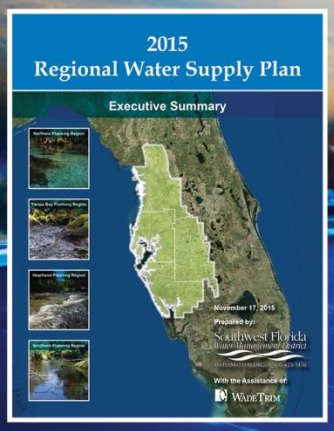
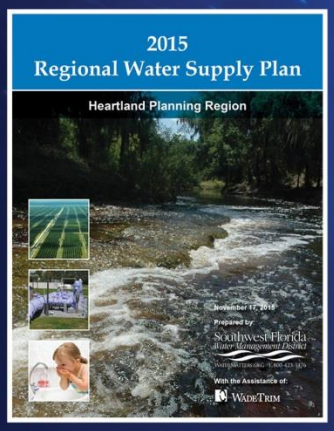
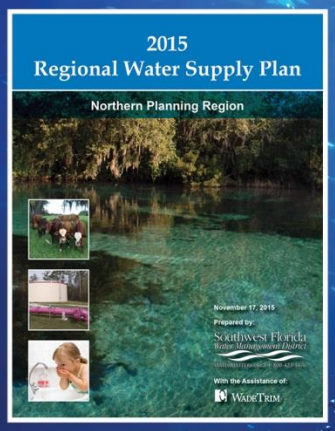
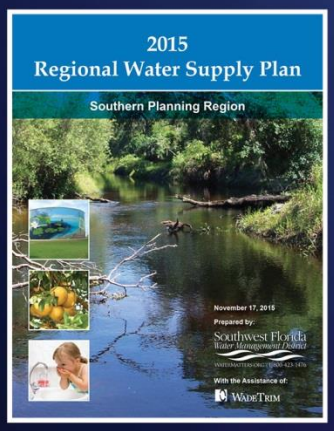
2015
Regional Water Supply Plan

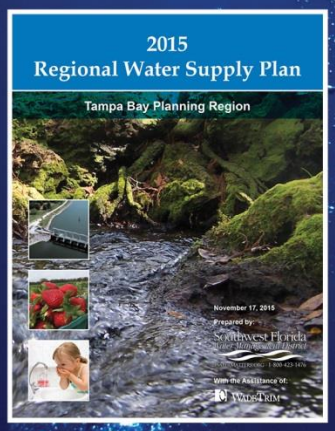
Comments and Responses











November 17, 2015

Prepared by:

Southwest Florida
Water Management District

WATERMATTERS.ORG · 1-800-423-1476

With the Assistance of:

WadeTrim

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2015 Regional Water Supply Plan

Comments and Responses

Public Review Period of

May 13 – August 17, 2015

For further information regarding this plan, please contact the Water Supply Section at:

2379 Broad Street
Brooksville, FL 34604-6899
(352) 796-7211 or
(800) 423-1476 (Florida Only)

Table of Contents

Executive Summary

Tampa Bay Water – Paula Dye, email received June 10, 2015

1. **COMMENT:** *[In Chapter 6, Tampa Bay Planning Region] of the Executive Summary, last sentence in the first paragraph. "An added benefit of the project is that it increased the ability to use the existing storage capacity of the C.W. Bill Young Reservoir. Note – We did not increase the storage of the Reservoir with System Configuration II. We increased its pumping capacity which allows us to use the existing storage more. So with the added words in red [underlined above], the sentence is correct."*

   DISTRICT RESPONSE: **The sentence is revised as requested.**

ManaSota-88, Inc. – Glenn Compton, Chairman, email received August 3, 2015

On August 3, 2015, Glenn Compton wrote, "ManaSota-88, Inc. is currently reviewing the Southwest Florida Water Management District's [SWFWMD] Draft Regional Water Supply Plan [RWSP] and has the following comments at this time. Additional comments may be made at a later date. ManaSota-88, Inc. (hereinafter, "ManaSota-88"), is a public interest conservation and environmental protection organization which is a Florida not-for-profit corporation and a citizen of the State of Florida. The corporate purposes of ManaSota-88 include the protection and preservation of water quality and wildlife habitat in Manatee and Sarasota Counties and, therefore, commenting on the RWSP falls within ManaSota-88's general scope of interest and activity."

