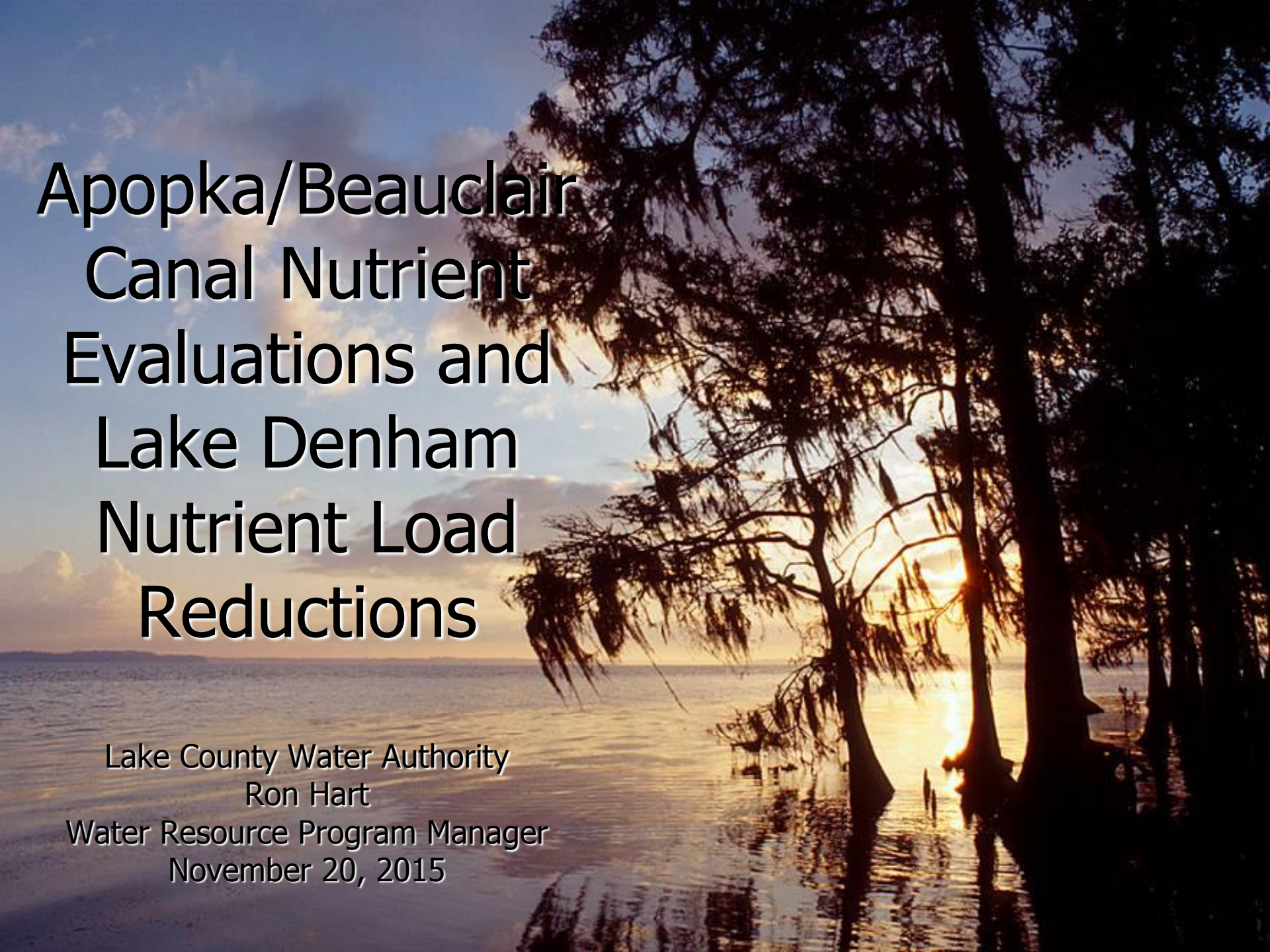


The background of the slide is a photograph of a sunset over a body of water. The sun is low on the horizon, creating a bright orange glow that reflects on the water. In the foreground, the dark silhouettes of trees, possibly cypresses, are visible, with some branches hanging over the water. The sky is a mix of blue and orange from the sunset.

