

Landscape and Fertilizer Ordinance: A Ten-Year Review

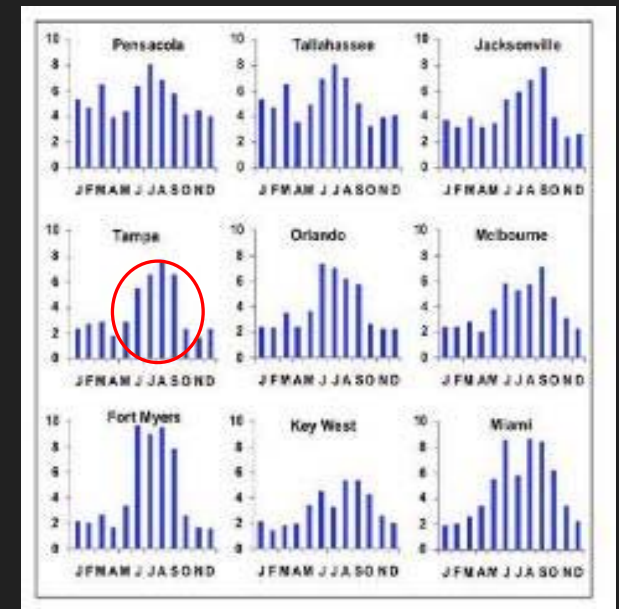
A Tool for Improving Water Quality in Pinellas County



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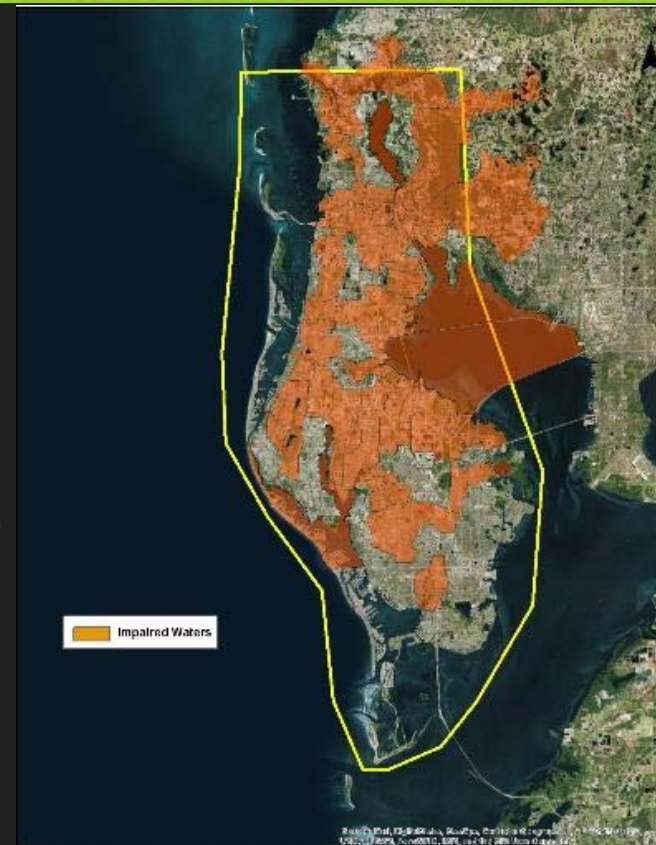
Understanding Local Issues

- Older development, pre 1985 SWFWMD
- Land Use
- Highly urbanized, most densely populated County in the State of Florida
- MS4 permit requirements
- Extensively manicured lawns
- Yard waste & Fertilizer identified as source of nutrients and bacteria



Impaired Watersheds

- ~60% of County waters are considered impaired
- Most have more than one impairment:
 - #1 cause is Nutrients
 - #2 is Dissolved Oxygen
 - #3 is Bacteria (*could be related to decomposing vegetation*)
- Effort to find cost effective solutions based on cause of water quality issues



