



Orange Creek BMAP Meeting

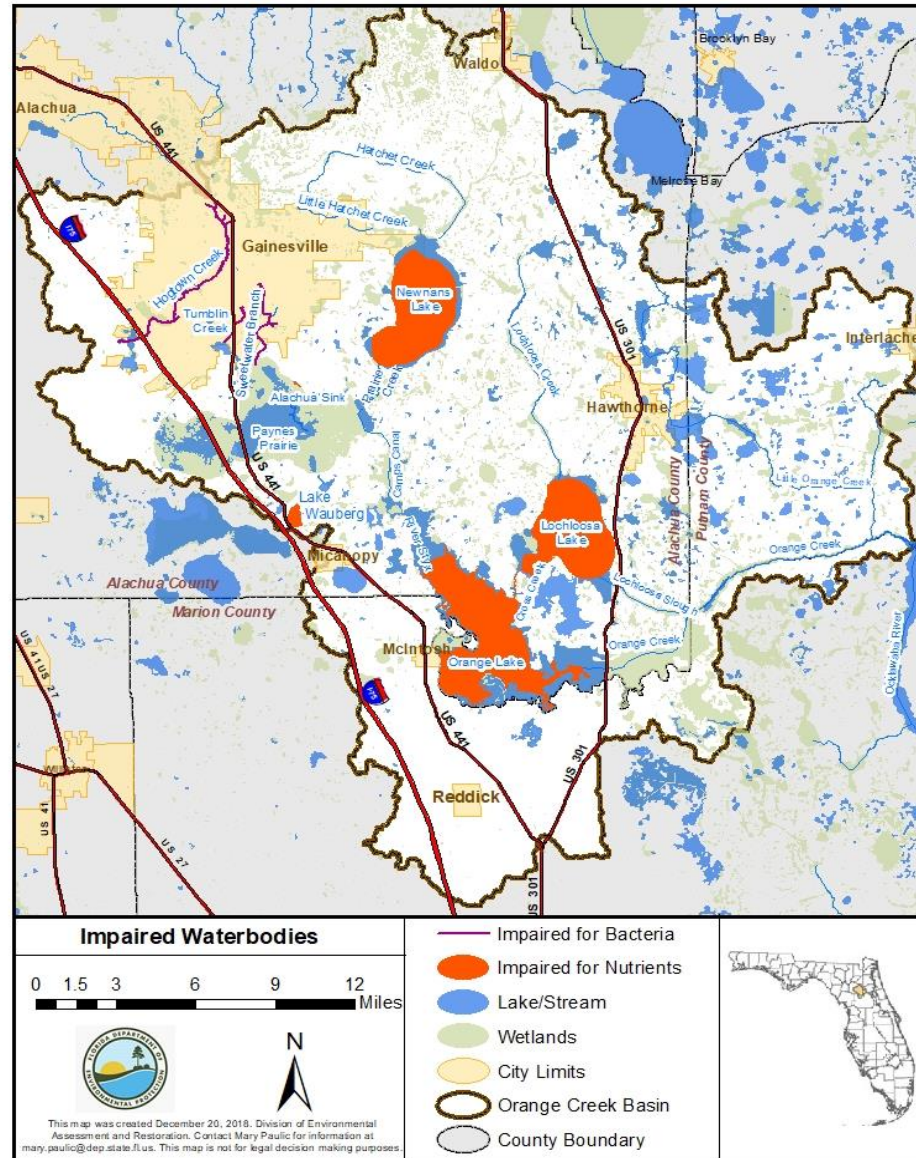
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Orange Creek Basin



Draft AGENDA

- Welcome, Introduction, and Purpose (*Tiffany Busby*)
- Agriculture Updates for Orange Creek Basin (*Corrine Hermle*)
- Overview of the Alachua County Water Quality Monitoring Program (*Lindsey Kelly*)
- Project Status Update and Loading Reductions (*Mary Paulic*)
- Agency Updates (*All*)
- Next Steps (*Tiffany Busby*)



Project Status

- Project information reported through December 2020.
- Street sweeping and cleanout reductions averaged between years.



