



Florida Department of Environmental Protection
Water Quality Restoration Program

Orange Creek Basin Working Group

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Florida Department of Environmental Protection

Lochloosa Lake and New TMDLs Status





Status

- Marshall Lake, Lake Roberts, Lake Denham, Lake Weir. (Upper Ocklawaha Basin)
 - Workshops held in February and March.
- Lake Weir (south Marion County):
 - Revised TMDL to better reflect number of Onsite Treatment and Disposal Systems (OSTDS).
 - Second workshop held May 27.
- Lochloosa Lake.
 - Workshop held March 31.



TMDL Rule Adoption

- All 5 TMDLs proposed for one adoption process.
- Pathway to adoption:
 - Revise TMDL reports based on comments from the general public and EPA.
 - Next steps depend on feed back from EPA.
 - Post the revised reports before end of August.
 - Publish Notices of Proposed Rule by the end of October.
 - TMDLs to become effective in late December.



Agency Updates



Lake Wauberg

- DEP and DOH made site visits:
 - University of Florida recreational areas.
 - Tour of Lake Wauberg.
 - Paynes Prairie Preserve State Park.
 - Purpose was to check wastewater collection facilities.
- DOH has been in contact with facilities.
- Second site visit next week.



Florida Department of Environmental Protection

Orange Creek Basin Annual Report





Purpose

- Covers January 1, 2014 through June 30, 2015.
- Update of activities underway or planned as well as changes.
- Introduces new projects.
- Assesses water quality.
 - Progress toward meeting TMDL targets.



Annual Report Layout

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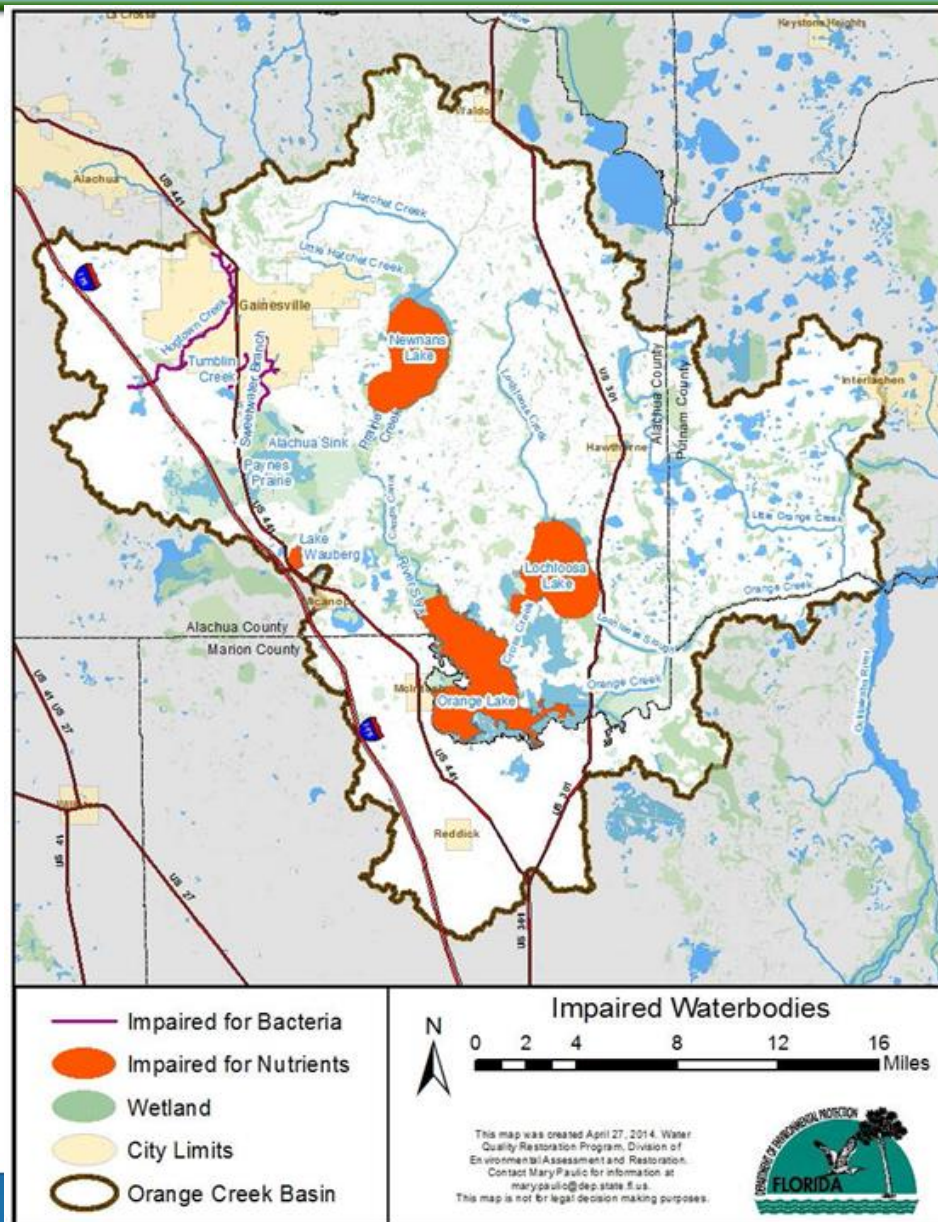
<u>5.1</u>	<u>Marion County</u>
<u>5.2</u>	<u>Florida Department of Agriculture and Consumer Services</u>
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<u>5.6</u>	<u>City of Gainesville</u>
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SECTION 6 : SUMMARY, ISSUES, AND ACTIVITIES FOR THE UPCOMING YEAR

APPENDIX B: WATER QUALITY MONITORING



Basin





Monitoring Changes

- Fecal station LFCNE25 dropped. (Lake Forest Creek)
- Nutrient station LWAUBERGS back-up only.
 - Only sample when LWAUBERG is not accessible.
- Fecal station SWBNE10 added. (Sweetwater Branch)
- Discharge station 01930189 discontinued. (Lochloosa Creek)
- SJRWMD Lake sampling changed to bi-monthly, only 1 station per lake.

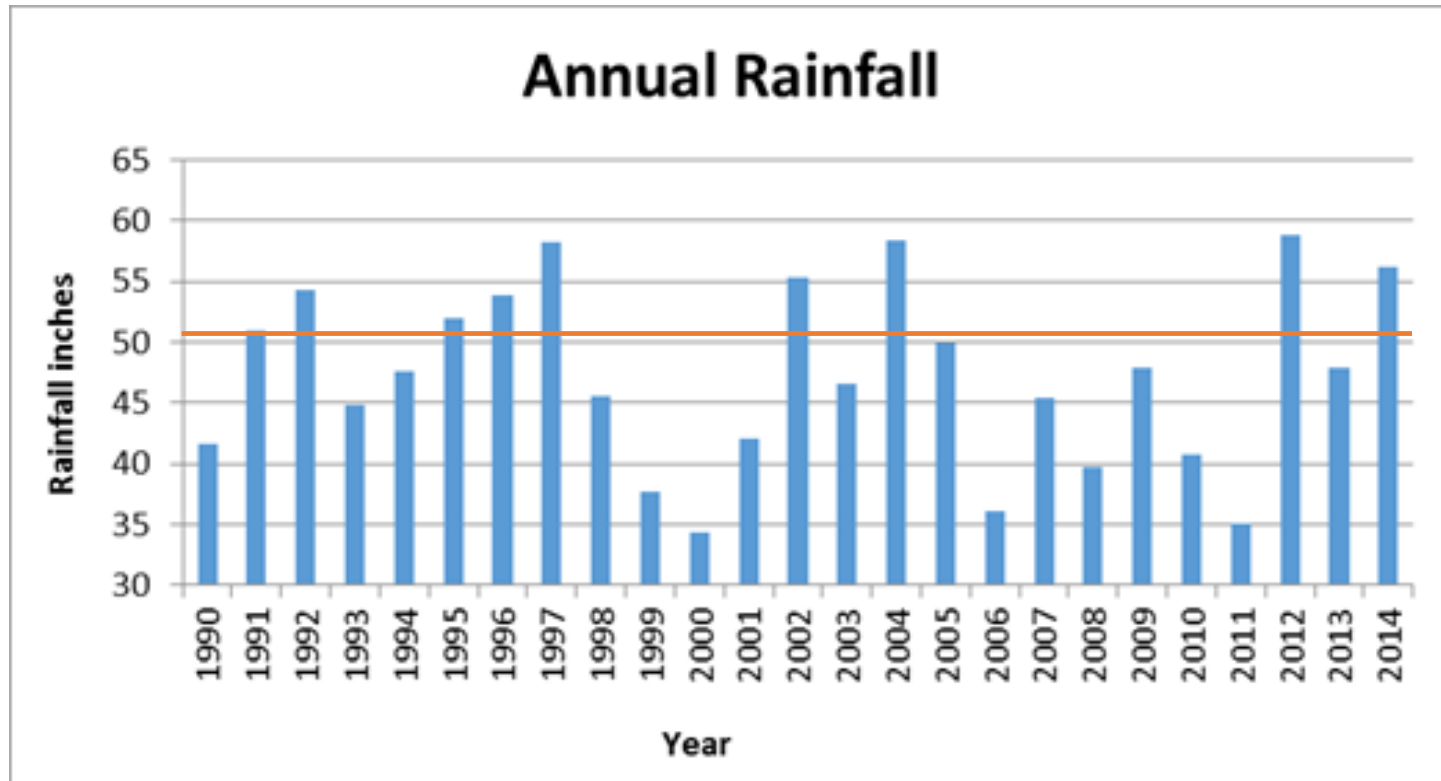


Monitoring Recommendations

- Add staff gage to Lake Wauberg to measure water level.
- Collect phytoplankton samples.
 - Restart collection for Orange Lake, Newnans Lake, Lochloosa Lake.
 - Start collecting in Lake Wauberg.
 - Dependent on budget.



