

Orange Creek Basin Management Action Plan Public Comments

Gainesville Regional Utilities

Paul Davis, GRU

In the tables on pages 97 thru 100, "GRU wastewater Collection System Service Area (115 square miles)", please capitalize "Wastewater".



Alachua County Environmental Protection Department

Chris Bird, Director

March 24, 2014

Ms. Mary Paulic
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

RE: Alachua County Comments on the Basin Management Action Plan for the
Implementation of Total Maximum Daily Loads adopted by the Florida Department of
Environmental Protection in the Orange Creek Basin.

Dear Ms. Paulic:

The Alachua County Environmental Protection Department (ACEPD) is pleased to have the opportunity to provide comments on the draft Basin Management Action Plan (BMAP) for the Orange Creek Basin. Water quality improvement in the lakes (Newnans, Lochloosa, Orange and Wauberg) is a long-term process; however, the existing regulatory framework is not posed for water quality improvement. These lakes are in the unincorporated area of Alachua County and as development occurs and land uses change the potential for further water quality degradation increases. Proposed BMAP projects for the lakes are limited to purchase of small parcels of conservation lands and one small roadway project. Much of the nutrient pollution in the lakes is a function of legacy pollution and with regard to phosphorus, due at least in part to exposure and erosion of the phosphatic materials in the Hawthorn Group exacerbated by human activities. The draft BMAP does not set a strong course for water quality improvement and does not adequately address water quality degradation from existing or proposed land uses. The projects listed do not show any quantifiable loading improvement for the lakes. The ACEPD has the following general comments for your consideration:

1. Page xvi and page 7 section 2.3 - Future growth comes with drainage improvements and infrastructure that will increase nutrient loading to surface waters. The following bullets summarize some of these concerns.
 - Drainage improvements (e.g. stormwater ponds and conveyances) can expose soils high in phosphorus and/or phosphatic units (materials) in the Hawthorn Group to erosion increasing phosphorus loading to already impaired lakes (Newnans, Lochloosa, Orange, and Wauberg) and the associated streams.
 - Development design, land clearing, and site preparation for building activities can produce further disturbance of phosphorus laden soils and/or phosphatic units in the Hawthorn Group, which can contribute additional phosphorus to nutrient impaired waters.

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RE: Alachua County Comments on the Orange Creek Basin BMAP
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- Reclaimed water, even treated to advanced water treatment standards, would exceed TMDL limitations for nutrients (nitrogen and phosphorus) and has the potential to further degrade water quality in the basin.
 - The BMAP does not address the connection between water quality and water quantity. In any development scenario, additional water will be withdrawn from the Floridan aquifer. This water will not likely be returned to the aquifer, but discharged to surface waters and/or wetlands carrying with it increased nitrogen and phosphorus.
2. Page xvii and page 23 section 3.4.1 - Historical agricultural practices as well as the lack of or insufficiency of agricultural BMPs have been shown to degrade surface waters and wetlands in the Orange Creek Basin. Below are issues and examples related to the lack of or insufficiency of agricultural BMPs to protect the water resources in the Orange Creek Basin.
- Legacy contributions of nutrients from a former dairy in the Windsor area where current land use accelerates nutrient transport to Newnans Lake.
 - Exemptions from BMPs for “normal and customary” agricultural activities that may impact surface waters by phosphorus release from soils and increased sedimentation: construction of unpaved access roads, placement of bridges and culverts, site preparation and land clearing, fencing, contouring to prevent soil erosion, soil preparation, plowing and/or chopping, planting and harvesting, and land leveling.
 - Examples:
 - i. The discharge of sediments and nutrient and bacteria laden waters to surface waters and wetlands of Stanley Prairie in the Little Orange Creek watershed.
 - ii. Inadequate buffers and removal of and alterations within wetlands in the Lochloosa Creek watershed.
3. Page xvii, and page 28 section 3.4.4 – Historical silviculture practices as well as the lack of or insufficiency of silviculture BMPs have been shown to degrade surface waters and wetlands in the Orange Creek Basin. Some issues and examples related to this are described below and relate to the basin as a whole:
- Current BMPs do not adequately address the fertilizer use (primarily for initial growth) and/or the significant ditching used in some wetter areas to promote tree growth or require buffers to adequately protect wetlands from sedimentation.
 - Current state regulations allow the destruction of isolated wetlands regulated by Alachua County and the conversion wetlands to pasture for cattle grazing.
 - Industrial silviculture operations do not equate to conservation lands when it comes to water quality protection.
 - There are legacy contributions (e.g. ditching, bedding, etc.) that have continuing water quality impacts, one impact being exposing phosphatic soils to erosion.
 - Industrial silviculture operations where trees are densely planted and highly managed may increase evapotranspiration (ET) decreasing groundwater recharge,

surficial aquifer levels, and shallow groundwater available for stream baseflow, effectively increasing the intermittent nature of a stream.

- Examples:
 - i. Site preparation in hydric flatwoods (wetlands regulated by Alachua County) impacted the headwaters of Lochloosa and Little Orange creeks.
 - ii. Near Moran's Prairie (Little Orange Creek and Lochloosa Creek headwaters) trees (in wetlands) were cut below the seasonal high water table and were unable to regenerate (grow).
 - iii. In the Lochloosa Creek watershed site activities during timber harvesting (e.g. skidding and debris piling) disturbed wetlands and exposed soils potentially high in phosphorus.

