

Florida Department of Environmental Protection



Water Quality Restoration Program

Orange Creek Basin Fifth Year Review

Mary Paulic

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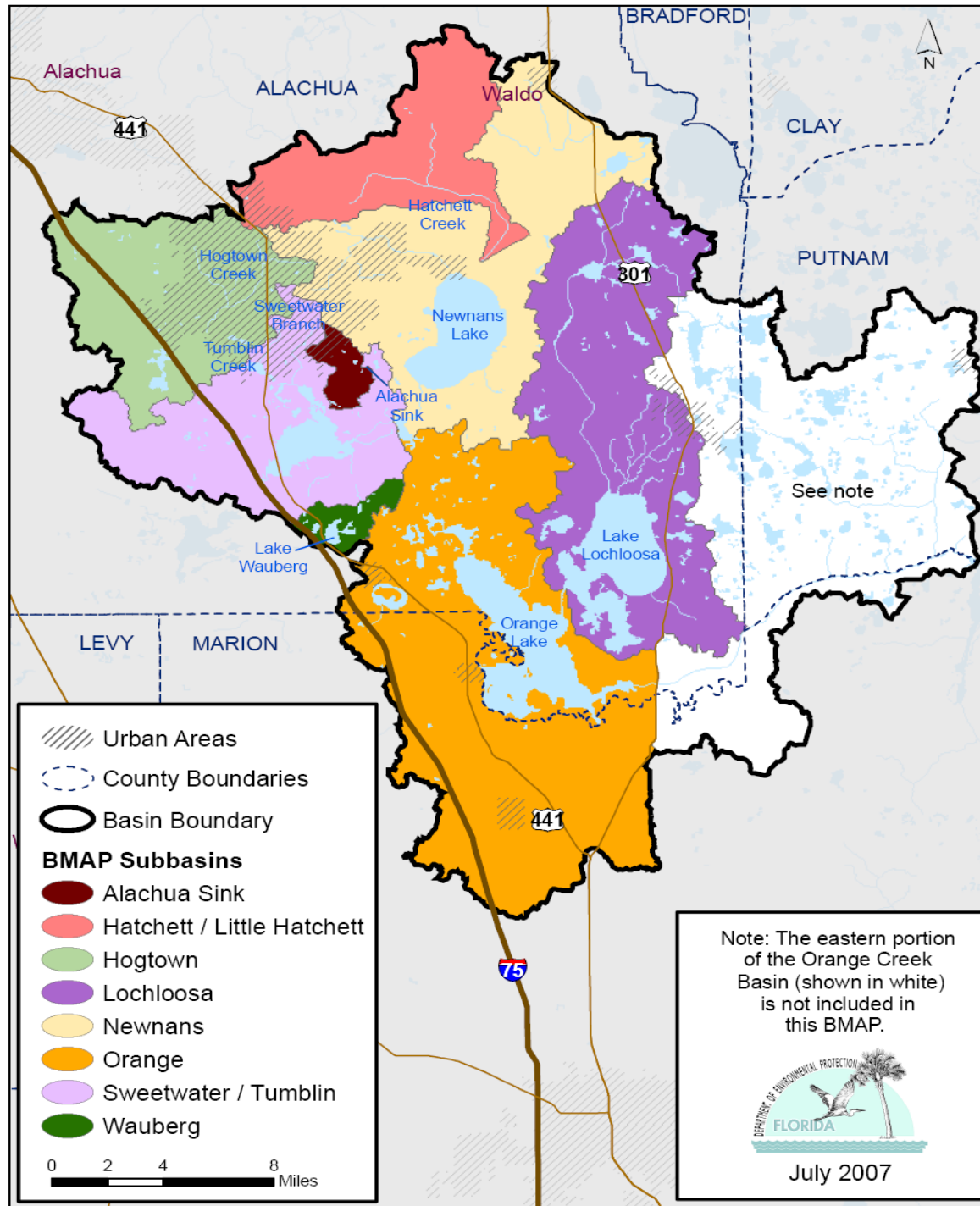
October 1, 2013





Orange Creek BMAP

- Adopted in 2008 and addresses TMDLs for nutrients and bacteria;
 - Newnans Lake, Lake Wauberg, Orange Lake, Lochloosa Lake, and Alachua Sink for nutrients;
 - Tumblin Creek, Sweetwater Branch, and Hogtown Creek for fecal coliforms
- Orange Creek Basin Working Group
 - Last met in 2011
 - Decision making group





Today's Purpose

- 2013 is year 5 of the first BMAP iteration
- It is time for the 5 year review and assessment of the BMAP and revision of the BMAP
 - Provision of the Florida Watershed Restoration Act (Chapter 403.067 F.S.)
- Accelerated schedule to draft a revised BMAP by end of 2013 calendar year
- Propose BMAP for adoption in 2014



Meeting Organization

- 1:00 Welcome and Introductions** (Mary Paulic and Charles Gauthier, DEP)
•Meeting purpose
- 1:15 Paynes Prairie Sheetflow Restoration – project update**
(Alice Rankeillor, GRU)
- 1:45 BMAP Fifth Year Water Quality Review** (Mary Paulic, DEP and Jian Di, SJRWMD)
- 2:30 Break**
- 2:45 Orange Creek Basin Assessment Document**
•Review of document
•Project status
•Monitoring network
•Timelines
•Future TMDLs
- 4:10 Next Steps** (Mary Paulic, DEP)
•Public comment
•Questions or concerns?
•Action Items
•Next meeting

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Orange Creek Basin Water Quality Review

Mary Paulic (DEP) and Jian Di (SJRWMD)