1. **COMMENT: General Comments –** *Agricultural water use represents the largest category of water use in the region. Proper monitoring and analysis needed to assess the level of impact that agricultural activities are having on the regions environmental and water resources appears to be lacking. Too many agricultural exemptions are being granted, the cumulative impacts associated with granting agricultural exemptions is not clearly understood, aggressive monitoring water quality impacts associated with these agricultural exemptions is not being done. It appears as though the WMDs [water management districts] have inadequate information to accurately assess the relationship between the region's agricultural activities and water resource protection issues. Florida law requires that the water management districts [WMDs] consider cumulative impacts to surface waters and wetlands within a drainage basin. Given the high number of agricultural exemptions and the low level of AGSWM compliance reviews, major degradation of freshwater wetlands and degraded estuaries as a result of issuing consumptive use permits can be expected. The loss of natural wetlands as a result of exceedingly lax wetlands management programs will likely occur.*

DISTRICT RESPONSE: **The District's Agriculture Ground and Surface Water Management (AGSWM) surface water exemption verification process is an effective collaborative alternative to the other two options agricultural growers face throughout the rest of Florida. These other two options are (a) claim one of the numerous, vague, widely interpreted, and managed Florida Department of Agriculture and Consumer Services (FDACS) statutory exemptions found in Chapter 373.406(1-14), Florida Statutes; or, (b) acquiesce and obtain an Environmental Resource Permit (ERP). Instead, the District's voluntary AGSWM exemption program includes a site visit with the grower, his consultants or the United States Department of Agriculture Natural Resources Conservation Services (USDA-NRCS), and the District's agricultural team. The District's agricultural team typically consists of an Environmental Scientist, a Professional Engineer, a Water Use staff member, and a Facilitating Agricultural Resource Management Systems Program (FARMS) cost-share staff member. During this collaborative onsite planning process, wetlands and associated upland buffers are identified, downstream receiving waters are evaluated, points and methods of discharge are determined, and the potential use of multi-functional upland ponds (ponds used as sediment sumps, discharge attenuation features, alternative water supply for supplemental irrigation and crop protection storage, etc.) is discussed.**

Ultimately, the final field layout and a prescription of site specific best management practices (from the USDA-NRCS or from FDACS adopted manuals) are developed and approved. The grower receives a letter of exemption, topographic survey, a Conservation Plan and engineering assistance. The water resources are afforded better protection, increased buffers, wetland protection, and fewer statutory exemption legal dispute cases. It should be noted that failure to follow the agreed upon final field layout and best management practices can result in the formal disqualification of the previously issued AGSWM exemption.

Also, agriculture is not exempt from the water use permitting regulations. During the water use permit application evaluation, District staff is required to determine whether the proposed water use will adversely affect the environment. The water use permitted withdrawal impact to surface waters and wetlands are evaluated whenever the water use permit is modified or renewed, regardless of whether the agricultural operation is exempt or receives an AGSWM exemption. The AGSWM process facilitates a better understanding of the interaction of the water use and the surface water and wetlands that may be impacted by the permitted withdrawals.

2. **COMMENT:** ***Chapter I. Introduction*** *– The RWSP is deficient in many areas.*

- The RSWP assumes unrealistic water availability projections based on unproven alternative water sources, fails to consider the environmental cost and adverse impacts associated with the continued over permitting of the District's consumptive use water permits,

- The RSWP does little to improve the water quality of those waterways currently identified as non-compliant with state water quality standards, and considers future surface and ground water withdrawals that may severely impact Wild and Scenic Waters and Outstanding Florida Waters within the region.

By adopting a long-range water supply plan that does not effectively implement the regulatory powers given SWFWMD, protection of water resources cannot possibly occur in the future. It is regrettable that in the rush to obtain water for future residential development, SWFWMD is considering a water supply plan that will ultimately result in irreversible and needless damage to the water resources of the region.