Apopka/Beauclair Canal Nutrient Evaluations and Lake Denham Nutrient Load Reductions

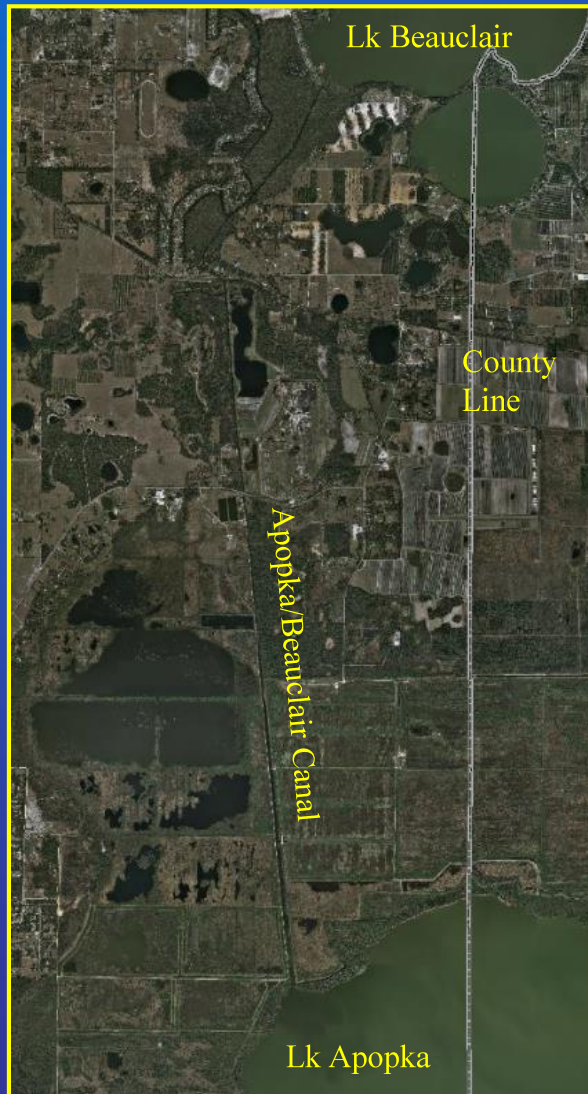
Lake County Water Authority