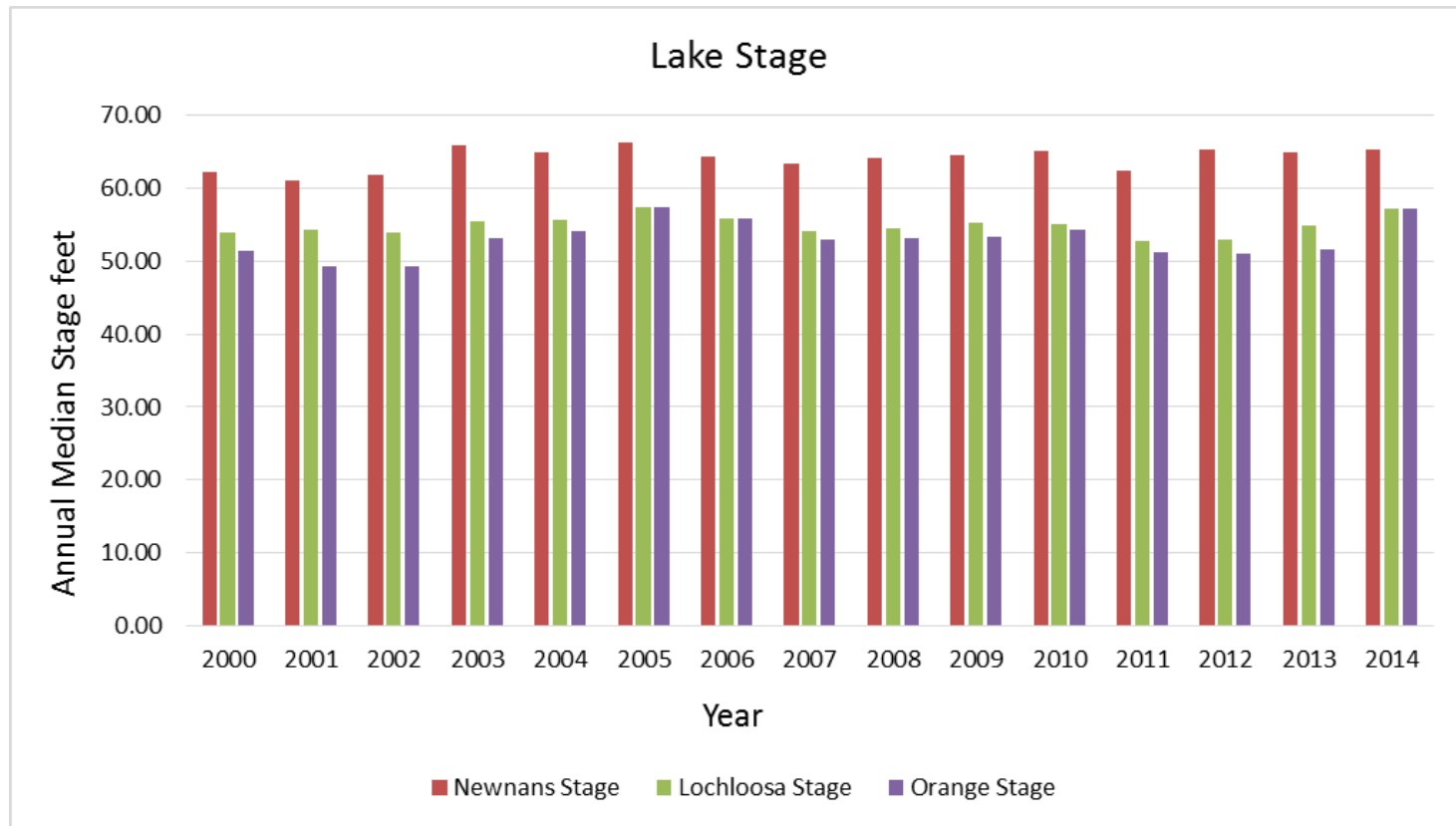
Annual Rainfall Pattern



- — Longterm average annual rainfall amount.

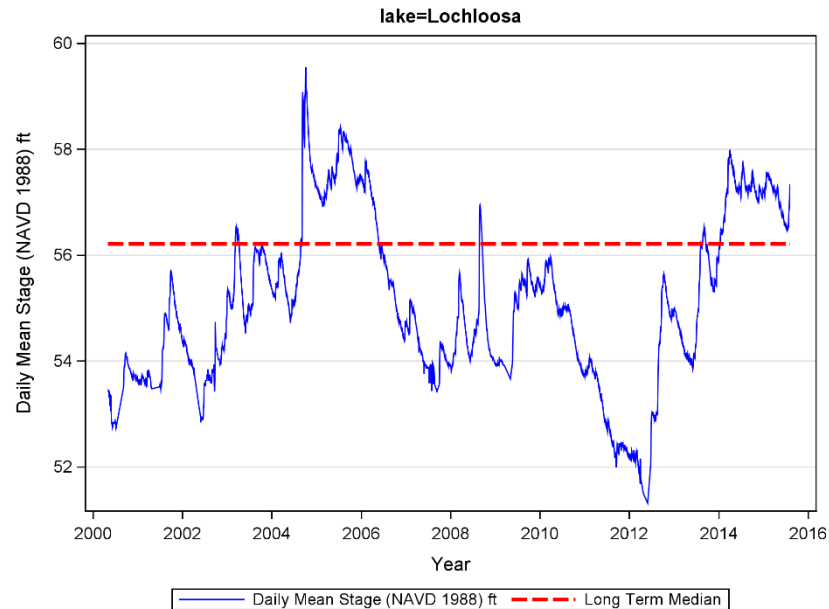
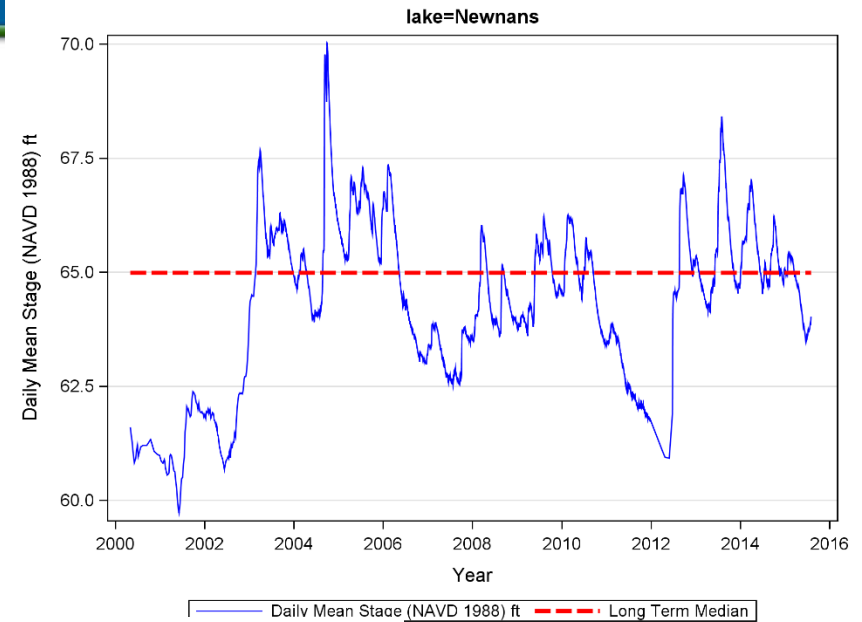
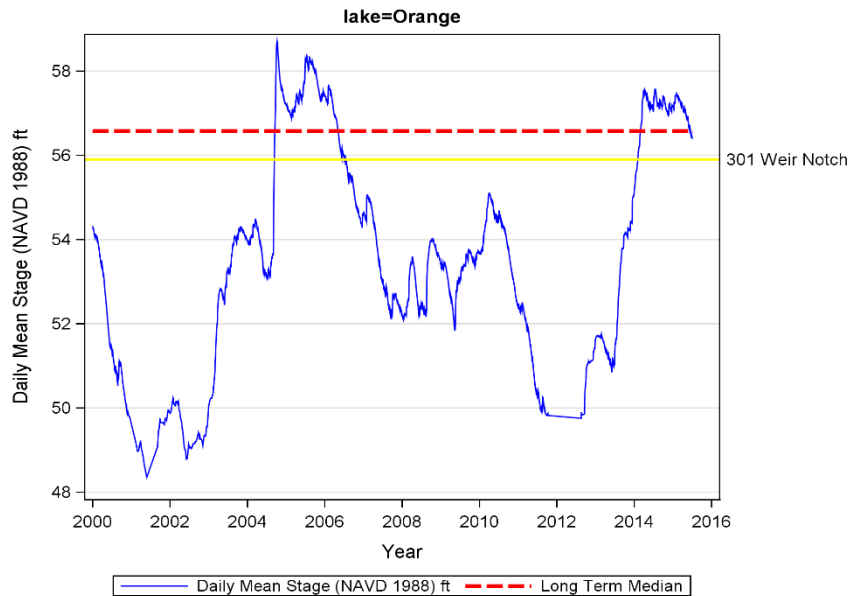


