Date: August 10, 2021

To: Nancy Demonstranti, South Florida Water Management District
Water Supply Bureau

From: Jennifer Thera, Florida Department of Agriculture and Consumer Services
Office of Agricultural Water Policy

RE: Early Draft Chapters 2021 Upper East Coast Water Supply Plan Update

The Florida Department of Agriculture and Consumer Services (FDACS) appreciates the opportunity to comment on the South Florida Water Management District's (SFWMD) Draft 2021 Upper East Coast (UEC) Water Supply Plan (WSP) Update.

Comments:

Chapter 1: Introduction

- Page 7 – Indian River Lagoon – South Project

  We recommend adding additional language regarding that the project will also provide an additional source of agricultural water supply of higher quality reducing dependency on the aquifer during most years and not just maintain the existing level. If this will be addressed in Chapter 7, please disregard comment.

Chapter 2: Demand Estimates and Projections

- Pages 6-8 Agricultural Self Supply

  Page 6, Paragraph 1: "Total irrigated acres in the UEC Planning Area are projected to decrease 26% by 2045. All crops are projected to decrease in acreage over the planning horizon. The largest change in irrigated acreage and demand is expected to occur in the citrus industry. By 2045, citrus is expected to decrease by 12,369 acres, and average demands are projected to decrease by 14.50 mgd."

  Although the decrease in irrigated acreage is consistent with FSAID planning projections, it provides only one data point and is not reflective of the likely conversion of citrus and other commodities to vegetable/agronomic crops, which require more intensive irrigation demands.

Chapter 3: Demand Management: Water Conservation

- Page 2, Agriculture paragraph: "reduce water needs"

  We recommend changing to "reduce water used to meet future needs".

Agricultural Best Management Practices Program

- Page 6, Paragraph 1: "Enrollment in the FDACS BMP program is voluntary."

  The UEC area is located within the Lake Okeechobee or St. Lucie River BMAP boundaries and therefore enrollment in the FDACS BMP program is not voluntary.

  Section 403.067, F.S.: Agricultural landowners located within BMAPs are required to either enroll in the FDACS BMP program and properly implement BMPs applicable to their property and operation or conduct a water quality monitoring program.

- Page 6, Paragraph 1: "Within the UEC Planning Area, there currently are 142,501 acres in Martin County, 163,374 acres in St. Lucie County, and 41,756 acres in the northeastern portion of Okeechobee County enrolled in the FDACS BMP program."

  Please include "as of April 20, 2021".

- Page 8, Paragraph 1:

  We recommend updating from CFWI 2015 to CFWI 2020.

App A: Water Demand Projections

No comments.

East Coast Floridan Model Technical Workshop

Based on the 2021 UEC Technical Methods Workshop presented by SFWMD on July 16, 2021, please see the following comments. While it is understood that model findings are regional in nature, the conclusions presented show broad changes that need addressing in coming plan chapters.

- Water quality degradation

  Initial model results predict increases in total dissolved solids within the Floridan aquifer system due to increases in wellfield withdrawals. Agricultural users will be unable to meet existing and future reasonable-beneficial demands if water quality is allowed to be degraded beyond what is suitable for its current use. Do the model results predict interference with any presently existing legal use of water, harm to the water resources, or rendering of the resource to be no longer usable by permittees?

- Loss of artesian conditions

  Initial model results of changes in the potentiometric surface of the Upper Floridan aquifer show significant head losses and areas with total loss of artesian conditions in portions of the plan area by 2045. How is the District ensuring that existing and future reasonable-beneficial demands can be met by those that rely on artesian conditions for water supply?

  Loss of flowing artesian conditions can be addressed through installation of pumps. However, consumptive use permitting criteria state that, "No pump shall be placed on a flowing Floridan well in Martin or St. Lucie County," except under specific conditions. Will existing legal users of currently flowing artesian wells be allowed to install pumps to continue access to their permitted allocations? Based on the modelled loss of artesian conditions is the District considering options to offset the financial impact to current flowing artesian well users who have to retrofit their wells with pumps?

- Wellfield management

  A District conclusion of the model results states, "[The] FAS appears capable of meeting projected demands of all users through 2045 with appropriate wellfield management." In light of the model findings above, what kinds of wellfield management practices does the District envision to prevent potential harm to existing legal users that will be impacted by loss off artesian conditions, degradation of water quality or both? Can simulations be conducted to show potential impacts under different well field operation scenarios?

