

Local Fertilizer Ordinances: A Low-Cost Tool to Protect Our Waters



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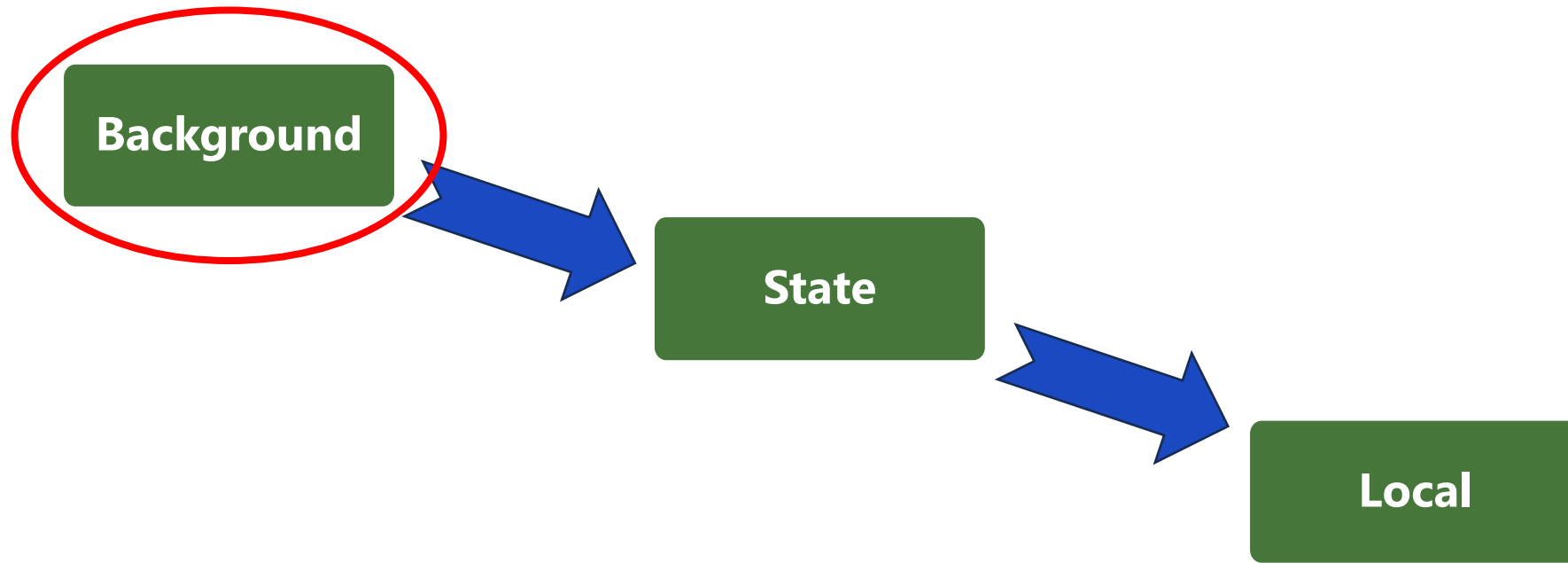


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Environmental Protection Division



2025 FSA Annual Conference
June 13, 2025

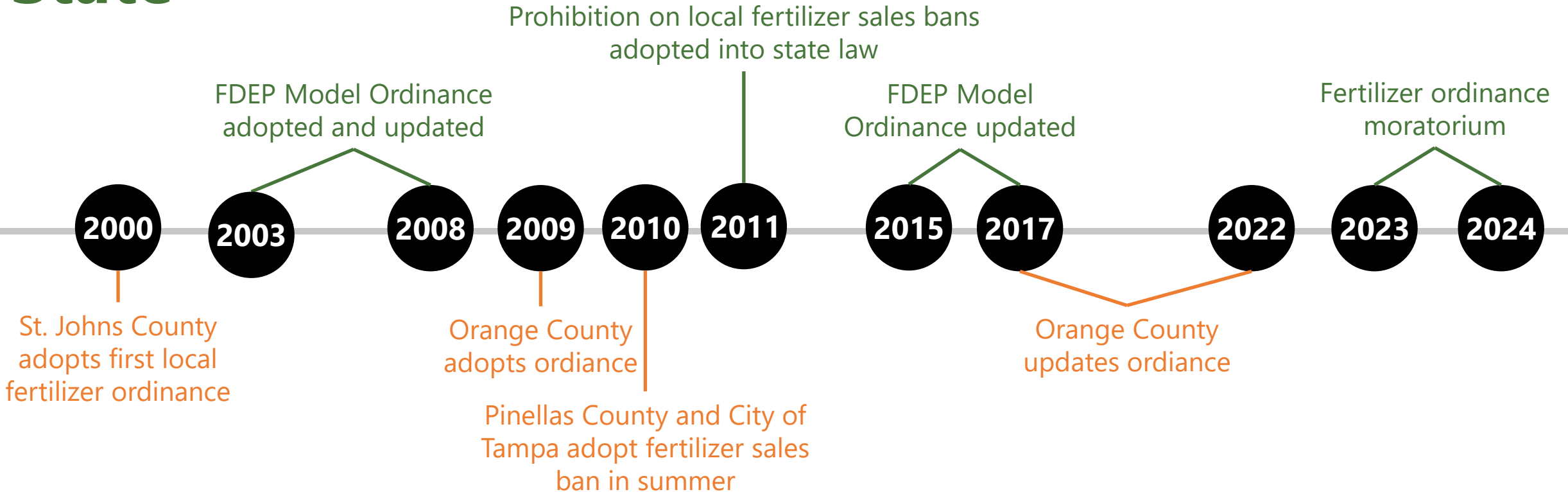


Fertilizer is a source of nutrients, including nitrogen and phosphorus, to Florida waterbodies.

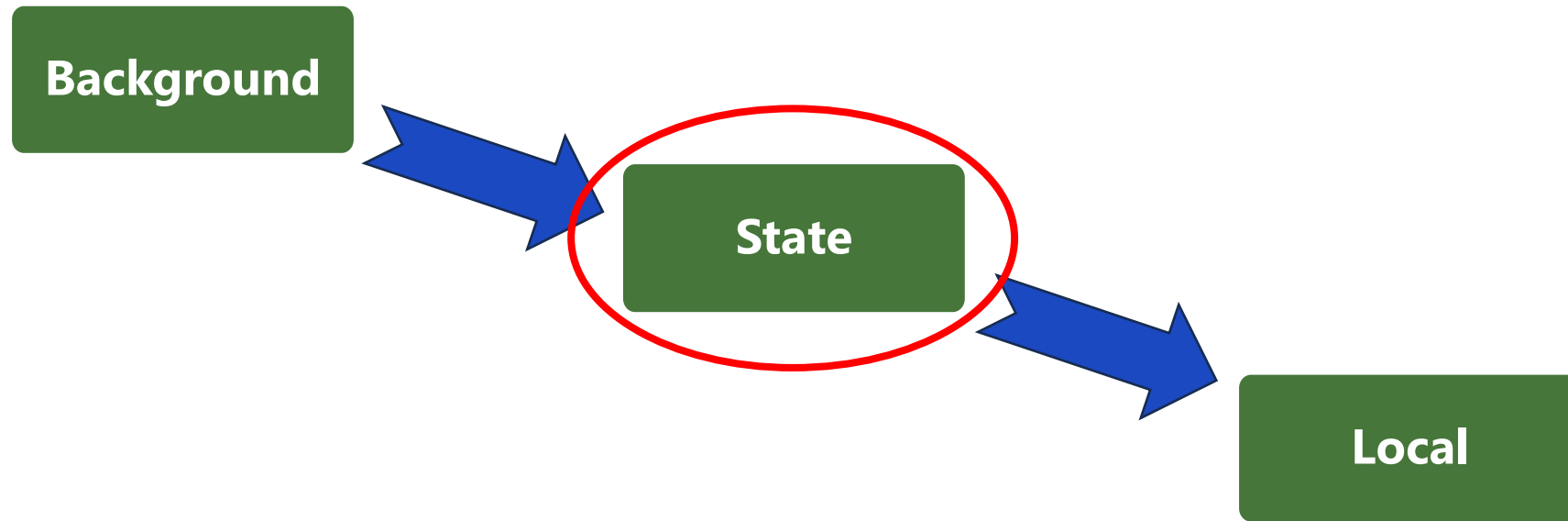


Fertilizer ordinances have been used as a tool to mitigate nutrient impacts on water quality for 25 years in Florida.

State



Local



The FDEP Model Ordinance was developed as a tool to reduce nutrient source impacts on Florida waters.

Florida Department of Environmental Protection

MODEL ORDINANCE FOR
FLORIDA-FRIENDLY FERTILIZER USE ON URBAN LANDSCAPES

[alternate title: MODEL ORDINANCE FOR
FLORIDA-FRIENDLY USE OF FERTILIZER ON URBAN LANDSCAPES]
2015

[Note: Title revision for clarity. There is no defined Florida-Friendly fertilizer product, as timing, chemistry, grade, amount, site-specific conditions and application practices all affect "Florida-friendliness".]



Overview

- (1) Incorporated into state law
- (2) Regulates fertilizer application, management, and training
- (3) Requires local government compliance
 - Ordinance adopted on or after 2009
 - Fall within a watershed of a nutrient-impaired waterbody
 - Minimum requirement

<https://fpl.ifas.ufl.edu/media/fplifasufledu/docs/dep-fert-modelord.pdf>

FDEP Model Ordinance allows local governments to adopt stricter standards.

- (a) The local government has demonstrated...that additional or more stringent standards than the model ordinance ***are necessary*** in order to adequately address urban fertilizer contributions to nonpoint source nutrient loading to a water body.
- (b) The local government documents that it has ***considered all relevant scientific information...***

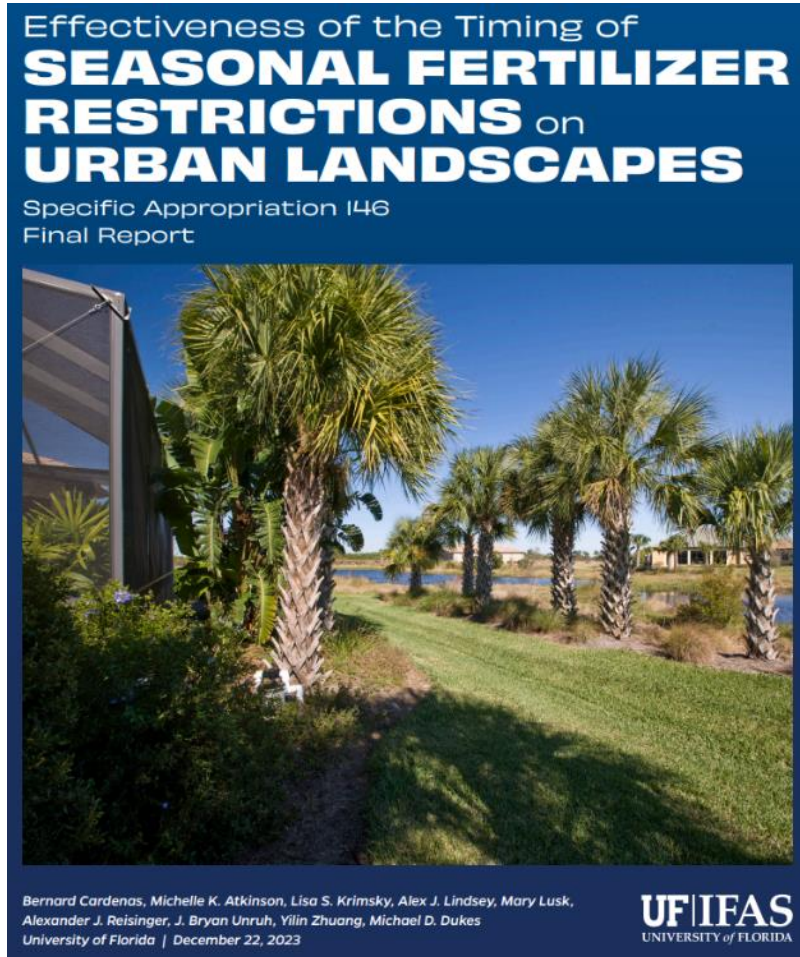
Many municipalities have adopted their own stricter fertilizer ordinances.