Annual Median Lake Stage





Daily Mean Lake Stage





Project Summary

BMAP Phase	Number of Projects						
	Completed	On hold	Ongoing	Ongoing, behind schedule	Envisioned (conceptual)	Pending, but not funded	Cancelled/ Replaced /Modified
Phase 1	75	2	37	-	-	-	1
Phase 2	25	-	18	4		6	1
New Projects	5		7		3	-	-
Totals	105	2	65	4	3	6	2

- If project is not in the BMAP, loading reduction is not credited!



Project Types

Types of projects	Phase 1 BMAP	Phase 2 BMAP	New Projects
Agricultural BMPs (Includes development)	8	-	-
Stormwater management program implementation	7	16	4
Conservation land acquisition	13	7	2
Education and outreach efforts	5	7	1
Regulations, ordinances, and guidelines	1	1	-
Restoration and water quality improvement project	15	10	2
Special studies and planning efforts	34	13	6
Structural BMPs-Load reductions not quantified	8	2	-
Structural BMPs-Quantifiable load reductions	7	-	-
Wastewater infrastructure management*	14	-	-
Other land purchases (required for structural BMP)	4	-	



Stakeholder Accomplishments

- GRU/Gainesville/DOT – Paynes Prairie Sheetflow Project operational.
 - Additional stormwater management in Sweetwater Basin.
 - Together remove 125,105.8 lb-N/year.
 - Also removes TP – 3,359 lb-P/year.
 - 60% reduction of total TMDL loading reduction.
 - Other sources are Newnans Lake, OSTDS, agriculture.
 - *Project awards.*
 - *Outstanding Achievement* from the Florida Stormwater Association
 - *Project of the Year* from the Florida Section of the American Society of Civil Engineers.



Accomplishments

- Florida Forest Service.
 - New state forest – western edge of Newnans Lake.
 - Converting 100 acres pasture/cropland to longleaf pine.
 - 73,332 acres of basin covered by silviculture BMPs Notice of Intent.
 - Held 6 BMP workshops in basin.
- Office of Ag Water Policy.
 - 6,672.3 acres under BMP Notice of Intent.
 - Increase of more than 2,000 acres for total of 11.8% of agriculture acreage under NOI.



Accomplishments

- Marion County.
 - Clean Farms Program outreach to local farms.
 - Orange Creek Basin Watershed Management Plan.
 - Capital projects report expected in fiscal year 2016/2017.
 - Source of corrective actions.
- Alachua County
 - Completed preliminary report on potentially removing muck from Newnans Lake.
 - Scoping potential projects for Little Hatchet Creek watershed to reduce TP load.
 - Landscape irrigation efficiency code under consideration.
 - Collaborating with Clean Water Partnership partners to test TurfSWAP (save water, add plants) program.

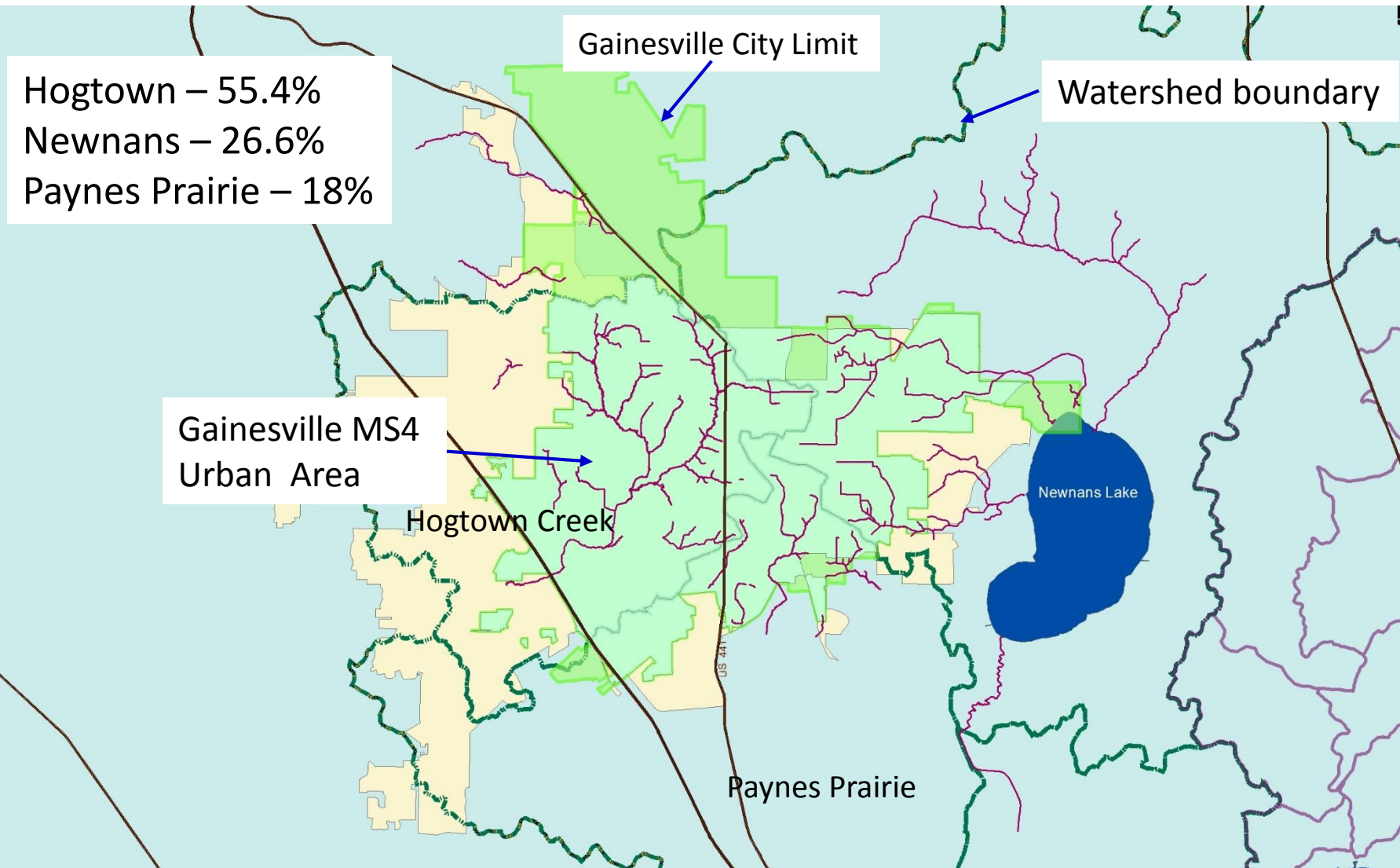


Accomplishments

- Gainesville updating Lake Forest, Little Hatchet, Hogtown, and Possum Creek Watershed Management Plans.
 - Leads to future management actions.
- Florida Fish and Wildlife Conservation Commission.
 - Orange Lake Aquatic Habitat Management Plan.
- St. Johns River Water Management District.
 - Florida Water Star program partnering with Florida Friendly Landscaping recognition program.
 - Education programs reached 55 schools, 79 teachers, and 6,150 students.