Thank you for the opportunity to provide comments on the 2021 UEC WSP Update. Please contact me if you would like any follow-up concerning the comments provided.

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09/30/21

Thanks for the opportunity to comment on the Draft 2021 Upper East Coast (UEC) Water Supply Plan (WSP) Update. Our review focused on aspects of the UEC WSP which have the potential to impact agricultural lands and operations. The comments provided are specific to the topics below and do not constitute a review of the entire EUC WSP and its supporting appendices.

Comments:

Executive Summary

Demand Estimates and Projections

- **Page ES-2, Paragraph 3**

  At the end of the paragraph, providing the volumes for the 2019 1-in-10 demands and the projected 2045 1-in-10 demands would complete the information for the planning condition of meeting water supply demands in a 1-in-10-year drought.

- **Page ES-2, Table ES-1**

  Including a 1-in-10 demands column would account for the planning condition of meeting water supply demands in a 1-in-10-year drought.

Water Source Options

- **Page ES-4, Paragraph 2**

  The Executive Summary states, “Groundwater sources can meet 2045 PS demands; however, increases in fresh groundwater allocations must meet the SFWMD’s water use permitting resource protection criteria.” During the September 3rd, 2021 Upper East Coast Water Supply Plan Update - Stakeholder Workshop, SFWMD identified specific management actions that will need to be taken by current permittees to ensure that their proposed use

continues to meet the conditions for issuance so as not to cause interference with exiting legal users. Particularly, the Plan shows that existing agricultural projects are in danger of losing access to water supply through reductions in the potentiometric surface of the Floridan aquifer system as well as decreases in water quality such that the water may no longer be useable for the intended purpose of agricultural irrigation. Additional information on the actions needed for the PS demands to meet their water use permitting requirements regarding existing legal uses would clarify how resource protection criteria will be met.

- **Page ES-4, Paragraph 3**

The Executive Summary further states, "A decrease in AG demands is expected over the planning horizon; therefore, existing surface water sources can continue to meet 2045 AG demands." Adding "***at the current level of surface water use with the Restricted Allocation Areas in place***" would clarify the availability of surface water. The UEC Planning Area contains multiple Restricted Allocation Areas as identified in Section 3.2.1 of the Applicant's Handbook, including the C-23, C-24- and C-25 Canal System. Users of these systems are prevented from new allocations or increases in pump capacity. Fresh surface water may become even more important over the plan horizon as reductions in the potentiometric surface of the Floridan aquifer system and decreases in water quality have been identified. In addition, this statement does not take into account the potential for conversion of citrus crops to vegetable/agronomic crops that may be less salt tolerant. This could additionally be expanded in the Surface Water section on ES-5.

- **Page ES-4, Table ES-2**

Consider adding brackish groundwater as a source for agricultural water use. The table suggests that agriculture does not use brackish groundwater as a source. However, there are agricultural users in UEC Planning Area who rely exclusively on the FAS as their water source. This is also stated on page ES-5, "Brackish groundwater from the FAS is used by seven PS utilities, five golf courses, several AG users, and one PG facility" and in Chapter 5, Figure 5-2: 9% of agricultural supply is from brackish groundwater.

- **Page ES-5 Brackish Groundwater**

Initial model results of changes in the potentiometric surface of the Upper Floridan aquifer show significant head losses and areas with total loss of artesian conditions in portions of the plan area by 2045. "The model results indicate no large-scale changes in water levels or water quality in the FAS are expected for most of the model domain through 2045. There are

some isolated areas with potential issues that may require further evaluation, such as the northeastern portion of the planning area," stated in this section underrepresents the potential to negatively impact existing and future reasonable-beneficial uses as well as the potential for harm to the water resource.

Loss of flowing artesian conditions is a large concern for beneficial demands currently permitted for allocations based on artesian wells. Loss of flow can be addressed by retrofitting artesian wells with pumps. However, current consumptive use permitting criteria state that, "No pump shall be placed on a flowing Floridan well in Martin or St. Lucie County," except under specific conditions. Including some guidance addressing existing legal users of currently flowing artesian wells would be a useful for avoiding significant losses in potentiometric head, considering changes in the permit requirements, and consideration of economic impacts to exiting legal users.