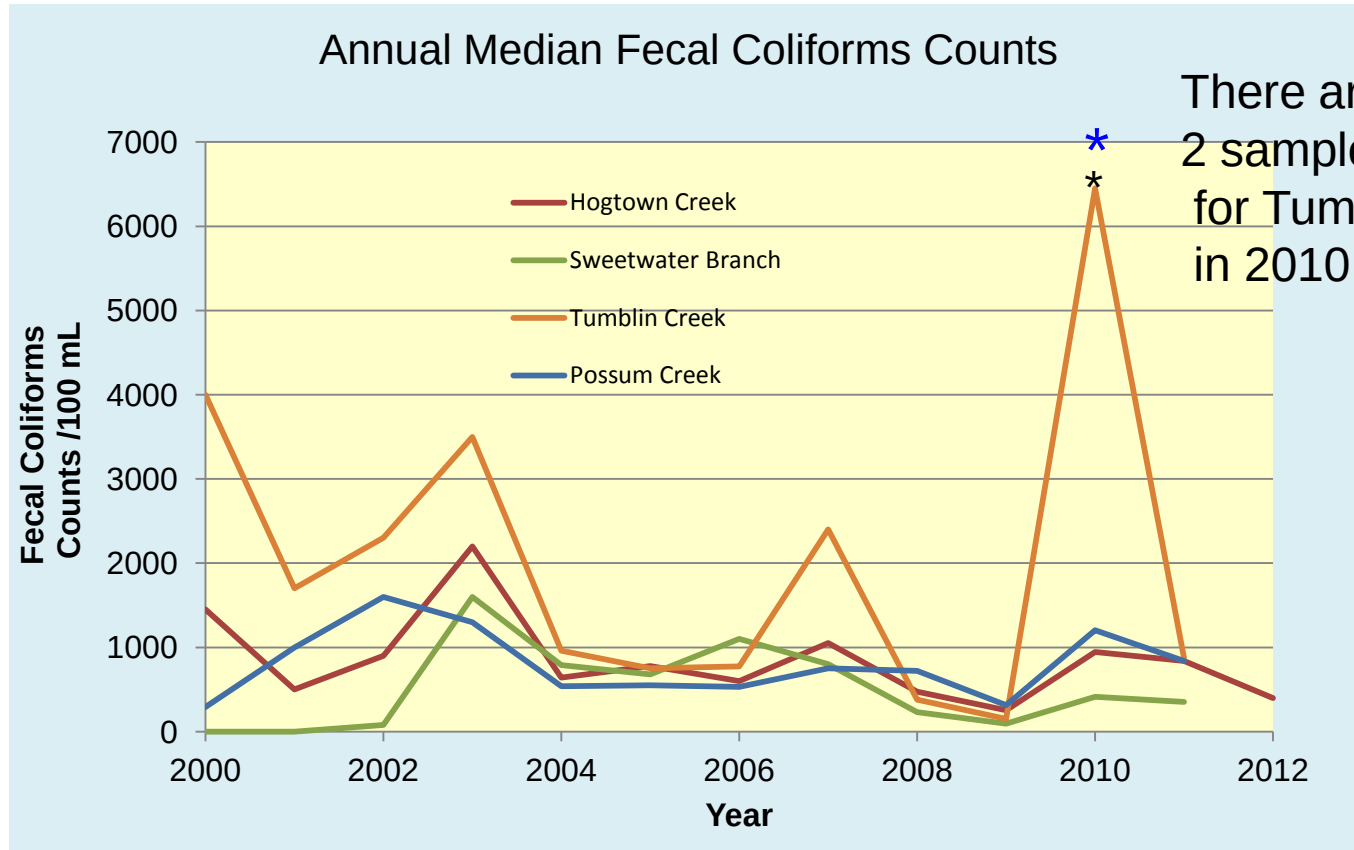


Fecal Coliforms

- 3 streams have TMDLs for fecal coliforms
 - Sweetwater Branch
 - Tumblin Creek
 - Hogtown Creek
- TMDLs compared data against daily fecal coliform criterion which allows a maximum of 800 counts/100mL
- Data that was analyzed as part of 5 year review:

Stream	Number of Stations Included
Hogtown	39
Sweetwater	35
Tumblin	26

Annual Medians



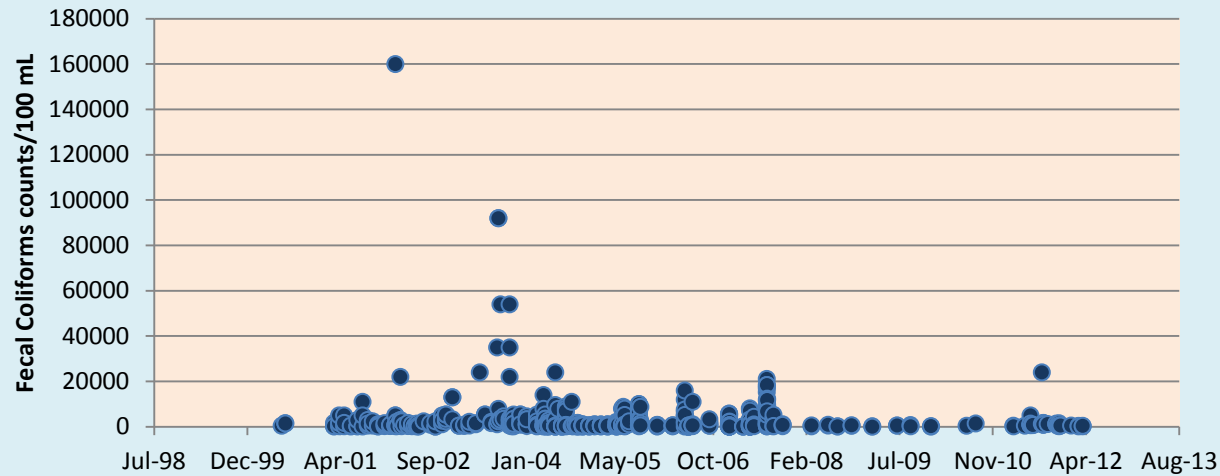


Fecals Summary Data

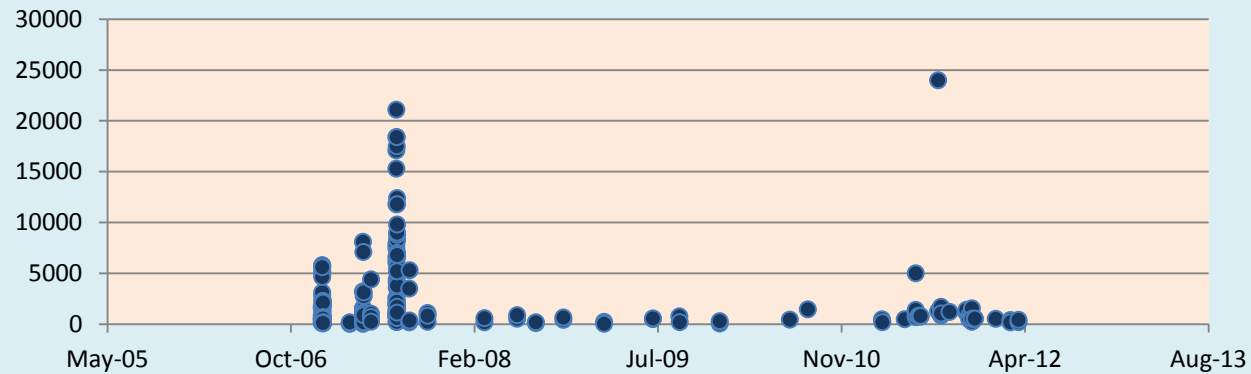
Name	Data period	Number of samples	Median (counts/100 mL)	Range	Average percent exceedance	TMDL percent exceedance
Hogtown Creek	2007-2012	201	657.5	21-24,000	30.0%	89
Sweetwater Branch	2007-2011	202	547.5	1-48,000	22.3%	48.4%
Tumblin Creek	2007-2011	60	875	1-25,600	51.6%	75