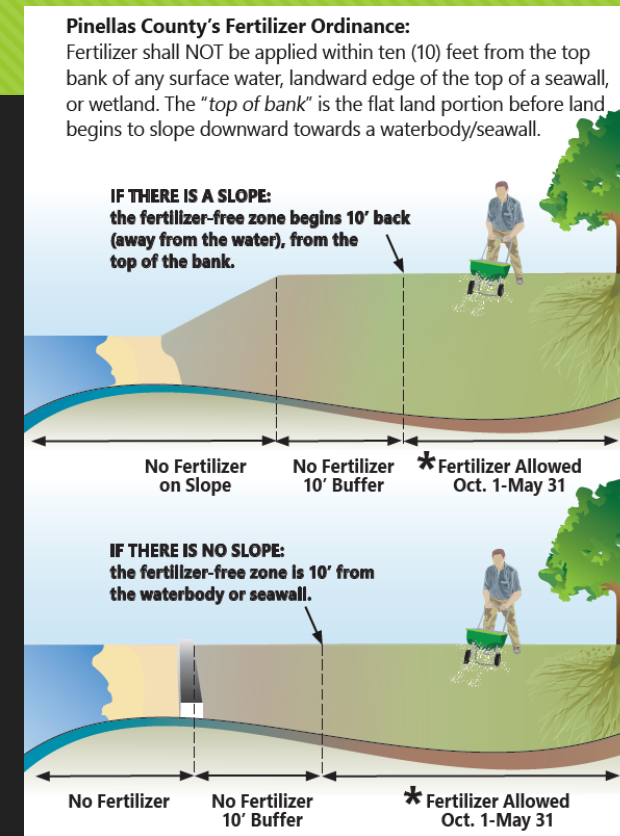
Fertilizer Ordinance

- County-wide ordinance adopted in January 2010
- Provisions effective in 2011:
 - No application of N or P June 1- Sept 30 (rainy season)
- Weather restrictions for fertilizer application
- Specific best management practices for golf courses and specialty turf



Fertilizer Ordinance

- No N or P fertilizer can be on shelves, sold at retail, or used during rainy season
- N must be at least 50% SRN
- Limit 4lbs N application per year
- No phosphorous without soil test
- Required Fertilizer Free Zone – 10ft from top of bank



Exemptions

- Agricultural operations
- vegetable gardens
- Yard waste, composts, soils and mulches
- Wholesalers who serve exempt groups
- Partial exemption for golf courses and sports turf - must follow specified best management practices



Required BMPs for Professionals Program Overview



- Strategy –Reduce nutrient pollution through improved landscaping practices
- All fertilizer applicators must be FDACS licensed AND registered with the County
- All landscapers must be BMP certified AND registered with the County
- Company vehicle decal compliance

Fertilizer Ordinance Implementation

- Strong education and training components to citizens and industry
- Consistent compliance program
- Outstanding collaboration amongst partners



BMP Education

- Companies with trained individuals 4,100+
- BMP certified employees 10,000+
- Classes in Spanish & English monthly & online 24/7 (English Only)
- The average landscape company maintains up to:
 - 15-20 lawns/day X 5-6 days/week (it adds up!)

 **Landscape Maintenance
Best Management Practices**

Crisanto Santos

Certificate# 1673 Class Date 11/30/2011



Additional Efforts

Public Outreach and Education

- Brochure distribution as part of enforcement cases
- Door hangers to high complaint areas
- Cooperation from field staff
- UF/IFAS Extension




DEAR NEIGHBOR
Volunteers are helping to raise awareness of protecting our waterways by distributing this door hanger to inform you of the countywide fertilizer ordinance.

Regulations limit the types of fertilizers used in Pinellas County to help protect our waterways.
Say NO to nitrogen and phosphorus from June 1 to Sept 30.


The good news is there are lots of ways to keep your yard looking great while keeping algae-feeding nitrogen and phosphorus out of our waterways.

- **Pump some iron.** Green up your yard with Florida-friendly yard products containing iron or other micronutrients.
- **Get better dirt.** Add compost or other soil amendments.
- **Keep the clippings.** Leaving clippings on your lawn can supply up to 50% of the nitrogen your grass needs. Keep yard waste off paved areas!
- **Pick better plants.** Florida-Friendly Landscaping™ needs less fertilizer, water and overall care — leaving you more time for fun! www.floridayards.org

 **Is your landscaper certified?**

When you do fertilize:

- **Watch the weather.** Rainstorms don't "water in" fertilizer, they wash it away. That wastes money and pollutes our water.
- **Sweep it up.** Whisk any fertilizer granules that fall onto pavement back into the landscape.
- **Perfect 10.** Keep fertilizer at least 10 feet away from any body of water.