Ron Hart

Water Resource Program Manager

November 20, 2015

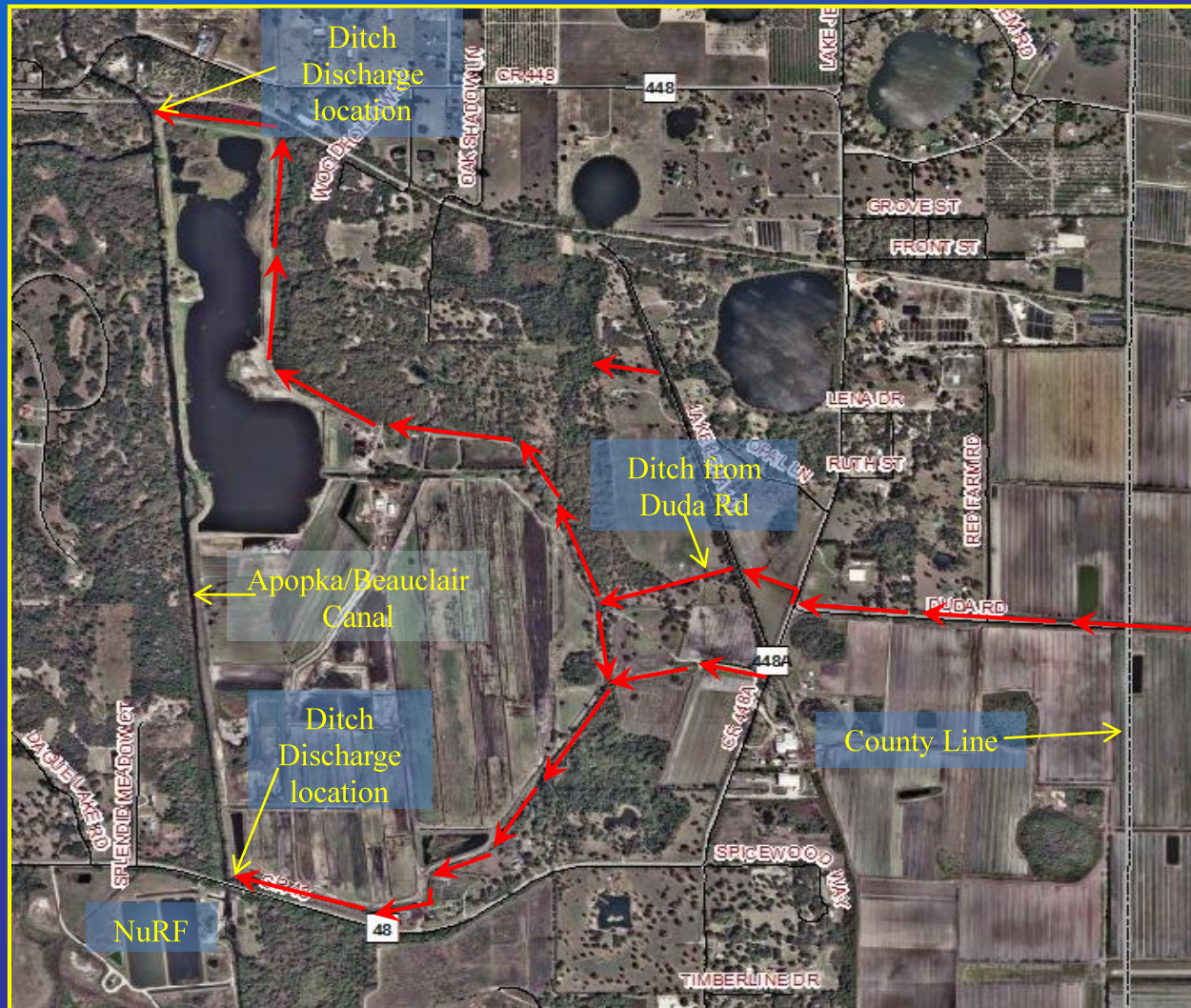
Apopka/Beauclair Canal Nutrient Evaluation