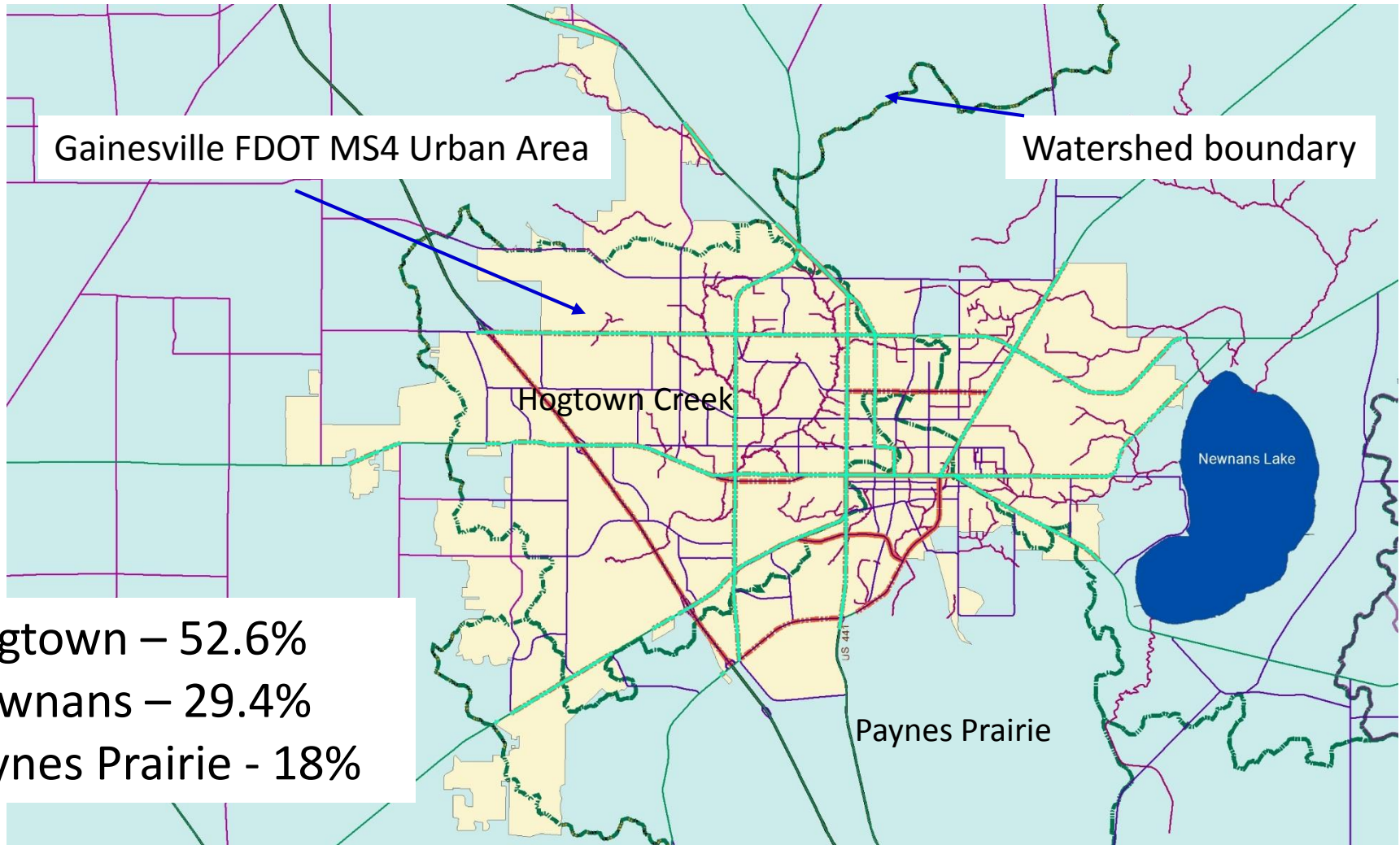


Gainesville Urban Boundary





FDOT Delineated Urban Area





Loading Reduction Summary

- Newnans Lake – TP and TN TMDL.
 - Urban stormwater management and fertilizer cessation projects.
 - Reduce 3,773 lb-N/year.
 - Reduce 655.7 lb-P /year.
- Orange Lake – TP TMDL
 - Fertilizer cessation.
 - Reduce 257.1 lb-N/year.
 - Reduce 54 lb-P/year.



Loading Reduction Summary

- Lochloosa Lake – draft TN and TP TMDL.
 - SR20 stormwater treatment and fertilizer cessation.
 - Reduce 5,824 lb-N/year.
 - Reduce 1,032.8 lb-P/year.
- Lake Wauberg – TN and TP TMDL
 - Fertilizer cessation.
 - Reduce 163.6 lb-N/year.
 - Reduce 34.4 lb-P/year.



Loading Summary

WATERBODY / WBID	TMDL PARAMETER	TMDL (LB/YR AS N OR P)	TMDL BASELINE LOADING (POUNDS PER YEAR [LB/YR])	LOADING REDUCTION NEEDED (LB/YR)	TOTAL LOADING REDUCTIONS ACHIEVED (LB/YR)	REMAINING LOADING (LB/YR)
Newnans Lake / 2705B	TN	85,470	315,510	233,144	3,773	229,411
Newnans Lake / 2705B	TP	10,924	25,732	14,808	655.7	14,152.3
Orange Lake / 2749A	TP	15,262	27,889	12,623	54	12,569
Orange Lake / 2749A	TN	No TMDL	-	-	257.1	-
Lake Wauberg / 2741	TN	2,062.2	4,064	2001.8	163.3	1,838.5
Lake Wauberg / 2741	TP	374	748	374	34.4	339.6
Alachua Sink / 2720A	TN	256,322	462,557	206,235	125,105.8	81,129.2
Alachua Sink / 2720A	TP	No TMDL	-	-	3,359	-
Lochloosa Lake /	Draft TN	168,718	443,682.4	274,964.4	5,824	269,140.4
Lochloosa Lake /	Draft TP	12,330	21,640	9,310	1,032	8,278



Florida Department of Environmental Protection

Water Quality





Water Quality Evaluation

- Assess progress to meeting TMDLs.
- Standardize reporting and evaluation process.