4. Page 2, paragraph 1 and page 24 section 3.4.2. - It is stated that all agricultural non-point source in the Orange Creek BMAP are statutorily required either to implement either Department of Environmental Protection (DEP) or the Florida Department of Agriculture and Consumer Services (FDACS) adopted BMPs, or to conduct water quality monitoring to demonstrate pollutant reductions needed to meet a TMDL. Although the BMAP states that "the efforts will be made to more fully implement agricultural BMPs," currently only approximately 8% of the agricultural entities in the basin are enrolled in the BMP program. There are no proposed goals listed for enrollment during the next 5-years or beyond. A goal for implementing agricultural BMPs, such as 80% of the acreage in the next five years, must be provided. There is little value in BMPs if they are not being implemented and the effectiveness of the current BMPs cannot be evaluated.

5. Page 13, section 3.1.1 – Although DEP and water management districts address stormwater treatment and there are additional storage requirements for areas within impaired waters, the phosphorus content of the soils is not considered when stormwater treatment systems are designed, installed, and permitted. This makes these systems potential sources of increased phosphorus loading to streams and lakes.

6. Page 14, section 3.1.3 – Legacy land use practices in the Gainesville urban area have continued impacts on water quality in the urban creeks and receiving lakes. Examples of these types of impacts are listed below. These impacts must be addressed in the BMAP to improve water quality. Specific examples are listed below.

- Legacy ditching in proximity to the Gainesville Airport exposing phosphatic materials from the Hawthorn Group to erosion and transport of phosphorus to Gum Root Swamp and Newnans Lake.
- Ditching for development on North Main Street and surrounding area (Little Hatchet Creek watershed) and Northwood Oaks and Pines (Possum Creek watershed), lowering the water table and exposing phosphatic materials increasing phosphorus transport to streams and lakes.
- Legacy nutrient pollution in Bivens Arm Lake due to historical agricultural activities on properties surrounding the lake, which contributes to nutrient recycling in the lake.

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- Stream bed erosion in Tumblin Creek exposing and transporting phosphatic materials (from the Hawthorn Group) and sediments to the wetlands north of Bivens Arm Lake and to the lake itself.
- Stream bed erosion and lateral erosion from stormwater flows in Hogtown Creek exposing and transporting phosphatic materials (from the Hawthorn Group) and sediment continues due to lack of upper basin storage negatively impacting water quality and wetlands in the watershed.

7. Page 52, section 8.2 - Review the TMDL for Orange Lake based on recent water quality data and determine if a TMDL for total nitrogen is needed. Aquatic plant management should be considered when reviewing the TMDL and its impact on water quality should be evaluated as a result of ongoing plant management activities in the lake. The evaluation for total nitrogen is also important because of the relationship that Orange Lake plays with regard to water quality in the Silver Springs watershed/BMAP area.

8. Page 72, section 3.2 - The St. Johns River Water management District (SJRWMD) Orange Creek Basin Surface Water Improvement and Management Plan (SWIM) Plan outlines numerous projects for lake water quality improvement and provides planning level costs for project implementation. However, there is currently no funding allocated for this work. Regardless how committed stakeholders are to water quality improvement, if funding is not available the projects cannot be conducted.

9. Page 73, bullet 2 – Stakeholders (basin working group members) do not have the resources to fund BMAP needed for water quality improvement on the lakes. State funding and/or legislative appropriations will be needed for these size projects.

We appreciate the opportunity to comment on the draft Orange Creek BMAP, attached please find additional specific comments on the draft document. Please do not hesitate to contact Gus Olmos (352/264-6806) or Robin Hallbourg (352/264-6825) if you have any questions or need clarification.

Sincerely,



Chris Bird
Department Director

Alachua County EPD – Robin Hallbourg

Draft Orange Creek Basin BMAP (March 2014) - Specific Detailed Comments 3/19/2014:

1. Page ix, paragraph 2 - ACEPD disagrees with the use of the term “substantial” as it relates to progress was made in controlling fecal coliform bacteria since the adoption of the BMAP in the 2008. Progress has been made and programs for pet waste outreach and illicit discharge detection are in place. Variations in sampling frequency, sample location, antecedent rainfall, analytical methodologies, and etc. show decreased levels of fecal coliform bacteria; however, those data do not necessarily represent overall water quality improvement and make this generalization incorrect. A more correct statement would be: “Substantial progress was made in identifying sources of fecal coliform bacteria and remediating contributing illicit discharges.”
2. Page xiv, 1. And page 15 1. - Add the Gainesville Clean Water Partnership (Alachua County, City of Gainesville, and FDOT) to the list of agencies working on the fecal coliform source identification and monitoring.
3. Page 2, section 1.2 - Lake Forest Creek should be added to the list of Newnans Lake tributaries.
4. Page 4, Figure 2 - A map(s) with labeled streams and lakes in the basin is needed. The map should show all listed impaired waters (see comment 5. below).
5. Page 7, section 2.2 - No TMDL development is proposed for Bivens Arm Lake or other waterbodies newly listed. If TMDLs are not proposed for development, an explanation or other options that could be undertaken to move forward with water quality improvement(s) for these listed waterbodies should be included. This comment applies to the other 26 newly listed waters in the basin. The BMAP should include a listing of all 27 additional impaired waters, not just a website link. This table could be provided as an appendix.
6. Page 9, bullet 4 – Even with advanced wastewater treatment, rapid infiltration basins and land spreading may not be the best technologies for water quality improvement. Techniques such as wetland treatment should be mentioned in the text.
7. Page 14, section 3.1.3 – the Phase II MS4 doesn’t cover the entire county, Alachua County and the City of Gainesville permits do not cover Lake Wauberg, Lochloosa Lake, or Orange Lake.
8. Page 18, Table 2. – Project ALACHUA05 is complete and should be moved to Table 6 or deleted, as it was in the original 2008 BMAP.
9. Page 33, paragraph one – ACEPD used other techniques in addition to MST and optical brighteners to evaluate sources of fecal coliform. These include analysis of other microbial indicators (*Escherichia coli* (*E. coli*), *Clostridium perfringens*, *Enterococcus* spp.), analysis of wastewater indicators (ammonia, fluoride, surfactants, and specific

conductance), and wildlife studies to better define fecal coliform bacterial contamination in the urban creek.