Hogtown Creek

Hogtown Creek 2000-2012

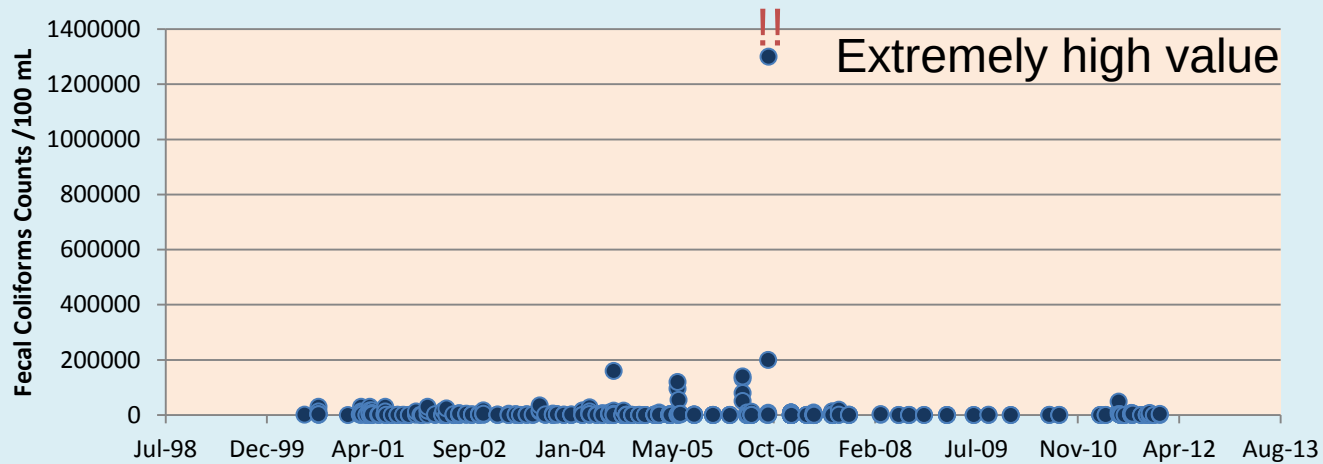


Hogtown Creek 2007-2012

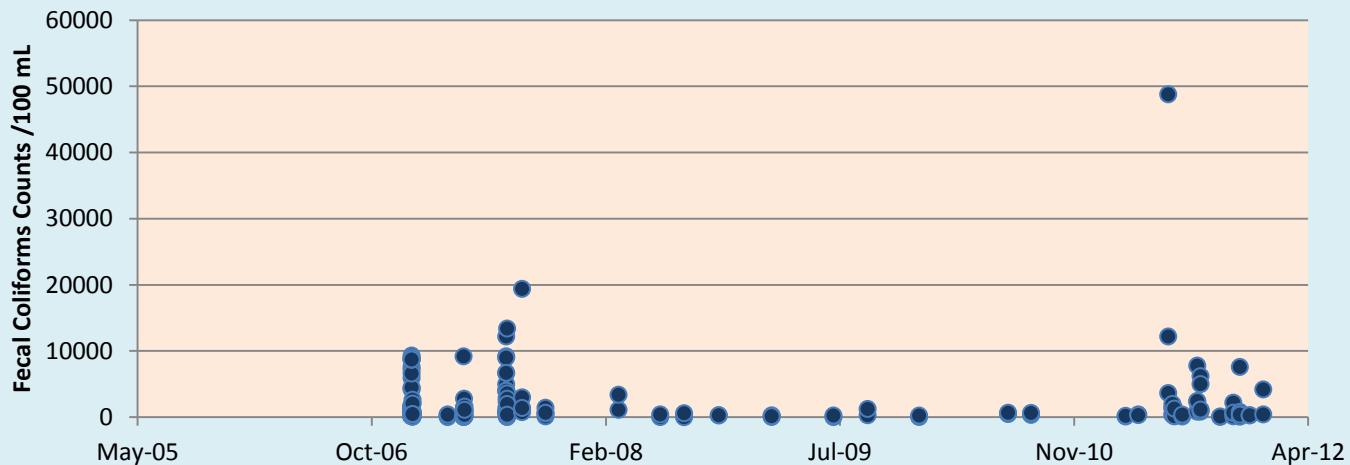


Sweetwater Branch

Sweetwater Branch 2000-2011

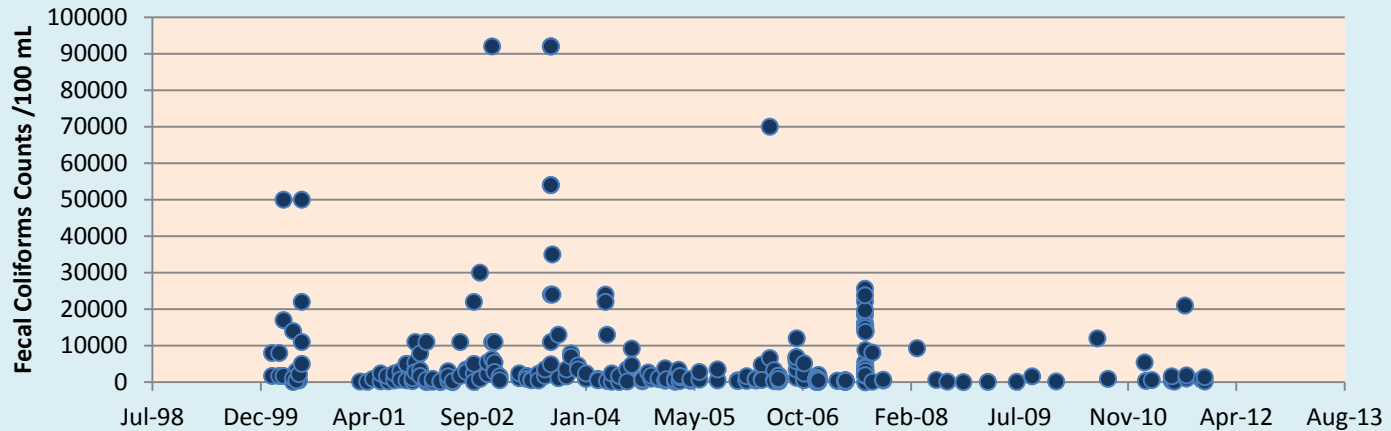


Sweetwater Branch 2007-2011

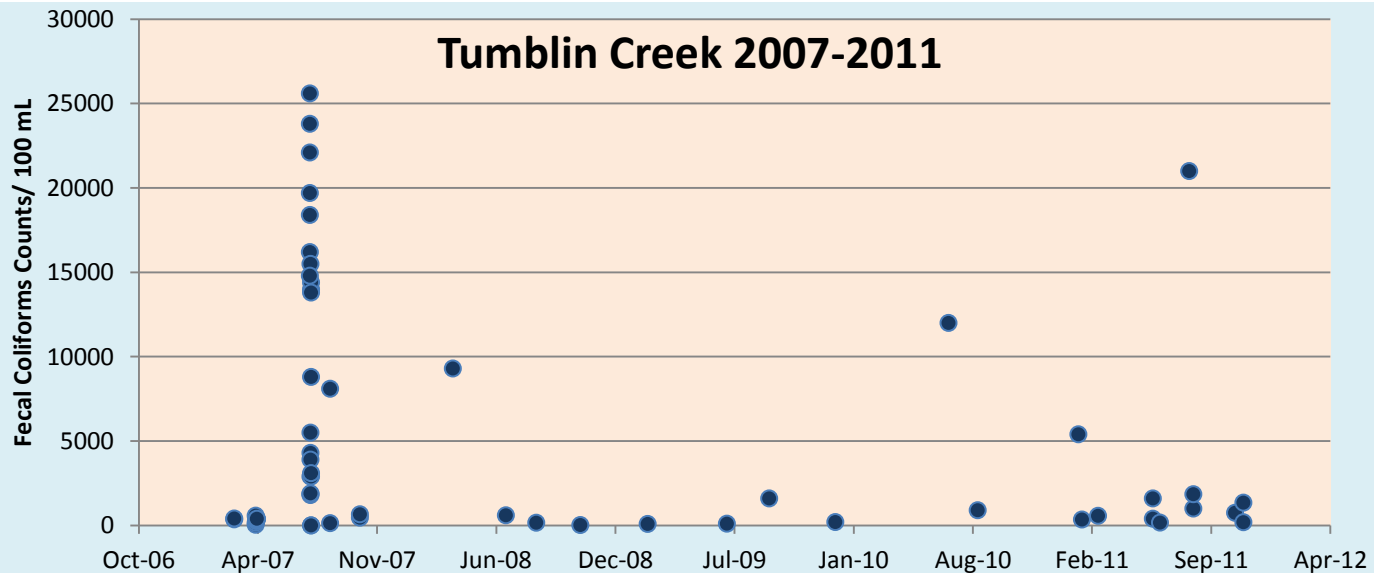


Tumblin Creek

Tumblin Creek 2000-2011



Tumblin Creek 2007-2011

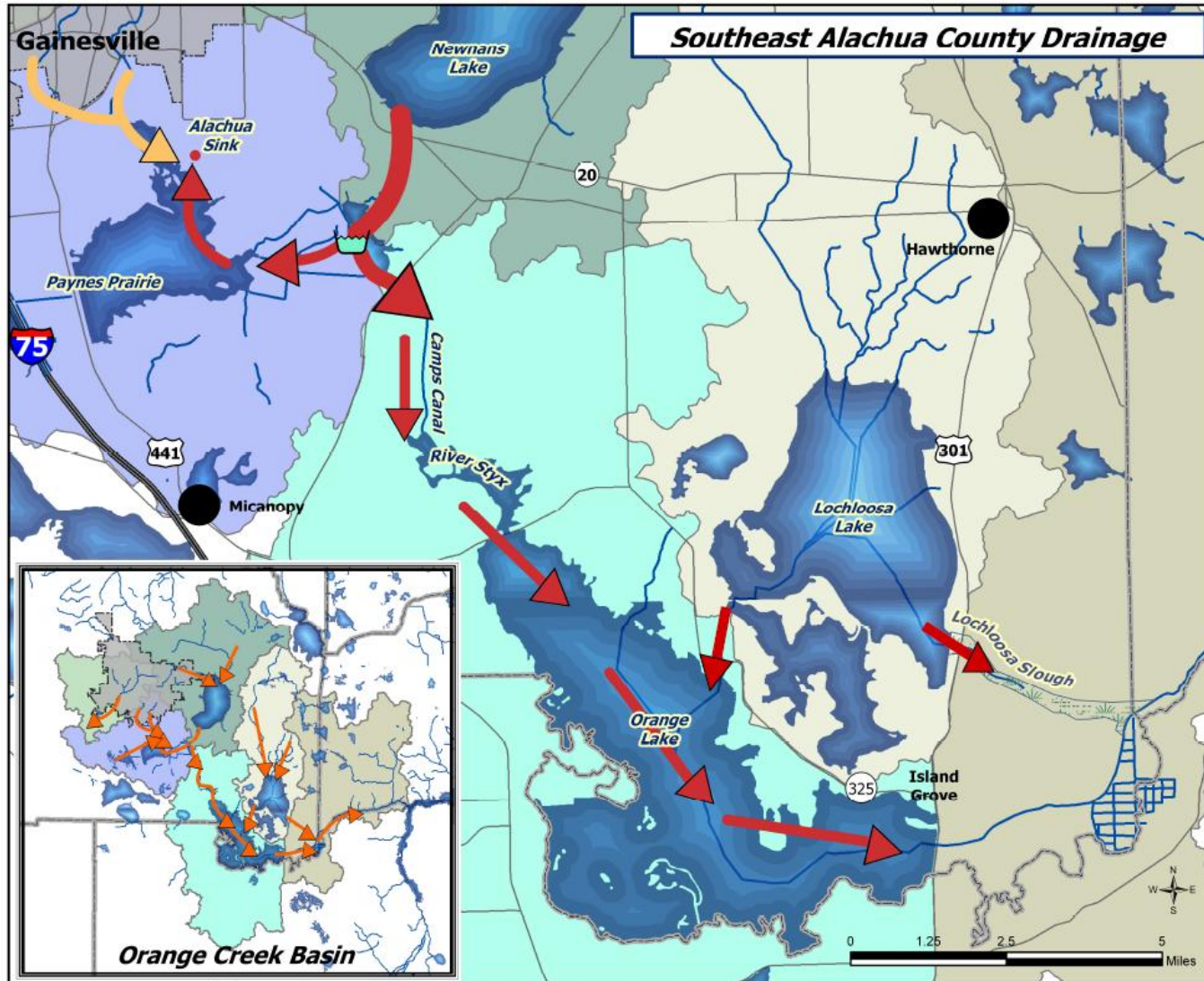




Summary

- Exceedances still occur, some are quite high.
 - Is all the data reflective of ambient conditions?
 - With exception of one sample in Sweetwater Branch, generally the counts are lower since 2007
- Urban Streams with many potential sources:
 - Natural sources, regrowth, sediment
 - Man-made sources
- Sweetwater Branch: there was a period in 2005-2006 when very high fecal counts were recorded
 - ???
- Next step is to finalize protocols for investigating sources and propose for BMAP adoption