Over 120 local ordinances

Source: <https://ffl.ifas.ufl.edu/fertilizer/>



In response, a fertilizer ordinance moratorium was put in place during 2023 Florida legislative session.



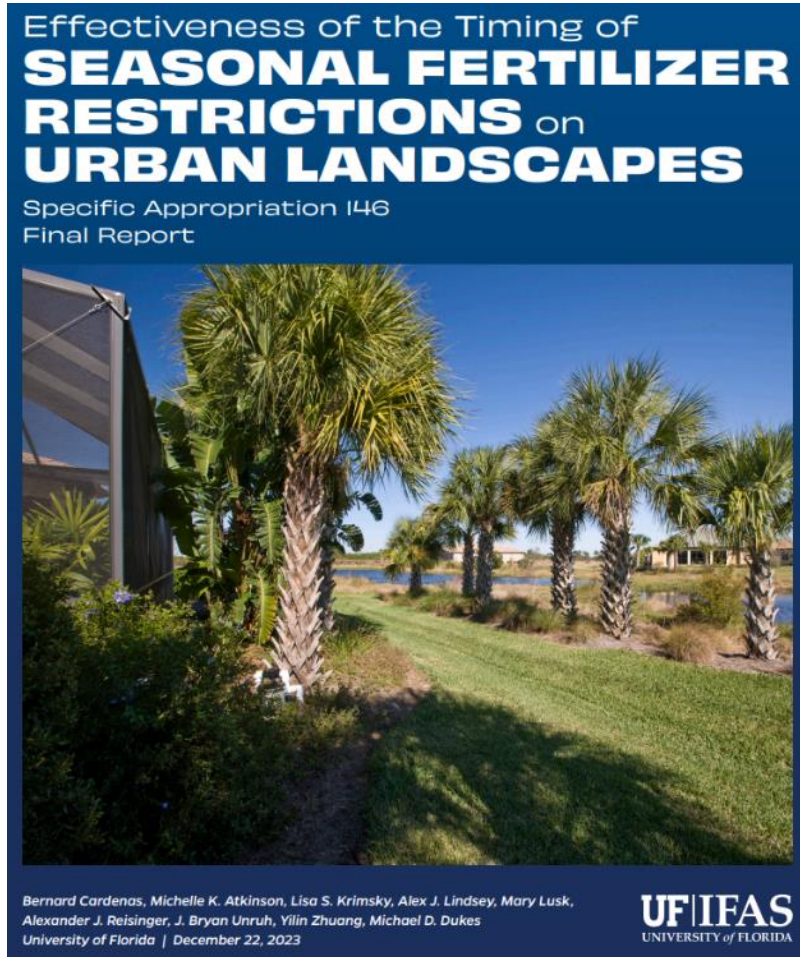
“...evaluate the **effectiveness of the timing of seasonal fertilizer restrictions** on urban landscapes toward achieving nutrient target objectives for waterbodies statewide.”

Expired: July 1, 2024

Source: clue.ifas.ufl.edu/pdf/effectiveness-of-timing-of-seasonal-fertilizer-restrictions-on-urban-landscapes.pdf

Slide 9 of 35

What does the UF/IFAS study say?



"**multiple sources of nutrients** in urban watersheds with potential to contribute to nutrient pollution of Florida's waterbodies...important to place the various sources in context with each other to learn which sources might be the most important in a **given location and time.**"

Not enough existing evidence to conclude fertilizer ordinances are **effective or not effective** in achieving nutrient target objectives.

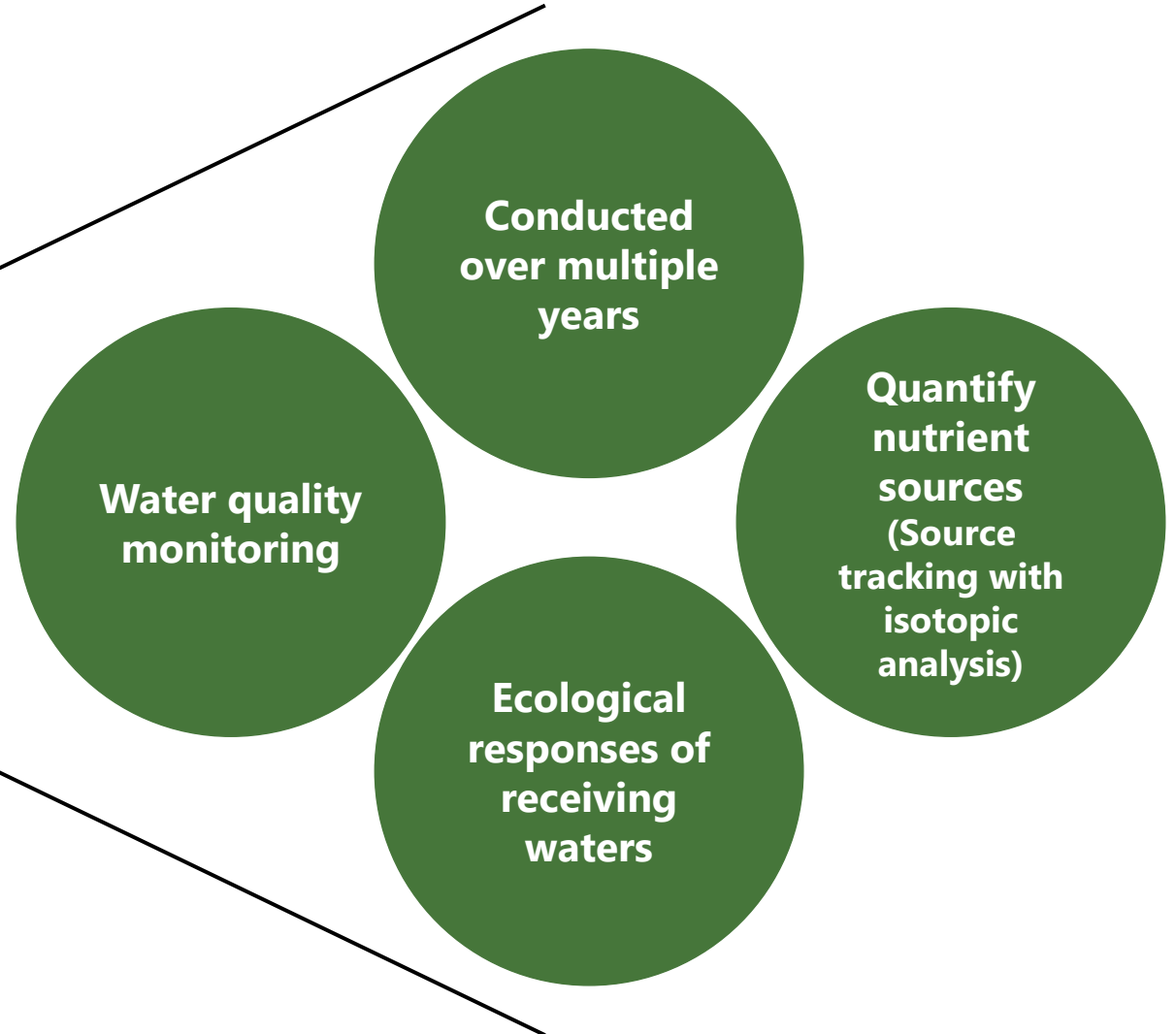
Source: clue.ifas.ufl.edu/pdf/effectiveness-of-timing-of-seasonal-fertilizer-restrictions-on-urban-landscapes.pdf

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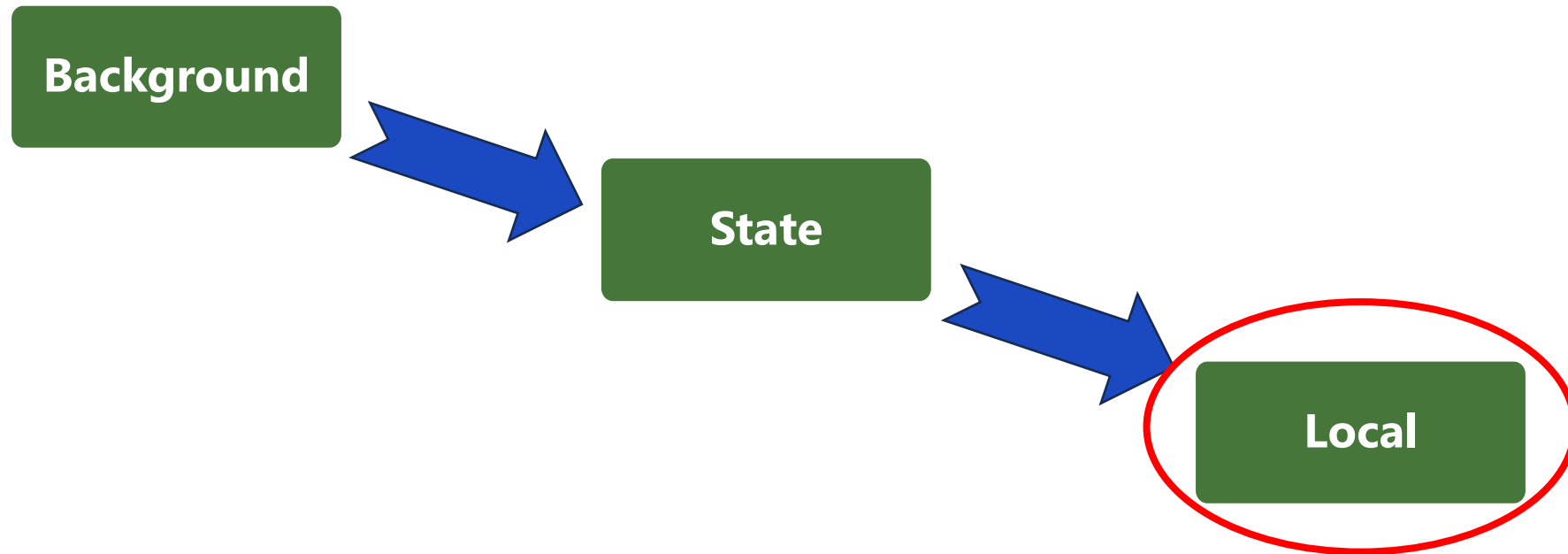
What does the UF/IFAS study call for?