 **Is your fertilizer applicator licensed?**

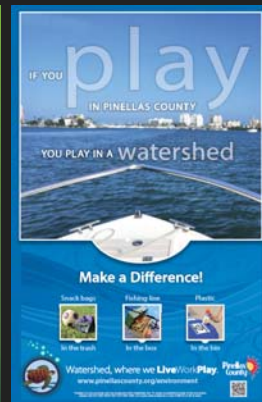
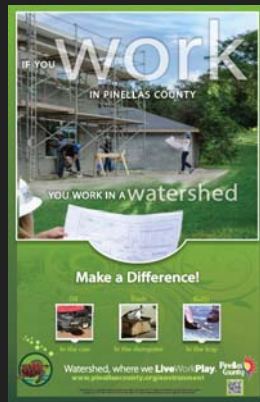
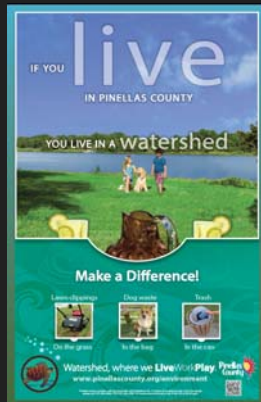
website: www.pinellascounty.org/fertilizer
email: Watershed@pinellascounty.org
phone: (727) 464-4425

- Press releases
- Radio show interviews and promotions
- Internet ads
- Website
- Facebook
- TV spots on county channel in public offices

Additional Efforts

Public Outreach and Education

- “Only Rain Down the Drain”
- “We LiveWorkPlay in a Watershed”
- “Don’t Feed The Beast”



Good Stuff!

- Protect recreation economy
- Healthier landscapes (better practices)
- Reduced nutrient pollution
- Reduced stormwater system maintenance frequency and cost
- Class is free for homeowners



Results of Outreach, Education & Enforcement

- Residents of Pinellas County compared to Hillsborough and Manatee
 - Significantly more knowledgeable of the fertilizer ordinance
 - Significantly more likely to site specific details of the ordinance
 - Apply less fertilizer and less often

Leesa A. Souto, Claudia M.C.S. Listopad, Patrick J. Bohlen (2019) "Forging linkages between social drivers and ecological processes in the residential landscape" Landscape and Urban Planning 185, 96–106

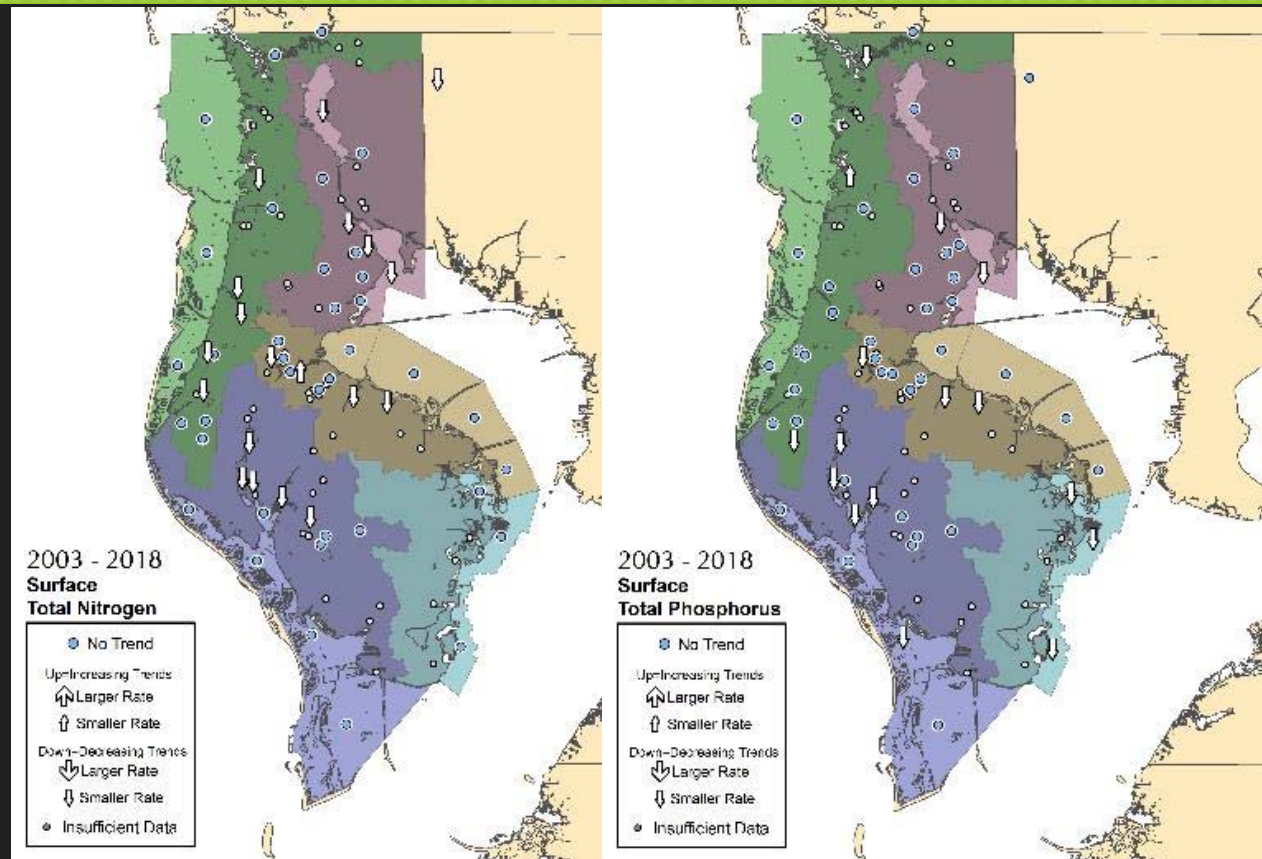
Table 5
Awareness of fertilizer ordinance details (frequency %).