10. Page 55, Table 19 – Project OCB02 Little Orange Creek is not in the Orange Lake watershed and should be removed from the table. This project is in the Little Orange Creek (and Little Orange Lake) watershed. Little Orange Creek enters Orange Creek in Putnam County well downstream of Orange Lake.
11. Page 64 - Delete station LFC329B from the list of sampling stations; it is no longer sampled by Alachua County (ACEPD).
12. Page 71, paragraph 2 – only Alachua County and the City of Gainesville (in the Gainesville Clean Water partnership) fund the hydrologic data collection (Florida Department of Transportation does not fund this effort).

City of Gainesville

City of Gainesville-Clean Water Partnership – Sally Adkins

Edits to SUMMARY of OCB BMAP from Gainesville Clean Water Partnership:

Page ix of xvii, Paragraph 2, sentence 2 – please include FDOT District 2 in the list of entities that assisted with fecal coliform reductions – they help fund in IDDE program run by ACEPD that tracks, follows up and eliminates these pollutant sources.

Page xiv of xvii – item # 1 – the FDOT also contributes funding to hot spot detection and follow up. Although they did not directly participate, they fund EPD in their efforts concerning these hot spots.

Edits to CHAPTER 2 of OCB BMAP from Gainesville Clean Water Partnership:

Page 9 of 99 – You may add the following paragraph or edit to include the mention of this project as you see fit Mary :

“In addition to the Innovation Square District redevelopment projects, the City is collaborating with local agencies to create a Tumblin Creek Regional Stormwater Treatment (RST) Facility. In 1964, a 1,000-foot creek section was channelized and the adjacent wetland cleared and filled with the spoil from the creek excavation. Construction of this spoil pile removed natural sheet flow of Tumblin Creek to a large portion of the forested wetlands. In effect, the quantity of stormwater treatment provided by this area has been greatly reduced. The project proposes to construct a large concrete sediment trap located a few hundred feet downstream of the US 441 underpass of Tumblin Creek. The structure will have the capacity to hold several hundred tons of sediment which will be removed periodically. Immediately downstream of the sediment basin will be a trash trap that will stop and gather floating debris to allow for easy removal during maintenance operations. Another key element of the project is a series of Ditch Bottom Inlets and pipes that will allow for the base flow of Tumblin Creek to travel through the aforementioned spoil berm and rehydrate historic wetlands that surround the creek’s discharge into Bivens Arm Lake.”

Edits to CHAPTER 3 of OCB BMAP from Gainesville Clean Water Partnership:

Page 15 of 99 – item # 1 – again the FDOT also contributes funding to hot spot detection and follow up. Although they did not directly participate, they fund EPD in their efforts concerning these hot spots.

Page 20 of 99 – Table 2 – again, if appropriate Mary, please add the following 2 entries (in addition to the \$ spent on Alachua County’s program, we also spend more on other Public Outreach programs):

Project Number - Project Name / Which Type of TMDL is Addressed? -

ALACHUA?? – Waterway clean-up and shore restoration programs

Waterbody Name / WBID

Orange Creek Basin / HUC 03080102

Lead Entity / Project Partners

City of Gainesville / Alachua County, City of Gainesville, FDOT District 2 (Gainesville Clean Water Partnership), Current Problems, Inc.

Cost / Source of Funding / Completion or Expected Completion Date

\$20,000 annually/ Alachua County, City of Gainesville, FDOT District 2 (Gainesville Clean Water Partnership) cost share/ Ongoing through 2017

General Location / Project Description and Benefits

Gainesville urban area and Alachua County/ Public participation program to promote reduction of trash and pollutant loads in local waterways through waterway cleanup events and shore restoration projects/ **Benefits:** Reduce pollutant concentrations in stormwater runoff; demonstrate importance of preventing non-point source pollution.

Project Number - Project Name / Which Type of TMDL is Addressed? -

ALACHUA?? – Florida Friendly Landscaping Education Programs

Waterbody Name / WBID

Orange Creek Basin / HUC 03080102

Lead Entity / Project Partners

City of Gainesville / Alachua County, City of Gainesville, FDOT District 2 (Gainesville Clean Water Partnership), UF IFAS, Alachua County Extension

Cost / Source of Funding / Completion or Expected Completion Date

\$10,000 annually/ Alachua County, City of Gainesville, FDOT District 2 (Gainesville Clean Water Partnership) cost share/ Ongoing through 2017

General Location / Project Description and Benefits

Gainesville urban area and Alachua County/ Public education program to promote stormwater nutrient (nitrogen and phosphorus) reduction from residential and commercial landscaping to protect groundwater and surface water resources/ **Benefits:** Reduce pollutant concentrations in stormwater runoff; demonstrate importance of preventing non-point source pollution.

Edits to Appendix E of OCB BMAP from Gainesville Clean Water Partnership:

Please edit the following projects as noted below:

ALACHUA02 – Water Quality Protection Public Education and Outreach

LEAD ENTITY/PROJECT PARTNERS –

Please remove SJRWMD as a partner.

COST/SOURCE OF FUNDING/COMPLETION OR EXPECTED COMPLETION DATE –

\$112,000 annually/Alachua County, City of Gainesville, FDOT District 2 (Gainesville Clean Water Partnership) cost-share/ Ongoing

The remainder of the entry is correct.

ALCODE01 – Alachua County Water Quality Code Implementation

COST/SOURCE OF FUNDING/COMPLETION OR EXPECTED COMPLETION DATE –

\$121,000 annually/Alachua County, City of Gainesville, FDOT District 2 (Gainesville Clean Water Partnership) cost-share/ Ongoing

The remainder of the entry is correct.