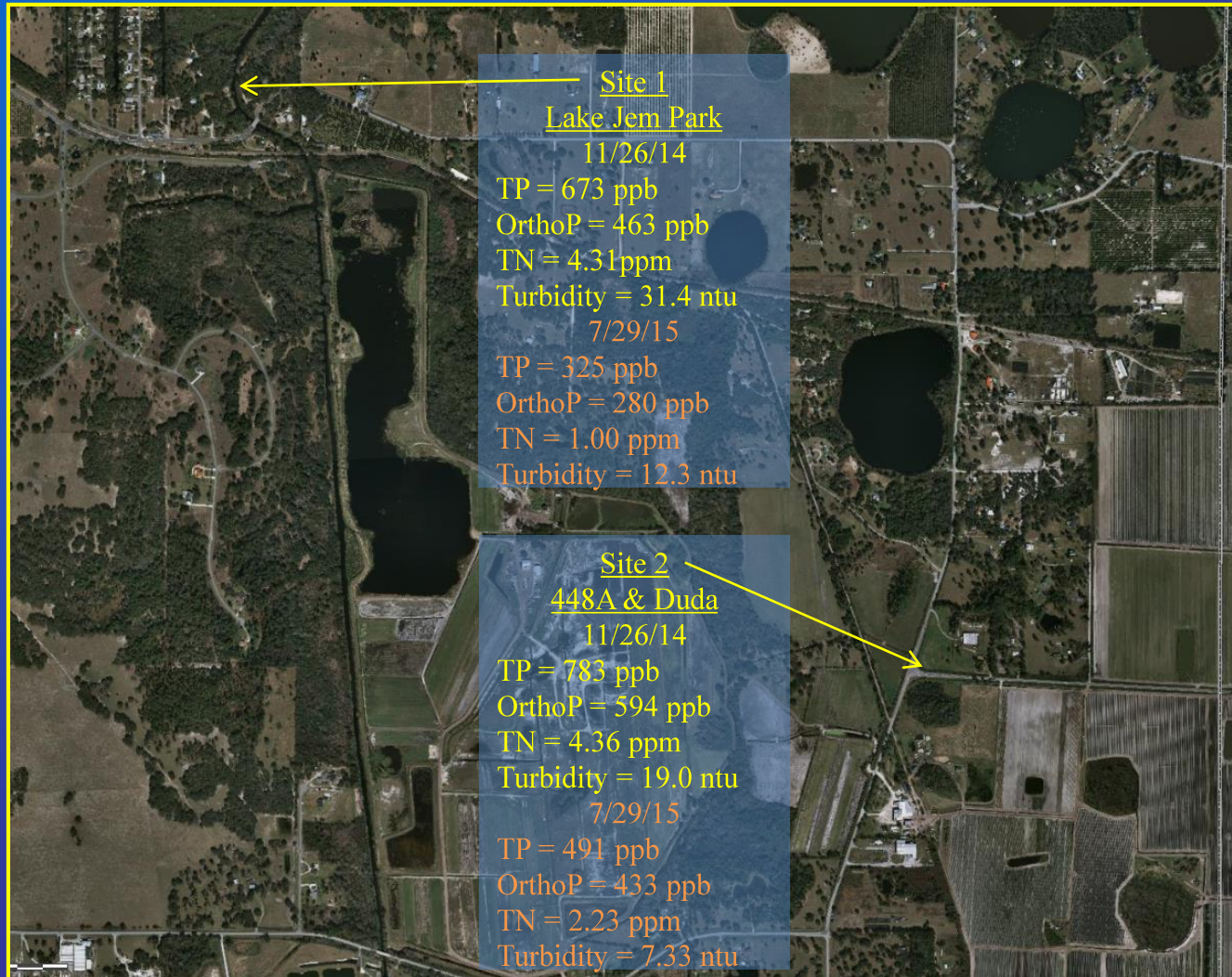
Issues

- Staff has repeatedly noticed extremely turbid waters following heavy rainfall events
- Turbid waters entered the ABC upstream of CR 448 and downstream of CR 48
- Any improvement to water quality by NuRF was negated by these infrequent events.
- During times that discharges from Apopka ceased the canal remained turbid.