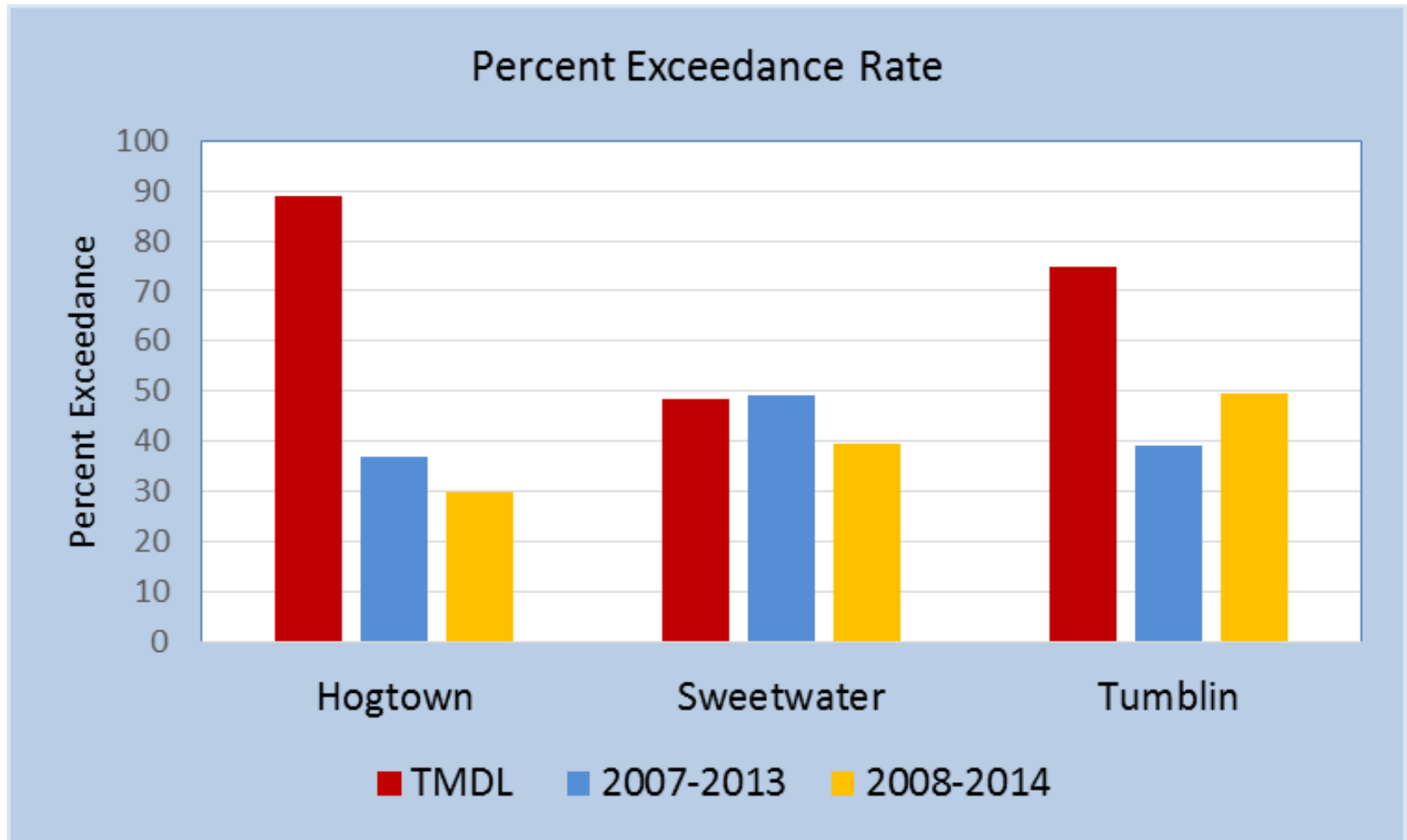


Fecal Coliform Evaluation

- 3 streams with fecal coliforms TMDLS.
 - Hogtown Creek
 - Sweetwater Creek
 - Tumblin Creek
- Exceedances greater than 800 counts/100 ml per day.
- Compare rate for TMDL data period and 2008-2014.
- Compare medians by year to check for direction of data.
 - Consider geometric means for next evaluation.