Additional Study

- Evaluate Different Nutrient Sources
- Evaluate Fertilizer Type, Timing and Amount
- Address Knowledge and Compliance Gaps Related to Ordinances
- Develop Site-Specific Strategies



Source: clue.ifas.ufl.edu/pdf/effectiveness-of-timing-of-seasonal-fertilizer-restrictions-on-urban-landscapes.pdf



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Over 120 local ordinances

Source: <https://ffl.ifas.ufl.edu/fertilizer/>



What do other municipalities think about their fertilizer ordinance? We surveyed 14 counties and 8 cities.

All

Professional Certification
Annual N Limit
No P Without Test

Most

Restricted Application Period
SRN Requirement
Fertilizer-Free Buffer

Few (<50%)

Retail Signage
Reclaimed Water Language
Fertilizer Sales Ban

Location	Ordinance Component									
	Professional Training	Professional Certification/Proof	Annual N Limitation	No P Without Test	Restricted Application Period	Slow-Release N Requirement	Fertilizer-Free Waterway Buffer	Retail Sign Requirement	Reclaimed Water Language	Fertilizer Sales Ban
County										
Alachua	X	X	X	X	X	X	X	X		
Brevard	X	X	X	X	X	X	X	X		
Charlotte	X	X	X	X	X	X	X			
Citrus	X	X	X	X	X	X	X			
Hernando	X	X	X	X	X	X	X			
Hillsborough	X	X	X	X	X	X	X		X	
Indian River	X	X	X	X	X	X	X			
Lee	X	X	X	X	X	X	X			
Martin	X	X	X	X	X	X	X	X	X	
Monroe	X	X	X	X	X	X	X			
Orange	X	X	X	X	X	X	X	X	X	
Pinellas	X	X	X	X	X	X	X	X	X	X
Seminole	X	X	X	X	X	X	X		X	
Volusia	X	X	X	X	X	X	X			
City										
Bonita Springs	X	X	X	X	X	X	X	X	X	
Cape Canaveral	X	X	X	X	X	X	X			
Cape Coral	X	X	X	X	X	X	X			
Indian Harbour Beach	X	X	X	X	X	X	X			
Orlando	X	X	X	X			X			
Sanibel	X	X	X	X	X	X	X	X	X	
Tampa	X	X	X	X	X	X		X		X
Vero Beach	X	X	X	X	X	X	X			

Conducted by Applied Ecology, Inc.

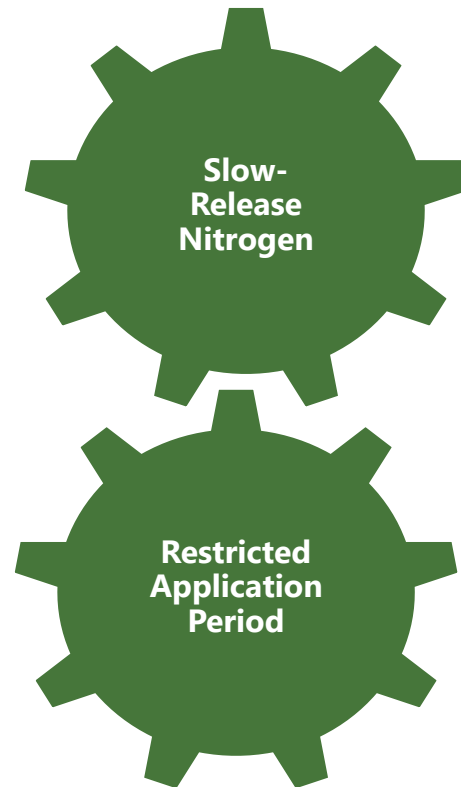


What do other municipalities think about their fertilizer ordinance?

Primary Motivation



Key Components



Awareness & Compliance



Community Feedback



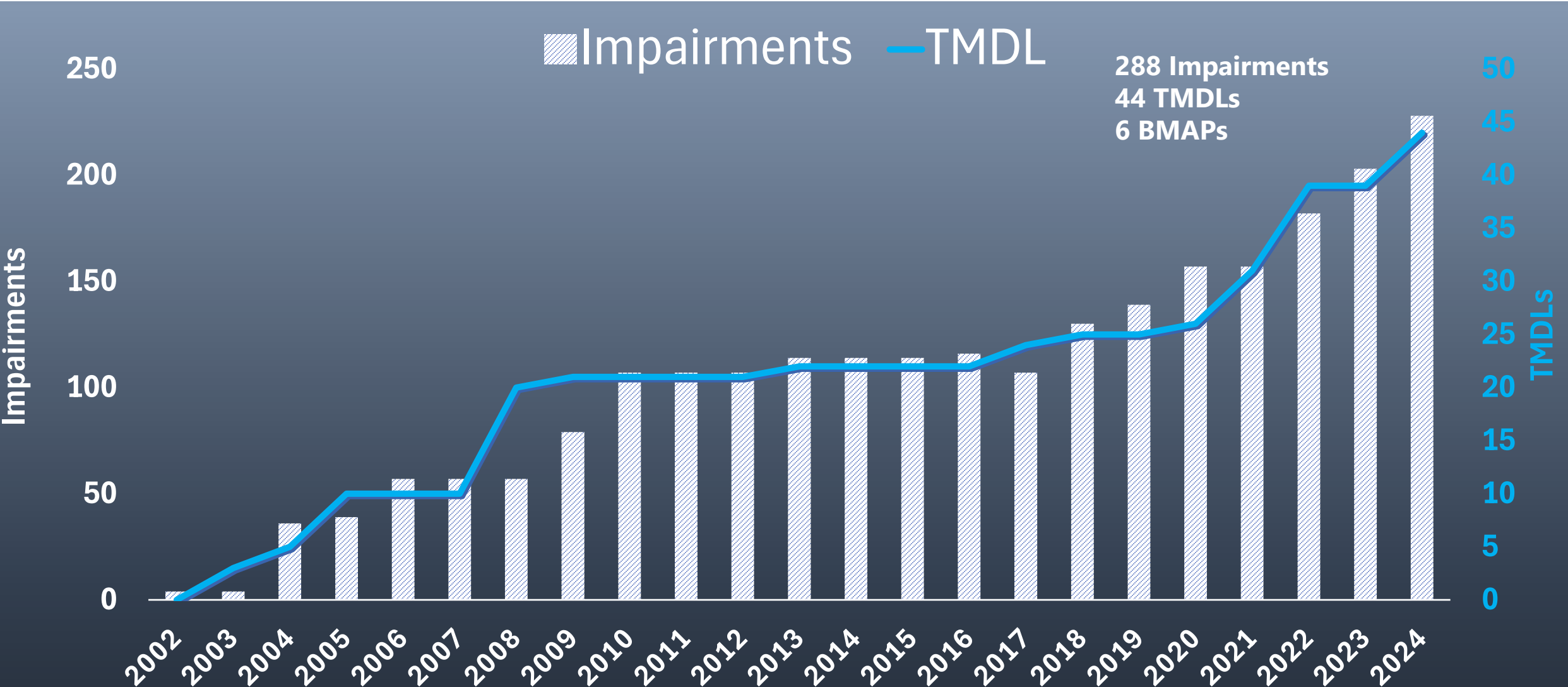
That brings us to Orange County...



- 600+ named lakes
- 9 river/creek systems
- **Wekiwa & Rock Springs (Outstanding Florida Springs)**
- **Wekiva River (1 of 2 Wild & Scenic Rivers in Florida, State Aquatic Preserve, OFW)**
- **Econlockhatchee River, Butler Chain of Lakes (OFW)**
- **Headwaters of the Everglades**

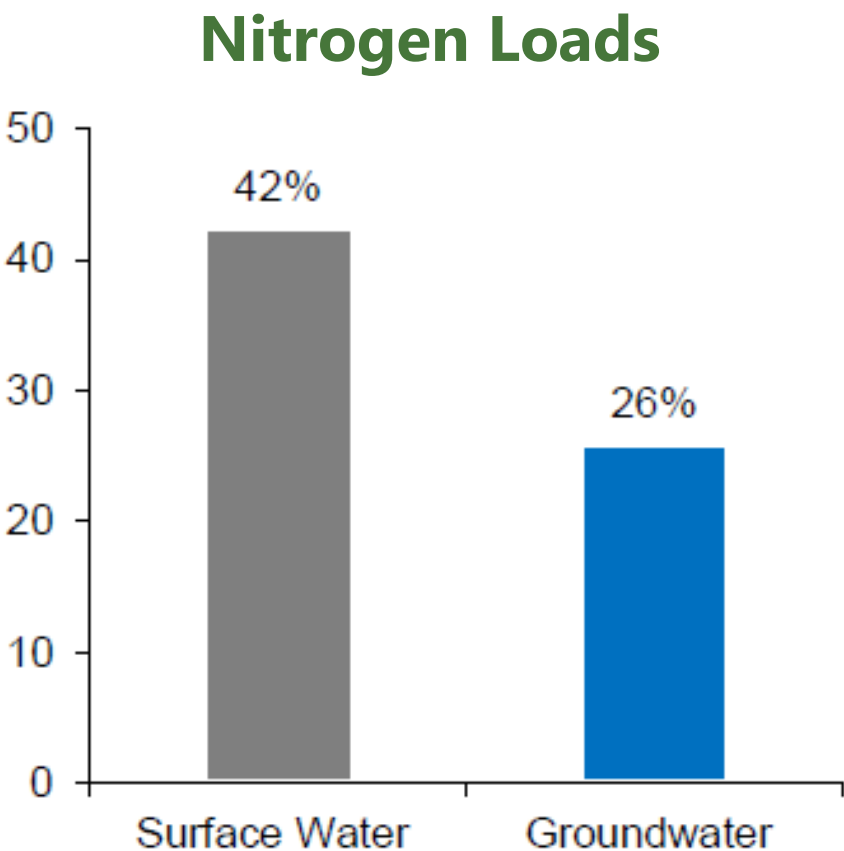
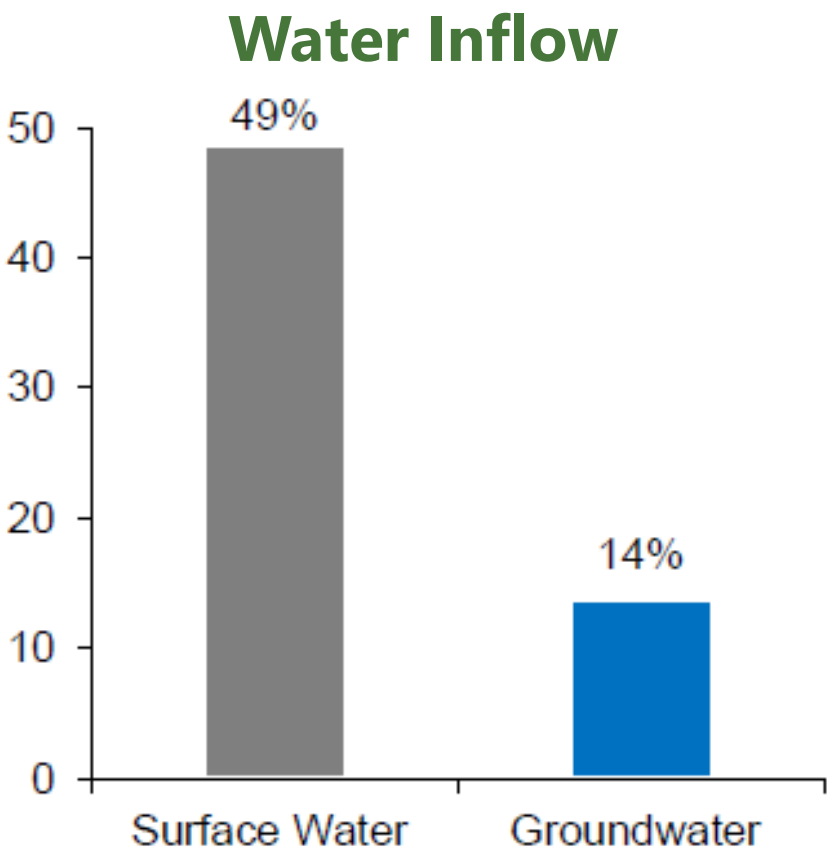


Water quality impairments are increasing...