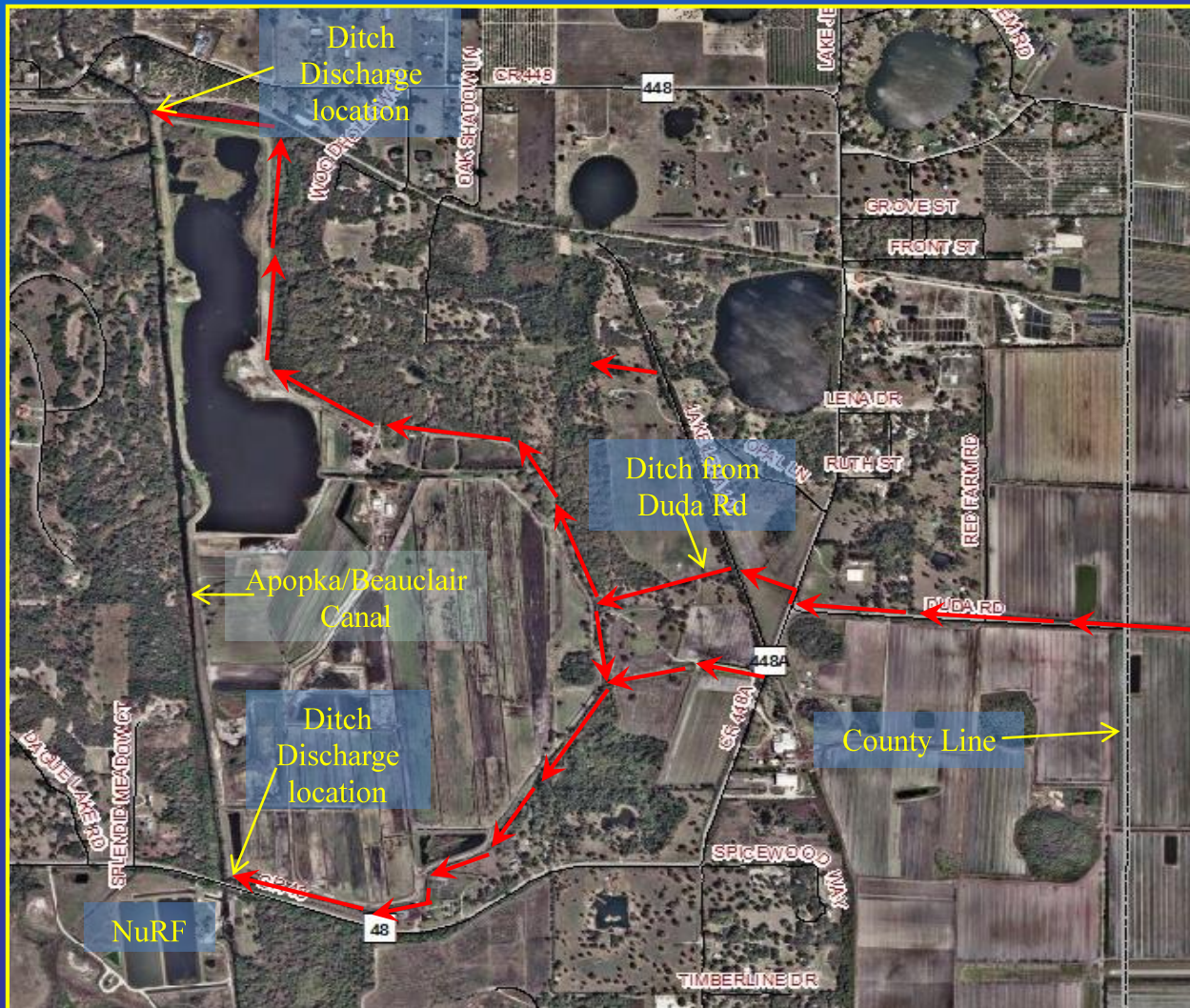
Apopka/Beauclair Canal Nutrient Evaluation