2020 Project Summary

- Added 11 new projects
 - 1 WWTF upgrade-Orange Creek sub-basin
 - 2 Education and outreach
 - 3 Land acquisition
 - 1 feasibility study
 - 2 stormwater BMPs
 - 1 Erosion control and stream stabilization
- New total of 288 projects
- Information reported to Legislature through STAR report



New Project Highlights

Land Acquisition and Wastewater

- Land acquisition
 - Fee Simple Land Conservation acquisition
 - White Pond (Orange Lake)
 - Colasante (Lochloosa)
 - General Land Acquisition
- City of Hawthorne WWTF upgrade to advanced wastewater treatment facility (inside Silver Springs Basin)



New Project Highlights

Gainesville

- Little Hatchet Creek Retaining Wall and Stream Stabilization – retaining wall and stream stabilization construction by Gainesville Airport. (Gainesville)
- Hydrodynamic separators in the Newnans Lake sub-basin.



New Project Highlights

Alachua County

- Education and Outreach
 - Springs Protection Videos
 - Turf Swap – rebates for property owners
- Newnans Lake Treatment Wetland Feasibility Study



2019 Project Summary

- In addition to projects added for 2019
 - 20 projects added in 2019
 - 2 regulation
 - 2 Education and studies
 - 10 Land acquisition
 - 3 Agriculture best management practices (BMP)
 - 1 Habitat enhancement
 - 1 Street sweeping
 - 1 Urban structural



Project Funding

- Information about FDEP grant programs is available at <https://floridadep.gov/wra>
- Nonpoint Source funding programs:
 - Federal Clean Water Act Section 319(h) grants and State Water-quality Assistance grants
 - Submit proposal anytime during the year. Primary review for funding periods are September/October and March/April
 - Local and state governments (including water management district) and public universities are examples of local groups eligible for funding
 - Contact Emily Forinash for information at Emily.Forinash@FloridaDEP.gov



Project Funding

Examples of Nonpoint source projects

- Demonstration and evaluation of best management practices (BMPs)
- Nonpoint pollution reduction in priority watersheds (e.g., areas with water quality restoration plans, etc.)
Example includes treatment of impaired waters.
- Ground water protection from nonpoint sources
- Public education programs on nonpoint source management ("319 Grant" only)
- Septic to sewer projects ("319 Grant" only)
- Green Infrastructure/Low Impact Development for stormwater



Loading Adjustments

Averages applied

- Certain projects assigned average reduction if they had multiple years of data
 - Street sweeping
 - Hydrodynamic separator cleanout
 - Ditch maintenance
 - Storm drain cleaning
 - Stormwater pond maintenance
 - Trash traps
- Considered data from 2018 to 2020



Allocation Update

Orange Lake **DRAFT**

DRAFT Summary of Credits and Required Reductions: Reductions based on urban stormwater required reduction.

Reductions and Credits by Jurisdiction for Orange Lake	Total Developed Land Use Reduction lbs/yr TP	First Five Year 50% Developed Land Use Reduction lbs/yr TP	Education Credit lbs/yr TP	Project Credits lbs/yr TP	First Five Year Remaining Developed Land Use Reduction with a Target Date of 2023 in lbs/yr TP	Second Five Year 50% Developed Land Use Reduction lbs/yr TP	Remaining Developed Land Use Reduction with a Target Date of 2028 lbs TP/yr	Total OSTDS Reduction with a Target Date of 2028 lbs/yr TP	Remaining Total Reduction to be Achieved with a Target Date of 2028 lbs/yr TP
Alachua County	38	19	4	0	15	19	34	60	94
FDOT, District 2	15	8.0	1	54	-47	7	-40	0	0
FDOT, District 5	99	50	1	2,934	-2,885	49	-2,836	0	0
Marion County	319	160	31	1	129	159	288	120	408
McIntosh	28	14	1	0	13	14	27	43	70
Micanopy	31	16	2	0	14	15	29	0	29
Reddick	12	6	1	0	5	6	11	0	11
Total lbs/yr TP	542	273	41	2,989	-2,756	269	-2,487	223	612