Lake Water Quality



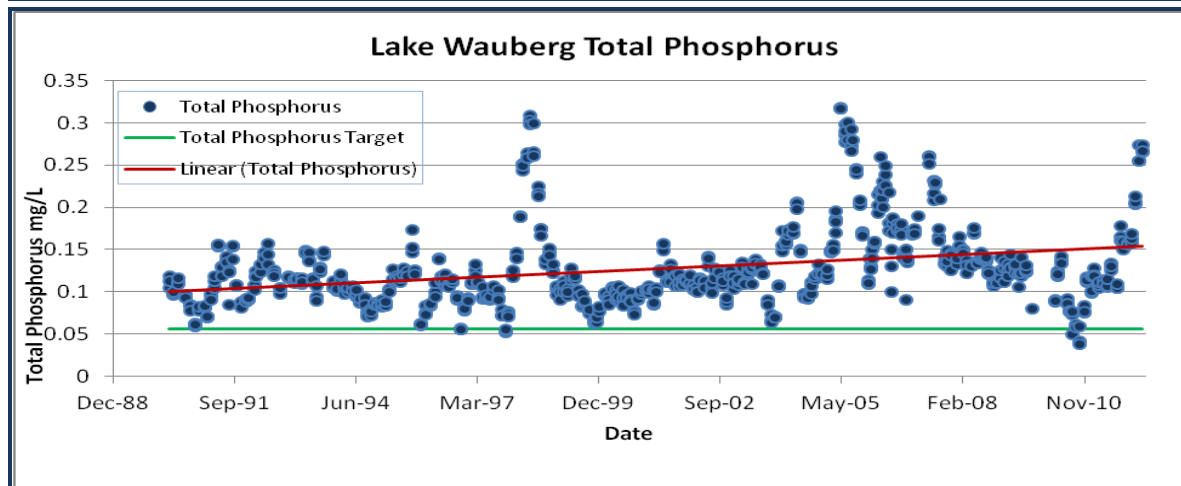
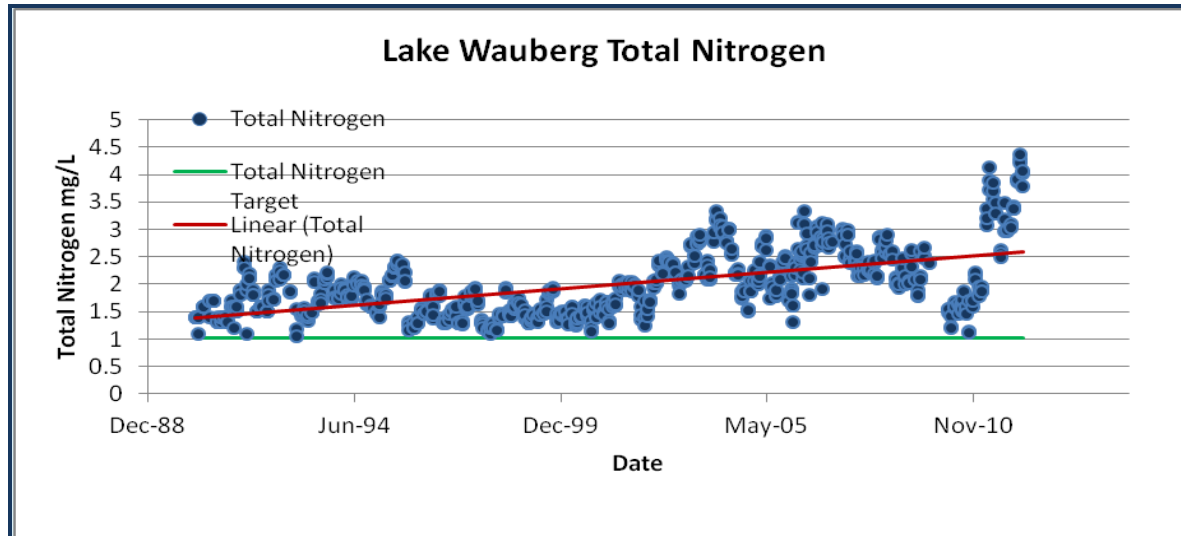