Impairments based on all verified impaired, ongoing restorations, adopted TMDLs, and Study List of unincorporated and incorporated areas in Orange County
TMDLs include adopted, draft, and priority lists of unincorporated and incorporated areas

Based on 18 lake assessments, nitrogen enters Orange County lakes through surface water and groundwater.



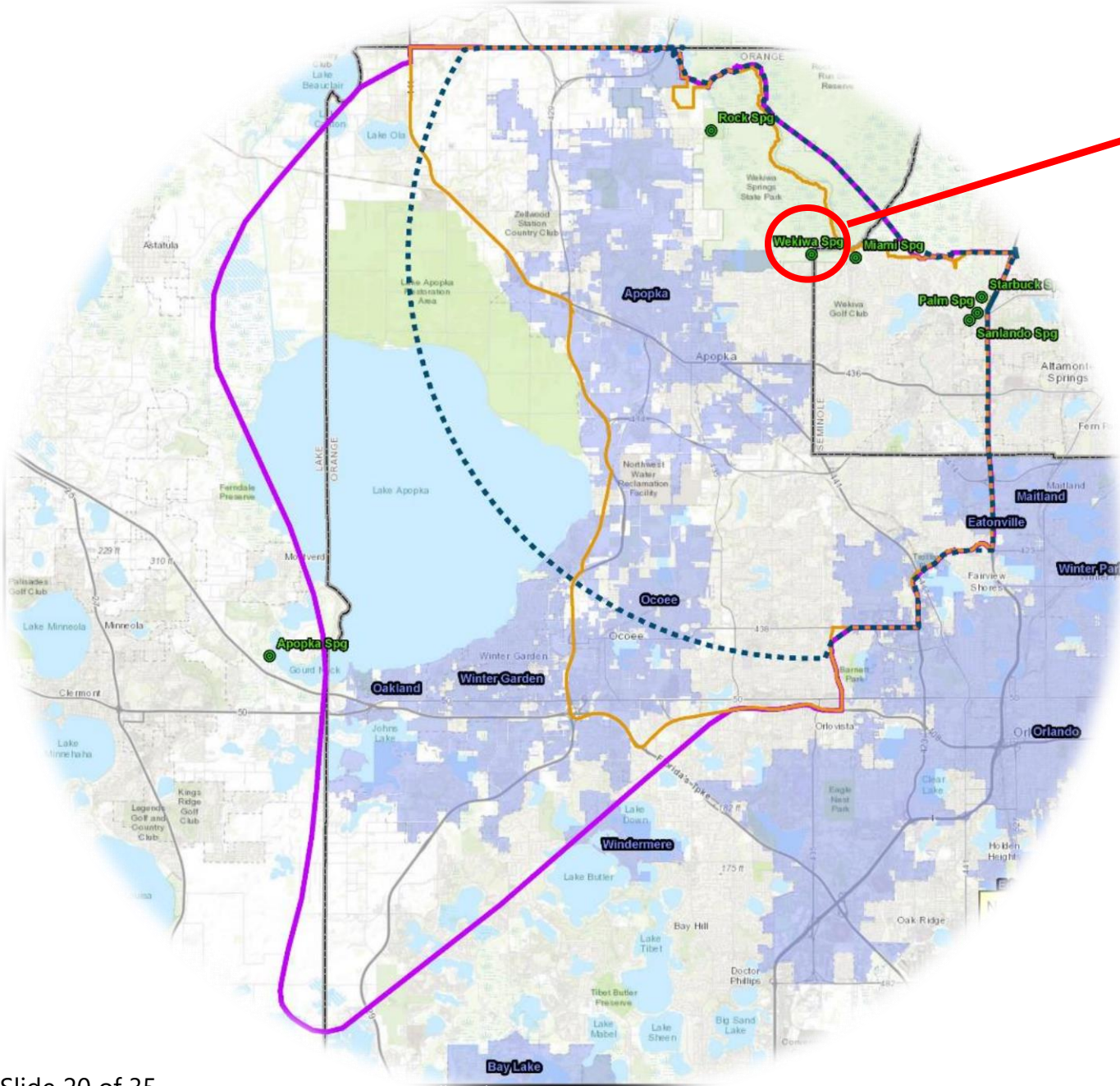
Wekiwa Spring and the Wekiva River are also important water resources in Orange County.



Nitrate

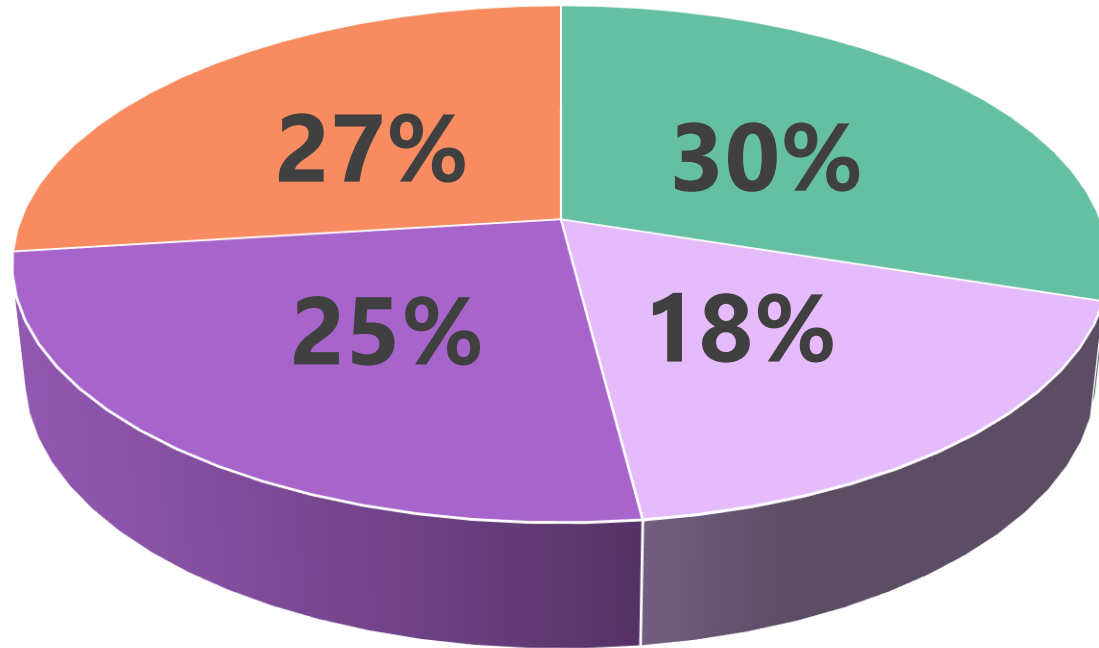
- Impaired
- TMDLs
- BMAP

Phosphorus



-  Springs
-  UFA 1-Year Travel
-  Priority Focus Area
-  BMAP
-  Orange County
-  Cities

Isotopic source tracking indicates fertilizer nitrogen is the primary nitrate source in Wekiwa Spring.



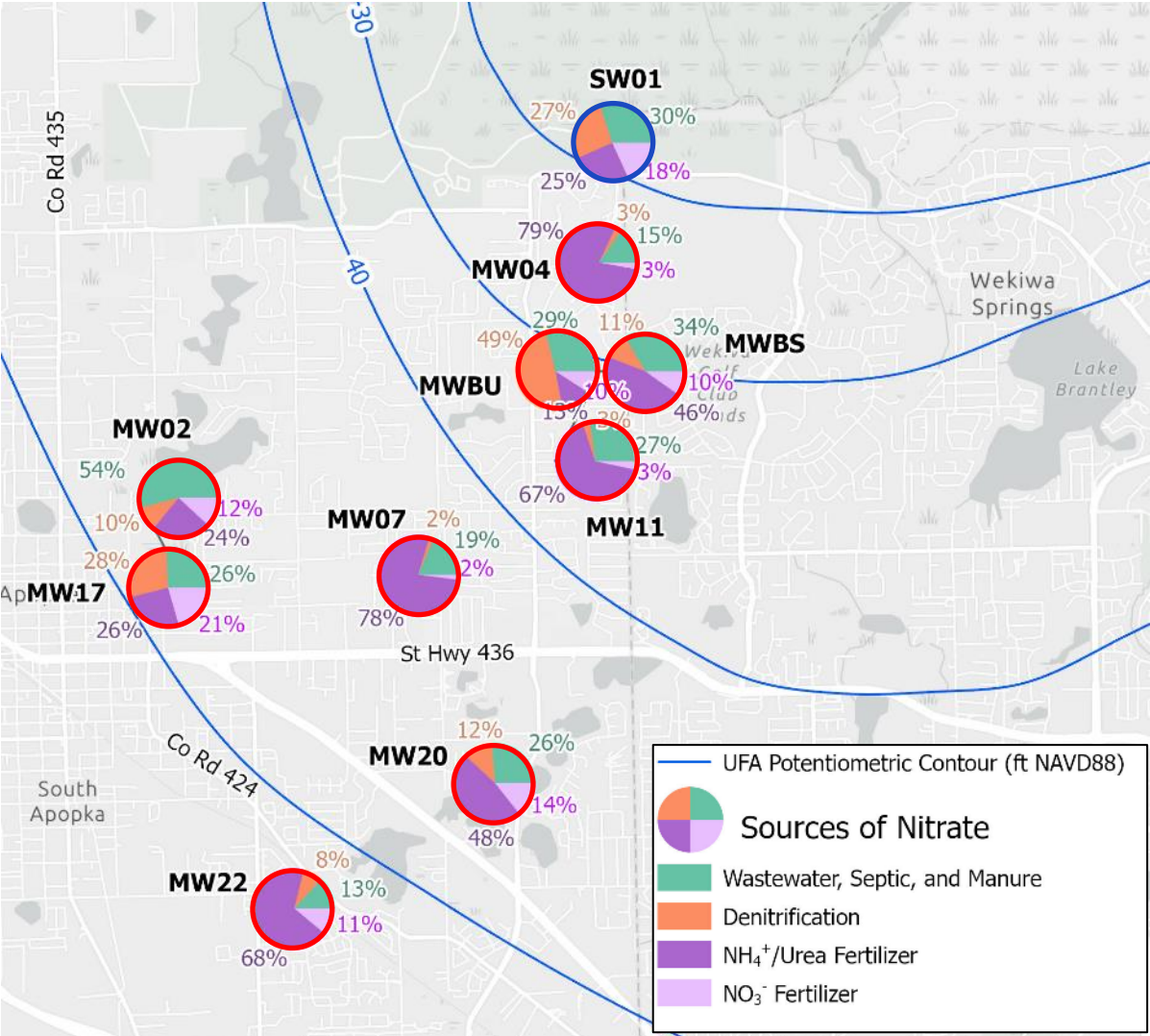
Sources of Nitrate

- Wastewater, Septic, and Manure
- Denitrification
- NH₄⁺/Urea Fertilizer
- NO₃⁻ Fertilizer