Orange Lake Budget

Total Phosphorus *DRAFT*

Sources of total phosphorus	TMDL Baseline loading	Percent of TMDL Baseline Loading	Proportional reduction needed to meet TMDL	Expected load reduction from current projects	Remaining phosphorus load	Additional Reduction Needed
Stormwater runoff forest Orange Lake	594*	2.1%				
Stormwater runoff undeveloped land use Orange Lake	3,363	12.1%			3,363	
Stormwater runoff from developed uses Orange Lake	945	3.4%	542	-3,030	-2,085	-2,488
Agriculture Orange Lake	5,986	21.5%	3,431	-1,359	4,627	2,072
Agriculture Project Reductions				-775		
Agriculture BMPs**				-584		
Septic systems Orange Lake	390	1.4%	223		390	223
Atmospheric deposition (wet/dry)	2,941	10.5%			2,941	
Tributary inflows	13,671	49.0%	7,837	-2,328	11,343	5,510
Camps Canal (Newnans Lake)	10,344	37.1%	5,930	-1,000	9,344	4,929
Agriculture Project Reductions				0		
Developed Land Reductions				-984		
Agriculture BMPs**				-16		
Cross Creek (Lochloosa Lake)	3,327	11.9%	1,907	-1,327	2,000	580
Agriculture Project Reductions				-286		
Agriculture BMPs**				-161		
Developed Land Reductions				-880		
Seepage/groundwater	0	0.0%			0	0
Internal nutrient recycling	0	0.0%	0		0	0
Loading information						
TMDL baseline TP-loading and % (lbs/yr)	27,296*	100.0%	12,034	-6,717	20,579	
Total Maximum Daily Load (lbs/yr)	15,262				15,262	
Reduction needed in loading and % (lbs/yr)	12,034				5,317	

*forest land removed from calculations

**BMP credit draft till verified

- 55% of Camps Canal project credits assigned to Orange Lake



Allocation Update

Newnans Lake *DRAFT*

Summary of Estimated Credits and Required Reductions: Reductions based on urban stormwater required reduction.

Reductions and Credits by Jurisdiction for Newnans Lake	Total Developed Land Use Reduction lbs/yr TP	First Five Year 50% Developed Land Use Reduction lbs/yr TP	Education Credit lbs/yr TP	Project Credits lbs/yr TP	First Five Year Remaining Developed Land Use Reduction with a Target Date of 2023 in lbs/yr TP	Second Five Year 50% Developed Land Use Reduction lbs/yr TP	Remaining Developed Land Use Reduction with a Target Date of 2028 lbs TP/yr	Total OSTDS Reduction with a Target Date of 2028 lbs/yr TP	Remaining Total Reduction to be achieved with a Target Date of 2028 lbs/yr TP
Alachua County	465	233	33	42	158	232	390	198	588
Gainesville	461	231	33	1,131	-933	230	-703	16	0
FDOT, District 2	93	47	4	525	-482	46	-436	0	0
Waldo	27	14	1	0	13	13	26	0	26
Total lbs/yr TP	1,046	525	71	1,698	-1,244	521	-723	214	-73

Summary of Estimated Credits and Required Reductions: Reductions based on urban stormwater required reduction.

Reductions and Credits by Jurisdiction for Newnans Lake	Total Developed Land Use Reduction lbs/yr TN	First Five Year 50% Developed Land Use Reduction lbs/yr TN	Education Credit lbs/yr TN	Project Credits lbs/yr TN	First Five Year Remaining Developed Land Use Reduction with a Target Date of 2023 in lbs/yr TN	Second Five Year 50% Developed Land Use Reduction lbs/yr TN	Remaining Developed Land Use Reduction with a Target Date of 2028 lbs/yr TN	Total OSTDS Reduction with a Target Date of 2028 lbs/yr TN	Remaining Total Reduction to be achieved with a Target Date of 2028 lbs/yr TN
Alachua County	4,155	2,078	299	65.0	1,714	2,077	3,791	1,448	5,239
Gainesville	4,094	2,047	294	2,919	-1,166	2,047	881	113	994
FDOT, District 2	878	439	42	3,414	-3,017	439	-2,578	0	0
Waldo	239	120	10	0	110	119	229	0	229
Total lbs/yr TP	9,366	4,684	645	6,398	-2,359	4,682	2,323	1,561	6,462