Question	Hillsborough	Pinellas	Manatee
Have you heard about local fertilizer regulations?*	26 ^a	44 ^b	24 ^a
If yes, do the ordinances...			
Restrict the use of lawn fertilizer during the rainy season?	75	75	66
Restrict the sale of lawn fertilizer during certain months?	62 ^a	79 ^b	51 ^a
Reduce the amount of phosphorous ("P") allowed in lawn fertilizer?	65	77	69
Reduce the amount of nitrogen ("N") allowed in lawn fertilizer?	58	62	66
Require training for professional landscape maintenance companies?	57	52	4

Note: n = 750, *"Have you heard anything about government regulations concerning residential landscape fertilizer?" "Yes maybe" and "Yes definitely" are reported.
Row values followed by different letters are significantly different at p < 0.05.

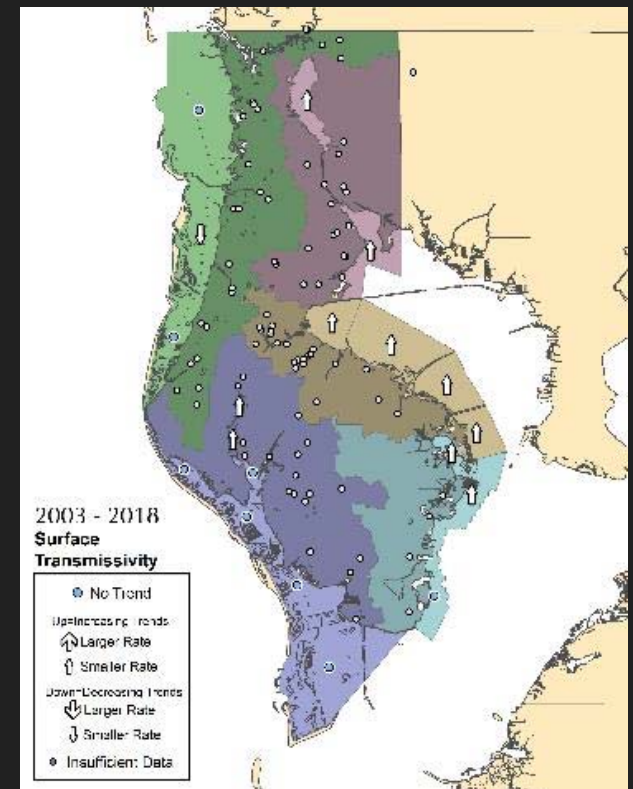
2003 to 2018 Trends in Water Quality TN & TP

- Cross Bayou
- Joe's Creek
- Lake Seminole
- Rattlesnake Creek
- Smith Creek
- Stevenson's Creek
- Alligator Lake
- Briar Creek
- Bishop Creek
- Seminole Bypass Canal
- Long Bayou (W5)
- McKay Creek
- Spring Branch
- Lake Tarpon
- Old Tampa Bay (E1-E3, E5)



Overall Trends

- Updated WQ trend analysis
 - TN ↓: Big improvement in 18 waterbodies
 - TP ↓: Improvements in 16 waterbodies
 - Water clarity ↑
 - Measured using Transmissivity
 - Only in lakes and estuarine waters



Summary



Water quality improvements are across jurisdictional boundaries; not just one area of the county

Atmospheric deposition of nitrogen and phosphorus shows no trend in recent years (just getting new data)

Pinellas County has no agriculture, septic areas are isolated, minimal industrial sources, AWT surface water discharges, and reuse areas have not dramatically changed

Summary

Capital improvements implemented from 2013-2016 were typically associated with road or flood control projects

Maintenance practices and educational programs are stable with some increases in level of service (stormwater system clean out, and street sweeping), but not county-wide. More assessment needed.