URBAN01 – City of Gainesville Roads Street Sweeping

TP AND/OR TN LOADING REDUCTION –

1908/2976

The remainder of the entry is correct.

URBAN08 – Alachua County Roads Street Sweeping

COST/ SOURCE OF FUNDING/ COMPLETION OR EXPECTED COMPLETION DATE –

113,876 annually/ Gas Tax/ Ongoing

The remainder of the entry is correct.

URBAN13 – Gainesville Urban Area Storm Sewer Geodatabase

LEAD ENTITY/PROJECT PARTNERS –

City of Gainesville, Alachua County

COST/SOURCE OF FUNDING/COMPLETION OR EXPECTED COMPLETION DATE –

\$69,000 annually/Alachua County, City of Gainesville cost-share/ Ongoing

The remainder of the entry is correct.

FDOT, District 2 – Alan Obaigbena

TABLE E-6: BASIC STORMWATER MANAGEMENT PROGRAM IMPLEMENTATION

PROJECT NUMBER - PROJECT NAME / WHICH TYPE OF TMDL IS ADDRESSED?	WATERBODY NAME / WBID	LEAD ENTITY / PROJECT PARTNERS	COST / SOURCE OF FUNDING / COMPLETION OR EXPECTED COMPLETION DATE	GENERAL LOCATION / PROJECT DESCRIPTION AND BENEFITS	TP AND / OR TN LOADING REDUCTION (LBS PER YEAR)
URBAN01 - Street Sweeping / Addresses Bacteria and Nutrient TMDL	Hogtown Creek; Sweetwater Branch; Tumblin Creek; Little Hatchet Creek; Lake Forest Creek / 2698; 2711; 2718A; 2695; 2709	City of Gainesville / --	\$568,000 / City of Gainesville Stormwater Management Utility Fee / Ongoing	Urban Area / Street sweeping of downtown Gainesville, major collector roads, and residential areas. Benchmark frequency for sweeping downtown area is twice per week in early morning with additional sweeping as needed during special events. Benchmark sweeping frequency for major roads is once every 4 weeks or as needed. Benchmark frequency of sweeping for residential areas is about 9 times annually. Performance measure of debris and sediment collected is 17,000 cubic yards per year. Benefits: Remove debris, sediment, and potential pollutants from streets. Prevent entry into storm sewer system.	Unknown / Unknown
URBAN04 - State Roads Street Sweeping / Addresses Bacteria and Nutrient TMDL	Hogtown Creek; Sweetwater Branch; Tumblin Creek; Little Hatchet Creek; Lake Forest Creek / 2698; 2711; 2718A; 2695; 2709	FDOT, District 2 / --	\$195,755 / FDOT, District 2 / Ongoing	Urban Area / Street sweeping of state roads within urbanized areas that have curb and gutter. Includes US441, SR26, SR20, SR24, SR128, SR 222, and SR121. Areas are swept by City of Gainesville and contract personnel for FDOT. Minimum benchmark sweeping frequency is quarterly. Performance benchmark for debris collected is 385 tons per year. Benefits: Remove debris, sediment, and potential pollutants from streets. Prevent entry into storm sewer system.	269 / 421
URBAN08 - Alachua County Roads Street Sweeping / Addresses Bacteria and Nutrient TMDL	Hogtown Creek; Sweetwater Branch; Tumblin Creek; Little Hatchet Creek; Lake Forest Creek / 2698; 2711; 2718A; 2695; 2709	Alachua County / --	Not available / -- / Ongoing	Urban Area / Sweeping of Alachua County-maintained roads within urbanized area. Benchmark frequency for sweeping of roads with curb and gutter is recurring 60-day cycle. Approximately 3,944,200 lbs/yr of material collected. Benefits: Remove debris, sediment, and potential pollutants from streets. Prevent entry into storm sewer system.	1,339 / 2,088
URBAN11 - FDOT Storm Sewer Geodatabase – Alachua County / Addresses Bacteria and Nutrient TMDL	HUC 03080102 / Orange Creek Basin /	FDOT, District 2 / Alachua County; City of Gainesville	\$109,877 / FDOT, District 2 / Ongoing	Alachua County / Maintain comprehensive geodatabase for FDOT-related storm sewer system data in Alachua County. Coordinate with City of Gainesville and Alachua County Public Works for data compatibility. Benefits: Provide location information of storm sewer infrastructure and allow for flow modeling and illicit discharge tracking.	Not applicable / Not applicable
URBAN13 - Gainesville Urban Area Storm Sewer Geodatabase / Addresses Bacteria and Nutrient TMDL	HUC 03080102 / Orange Creek Basin /	City of Gainesville / Alachua County, FDOT, District 2 (Gainesville Clean Water Partnership)	\$1,575,000 / Costs shared by City of Gainesville, Alachua County, and FDOT District 2 over 7-year period / Ongoing	Gainesville Urban Area / Maintain comprehensive geodatabase for City of Gainesville and Alachua County storm sewer system data, watershed boundaries, and hydrologic features in Gainesville Urban Area. Coordinate with FDOT for data compatibility. Benefits: Provide location information of storm sewer infrastructure and allow for flow modeling and illicit discharge tracking.	Not applicable / Not applicable

Sierra Club



Whitey Markle, Conservation Chair
The Suwannee/St. Johns Sierra Club Group

Ms. Mary Paulic
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Ms. Paulic:

This letter is intended to reinforce the criticism sent in Dr. Bob Palmer's letter on March 5. You will see it is obviously paraphrasing Dr. Palmer's letter. This should serve as input/criticism from 2 entities that Dr. Palmer is involved in (Alachua County Environmental Protection Advisory Committee and the Suwannee/St. Johns Sierra Club)

On March 13, the Suwannee St. Johns Sierra Club Executive Committee endorsed my letter to you.