Apopka/Beauclair Canal Nutrient Evaluation



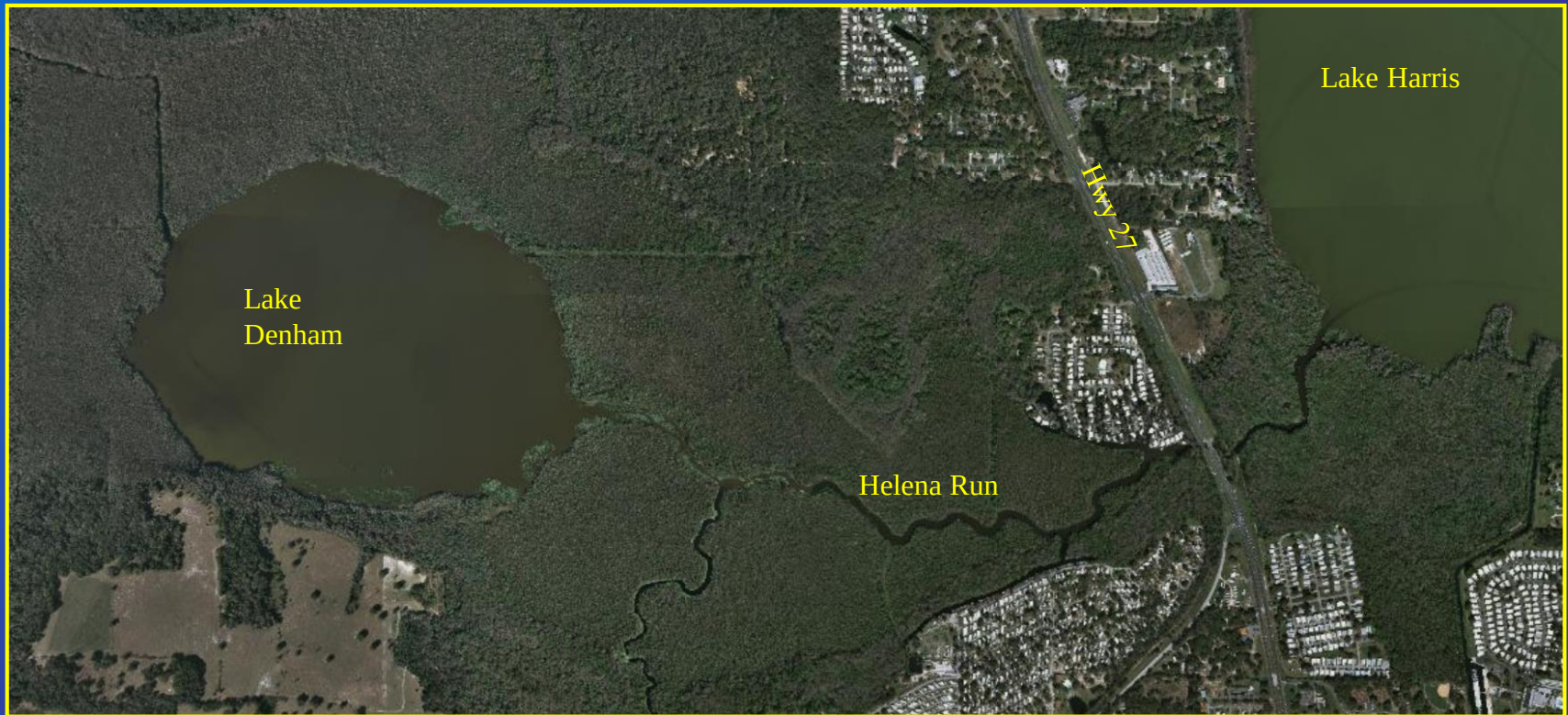
Apopka/Beauclair Canal Nutrient Evaluation