DISTRICT RESPONSE: The District followed requirements set forth for regional water supply planning originated from legislation passed in 1997 that amended Chapter 373, Florida Statutes (F.S.). Regional water supply planning requirements are codified in Part VII of Chapter 373 (373.709), F.S., and the District's RWSP has been prepared pursuant to these provisions. The District addresses water quality issues through other initiatives.

3. **COMMENT:** ***Section 2. Water Use Caution Areas*** *– The 1994 SWUCA rule states the District will "significantly halt saltwater intrusion into the confined Upper Floridian aquifer" as one of three main objectives. The Water Management District continues to warn against saltwater intrusion but also continues to issue consumptive use permits to the detriment of existing ground water resources. Water managers admit excessive pumping is causing salt water to seep inland, contaminating freshwater wells, but offer little hope in terms of corrective measures.*

   DISTRICT RESPONSE: The District issues permits pursuant to our established rules. The Southern Water Use Caution Area (SWUCA) Recovery Strategy was developed in part to address saltwater intrusion. See the SWUCA Recovery Strategy plan on the District's webpage at: https://www.swfwmd.state.fl.us/projects/swuca.

4. **COMMENT:** ***Chapter 4. Evaluation of Water Sources*** *– Agriculture represents the largest category of water use in the region; yet future agricultural water conservation is based on growers voluntarily converting to water conservation practices without the regulatory requirement to do so. Agricultural water conservation is mainly based on growers converting to additional water conservation practices and best management practices. The RWSP relies on a voluntary, not a regulatory approach to water conservation. Anticipated water savings cannot be achieved unless stricter regulatory requirements are adopted.*

   Unless SWFWMD uses its statutory powers to implement adequate water conservation measures, the projected future water saving estimates from water conservation are based on faulty assumptions.

   Mandatory water conservation measures of non-agricultural water uses are expected to be implemented by local governments within the region, such as the monitoring and enforcement of lawn irrigation ordinances. The District assumes a high degree of compliance, yet fails to identify how this high level of compliance with local governments within the region will be achieved.

DISTRICT RESPONSE: **Currently, the District has wide reaching agricultural meter and acreage reporting requirements. The SWUCA portion of the District uses a credit account system for non-plastic mulched crops (those receiving effective rainfall). As those credits get close to being exhausted, the grower is highly encouraged to utilize the services of the Mobile Irrigation Labs to evaluate their system efficiency and implement any recommendations for system modifications. Failure to bring the property back into water use compliance can result in legal action. If a grower would like to voluntarily place existing groundwater quantities on standby through the use of alternative water supply sources or improved system efficiencies beyond those efficiencies already required in the SWUCA, then this water conservation initiative is often encouraged through our FARMS cost share assistance program to make the improvements economically feasible. Water use permits for public supply use for quantities of 100,000 [gallons per day] gpd or greater include special conditions requiring the submittal of Public Supply Annual Reports from which per capita quantities are determined. These per capita quantities are used to track overall demand and conservation measures being implemented by the local governments.**

5. **COMMENT:** ***Reclaimed Water Options*** *– ManaSota-88 is opposed to the construction of Aquifer Storage and Recovery (ASR) injection wells. The following issues concern ASR:*

    1. *There are no ground water or drinking water standards for Giardiasis, Cryptosporidiosis, or other pathogens except for fecal coliform, all of which can be serious health threats. Monitoring for viruses in ground water drinking water sources is virtually nonexistent. The unique hydrogeology, the probable existence of abandoned, short cased agricultural wells, and the possibility of underground fissures has the potential to impact to public drinking water supplies during the injection phase of ASR operations.*

    2. *Although ASR projects are viewed as a storage option, in reality they are a blending operation, which have unique water quality concerns. Little is known about the long-term chemistry and biology of ASR injected water. Changing aquifer conditions can allow for seepage of injected water in ground water supplies with possible human health risks.*

    3. *Monitoring systems are not foolproof. Monitoring wells can easily fail to detect major leaks from ASR areas.*