Again, thank you all for keeping the process transparent.
Whitey Markle



Whitey Markle, Conservation Chair
The Suwannee/St. Johns Sierra Club Group

Ms. Mary Paulic
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Ms. Paulic:

The Suwannee/St. Johns Sierra Club Group (SSJ) has been recognized as an “interested stakeholder” in the Orange Creek basin Working Group, which is developing, in partnership with DEP, a five-year update of the 2008 Orange Creek Basin - Basin Management Action Plan (the “Plan”).

This letter forwards SSJ Sierra Club Group’s comments on DEP’s March 2014 draft Plan. SSJ Sierra Club’s Executive Committee approved these comments at its monthly meeting on March 13, 2014.

First, SSJ applauds the Department for both the transparent process by which the current draft Plan was developed and for its responsiveness to comments from EPAC and other Working Group members over the past several months. In particular, this draft contains greatly improved explanations of the regulatory environment governing nutrient-reduction strategies, of the potential impact of the proposed Plum Creek development, and of agricultural Best Management Practices (BMPs). These revised sections should make the final document far more accessible to the interested public.

However SSJ has serious misgivings about the ultimate effectiveness of the proposed Plan. Our comments focus on the Plan’s strategies for reducing nutrients in the water bodies in the eastern portion of Alachua County.

1) Our fundamental concern is that this five-year Plan update is not an action-oriented document, nor does it move us forward beyond the remedial actions proposed in the original 2008 BMAP.

This problem is highlighted in two statements found on the very first page of the document (p. viii – Summary):

*“For this second BMAP iteration, **new strategies** for continuing water quality improvements in impaired waters that help in achieving the nutrient ... TMDLs in this basin are proposed.”*

and

“Identifying sources of nutrients that cause impairment of the basin’s lakes (Newnans Lake, Orange Lake, and Lake Wauberg) ... will be the focus of this second five-year BMAP iteration.”

The second statement is clearly a more accurate description of the Plan than the first. That is, a careful reading of the Plan leaves the impression that the Department’s intent over the next five years is to study and to monitor impaired waters, not to implement **new strategies** for actually cleaning them up.

2) The Plan proposes “an additional 32 management strategies,” of which 11 deal with nutrient reduction in the lakes. But these 11 strategies are neither “new” nor “additional”. In fact, they are old and rather toothless.

- Alachua Sink (2 strategies) – The Paynes Prairie Sheetflow Restoration Project is in fact the only one of the 11 lake-cleansing strategies that is ongoing. But it is not new, having been approved several years ago. The other strategy is a 2010 conservation easement.
- Lake Wauberg (0 strategies) – No strategies are proposed but it is noted that “a potential management action for the second BMAP iteration is the reevaluation of the TMDL.” This statement is unintentionally hilarious; it essentially says that weakening the clean-up standard is a viable recovery strategy.
- Newnans Lake (6 strategies) – No strategies are new; all have been completed. Most are land purchases or conservation easements, and one is a stormwater project yielding minor nitrogen reductions.
- Orange Lake (2 strategies) – One land acquisition and one tree-planting project, both long completed.
- Lochloosa Lake (1 strategy) – Sediment trap constructed in 2010.

3) The Plan does not comply with State law.

The Plan repeatedly refers to language in Section 403.067(7)(a)(1) to justify its go-slow, adaptive-management approach to cleaning up the lakes. However, in doing so, the Department ignores other requirements of the BMAP statute:

403.067(7)(a)(1) provides that “the Plan must establish a schedule implementing the management strategies, establish a basis for evaluating the Plan’s effectiveness, and identify feasible funding strategies for implementing the Plan’s management strategies.” Clearly the first and third of these requirements are not met in the draft Plan.

403.067(7)(a)(5) provides that the “Plan must include milestones for implementation and water quality improvement”. The draft Plan has no discussion whatsoever of milestones for improving water quality. The Department would doubtless argue that current levels of scientific understanding preclude developing these milestones. Nevertheless, there are analytical opportunities which the Department has chosen to ignore that would further the development of water-quality milestones. For instance, other State agencies like DACS have in other contexts quantified the effect of agricultural BMPs in reducing pollution.

4) Other Comments

- This statement is found on page xiv: “Management strategies cover a wide variety of pollutant control measures through ... the repair and/or upgrade of on-site sewage treatment and disposal systems”. In fact, none of the strategies proposed in the Plan deal with septic.
- The Plan correctly notes that the Paynes Prairie Sheetflow Restoration Project will achieve the “wasteload allocation portion of the TMDL” but fails to discuss whether the project will in fact bring Alachua Sink into compliance with the TMDL.
- Newnans Lake is primarily impaired because of internal recycling of nutrients. However, there are no strategies, or even a discussion, of how to deal with this primary source of nutrients.
- The Plan claims that, for Orange Lake, “... the management strategies are expected to decrease TN and TP loadings”. In fact, as discussed above, the Plan contains no meaningful management strategies for Orange Lake.

Dave Wilson

Comments on the Orange Creek Basin Mapping Action Plan

By Dave Wilson

The final draft of the Orange Creek Basin Mapping Action Plan (BMAP) is a well-organized document, which contains excellent data, graphs, and maps documenting the nutrient problems in the watershed. Even a cursory glance at the information provided in the opening summary reveals the serious nature of nutrient degradation that has taken place during the past 20 years.