Phase 1

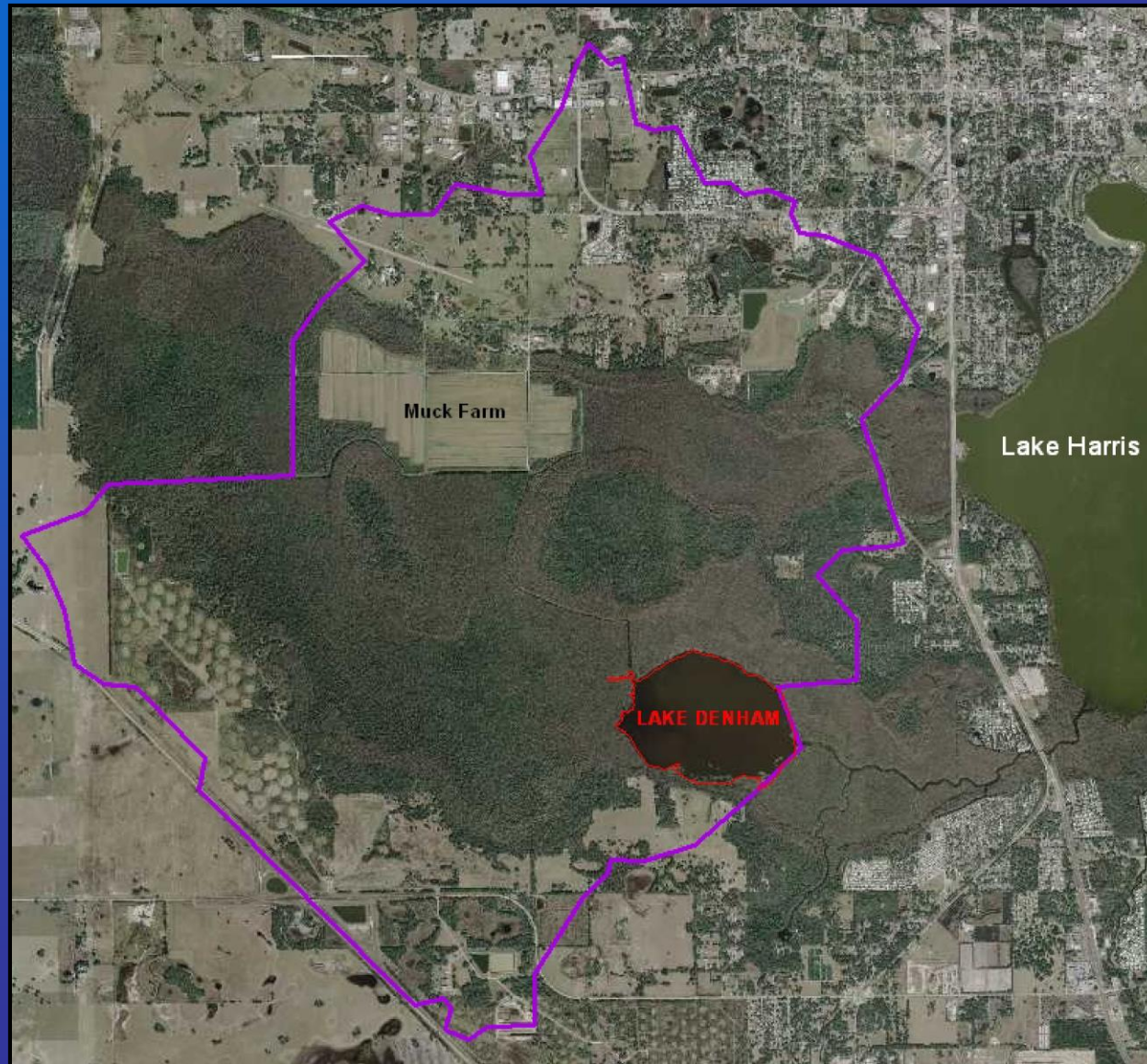
- Determine the area of the contributing basins for the two ditch outfalls
- Negotiate access with property owners for the initial monitoring sites
- Document all conveyance structures in the ditch system
- Measure flow at multiple locations following a recent rainfall event
- Recommend locations for phase 2 continuous monitoring stations
- Cost for phase 1 evaluation is \$15,006.50