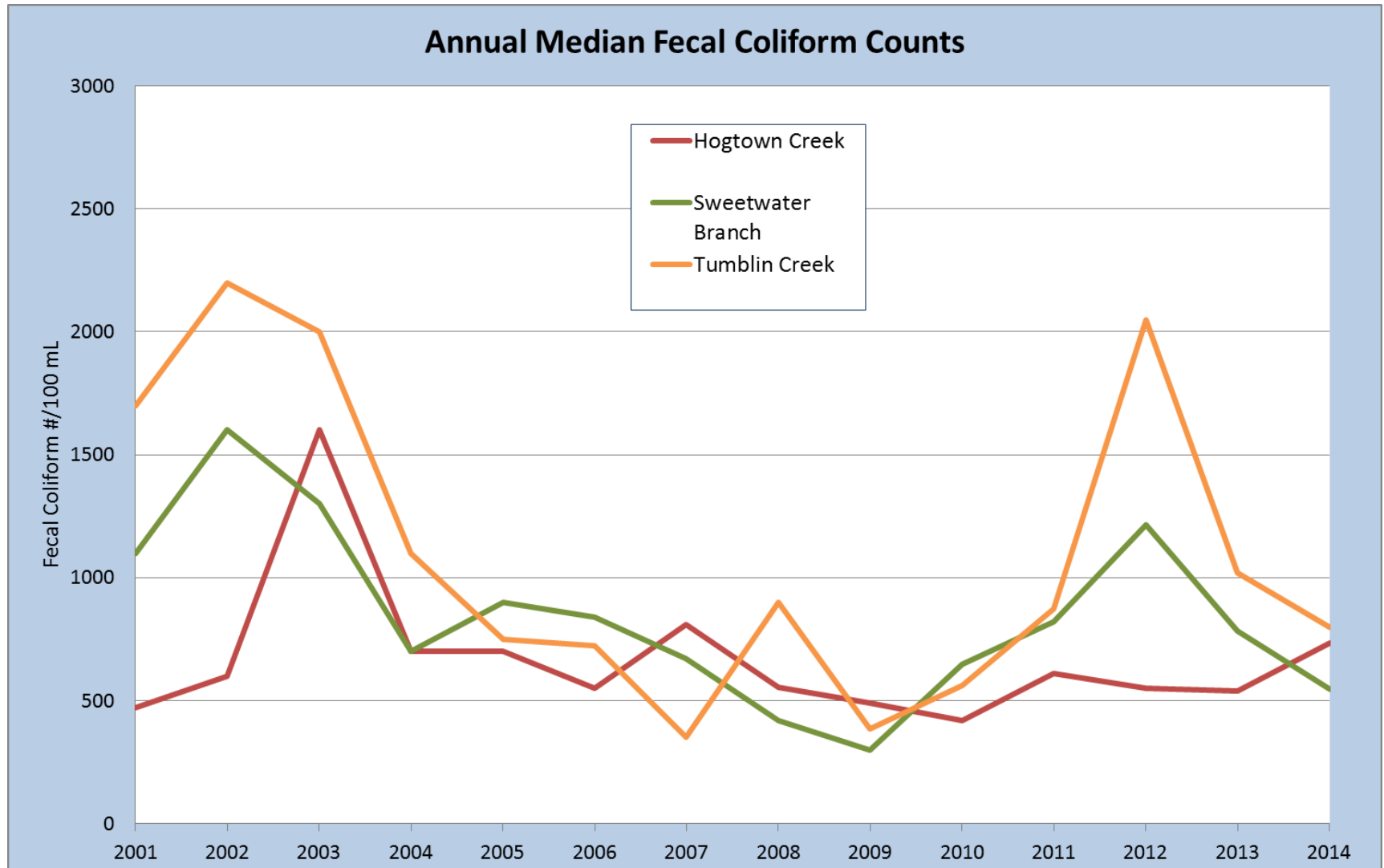


Draft Fecal Coliforms Exceedance





Draft Fecal Coliforms Medians



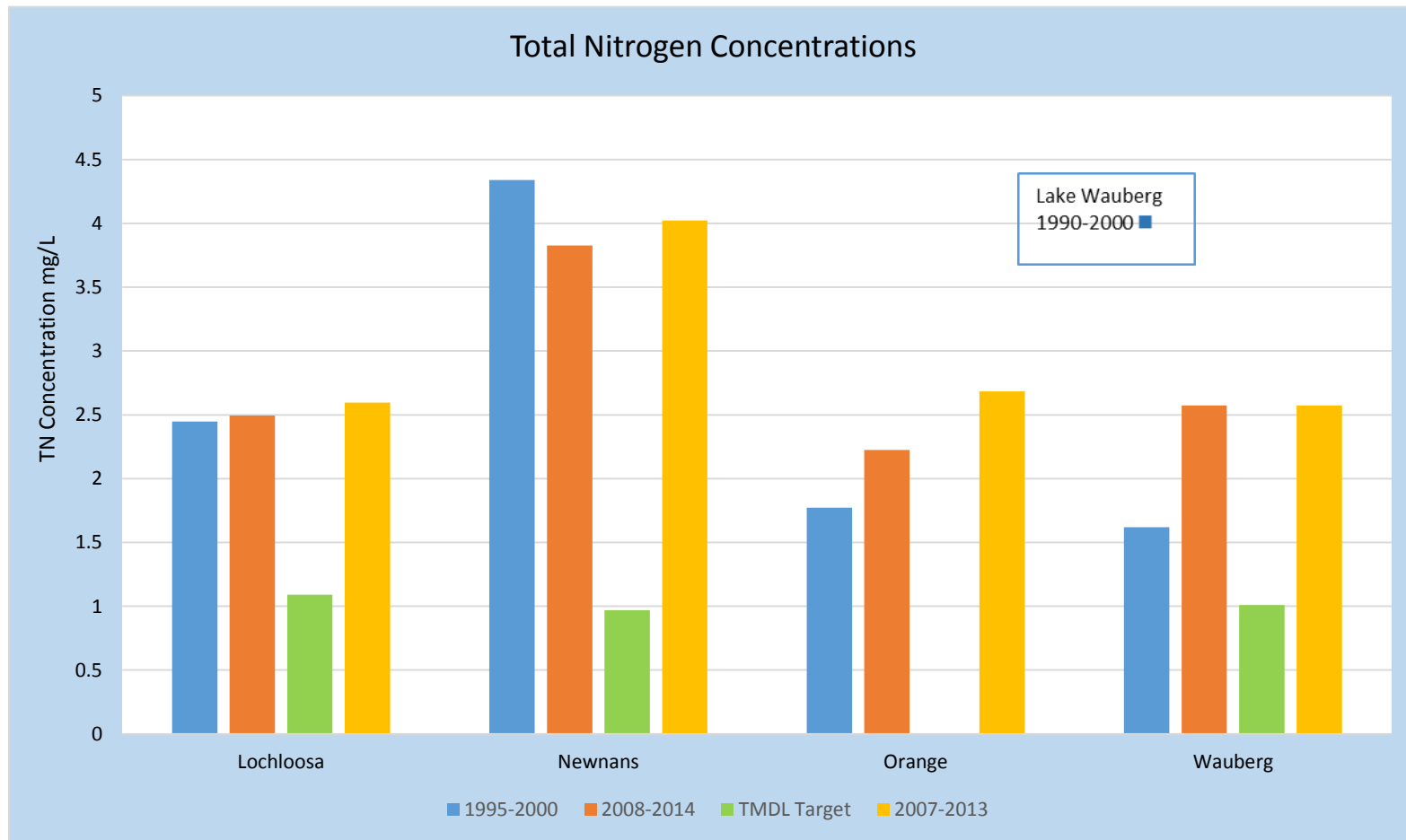


Draft Fecals Summary

STREAM NAME	DATA PERIOD	NUMBER OF SAMPLES	MEDIAN (COUNTS/ 100 ML)	RANGE (COUNTS/ 100ML)	PERCENT EXCEEDANCE	TMDL PERCENT EXCEEDANCE
Hogtown Creek	2008-2014	185	540	32-24,000	29.7%	89%
Sweetwater Branch	2008- 2014	437	616	1-48,800	39.6%	48.4%
Tumblin Creek	2008- 2014	206	800	24-60,000	49.5%	75%



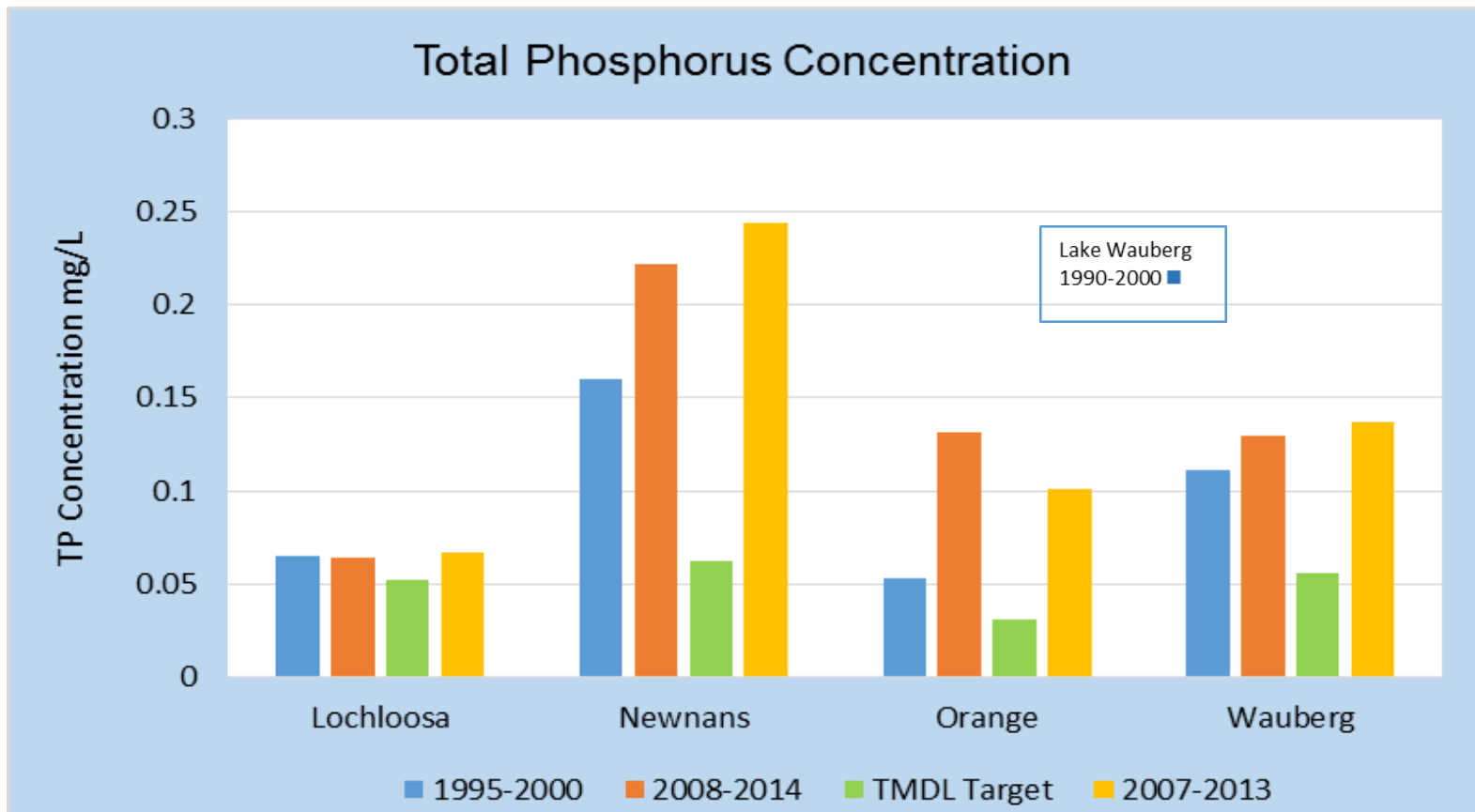
Draft Annual Average Total Nitrogen



- Lochloosa Lake averages based on geometric means.



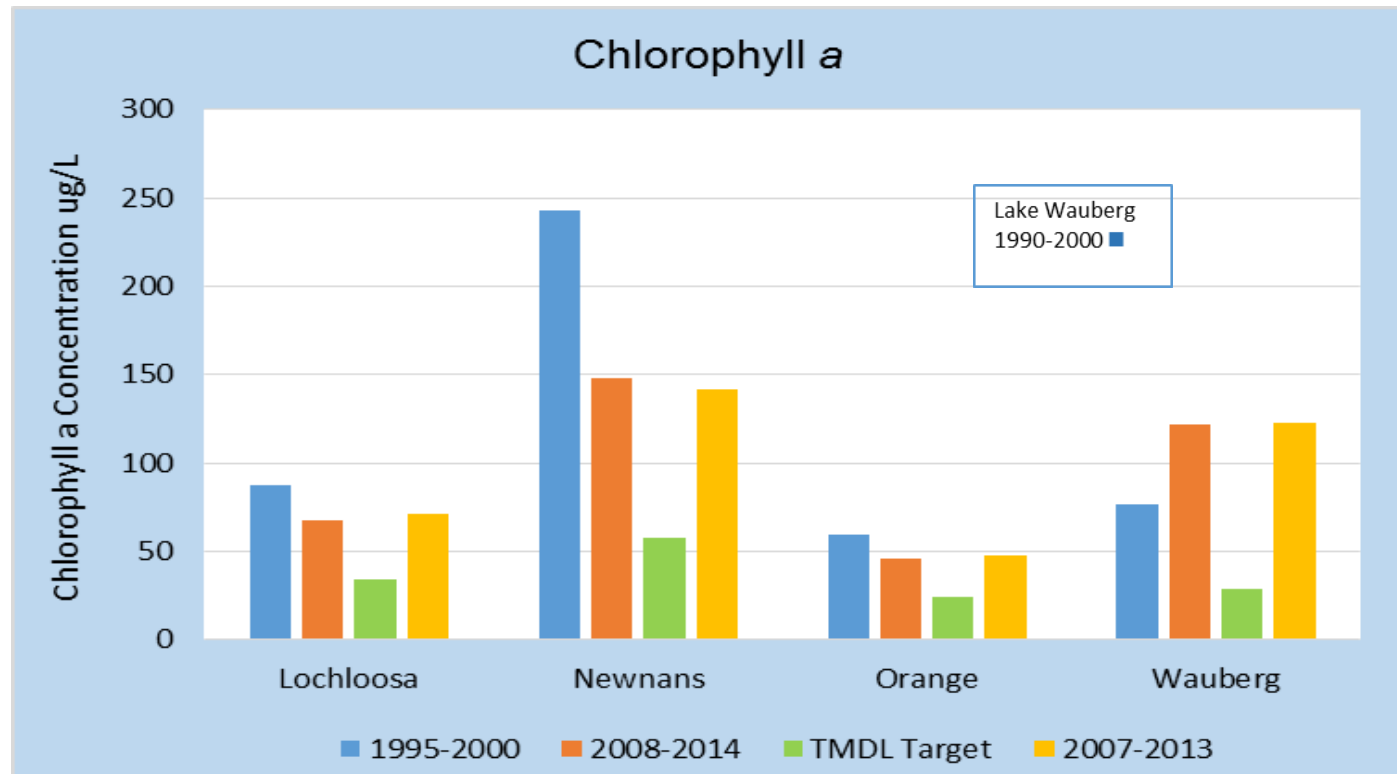
Draft Annual Average Total Phosphorus



- Lochloosa Lake averages based on geometric means.