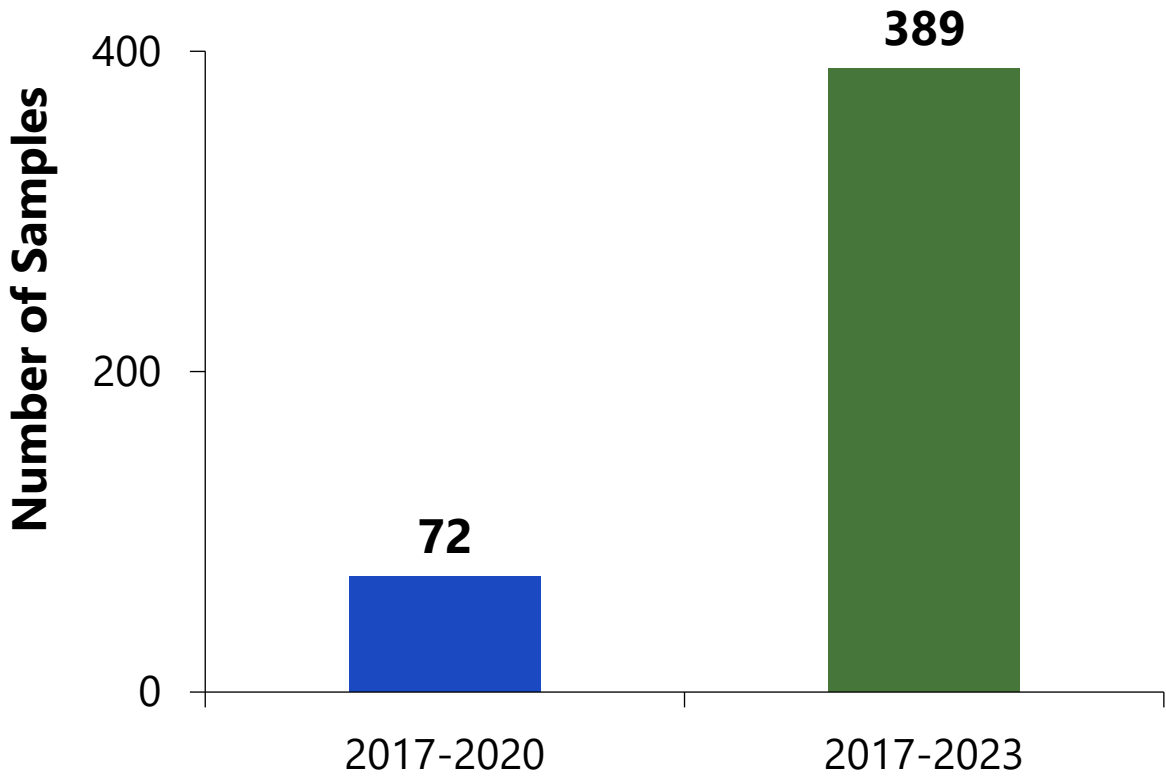
>40% of *nitrate* at spring vent attributed to fertilizer.

Isotopic source tracking indicates fertilizer nitrogen is the primary nitrate source in Wekiwa Spring.



Fertilizer is a **significant nitrate source** in groundwater near the spring.

Isotopic source tracking indicates fertilizer nitrogen is the primary nitrate source in Wekiwa Spring.

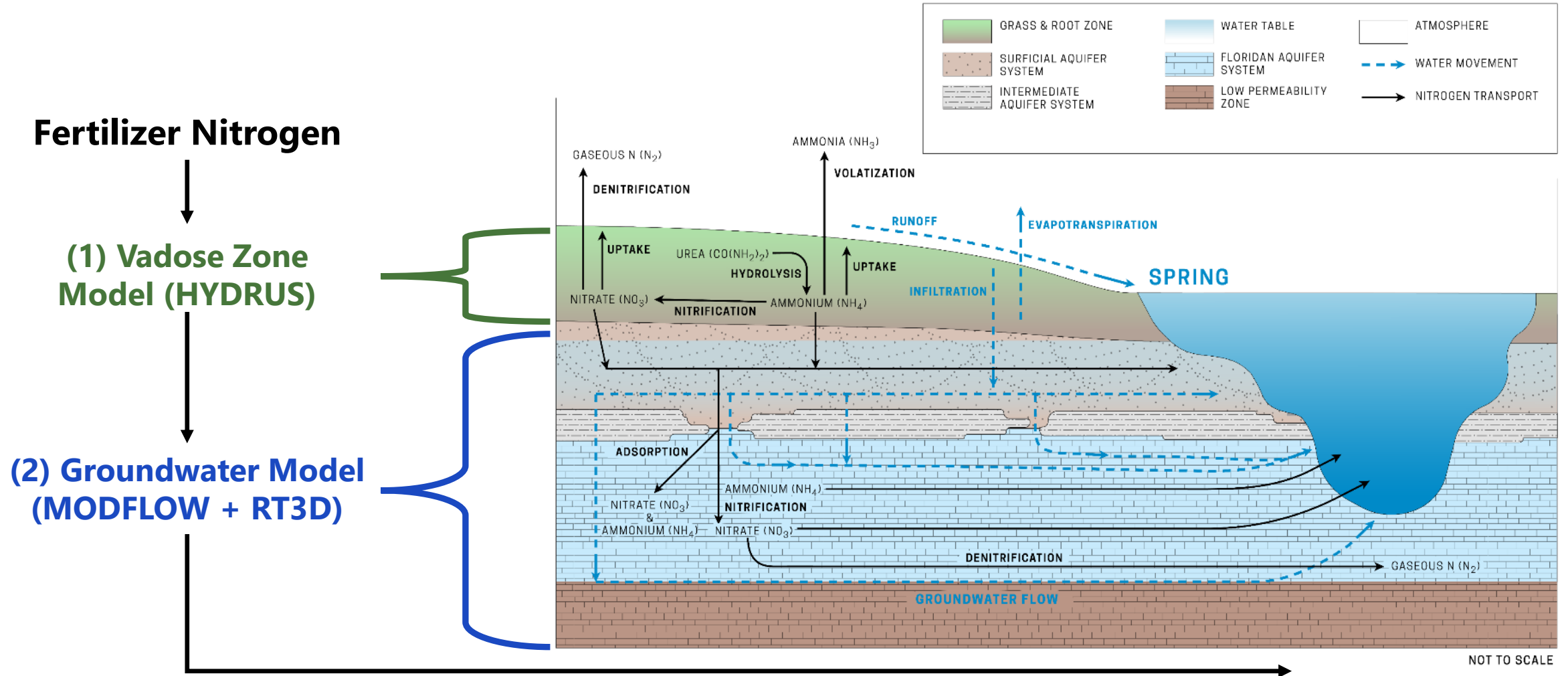


Similar results



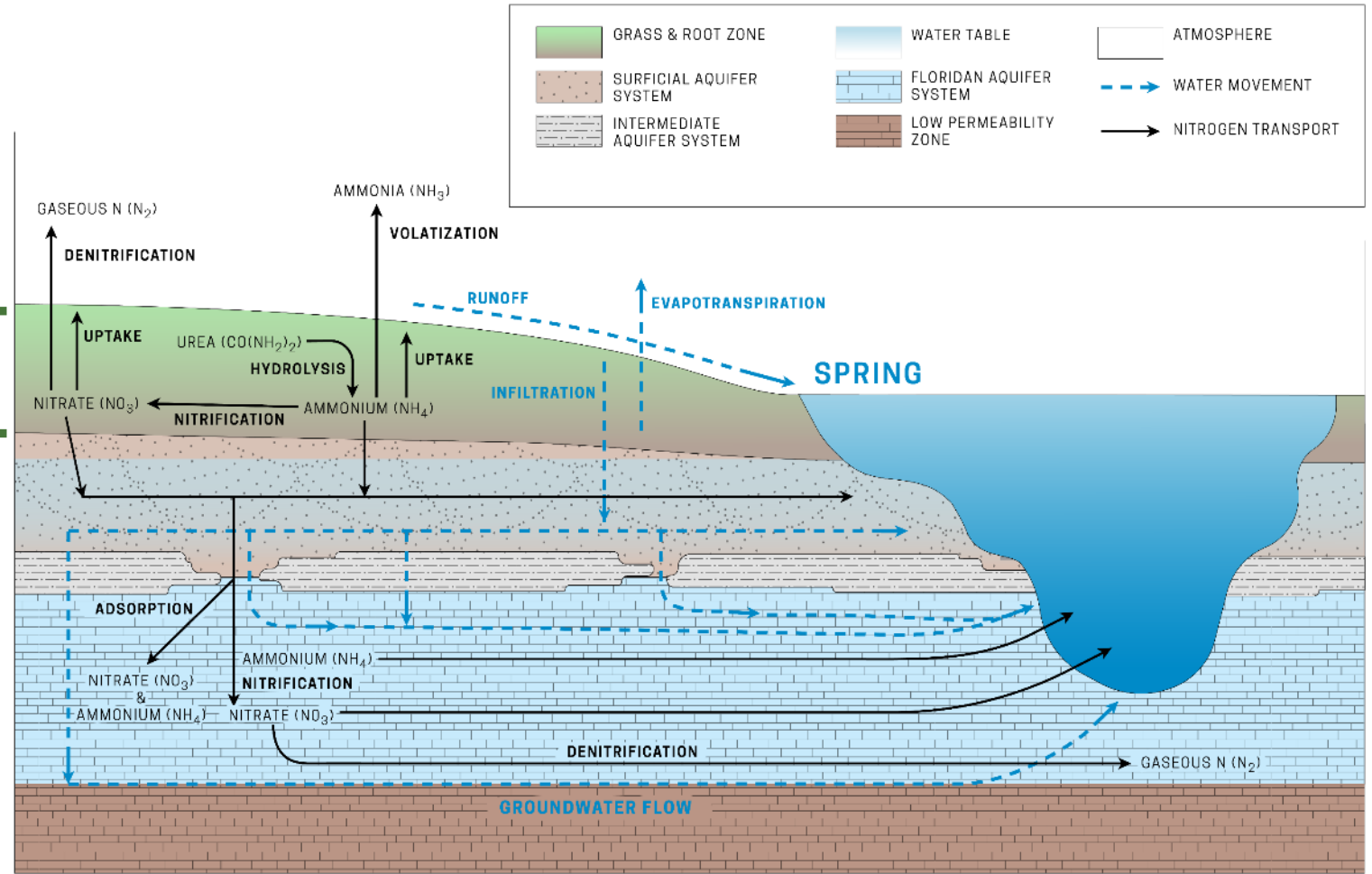
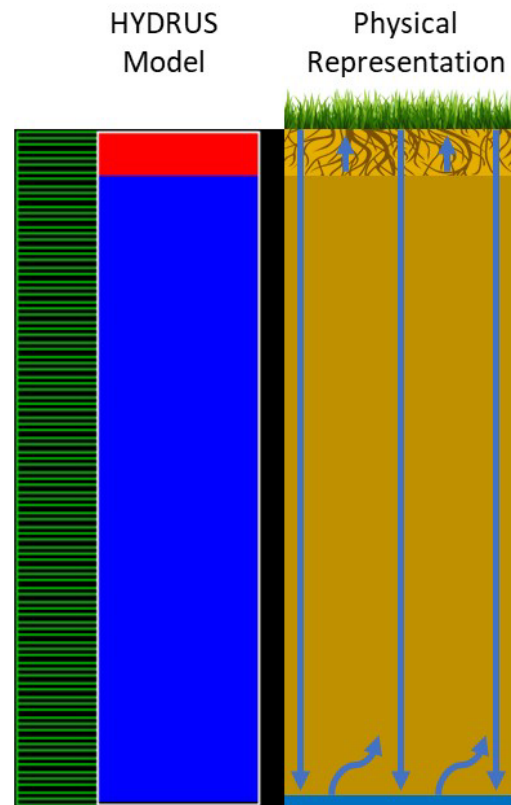
Additional water quality data helped validate initial isotopic mixing model.