Lake Denham Nutrient Load Reductions

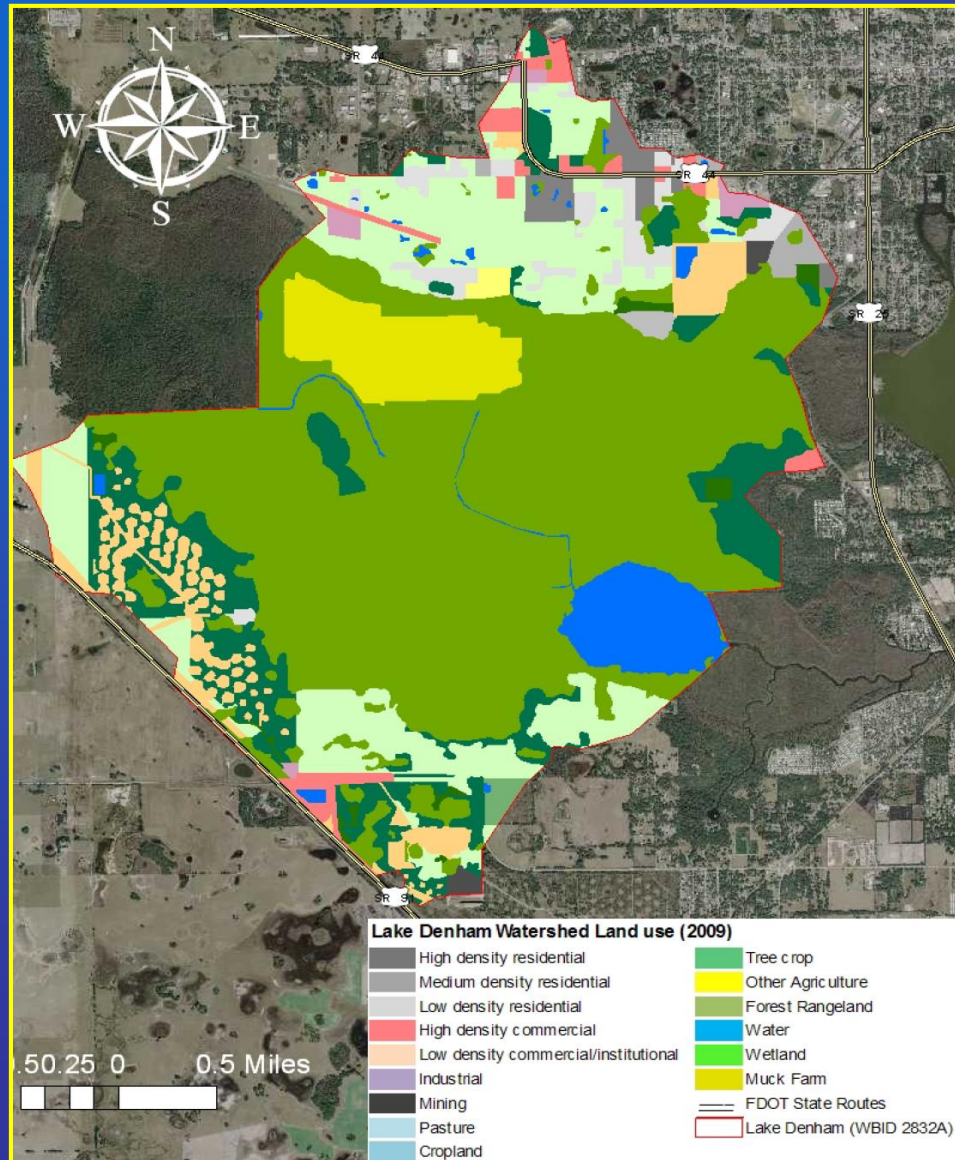


- 252 acre lake that drains to Lake Harris
- Not projected to meet the proposed TMDL
- No projects are planned to improve water quality in the lake

Lake Denham Nutrient Load Reductions



Lake Denham Nutrient Load Reductions



Lake Denham Nutrient Load Reductions

Sources of TP (lbs/yr)	TMDL loading	Controllable loading	Controllable % contribution	Reduction needed to meet TMDL
Atmospheric Deposition	77.2	0	0%	0
Seepage/groundwater includes septic	15.4	0	0%	0
Muck Farm	1101.6	1101.6	66.9%	672.4
Stormwater	1380.3			
Natural Areas	835.3	0	0%	0
Developed Areas	299.7	299.7	18.2%	182.9
Industrial	26.5	26.5	1.6%	16.2
Mining	0.8	0.8	0%	0.5
Internal Loading	727.5	0	0%	0
Agriculture	218.9	218.9	13.3%	133.6
Loading Information	Lbs per year			
Total P-loading (lbs/yr)	3302.8	1647.5	100%	1005.6
Total Maximum Daily Load (lbs/yr)	1569.7	-	-	-
Total reduction needed in P-loading	1733.1	-	-	-
TP Reduction needed in watershed without internal loading	1005.6	-	-	-

Lake Denham Nutrient Load Reductions