- Brittany Estates proposed future connection to GRU network not part of allocation
- WLA of 386 lbs/yr TP and 3,104 lbs/yr TN



Newnans Lake Budget

Total Phosphorus **DRAFT**

Sources of total phosphorus	TMDL Baseline loading	Percent of TMDL Baseline Loading	Proportional reduction needed to meet TMDL	Expected load reduction from current projects	Remaining phosphorus load	Additional Reduction Needed
Point sources	386	1.59%	325	0	386	325
<i>Stormwater runoff forest Newnans Lake</i>	1,767*	7.27%				
Stormwater runoff undeveloped land uses Newnans Lake	3,371	13.87%			3,371	
Stormwater runoff from developed uses Newnans Lake	1,244	5.12%	1,048	-1,790	-545	-741
Agriculture Newnans Lake	522	2.15%	440	-29	493	411
Agriculture BMPs Reductions**				-29		
Groundwater seepage Newnans Lake	1,827	7.52%			1,827	
Septic systems Newnans Lake	256	1.05%	216	0	256	216
Internal nutrient recycling	13,478	55.45%	11,355	0	13,478	11,355
Atmospheric deposition (wet/dry)	3,223	13.26%			3,223	
Loading information						
TMDL baseline TP-loading and % (lbs/yr)	24,308*	100%	13,384	-1,819	22,489	
Total Maximum Daily Load (lbs/yr)	10,924				10,924	
Reduction needed in loading and % (lbs/yr)	13,384				11,565	

*forest land removed from calculations

**BMP credit draft till verified



Newnans Lake Budget

Total Nitrogen **DRAFT**

Sources of total nitrogen	TMDL Baseline loading	Percent of TMDL Baseline Loading	Proportional reduction needed to meet TMDL	Expected load reduction from current projects	Remaining nitrogen load	Additional Reduction Needed
Point sources	3,104	0.97%	2594	0	3104	
Stormwater runoff forest Newnans Lake	28,121*	8.81%				
Stormwater runoff undeveloped land uses Newnans Lake	31,850	9.97%			31,850	
Stormwater runoff from developed uses Newnans Lake	11,128	3.48%	9,298	-6,987	4,141	2,311
Agriculture Newnans Lake	3,580	1.12%	2,991	-199	3,381	2,792
Agriculture BMPs **				-199		
Groundwater seepage Newnans Lake	6,698	2.10%			6,698	
Septic systems Newnans Lake	1,870	0.59%	1,563		1,870	1,563
Internal nutrient recycling	226,527	70.94%	189,287		226,527	189,287
Atmospheric deposition (wet/dry)	6,446	2.02%			6,446	
Loading information						
TMDL baseline TP-loading and % (lbs/yr)	291,204*	100%	205,734	-7,186	284,018	
Total Maximum Daily Load (lbs/yr)	85,470				85,470	
Reduction needed in loading and % (lbs/yr)	205,734				198,548	

*forest land removed from calculations

**BMP credit draft till verified



Allocation Update

Lochloosa Lake No change **DRAFT**

DRAFT Summary of Credits and Required Reductions: Reductions based on urban stormwater required reduction.

Reductions and Credits by Jurisdiction for Lochloosa Lake	Total Developed Land Use Reduction lbs/yr TP	First Five Year 50% Developed Land Use Reduction lbs/yr TP	Education Credit lbs/yr TP	Project Credits lbs/yr TP	First Five Year Remaining Developed Land Use Reduction with a Target Date of 2023 in lbs/yr TP	Second Five Year 50% Developed Land Use Reduction lbs/yr TP	Total Reduction to be Achieved with a Target Date of 2028* lbs/yr TP
Alachua County	411	206	46		160	205	365
FDOT, District 2	321	161	20	802	-661	160	0
Hawthorne	156	78	12		66	78	144
Total lbs/yr TP	888	445	78	802	-435	443	509

DRAFT Summary of Credits and Required Reductions: Reductions based on urban stormwater required reduction.