- **Page ES-6-7 Future Directions**

  Bullet 6: Including a future direction regarding the management of existing wellfields if needed would be a useful addition to this section.

Chapter 2: Demand Estimates and Projections

- **Pages 16-18 Agriculture**

  Page 18, Paragraph 1: "Total irrigated acres in the UEC Planning Area are projected to decrease 26% by 2045. All crops are projected to decrease in acreage over the planning horizon. The largest change in irrigated acreage and demand is expected to occur in the citrus industry. By 2045, citrus is expected to decrease by 12,369 acres, and average demands are projected to decrease by 14.50 mgd."

  Although the decrease in irrigated acreage is consistent with FSAID planning projections, it provides only one data point and is not reflective of the potential conversion of citrus and other commodities to vegetable/agronomic crops, which may offset some of the demand reduction.

Chapter 3: Demand Management: Water Conservation

- **Page 26**, Agriculture paragraph, last sentence
  Consider suggested change below:

  "Hardware and technology that can improve system management, reduce water ***needed to meet crop needs***, and minimize water losses include the following: …"

- **Page 30, Paragraph 1: Agricultural Best Management Practices Program**

  The statement "Enrollment in the FDACS BMP program is voluntary" is incorrect. The UEC Planning Area is located within the Lake Okeechobee or St. Lucie River BMAP boundaries and enrollment in the FDACS BMP program is not voluntary.

  Section 403.067, F.S contains the requirement that agricultural landowners located within BMAPs either enroll in the FDACS BMP program and properly implement BMPs applicable to their property and operation or conduct water quality monitoring.

  Consider suggested text: "***The UEC planning area is located within the Lake Okeechobee and St. Lucie Basin Management Action Plan (BMAP) boundaries. Agricultural landowners located within BMAPs are required to either enroll in the FDACS BMP program and properly implement BMPs applicable to their property and operation or conduct a water quality monitoring program.***"

- **Page 30, Paragraph 1: Agricultural Best Management Practices Program**

  "Within the UEC Planning Area, there currently are 142,501 acres in Martin County, 163,374 acres in St. Lucie County, and 41,756 acres in the northeastern portion of Okeechobee County enrolled in the FDACS BMP program." Please include "***as of April 20, 2021***".

- **Page 32, Paragraph 1:** Updating from CFWI 2015 to CFWI 2020 would provide more current results if appropriate with the timeframe of other data.

- **Page 32-33, Agriculture paragraph**

  The first two paragraphs on page 33 describing how the UEC Planning Area's projected future conversion of agricultural lands could complicate achieving conservation projections in keeping with the methodology used at the state-wide level are appreciated. There are many uncertainties on whether planning level projections can be realized at a local or farm scale level. Below is text from the 2018 Lower East Coast Water Supply Plan Update that you may want to consider for inclusion in this section.

  Agricultural water use is based on several site-specific parameters, including crop type, acreage, soil type, evapotranspiration, and rainfall. Some parameters cannot be modified easily or at all. Conservation savings can be achieved through controllable parameters (e.g., irrigation method, planting method, irrigation management strategy) to increase irrigation

efficiency. Because of costs associated with moving water (which affects the profitability of the overall crop), most farmers are as efficient as practical using existing irrigation systems and growing methods. The selection of new systems and management methods depends on crop type, water source, food safety requirements, and water availability. Generally, these changes are expensive and require logistical and economic planning. Financial incentives may be necessary to help farmers transition to more efficient irrigation systems or growing methods. The volume of water that could be conserved for any individual project varies depending on the number and magnitude of the parameters targeted for change. Lastly, the accuracy of the projected conservation savings for a specific water supply region, using this statewide average approach, depends on the region's similarities to the statewide Farm and Ranch Irrigation Survey data (e.g., crop mix, existing irrigation systems, soil types, economic feasibility, financial incentives).

Chapter 6: Water Resource Analyses

- **Page 96 – Floridan Aquifer System Conclusions**

The Plan states, "Review of recent data and modeling results indicates the FAS can meet current and projected demands through 2045 with proper wellfield management." This section acknowledges future water quality degradation; however, it does not describe the concerns for acute reductions in water levels identified in Figures 6-18 and 6-19.