County-wide fertilizer ordinance and associated training, outreach, and compliance is the one program that may help explain the results.

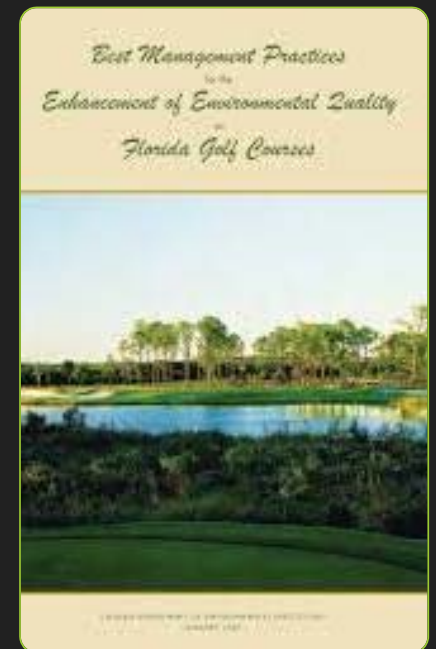
Challenges

- Technology – database, online classes & registration, inspection technology
- Reaching industry – Often no available contact information
- Volume of enforcement and training (70-120/ month)
- Volume of retail stores (333) and fertilizer products (901)
- Changes in fertilizer formulations
- Attitudes
- Jurisdictions (25), reclaim water sources (8)

The Future: BMP Implementation



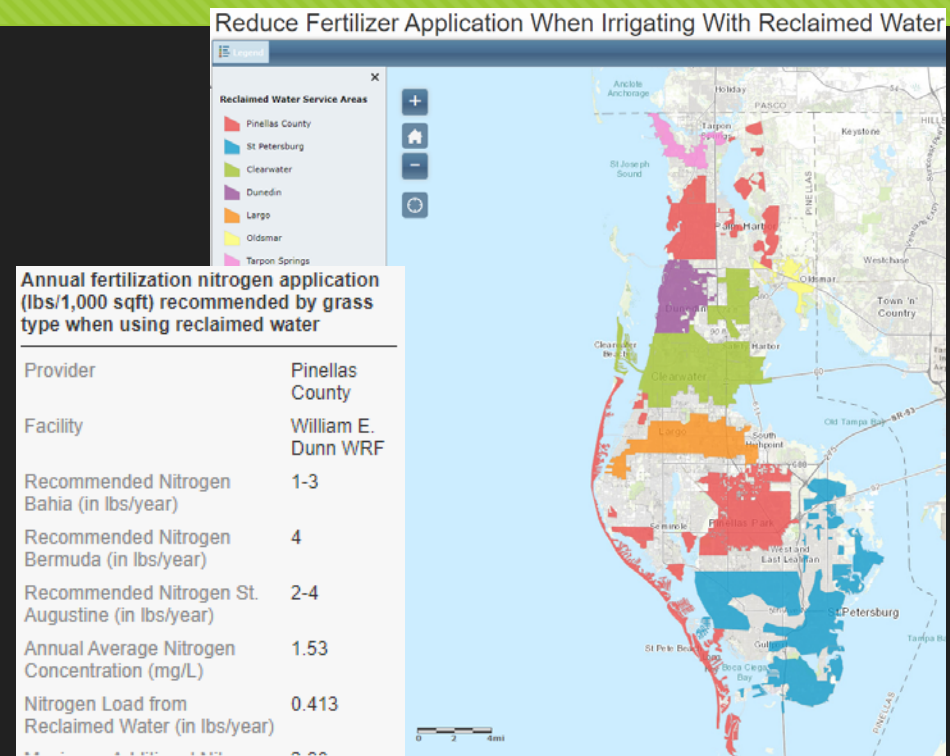
- Golf Courses
 - Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses
- Specialty Turf (sports fields)
 - GI-BMP & Industry Specific Best Management Practices



Future: Addressing Impacts of Reclaim Water

- Reduce fertilizer application when using reclaimed water
- Reduce leaching and runoff from over watering

Reduce Fertilizer Application When Irrigating With Reclaimed Water



www.PinellasCounty.org/fertilizer



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