Reductions and Credits by Jurisdiction for Lochloosa Lake	Total Developed Land Use Reduction lbs/yr TN	First Five Year 50% Developed Land Use Reduction lbs/yr TN	Education Credit lbs/yr TN	Project Credits lbs/yr TN	First Five Year Remaining Developed Land Use Reduction with a Target Date of 2023 in lbs/yr TN	Second Five Year 50% Developed Land Use Reduction lbs/yr TN	Total Reduction to be Achieved with a Target Date of 2028* lbs/yr TN
Alachua County	4,055	2,028	335		1,693	2,027	3,720
FDOT, District 2	3,674	1,837	202	4,759	-3,125	1,837	0
Hawthorne	1,902	951	105		846	951	1,797
Total lbs/yr TN	9,631	4,816	642	4,759	-586	4,815	5,517



Lochloosa Lake Budget

Total Phosphorus **DRAFT**

Sources of total phosphorus	TMDL Baseline loading*	Percent of TMDL Baseline Loading	TMDL Baseline Loading without Forest	Proportional reduction needed to meet TMDL	Expected load reduction from current projects	Remaining phosphorus load	Additional Reduction Needed
<i>Stormwater runoff forest/forest regeneration</i>	1,698*	10.14%					
Stormwater runoff undeveloped land use	1,203	7.18%	1,203			1,203	
Stormwater runoff from developed uses	1,667	9.95%	1,667	889	-880	787	9
Agriculture Lochloosa Lake	2,510	14.99%	2,510	1,339	-447	2,063	892
Agriculture BMPs**					-161		
Agriculture Project Reductions					-286		
Atmospheric deposition	4,248	25.36%	4,248			4,248	
Internal loading	5,426	32.39%	5,426	2,894		5,426	2,894
Loading information							
TMDL baseline TP-loading and % (lbs/yr)	15,054		15,054		-1,327	13,727	
Total Maximum Daily Load (lbs/yr)	9,932		9,932			9,932	
Reduction needed in loading and % (lbs/yr)	5,122		5,122			3,795	

*forest land removed from calculations

**BMP credit draft till verified



Lochloosa Lake Budget

Total Nitrogen **DRAFT**

Sources of total nitrogen	TMDL Baseline loading	Percent of TMDL Baseline Loading	Proportional reduction needed to meet TMDL	Expected load reduction from current projects	Remaining phosphorus load	Additional Reduction Needed
<i>Stormwater runoff forest/forest regeneration *</i>	24,325*	5.85%				
Stormwater runoff undeveloped land use	16,669	4.01%			16,669	
Stormwater runoff from developed uses	13,266	3.19%	9,631	-5,401	7,864	4,230
Agriculture Lochloosa Lake	22,403	5.38%	16,265	-2,373	20,030	13,892
Agriculture BMPs**				-1,419		
Agriculture Project Reductions				-954		
Atmospheric deposition	72,825	17.50%			72,825	
Internal loading	266,655	64.08%	193,602	0	266,655	193,602
Loading information						
TMDL baseline TN-loading and % (lbs/yr)	391,817*	100.00%	219,499	-7,774	384,043	
Total Maximum Daily Load (lbs/yr)	172,318				172,318	
Reduction needed in loading and % (lbs/yr)	219,499				211,725	

*forest land removed from calculations

**BMP credit draft till verified



Alachua Sink

Total Nitrogen **DRAFT**

- Stormwater projects and WWTF upgrades are projected to remove 135,864 lbs/yr TN
 - Additional total phosphorus removal from stormwater projects and WWTF upgrades estimated at 47,073 lbs/yr TP
- Newnans Lake projects remove another 3,144 lbs/yr TN.
 - Prairie Creek is part of TMDL. Credits are reduced to 45% of project credits for Newnans Lake
 - Newnans Lake projects remove another 805 lbs/yr TP



Questions

A photograph of an empty lecture hall with rows of blue seats. The seats are arranged in a tiered fashion, and the room is brightly lit. The text "Any comments or questions???" is overlaid in yellow on the middle of the image.

- Any comments or questions???