Water quality modeling has been conducted to explore the sources, fate, and transport of fertilizer nitrogen.



Water quality modeling has been conducted to explore the sources, fate, and transport of fertilizer nitrogen.

Load to Groundwater

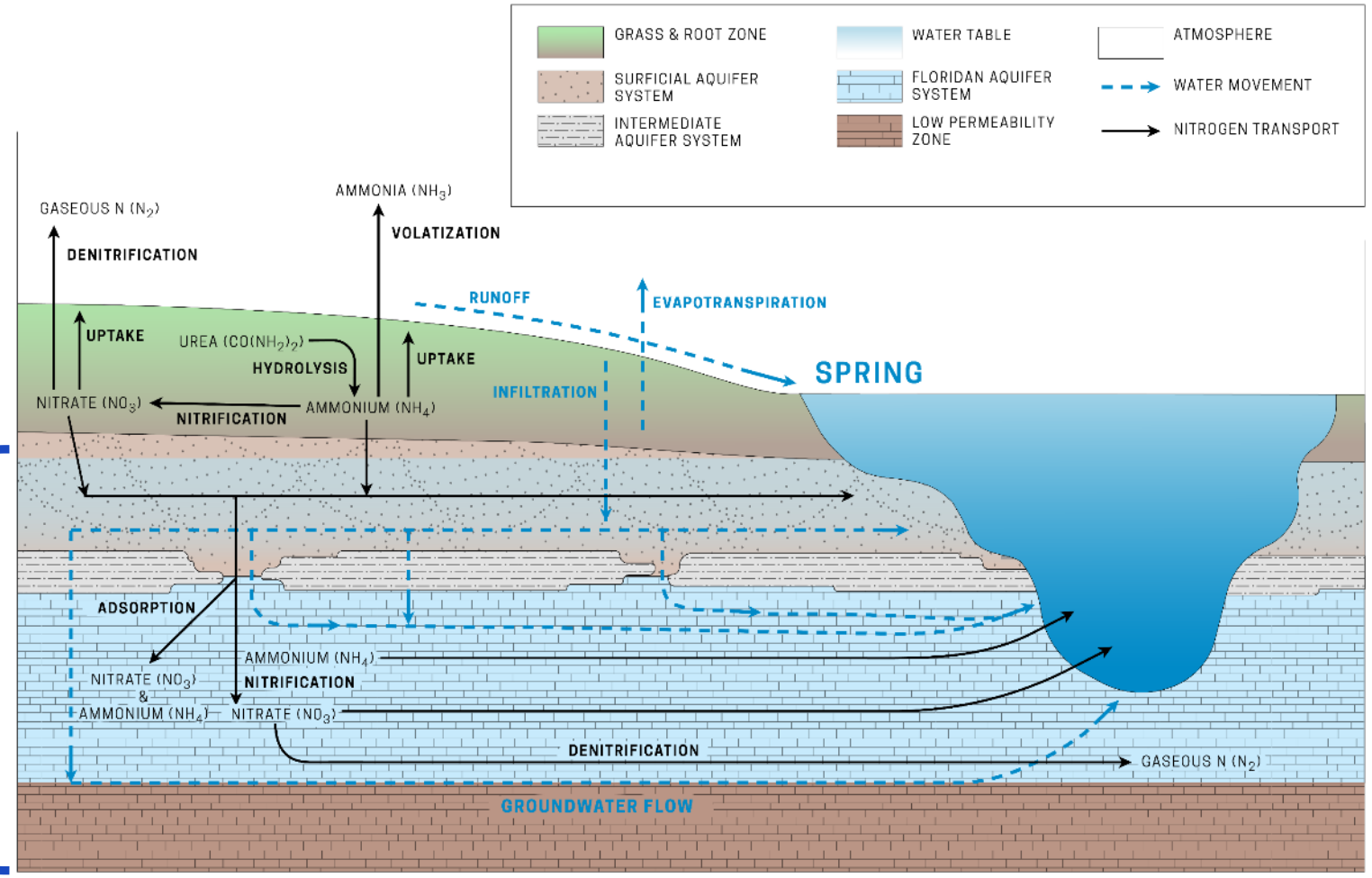
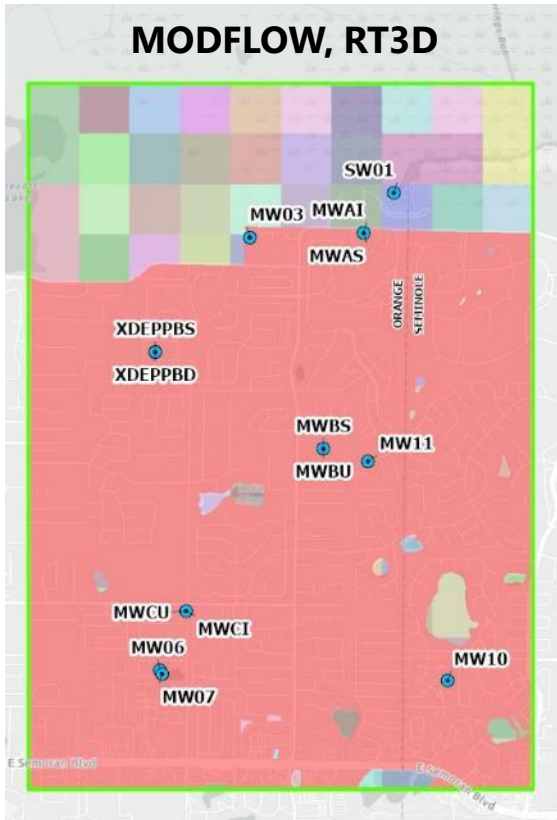


NOT TO SCALE

Water quality modeling has been conducted to explore the sources, fate, and transport of fertilizer nitrogen.

Load to Spring

MODFLOW, RT3D



NOT TO SCALE

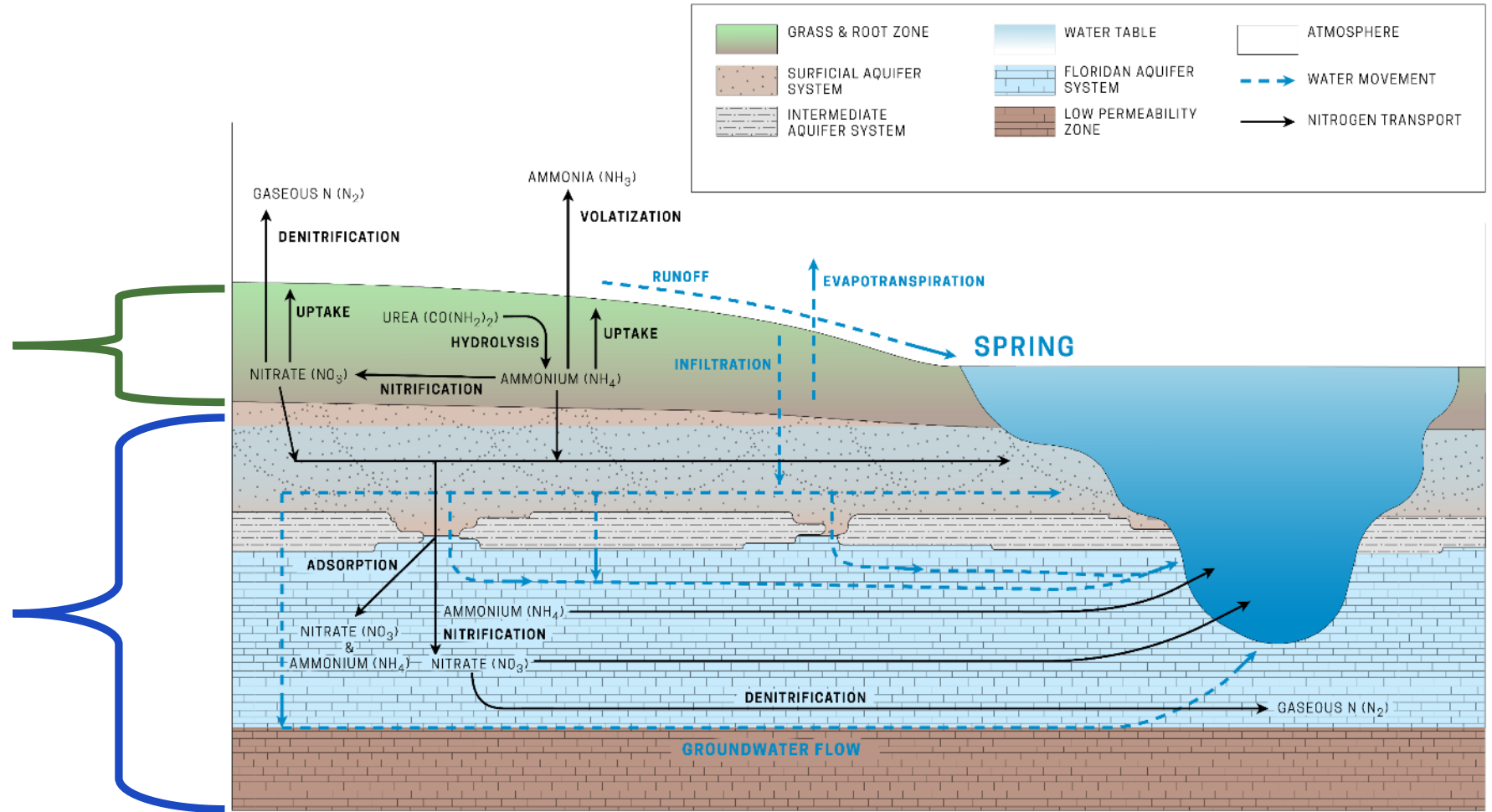
Water quality modeling has been conducted to explore the sources, fate, and transport of fertilizer nitrogen.