While the report is a good first start, I would like to recommend several changes to the structure and content of the document that would make it even stronger. Since I taught mathematics at the University of Florida for 35 years, I am accustomed to see problem solving through that lens. In particular, one of the books in problem solving is "How to Solve it" by George Polya. This classic, written in 1945, lists 4 key steps to problem solving:

1. Understand the problem,
2. Devise a plan,
3. Implement the plan, and
4. Look back.

While graphs are used to demonstrate the dramatic (even shocking) state of nutrient pollution in our streams and lakes, no effort is made to connect the levels of chlorophyll a, total phosphorous concentration (TP), total nitrate concentration (TN), or trophic state index (TSI) to algae blooms, fish kills, manatee deaths, or impacts to human health from drinking contaminated water (e.g. blue baby syndrome). In contrast, the Saffir-Simpson scale is used to rate hurricanes on a scale from category 1 (= 74-95mph) to category 5 (> 157mph) has a description of what each number represents in terms of damage. For example, a category 1 storm will be expected to cause some damage, while a category 5 can be expected to cause catastrophic damage with total roof failure and wall collapse occurring to a high percentage of well-constructed homes. A short discussion of (or reference to) the history and thought behind the TMDL targets would help us understand the relation between the numbers and the expected damage would be useful. With the TN for Newnans Lake above 4.0 mg/L and a TMDL target less than 1.0 mg/L, where are we in terms of quantifiable impacts to the environment?

While the words “Action Plan” are in the title of this BMAP document, the plan devised in Chapter 10 (pages 59-73) is vague in its objectives and response criteria. The primary objectives are listed on page 59 as: 1. Identify and track trends in BMP water bodies and 2. Measure the effectiveness of specific BMPs in reducing external loadings of target pollutants. The secondary objectives are listed as 1. Measure reductions in watershed loadings and 2. Refine understanding of the type and relative magnitude of pollution loading sources. These strategies are not a plan to devise corrective actions, but rather attempts to better understand the problem. While it is now standard practice in grants and contracts (whether funded through the US government or private) to have timelines, milestones, and tracking tables to monitor and evaluate the progress of a project, no such tools appear in this document. In their place are mentions (page 72) of future meetings to discuss implementation issues and adaptive management measures that include

1. Procedures to determine whether additional restoration actions are needed,
2. Determining whether and when plan components need to be revised, and
3. Description of the BWG’s role after BMAP completion.

This report makes no mention of even an attempt at setting numeric criteria for when the water quality issue becomes critical to certain threshold, then current activities (e.g. fertigation) will be curtailed or future projects (e.g. Innovation Hub or Plum Creek’s Envision Alachua) will be denied. Instead, the plan is focused on studying the problem, coordinating BWM member agencies, informing the Department and BWG of obstacles, and planning future meetings (at both the BMAP and Governors levels). Action is not spelled out, but is left to the BWG and future meetings. In short, while a plan has been implemented, it is not an action plan that leaves me with any confidence that the quality of our water will not be degraded further.

In conclusion, I hope that when we look back 5 years from now the degradation of the water in the Orange Creek Basin will have not only stopped, but that it will have improved significantly.

Buford Pruitt

March 6, 2014
PO Box 274
McIntosh, FL 32664

Ms. Mary Paulic, Basin Coordinator
Florida Department of Environmental Protection
Watershed Restoration Program, Watershed Planning and Coordination Section
2600 Blair Stone Road, Mail Station 3565
Tallahassee, FL 32399-2400

Re: Orange Creek Basin Management Action Plan, 2014-02-28 Draft

Dear Ms. Paulic:

This letter contains my comments on the Orange Creek Basin Management Action Plan, 2014-02-28 Draft (BMAP). The first section of this letter lists specific recommendations and the second section contains general comments about the BMAP process as a whole.

1. Tables E-1 through E-8 in Appendix E list the costs of some of the actions that were done in the past for the benefit of BMAP goals. Tables within the body of the BMAP document list additional previous actions plus some anticipated upcoming actions, including the costs for a few of them. All of the actions listed within BMAP Tables 2, 6, 7, 9, 10, and 11 appear to be wholly attributable to BMAP goals. However, many of the listed actions in Appendix E appear to be only of varying relevance to BMAP goals, and therefore I respectfully submit that their non-BMAP pro-rata costs be excluded from any tally of BMAP expenditures.

The actions listed in Appendix E, Tables E-1 through E-8 include (a) those that were done specifically because of the BMAP process for the purpose of achieving BMAP goals, (b) historical actions that were merely augmented or done in part as a result of the BMAP process, and (c) historical actions that will continue to be done regardless of the BMAP process. Appendix E even includes (d) actions that do not enhance water quality or even degrade it. Lumping all of these categories together can mislead reviewers into believing that the entirety of each of these actions including their funding were solely due to the BMAP process. In fact, nothing could be further from the truth. Therefore, I respectfully request that DEP categorize Appendix E projects as outlined above and include dollar subtotals. Where actions have multiple reasons for being, funding assignment can be approximately pro-rated.

2. When separating BMAP funding from non-BMAP funding (see above comment), I respectfully request DEP to break it down by year so that taxpayers can see the trends in BMAP-focused public funding. This summary could become Table E-9 in Appendix E.

3. "Water quality improvements for Newnans Lake, Orange Lake, and Lake Wauberg have been more mixed and are inadequate to meet the TMDLs for these waterbodies, indicating that more effort is needed" (page xi of the BMAP). This statement begs the questions, "How much has been spent specifically on actions taken to date and how much more effort is needed?" These questions would be more confidently addressed if we knew how many dollars were spent between milestones.

4. If I remember correctly, you mentioned in one of the BWG meetings that Appendix E contained actions from the previous iteration and that current-BMAP actions are located within the body of text. I respectfully request that this fact be briefly explained at the beginning of Appendix E.

5. A commenter at the January 30, 2014 Orange Creek BMAP public hearing requested that the BMAP document contain milestones for achieving BMAP goals because they are mandated in the BMAP-enabling law. I respectfully add my support to that request. Complying will enable taxpayers to determine how effective BMAP actions are in achieving BMAP goals.

