimize the potential for leaching. Guidance for split application frequencies can be found in Chapter 8 of SL 253.						
3.	Do not apply fertilizer under high-risk situations, such as before a forecasted rainfall or frost/freeze event.						
4.	To the extent practicable, avoid applying fertilizer during the rainy season.						
<i>BMPs 2.3.5 and 2.3.6 below pertain only to highly permeable, well-drained soils, such as those typical in the central ridge. Follow the fertilizer rate requirements in BMP 2.2.2, and implement the following BMPs, 2.3.5 and 2.3.6.</i>							
5.	<u>Dry Season Applications:</u> Limit any dry season broadcast water-soluble nitrogen fertilizer applications to 65 lbs N/acre/application. Limit dry season fertigation nitrogen applications to 15 lbs N/acre/week.						
6.	<u>Rainy Season Applications:</u> Water-soluble nitrogen fertilizer applications made during the summer rainy season (June 15 - September 15) must not exceed 40 lbs N/acre. This rate can be achieved using a single dry broadcast application of no more than 40 lbs N/acre, or as multiple fertigation applications not to exceed 10 lbs N/acre/week.						



# BMP Enrollment



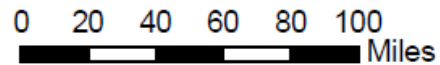
Usage	Acres Enrolled	# of NOIs
Citrus	563,693.20	3,365
Cow/Calf	1,752,488.05	669
Dairies	52,392.37	29
Equine	628.35	13
Forestry	52,741.00	1
Fruit Orchards	4,286.43	96
Mixed Use	48,333.57	2
Nursery	28,674.58	1,165
Row Crops	908,561.50	784
Sod Farms	33,321.33	55
Speciality Farms	553.92	3
<b>Total</b>	<b>3,445,674.30</b>	<b>6,182</b>