Load to Groundwater (HYDRUS)

- ❖ Application Rates
- ❖ Slow-Release Nitrogen
- ❖ Restricted Application Period
- ❖ Recharge
- ❖ Water Table Depths
- ❖ Soil Type
- ❖ FDEP Model Ordinance vs. Orange County Ordinance

Load to Spring (MODFLOW)

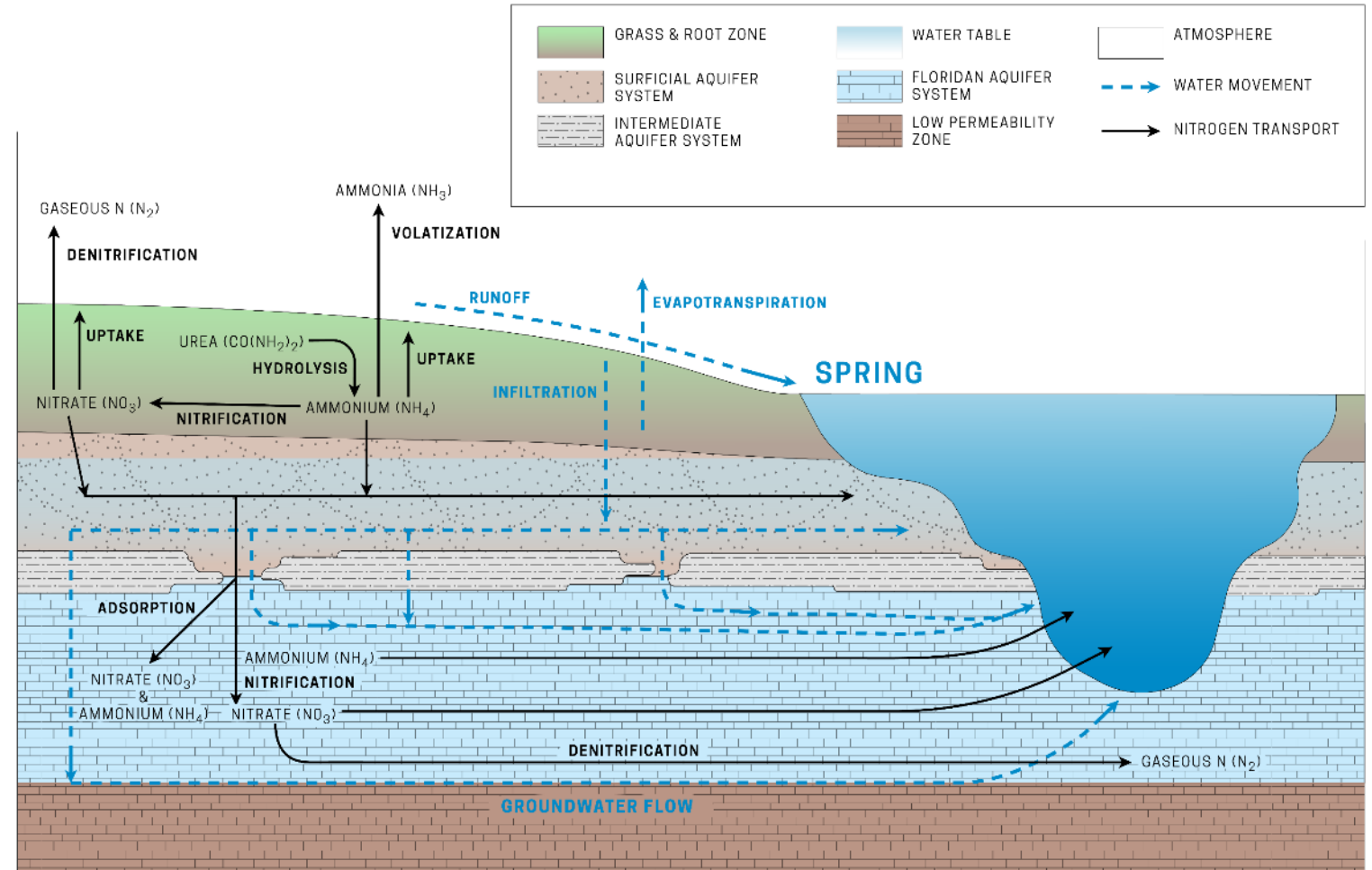
- ❖ Spring Response
- ❖ Lag-Time



NOT TO SCALE

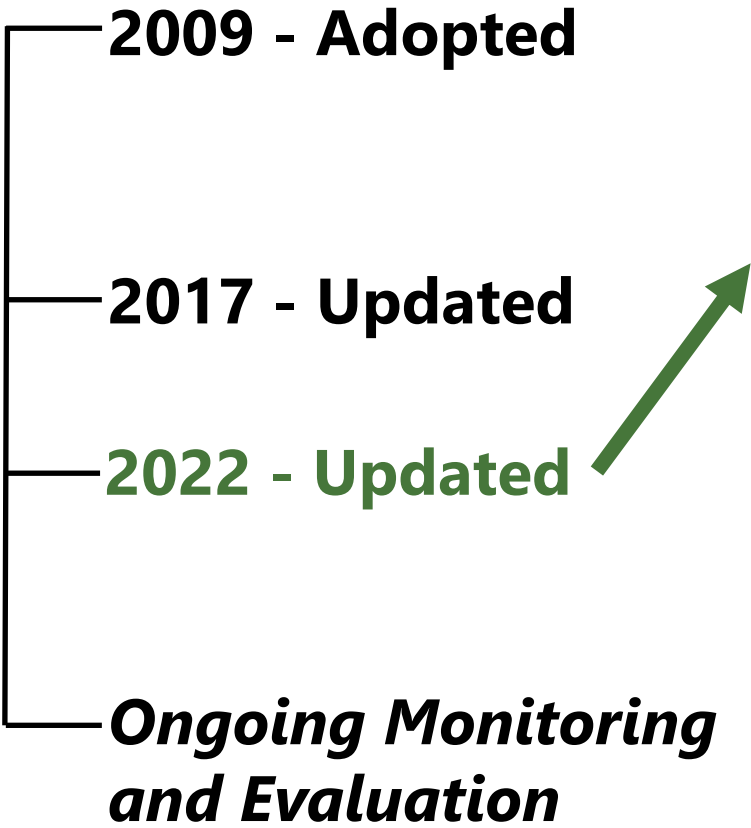
Water quality modeling generally indicated...

- ✓ Nitrogen mass applied had the greatest impact on leaching amount
- ✓ Slow-release nitrogen can help reduce leaching
- ✓ Nitrogen moves with water (precipitation, irrigation)
- ✓ Years-to-decades lag-time
- ✓ OC's more restrictive ordinance can reduce leaching compared to FDEP's Model Ordinance












NOT TO SCALE

Scientific evaluation went into the development and update of Orange County's fertilizer ordinance.



Key Components

 <p>Fertilizer 0-0-K Nitrogen Phosphorus Potassium</p>	From June 1 to September 30, choose zero nitrogen (N) and zero phosphorus (P)	 <p>Fertilizer 16-0-4</p>	From October 1 to May 31, if using nitrogen fertilizer, it must be at least 65% slow release
	Year round, choose fertilizer with zero phosphorus (P)		Limit each application to 1 pound total nitrogen per 1,000 square feet (maximum 3 pounds per year)
	Do not fertilize 24 hours before an expected storm or heavy rain		Clean up and properly dispose of fertilizer spills, grass clippings and yard debris to prevent them from entering storm drain inlets
	Never apply fertilizer within 25 feet of a natural water body		If hiring a commercial applicator, ensure that they have this decal on their application vehicle
	When using a broadcast spreader it must have a deflector shield		

Orange County has conducted outreach to help facilitate public awareness and compliance.

From Your Yard to Your Springs

How fertilizing with nitrogen (N) can pollute waters throughout the Wekiva Springshed

1 From your yard
When it rains, nitrogen fertilizer can wash into storm drains that lead to nearby lakes, rivers and streams. Dissolved nitrogen also soaks into the ground, filtering through layers of dirt and rock and polluting the groundwater below.

2 To the aquifer
Nitrogen-polluted water filters from the lake bottom of surface waters into groundwater. When lake levels are high, drainage wells pump excess water — and nitrogen pollution — directly into the aquifer to prevent flooding.

3 To your springs, rivers and lakes
The Floridan aquifer is like an underground river beneath the springshed. Nitrogen in the aquifer bubbles up into the springs, which feed river systems all across Central Florida.

4 Nitrogen makes algae grow
Once in the springs, nitrogen fertilizer keeps doing its job — it makes stuff grow. Unfortunately, the thing that grows fastest is algae. It coats river banks, degrades water quality, and makes food scarce for local wildlife.

PLEASE DON'T FEED THE ALGAE

Three ways to fight algae

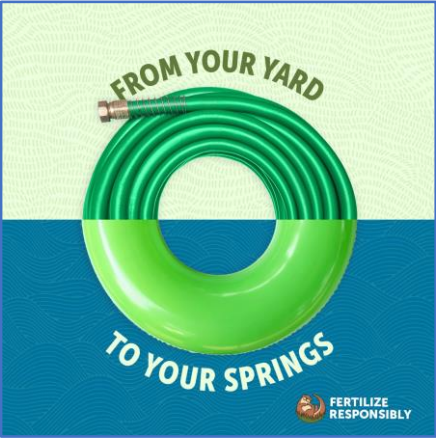
- 1. Skip the nitrogen fertilizer during the summer rainy season, which runs from June 1 to September 30.
- 2. In spring and fall, use fertilizer with at least 50% slow release nitrogen.
- 3. Plant a drought-tolerant yard with Florida-friendly plants that thrive without extra water and nitrogen fertilizer.

Green up your yard without greening up the springs. Learn more at MyLandMySprings.org