6. The Florida Department of Agriculture and Consumer Affairs reported in the BMAP that it has enrolled only 7.7% of eligible BMP acreage within the basin. This begs the questions of how long has the agency been working to attain that very low percentage and when does the agency anticipate an effective enrollment total? I respectfully request that this information be added to the BMAP document. If an effective enrollment total cannot be attained within a reasonable period of time, say one or two iterations out, then FDACS should consider additional, even temporary, staffing.

7. The actions of the Florida Fish and Wildlife Conservation Commission (FWC) referenced within the BMAP are more properly associated with fisheries and wildlife habitat improvement and aquatic plant control. Neither of these types of actions is expected to have a measurable effect on nutrient reduction within basin lakes. I therefore respectfully request that FWC and DEP remove them from the BMAP document unless either agency can provide additional text explaining exactly how they apply to BMAP nutrient management.

8. Please include all written comments from the public about the BMAP in an appendix within the BMAP document.

General Comments:

It is dismaying that nutrient levels in the basin's four largest lakes have increased since implementation of the BMAP process. The Orange Creek BMAP process therefore has been demonstrably inadequate to date. It is even more dismaying to see that planned actions for the upcoming five-year BMAP iteration consist only of monitoring, education, and research. I agree that the proposed actions are warranted, but I am astonished to see no commitments to actions that directly lower nutrient loading in basin waters. As examples, the BMAP contains nothing about remediating recent accumulations of flocculent material and organic sediments in Newnans Lake, there is no commitment from the airport authorities to mitigate phosphorus loading from ditches passing through the Hawthorne Group, and the sole remedial action mentioned (and already completed) for Lochloosa is the recent construction of a single sediment trap in a roadside swale. Big Deal! Continuing, the BMAP states that septic systems are the "primary controllable factor for nutrient load reduction in the Lake Wauberg watershed," yet there is no discussion of upgrading or replacing them with better sewage treatment systems. Certainly, this poor level of commitment to the BMAP process will do nothing over the next five-year iteration to address the BMAP's reason for being.

Probably the greatest number of commitments and total dollars planned for the next five years are the Alachua County Environmental Protection Department's (EPD) continuing actions to monitor water quality and educate the public in ways to reduce water waste and nutrient loading. Overall, I get the impression that Alachua County EPD is committed to improving nutrient load problems within the basin, and that is rightly so as county government is in the best position to address urban water quality issues.

Credit is also due to Gainesville Regional Utilities (GRU), which has in the recent past completed numerous expensive (totaling >\$200 million) BMAP actions. The BMAP document implies that these works were done in response to the BMAP process, and I don't doubt that, but the lesson I hope GRU learned is that regular monitoring is required if utility managers are to quickly catch and repair broken or leaking water and sanitary sewer lines.

And kudos to the Florida Forest Service! It has a 99.7% BMP enrollment rate, and silvicultural lands under BMP enrollment have inconsequential impacts to surface waters. To quote a cliché, "Their work here is done." And note that foresters have been doing this good work all along, irrespective of the BMAP process.

Thank you very much for the opportunity to attend the Basin Working Group (BWG) meetings and participate in the BMAP process. I live beside Orange Lake, am a life-long resident of north Florida, and am extremely interested in restoring the basin's historically high water quality. Please keep me on the Orange Creek BWG mailing list so that I can

Ms. Mary Paulic
March 6, 2014
Page 3

Sincerely,

A handwritten signature in black ink, appearing to read "Buford C. Pruitt, Jr.", with a stylized, cursive script.

Buford C. Pruitt, Jr., CEP Emeritus
PO Box 274, McIntosh, FL 32664, 352-591-4998, November through April
PO Box 1353, Pisgah Forest, NC 28768, 828-862-6431, May through October

EPAC, Bob Palmer

ALACHUA COUNTY
Environmental Protection Advisory Committee

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Chair
Bob Palmer

Vice Chair
David Moritz

March 5, 2014

Ms. Mary Paulic
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Ms. Paulic:

The Alachua County Environmental Protection Advisory Committee (EPAC) is an 11-member citizens' panel appointed by the Alachua County Commission and charged with providing the Commission advice on environmental and natural resources issues. EPAC has been recognized by FL-DEP for at least five years as an "interested stakeholder" in the Orange Creek Basin Working Group, which is developing, in partnership with DEP, a five-year update of the 2008 Orange Creek Basin - Basin Management Action Plan (the "Plan").

This letter forwards EPAC's comments on DEP's March 2014 draft Plan. EPAC's membership unanimously approved these comments at its monthly meeting on March 4, 2014.

First, EPAC applauds the Department for both the transparent process by which the current draft Plan was developed and for its responsiveness to comments from EPAC and other Working Group members over the past several months. In particular, this draft contains greatly improved explanations of the regulatory environment governing nutrient-reduction strategies, of the potential impact of the proposed Plum Creek development, and of agricultural Best Management Practices (BMPs). These revised sections should make the final document far more accessible to the interested public.

Having said that, however, EPAC has serious misgivings about the ultimate effectiveness of the proposed Plan¹. Our comments focus on the Plan's strategies for reducing nutrients in the water bodies in the eastern portion of Alachua County².

EPAC Letter to Ms. Mary Paulic
March 4, 2014
Page Two

1) Our fundamental concern is that this five-year Plan update is not an action-oriented document, nor does it move us forward beyond the remedial actions proposed in the original 2008 BMAP.

This problem is highlighted in two statements found on the very first page of the document (p. viii – Summary):

*“For this second BMAP iteration, **new strategies** for continuing water quality improvements in impaired waters that help in achieving the nutrient ... TMDLs in this basin are proposed.”*

and

“Identifying sources of nutrients that cause impairment of the basin's lakes (Newnans Lake, Orange Lake, and Lake Wauberg) ... will be the focus of this second five-year BMAP iteration.”