Draft Annual Average Chlorophyll a

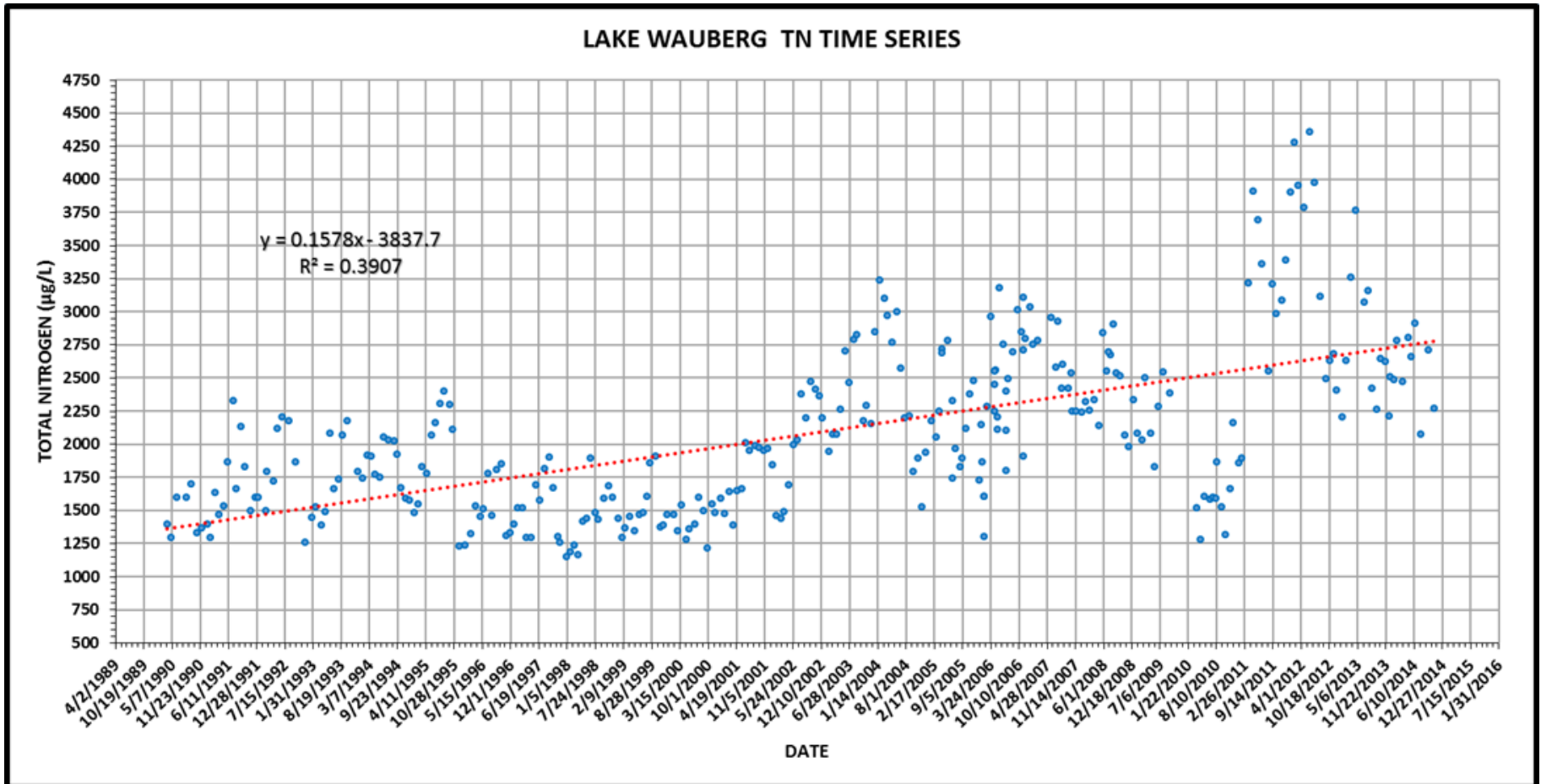


- Lochloosa Lake averages based on geometric means.
- Lake Wauberg uses uncorrected chlorophyll a.



Draft Lake Wauberg TN

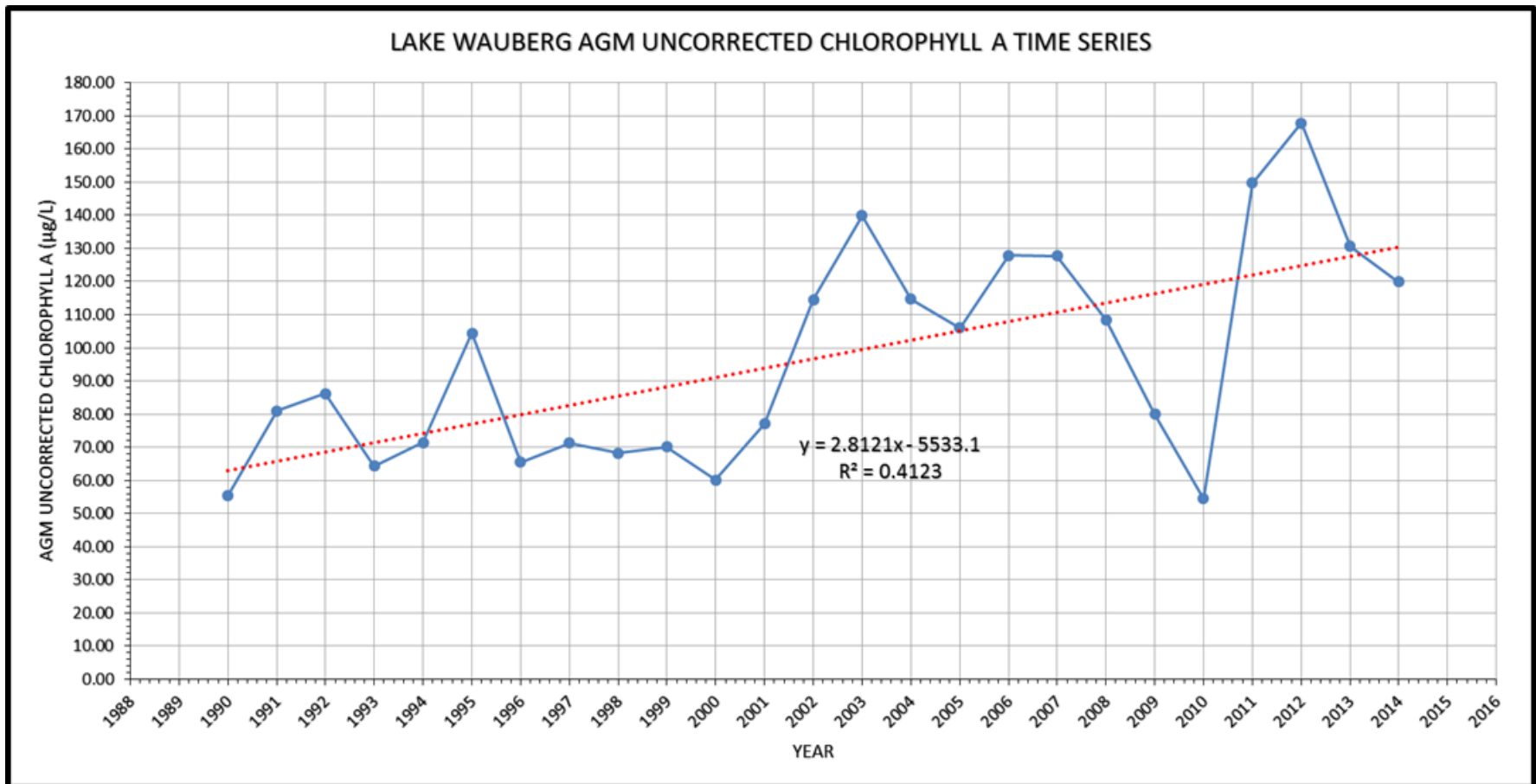
- TN concentration over time.