MY YARD MY SPRINGS | EPA

PLEASE DON'T FEED THE ALGAE

PLEASE DON'T FEED THE ALGAE



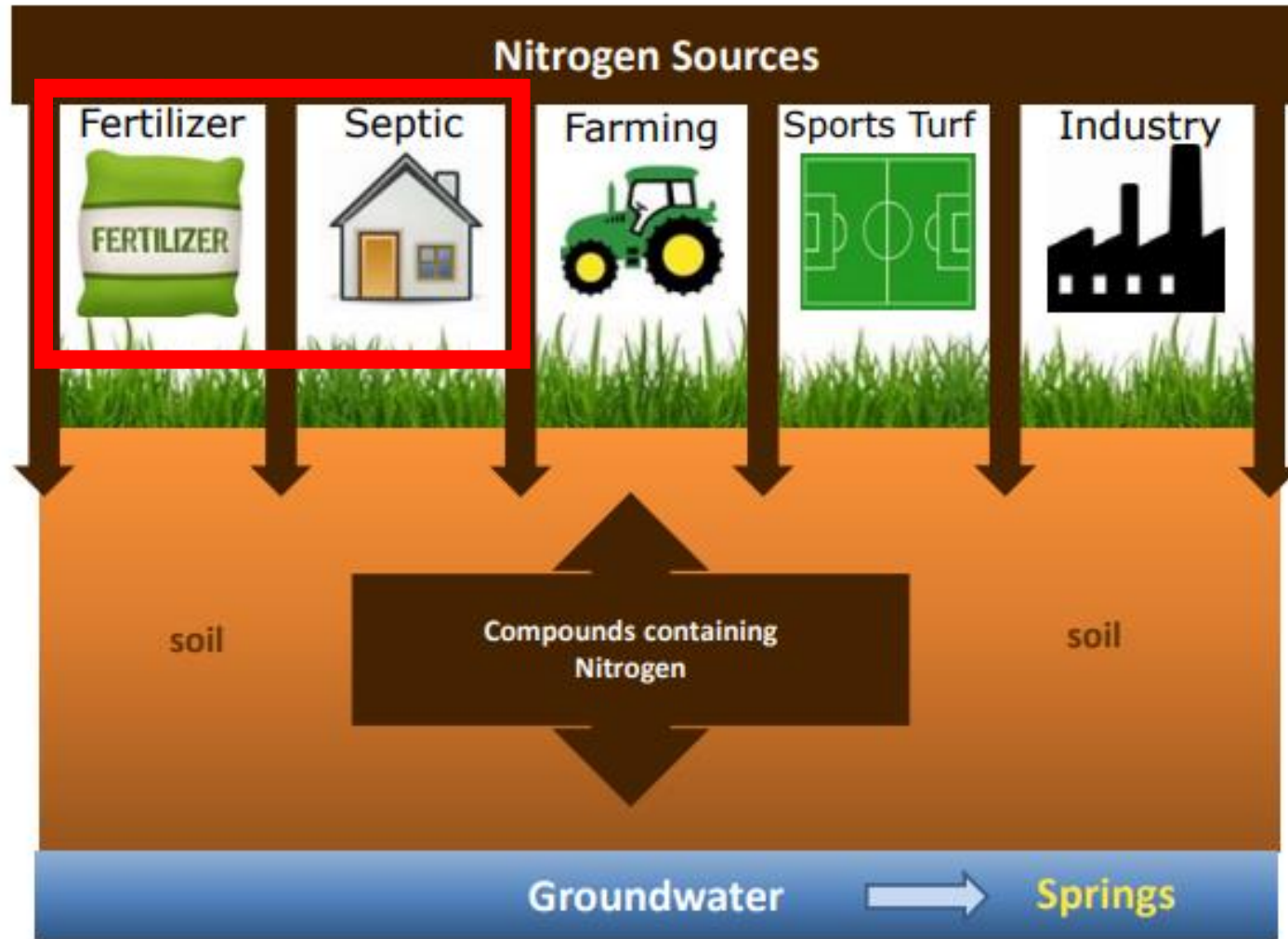
Orange County has conducted outreach to help facilitate public awareness and compliance.



A flyer with a green background. On the left, there is a close-up photograph of a manatee's head. To the right of the photo, the text "ATTENTION ORANGE COUNTY RESIDENTS" is written in bold, dark blue capital letters, followed by "Three Steps for Summer Fertilizing" in a smaller, dark blue font. Below this, the text "FROM JUNE 1 TO SEPTEMBER 30 THE FOLLOWING APPLY:" is written in bold, dark blue capital letters. There are three numbered steps: 1. Check the Weather (with a cloud icon), 2. Read the Label (with a fertilizer bag icon), and 3. Protect Stormwater Inlets (with a water inlet icon). Each step has a brief description. At the bottom, the text "FERTILIZER MANAGEMENT ORDINANCE CHAPTER 15, ARTICLE XVII" is written in bold, dark blue capital letters, followed by the website "www.ocfl.net/FertilizeResponsibly" and a QR code. The Orange County Government logo is in the bottom left corner.

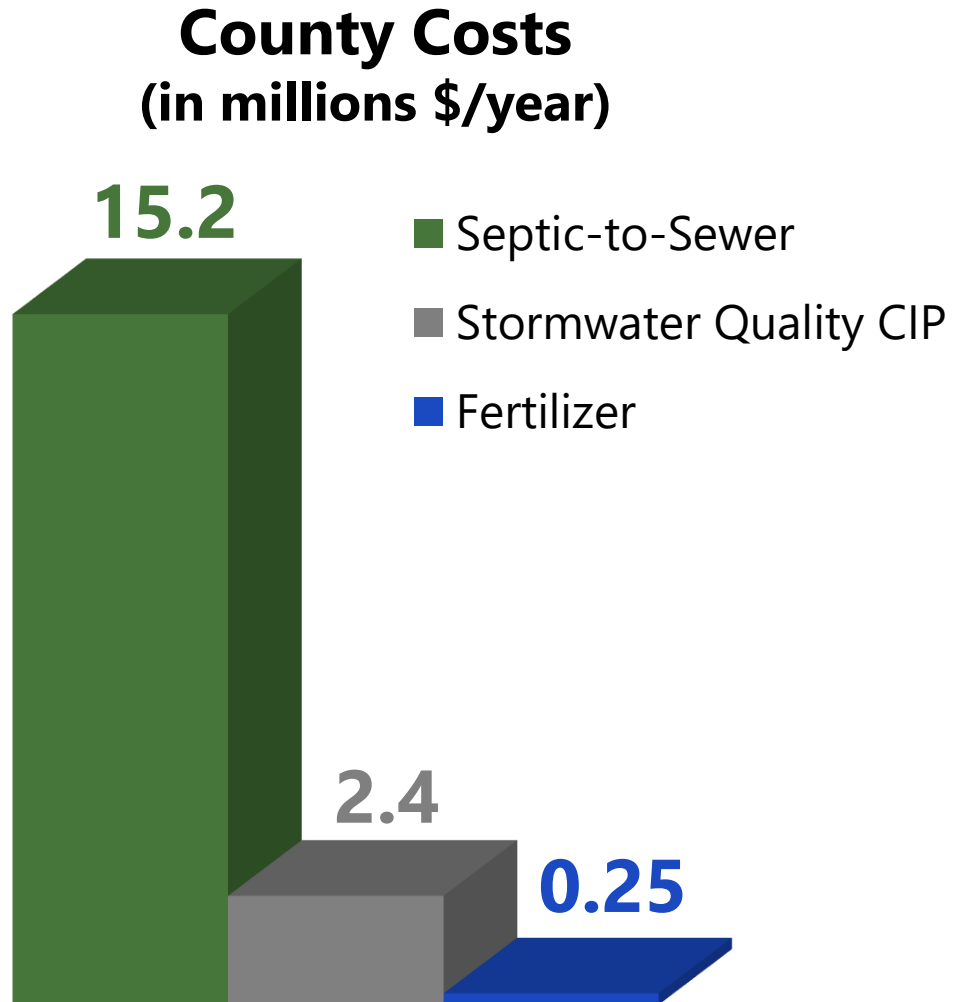
A vertical flyer with a dark blue background. At the top, the text "Summer is HERE!" is written in bold, yellow capital letters, followed by "You know what that means..." in a smaller, white font. Below this, the text "Use of nitrogen fertilizer in Orange County is restricted from June 1 to September 30." is written in bold, white capital letters. Underneath, the text "Protect our natural water bodies and skip the nitrogen fertilizer this summer." is written in bold, white capital letters. At the bottom, there is a photograph of a person in a white kayak on a body of water. To the right of the photo, there is a logo for "FERTILIZE RESPONSIBLY" featuring a stylized orange fruit. The website "www.ocfl.net/FertilizeResponsibly" is written in white at the bottom.

There are many sources of nitrogen to Florida waterbodies.



Fertilizer and **septic** are the leading nitrogen sources at Wekiwa Spring.

Fertilizer ordinances can be a cost-effective tool at reducing nutrient loading.



Wekiva Example



- 20 neighborhoods close to Wekiwa Spring
 - 2,000 septic systems to sewer
 - **\$150 million**
- ↓
- ~85,000 septic systems in Orange County
 - 16,000 septic systems in Priority Vulnerability Areas around Waterbodies-of-Interest

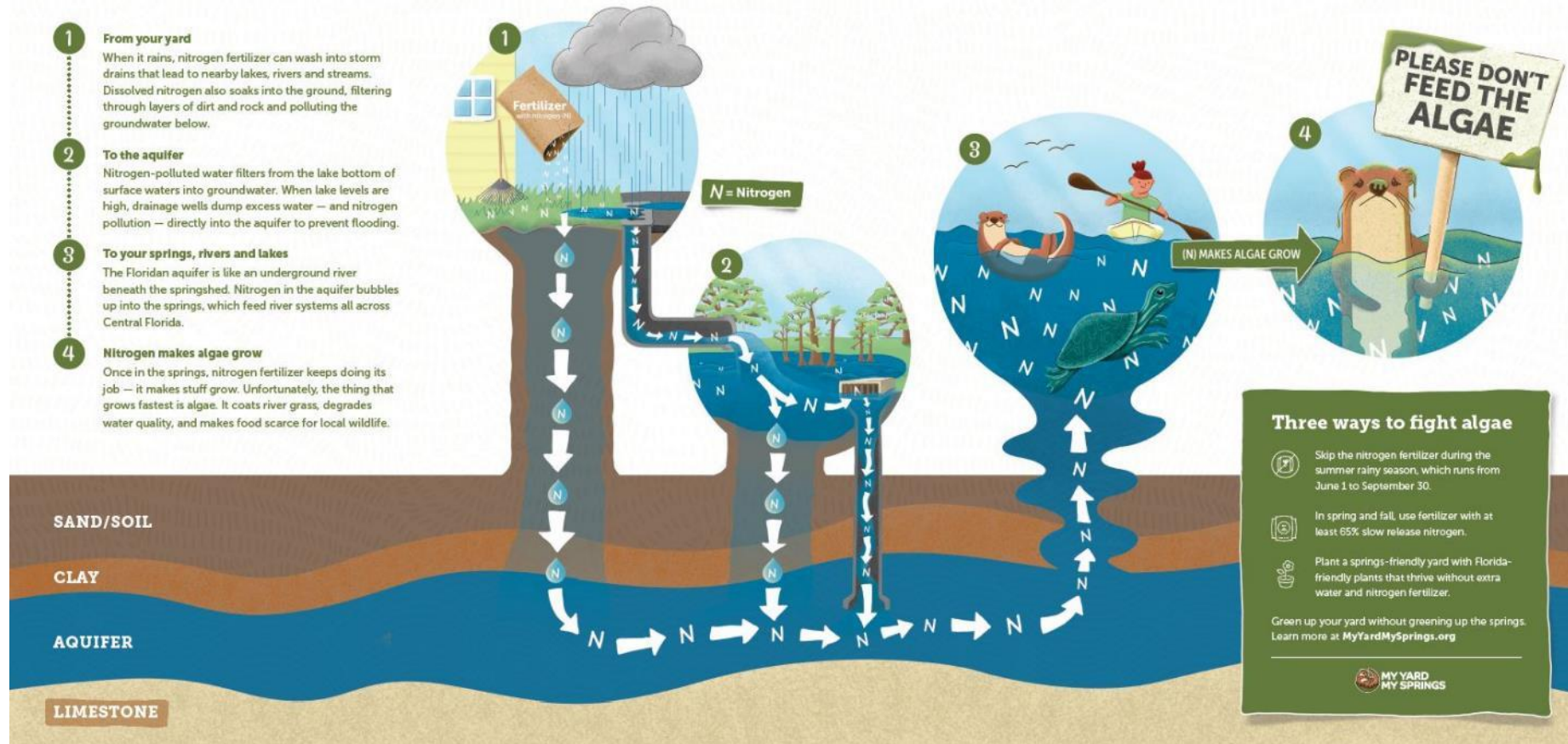
Here are your takeaways!

- (1) There are **multiple sources** of nitrogen to waterbodies.**
- (2) **Fertilizer** has been identified as a **major nitrogen source** to Orange County **waterbodies**.**
- (3) **Local fertilizer ordinances** can be a **cost-effective tool** in the toolkit aimed at protecting our waterbodies.**

Thank You!

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