The second statement is clearly a more accurate description of the Plan than the first. That is, a careful reading of the Plan leaves the impression that the Department's intent over the next five years is to study and to monitor impaired waters, not to implement **new strategies** for actually cleaning them up.

2) The Plan proposes “an additional 32 management strategies,” of which 11 deal with nutrient reduction in the lakes. But these 11 strategies are neither “new” nor “additional”. In fact, they are old and rather toothless.

- Alachua Sink (2 strategies) – The Paynes Prairie Sheetflow Restoration Project is in fact the only one of the 11 lake-cleansing strategies that is ongoing. But it is not new, having been approved several years ago. The other strategy is a 2010 conservation easement.
- Lake Wauberg (0 strategies) – No strategies are proposed but it is noted that “a potential management action for the second BMAP iteration is the reevaluation of the TMDL.” This statement is unintentionally hilarious; it essentially says that weakening the clean-up standard is a viable recovery strategy.

¹ EPAC's views do not necessarily represent the views of the Alachua County Commission or any Alachua County agency. Two County Departments (Public Works, Environmental Protection), as members of the Working Group, have the option of providing comments on the Plan.

² Alachua Sink, Lake Wauberg, Newnans Lake, Orange Lake, and Lochloosa Lake.

- Newnans Lake (6 strategies) – No strategies are new; all have been completed. Most are land purchases or conservation easements, and one is a stormwater project yielding minor nitrogen reductions.
- Orange Lake (2 strategies) – One land acquisition and one tree-planting project, both long completed.
- Lochloosa Lake (1 strategy) – Sediment trap constructed in 2010.

EPAC Letter to Ms. Mary Paulic
 March 4, 2014
 Page Three

3) The Plan does not comply with State law.

The Plan repeatedly refers to language³ in Section 403.067(7)(a)(1) to justify its go-slow, adaptive-management approach to cleaning up the lakes. However, in doing so, the Department ignores other requirements of the BMAP statute:

403.067(7)(a)(1) provides that “the Plan must establish a schedule implementing the management strategies, establish a basis for evaluating the Plan’s effectiveness, and identify feasible funding strategies for implementing the Plan’s management strategies.” Clearly the first and third of these requirements are not met in the draft Plan.

403.067(7)(a)(5) provides that the “Plan must include milestones for implementation and water quality improvement”. The draft Plan has no discussion whatsoever of milestones for improving water quality. The Department would doubtless argue that current levels of scientific understanding preclude developing these milestones. Nevertheless, there are analytical opportunities which the Department has chosen to ignore that would further the development of water-quality milestones. For instance, other State agencies like DACS have in other contexts quantified the effect of agricultural BMPs in reducing pollution.

4) Other Comments

- This statement is found on page xiv: “Management strategies cover a wide variety of pollutant control measures through ... the repair and/or upgrade of on-site sewage treatment and disposal systems”. In fact, none of the strategies proposed in the Plan deal with septs.
- The Plan correctly notes that the Paynes Prairie Sheetflow Restoration Project will achieve the “wasteload allocation portion of the TMDL” but fails to discuss whether the project will in fact bring Alachua Sink into compliance with the TMDL.

³ The Plan “ may provide for **phased implementation** of these management strategies ... “

- Newnans Lake is primarily impaired because of internal recycling of nutrients. However, there are no strategies, or even a discussion, of how to deal with this primary source of nutrients.
- The Plan claims that, for Orange Lake, "... the management strategies are expected to decrease TN and TP loadings". In fact, as discussed above, the Plan contains no meaningful management strategies for Orange Lake.
- A far greater effort should be made to estimate nutrient load reductions. Of the 36 strategies dealing with lakes (11 from this Plan and 25 from the original BMAP), only three show estimates of nutrient load reductions⁴.

EPAC Letter to Ms. Mary Paulic
March 4, 2014
Page Four

- EPA requires nine elements critical for achieving improvements in water quality that should be addressed for watershed plans funded using incremental Section 319 funds.⁵ Elements #2, #4, # 6, #7 are clearly not met in this Plan.

In summary, we believe that the Plan as written is far too timid and will not return the lakes of Alachua County to ecological health in the foreseeable future. We do recognize the possibility that over the next five-year period, agencies represented on the Basin Working Group will develop and fund substantial projects that will bring real benefits to these water bodies. But those commitments are uncertain and in the interim, we would recommend that FDEP produce a more effective Plan, one that clearly spells out the links between the natural system, potential corrective actions, and expected dividends. While we recognize that the scientific uncertainties surrounding this ecosystem are large, those uncertainties do not excuse an approach that in its present form guarantees the status quo for future generations.

Appendix C of the Plan spells out the Working Group's procedures⁶, and we would respectively ask that you make our concerns known to the "Department's decision-makers".

Thank you for including EPAC in the Basin Working Group and for your consideration of our concerns.

⁴ These include the Newnans Lake stormwater project referenced earlier; the other two are ongoing street-sweeping operations undertaken by Alachua County and FL-DOT.

⁵ These nine elements are listed on page 37 of Santa Fe River Basin BMAP - <http://www.dep.state.fl.us/water/watersheds/docs/bmap/sfr-nutrient-bmap-final.pdf>

⁶ "The BWG agreed to make every effort to develop proposals that all members could support. If a unanimous or consensus alternative cannot be identified, a non-consensus recommendation will include a description of the parties that objected and the nature of their objection(s). These objections will be included in presentations to the Department's decision-makers so that an informed decision can be made on whether and how to move forward with the BMAP process."

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Palmer", with a long horizontal flourish extending to the right.

Bob Palmer, Chairman
Alachua County EPAC

ALACHUA COUNTY

Environmental Protection Advisory Committee