Specific utilities whose withdrawals demonstrate the potential for harmful changes to the Floridan aquifer system are identified on pages 88 through 90. A description in the Conclusions section's outline of how a number of possible wellfield management options will be implemented would be helpful in understanding the steps that will be taken to avoid potentially harmful withdrawals.

It would be useful if the plan is updated to provide some evaluation of impacts at the regional level using the modeling tools used in development of the Plan as a screening tool.

Chapter 9: Conclusions and Future Direction

- **Page 139 Surface Water**
  Consider suggested change below:

Bullet 5: "AG users ***are encouraged to*** consider reducing or augmenting surface water use with options such as stormwater and tailwater recovery, the blending of brackish

groundwater with fresh water where available, and more efficient water conservation practices."

- **Page 141 Floridan Aquifer System**
  Consider suggested change below:

  Bullet 3: "AG water users ***are encouraged to*** consider blending brackish water from the FAS with fresh groundwater or surface water to produce acceptable irrigation-quality water."

- **Page 142 New Storage Capacity for Surface Water or Groundwater**
  Consider suggested change below:

  Bullet 2: "New or retrofitted surface water storage systems for agricultural operations could provide additional water supply for irrigation" ***but are not usually considered a new source of water for permit allocations due to the uncertainty of availability during a 1-in-10-year drought condition.***"

- **Page 143 – 144 Climate Change and Sea Level Rise**
  Consider suggested change below:

  Bullet 5: Water users ***are encouraged to*** periodically review irrigation schedules and install weather-based controllers to adapt to changes in climate".

  Bullet 7: This bullet could be removed since the water supply aspects of climate change and sea level rise appear to be addressed in previous bullets and this is a broad structural recommendation. If keeping consider "Local governments, utilities, and private entities ***are encouraged to*** develop adaptive strategies to address climate change and sea level rise (e.g., constructing defensive barriers, improving infrastructure, rezoning property threatened by inundation or transferring it to public ownership)".

Please do not hesitate to contact me if you would like additional information or discussion.

Jennifer

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THE VOICE OF AGRICULTURE

September 29, 2021

Ms. Nancy Demonstranti, Upper East Coast WSP Manager
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

Delivered via email to ndemonst@sfwmd.gov

Re: Comments on Upper East Coast Water Supply Plan

Dear Ms. Demonstranti:

On behalf of the Florida Farm Bureau Federation and our 136,000 member families of which many live within the boundaries of the Upper East Coast Water Supply Plan, I appreciate the opportunity to discuss the present and future water supply needs for agriculture within this critically important planning region.

Agricultural water use is unique and different. When there is adequate and above average rainfall, agriculture acts as a major source of recharge and storage, and during dry periods, irrigation is critical.

An area of concern for many of us is the assumption that water supply demands along the Upper East Coast are sufficient to meet the needs of the end users into the future. While there may be a decrease in overall irrigated acres due to citrus greening and urbanization, the diversification of agriculture in the region could result in changes in land use from citrus to other agricultural commodities such as vegetable production which would result in changes in water needs for the industry. Much of the land in the Upper East Coast area is fallow, with the ability to go back into agricultural production at any time. For this reason we believe the District has underestimated the water supply needs for agriculture through 2045.

With this in mind the ability of agriculture to utilize surface water and surficial ground water will be important given the high chlorides within the Floridan Aquifer, especially in the restricted allocation areas. As such, it is important for the District to understand that allocations for the use of the Floridan may not be helpful in meeting agricultural irrigation needs because of high chlorides. Consequently, surface water and surficial groundwater supplies are even more critical in sustaining the future industry needs throughout the area. Certainly continued implementation of the Comprehensive Everglades Restoration Plan and other District regional stormwater projects could assist with any potential increased demands. Unfortunately implementation of these projects is much farther out on the horizon.

Although it is understood that the District has deadlines, we would ask that you would consider delaying the final report to refine some of the information based on stakeholder feedback concerning the water needs of agricultural in the area. Also, recognizing the dynamics of agriculture should be considered in the planning and regulatory arena's based on new science and information provided by the industry.

Thank you for the opportunity to work with the District and various agricultural stakeholders to improve the Upper East Coast Water Supply Plan. I look forward to our continuing discussions and collaboration.

Sincerely,

Jacob J. Fojtik

Jake Fojtik
Assistant Director of Government & Community Affairs
Florida Farm Bureau Federation