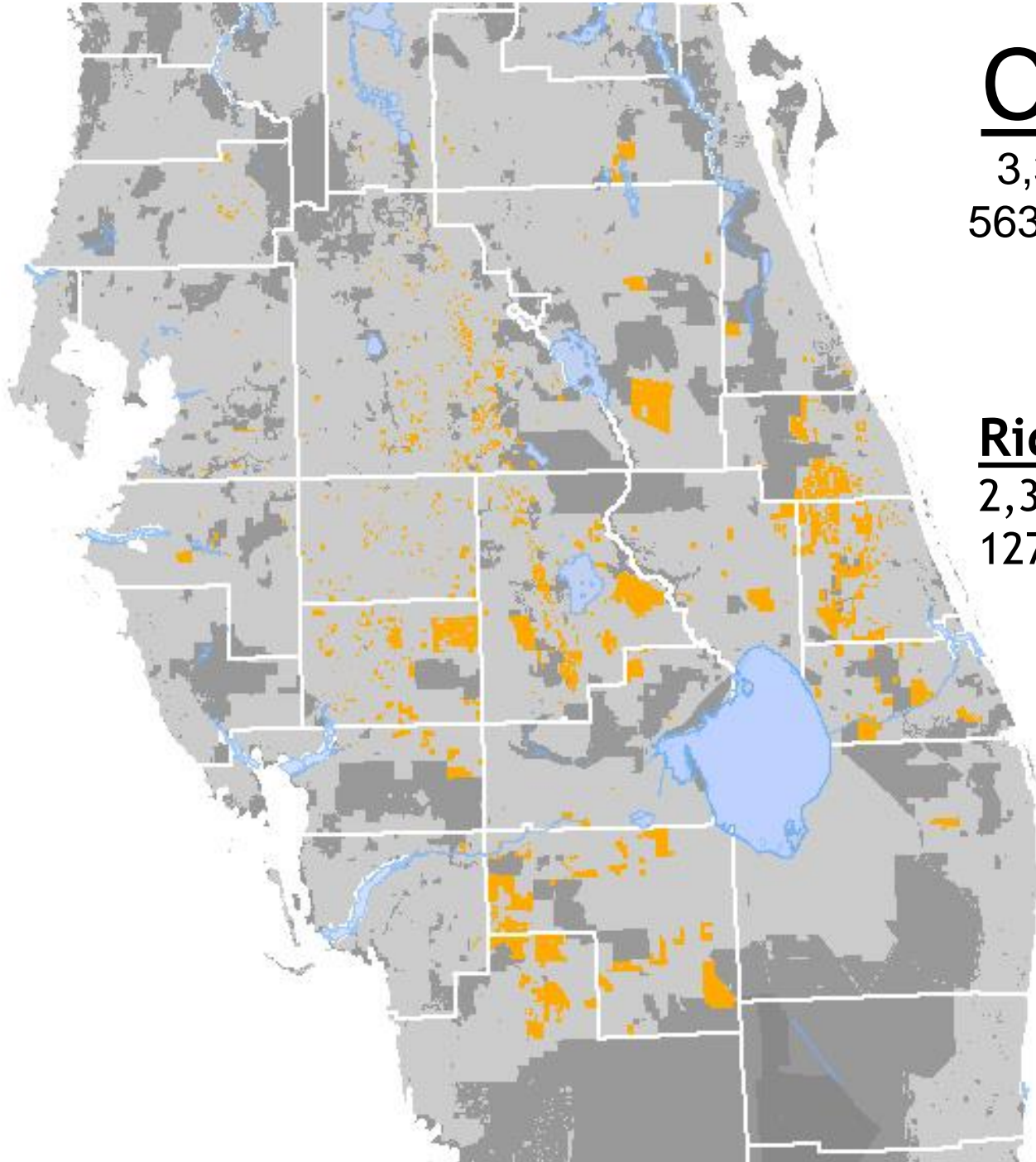
**Statewide OAWP BMP Enrollment**

- Major Lakes & Rivers
- Public/Managed/Tribal Lands
- Urban Areas (2007)
- County Boundaries
- Equine
- Fruit Orchards
- Mixed Use
- Nursery
- Row Crops
- Sod Farms
- Specialty Farms
- Citrus
- Cow/Calf
- Dairies
- Forestry
- Public Land in FFS BMPs

OAWP BMP Enrollment, 12/31/2012

**Usage, by Parcel**





# Citrus

3,365 NOIs  
563,693 acres

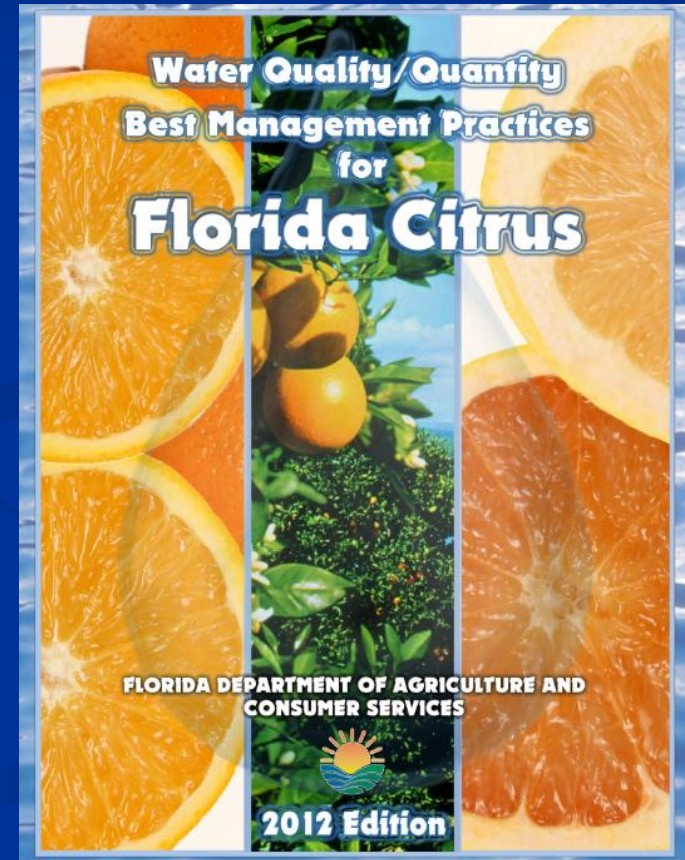
## Ridge Citrus

2,327 NOIs  
127,748 acres

# BMP Program Participation

Three basic steps:

1. File a NOI form
2. Complete checklist of adopted and/or proposed BMPs
3. Routine follow-up farm visits to ensure BMP implementation and recordkeeping.





# THANKS!

Brian Boman

Indian River REC



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**FLORIDA**  
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