Lake Wauberg

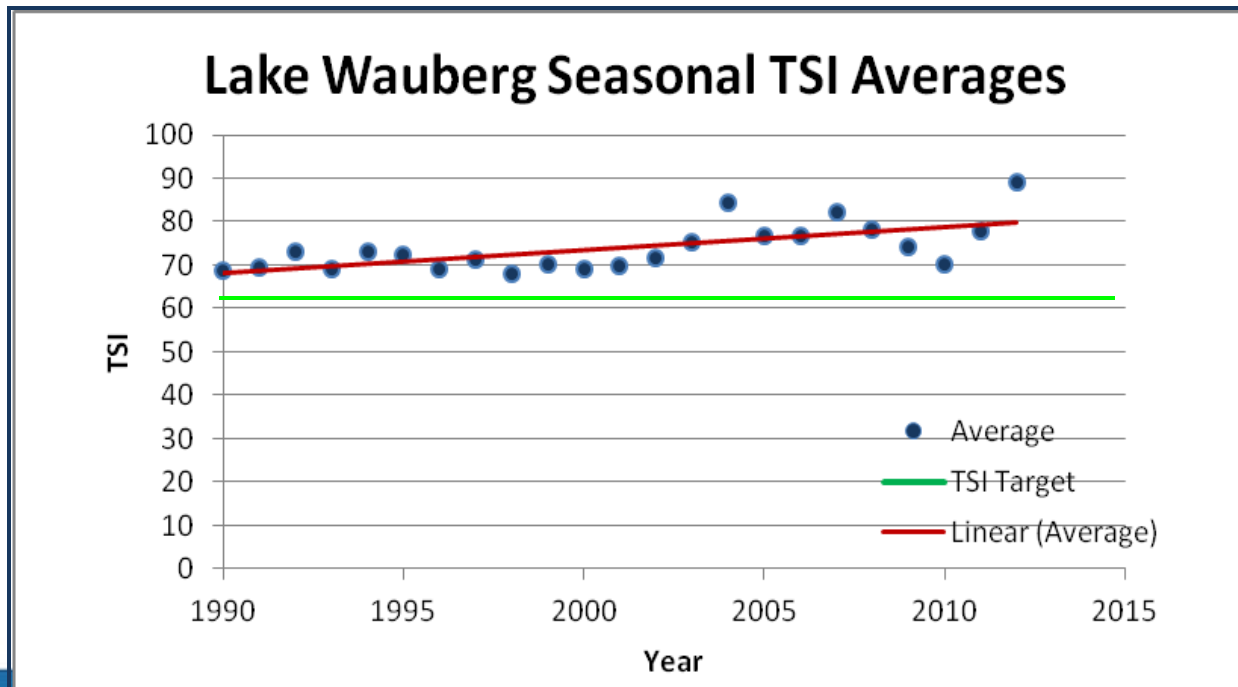
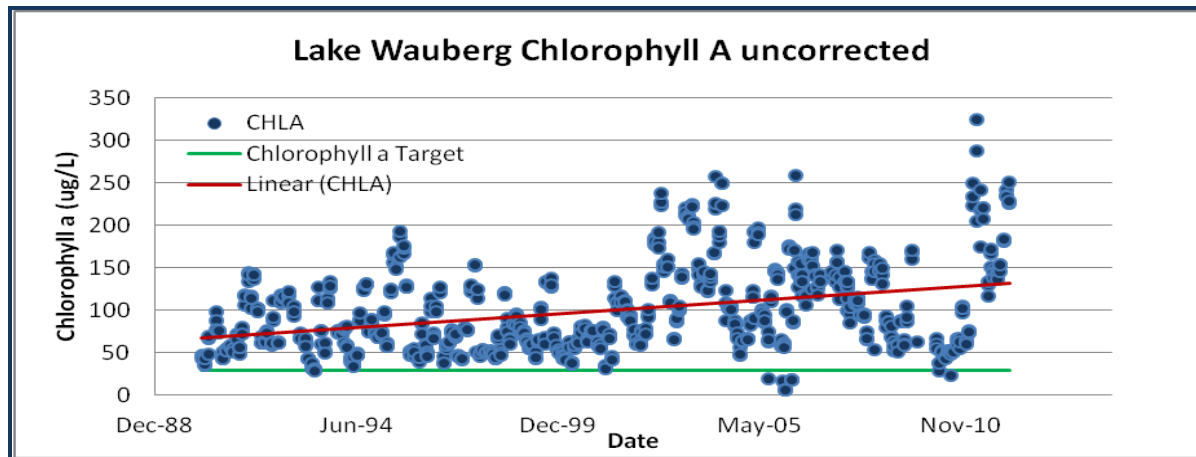
- TMDL for total nitrogen (TN) and total phosphorus (TP), requires 51% and 50% reduction in loadings, respectively

Stations Used	Number of Sampling events
21FLKWATALA-WAUBERG-1	246
21FLKWATALA-WAUBERG-2	246
21FLKWATALA-WAUBERG-3	246
21FLWQSPALA297NL	8
21FLACEPLWAUBERG	5
21FLCEN 20020208	5
21FLCEN 20020209	5
21FLCEN 20020210	5
21FIA20020140	2

Lake Wauberg



Chlorophyll a and TSI





Lake Wauberg Summary

- Water quality has not improved and may actually be getting worse over the past decade.
- TN, TP, and chlorophyll a all appear to be increasing since about 2001/2002.
- Very few TN and TP data points are at or below the TMDL target concentration.



Document Review

Purpose

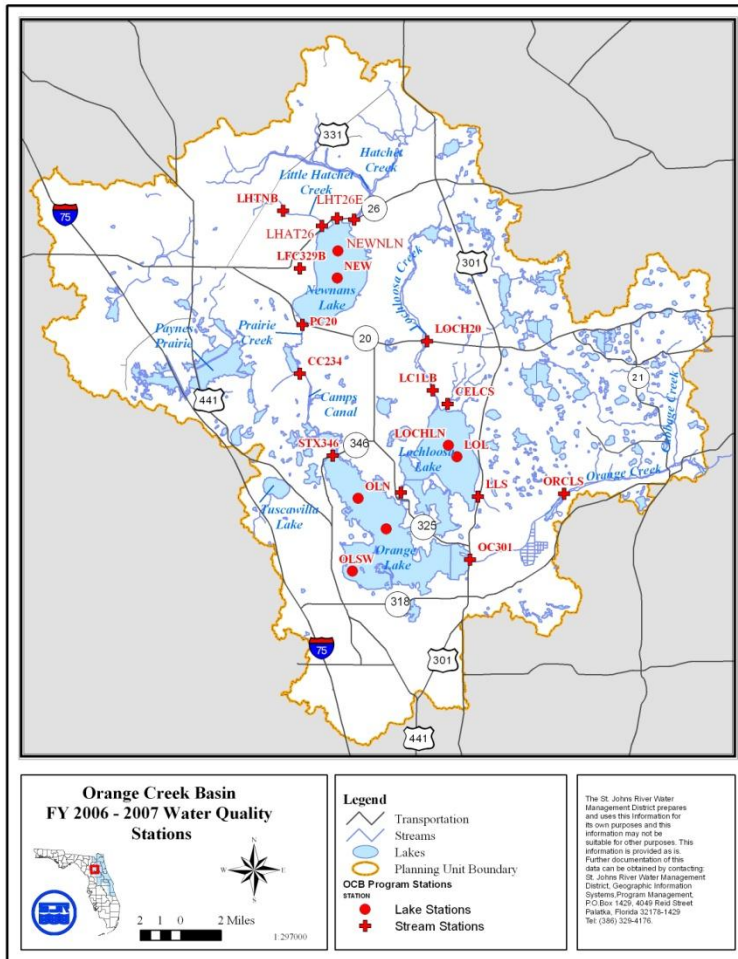
The Orange Creek Basin Management Action Plan was adopted in May 2008. It was adopted to address nutrient and fecal coliform Total Maximum Daily Loads adopted in the Orange Creek Basin. As specified in the Watershed Restoration Act (Chapter 403.067, F.S.), during the fifth year of the first five year iteration of the BMAP, a review of water quality and progress made in achieving requisite TMDL reductions is made. The Orange Creek BMAP is scheduled for revision in late 2013 with subsequent readoption in early 2014. This report summarizes the status of water quality of TMDL waterbodies, efforts (projects) undertaken to improve water quality, identifies insufficiencies, and notes what additional actions should be taken over the next five year iteration of the BMAP.