Draft Lake Wauberg Chlorophyll a

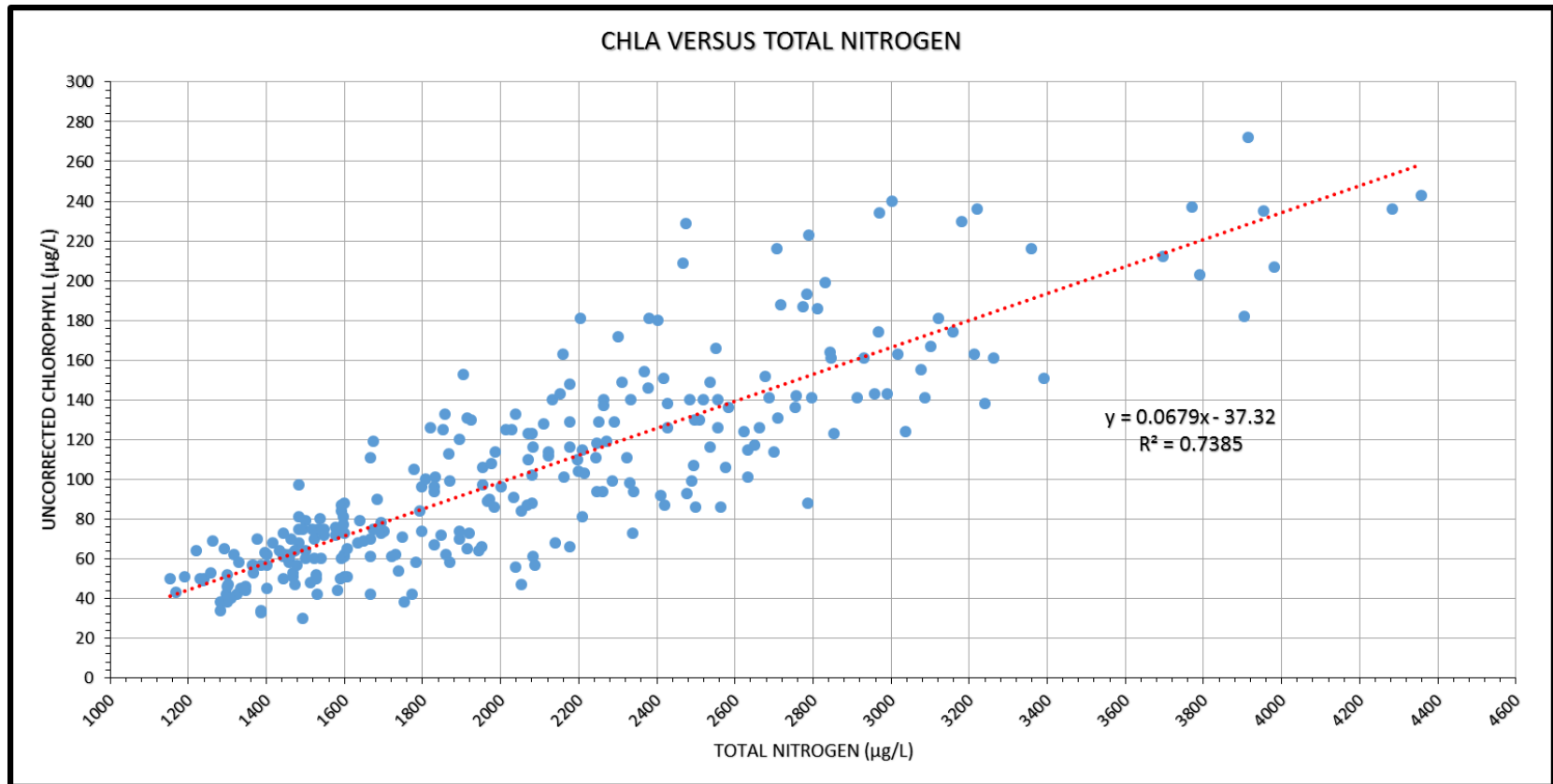
- Annual geometric mean for uncorrected chlorophyll a.





Draft Lake Wauberg

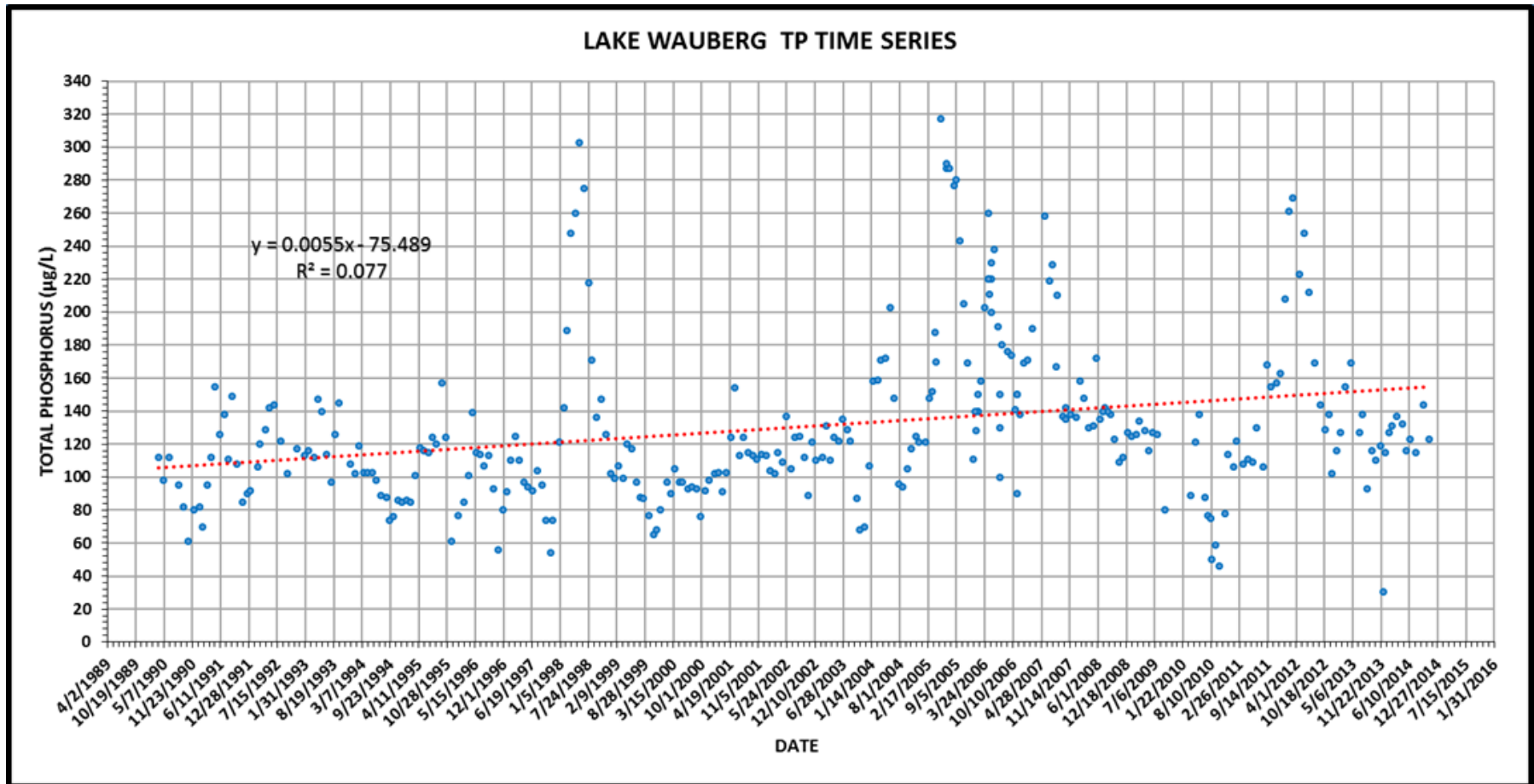
- Plot of uncorrected chlorophyll a versus TN concentration over time.





Draft Lake Wauberg TP

- TP concentration over time.





Schedule

Date	Entity	Activity
May 14	FDEP	Complete monitoring update materials and send out to monitoring entities describing a due date of June 8 th .
May 22	FDEP	Complete project collection materials and send out to stakeholders (current project updates and new project submittal form) describing a due date of June 8 th .
June 8	Monitoring Entities	Monitoring updates due to Mary Paulic, FDEP. (Completed as of May 22, 2015)
June 22	Management Entities	Project updates and new project information due to Mary Paulic, FDEP.
June 23 -30	FDEP	Prepare Annual Report; follow up with stakeholders if there are questions about their submittals.
July 1-15	FDEP	Internal review of report.
July 16-29	FDEP	Edits to the report based on internal comments.
July 30	FDEP	Send report to stakeholders (one week before the annual meeting).
August 6	All	Annual meeting and report review.
August 28	All	All comments due on report.
September 15	FDEP	Final version of the report is posted.



Next Steps

- Questions?
- Public Comments.
- Follow-up assignments.
- Future meetings.

A photograph of an empty lecture hall with rows of blue plastic seats. The seats are arranged in a tiered fashion, facing towards the front of the room. The background is a plain, light-colored wall.

• Any comments or questions???