Project Status

- 118 projects adopted with BMAP;
Additional 25 ready for adoption, in
preparation for a new BMAP adoption:
 1. Project list needs to be reviewed by BWG
 2. New capital improvement projects to add?
 3. Project review completed by early
November
 4. There will be opportunities to identify new
projects over the next year.

Monitoring



- Monitoring is one of the requirements of BMAP
- Current monitoring list needs review
- Include Lochloosa Lake in anticipation of TMDL
- Finish review by early November



Time Lines

- October 1 meeting
 - Review projects and monitoring activities during October
 - Draft agriculture BMP targets
 - Draft fecal coliforms strategy
- Subsequent meetings
 - Mid November
 - First draft of BMAP (may not be complete)
 - Validated and new project information
 - Validated monitoring information
 - Agriculture BMP targets



Time Lines

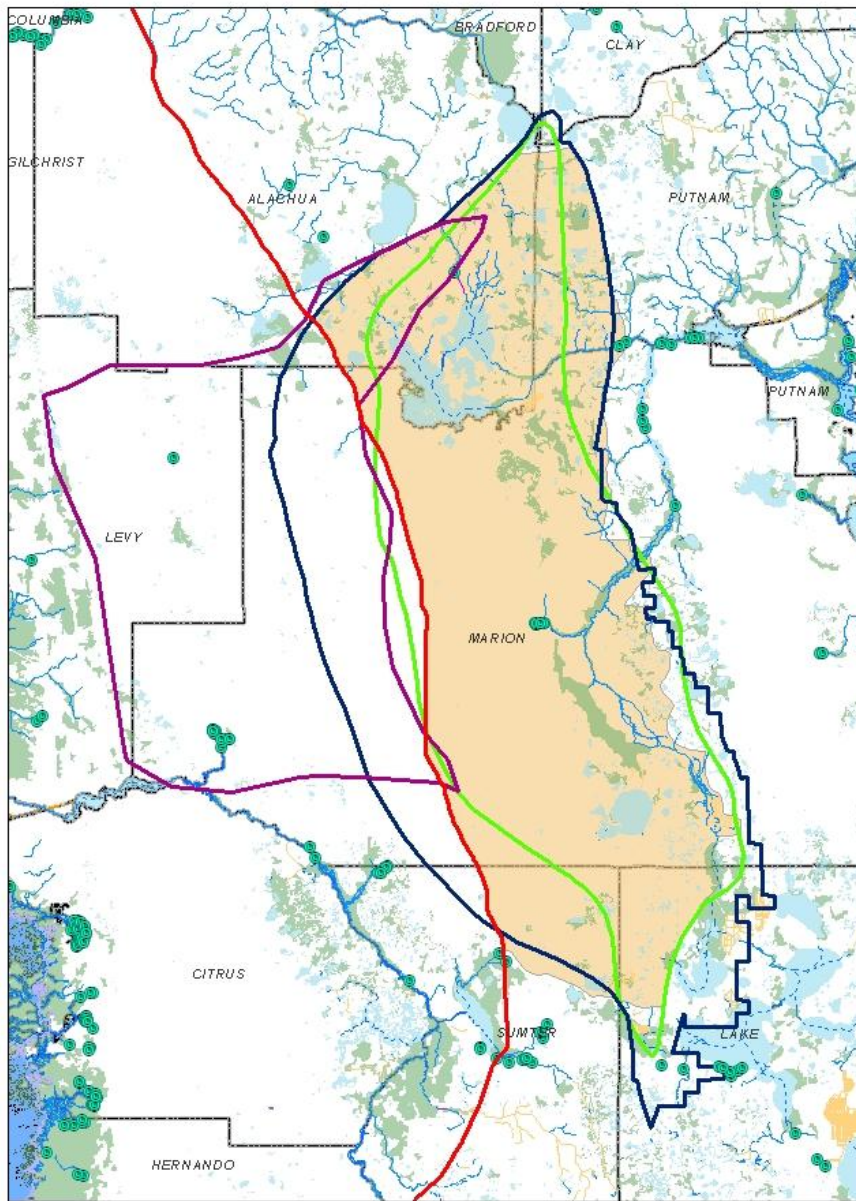
- Mid December
 - Final draft BMAP ready for review
 - Briefings?
- January 2014
 - Adoption of revised BMAP
- 2014/2015
 - Periodic BWG meetings to work on projects for lakes
 - Support Lake Lochloosa TMDL development
 - Support other TMDLs as they arise



Silver Springs BMAP

- Started March 2013, Nitrate is focus
- Management area overlaps with Orange Creek
 - There is a potential that research and projects completed for Silver Springs will benefit Orange Creek Basin
 - Example: inventory of nitrogen sources

Silver Springs BMAP Area



N
0 3 6 12 18 24 Miles
Silver Springs Boundary Delineations