DISTRICT RESPONSE: **The Florida Department of Environmental Protection (DEP) is the state agency with the prime authority to permit underground injection control (UIC) Class V wells which include aquifer storage and recovery (ASR) wells. DEP has the discretion to make site specific determinations as to whether or not to issue a UIC permit and what water conditions should be included in the permit, provided the determinations are consistent with the Safe Drinking Water Act (SDWA), applicable Environmental Protection Agency (EPA) UIC regulations and approved state programs. All ASR projects are subject to a case by case evaluation as part of the DEP UIC permitting program which includes evaluation of potential impacts to drinking water resources.**

6. **COMMENT:** ***Chapter 5. Overview of Water Supply Development Options –*** *Discussion of the environmental impacts or water quality components related to water storage, supply, treatment and distribution is missing, or is not being considered, for each of the described options. Each proposed water supply option alternative carries environmental risks, yet there is no risk comparison between the water supply options discussed.*

   DISTRICT RESPONSE: **The Regional Water Supply Plan (RWSP) identifies hundreds of potential options and associated costs for developing alternative sources, in addition to the use of fresh groundwater. They are provided as reasonable concepts that water users in the planning region can pursue to meet their water supply needs. Options in the RWSP are presented to demonstrate estimated costs to develop the supply. If pursued in the future, any option will require a feasibility assessment to investigate suitable locations, effects on the environment, projected quantities, cost effectiveness, permittability, etc.**

7. **COMMENT:** ***Seawater Desalination –*** *Desalination leaves behind highly concentrated brine waste and other potentially hazardous materials such as heavy metals. A comprehensive study of a large desalination plants environmental threat to the gulf and associated water bodies has never been done.*

   SWFWMD should not attempt to weaken rules in order to stimulate desalination alternatives that govern the disposal of reject water. Desalination is not feasible unless the process is associated with a major industrial operation that uses vast quantities of water. Permitting the disposal of brine in the southern region of the District would be difficult due to the environmental sensitivity of those water bodies.

   DISTRICT RESPONSE: **Surface water discharges and disposal well injections from desalination facilities are regulated by DEP to prevent environmental harm and contamination of drinking water sources. The RWSP identifies hundreds of potential options and associated costs for developing alternative sources, including desalination. They are provided as reasonable concepts that water users in the planning region can pursue to meet their water supply needs. Options in the RWSP are presented to demonstrate estimated costs to develop the supply. If pursued in the future, any option will require a feasibility assessment to investigate suitable locations, effects on the environment, projected quantities, cost effectiveness, permittability, etc.**

8. **COMMENT:** ***Chapter 8. Overview of Funding Mechanisms –*** *The environmental costs of determining safe yield is not discussed as one of the components of funding, rather overview of funding appears to be based on the economic analysis of the impacts to agriculture and business.*

   The general public is paying the cost for development of new water sources. Land developers and growth interests are receiving a direct subsidy through publicly financed infrastructure expansion. The public pays the cost not only in monetary terms but also in adverse impacts to the natural resources.

DISTRICT RESPONSE: **Chapter 8 provides an overview of various utility, District, state and federal funding mechanisms available to implement the water supply and water resource development projects proposed by the District and its cooperators to meet water supply demands and to protect natural systems. Selected project options are required to meet environmental permitting criteria before implementation. Water supply development funding is the primary responsibility of utilities.**

9. **COMMENT:** ***Guiding Principles –*** *There is no discussion regarding improvement to existing codes and ordinances requiring additional water conservation measures. Additional mandatory measures to conserve water are not proposed.*

DISTRICT RESPONSE: **Conservation is considered a major source of water for all water use sectors in the RWSP. All five of the WMDs are coordinating on a statewide level to bring change to the Florida Building Code. One proposal for change to the Florida Building Code includes adoption of more efficient flow rates for indoor plumbing fixtures.**

Southern Planning Region

City of Sarasota – Vern Hall, phone call received June 4, 2015

1. **COMMENT:** *Mr. Vern Paul, City of Sarasota, called and stated that [in Chapter 4, Table 4-9] of the Regional Water Supply Plan (RWSP) under City of Sarasota he believes our 2013 total withdrawals is questionable. In their records they have 4.73 mgd not the 7.51 we are showing.*

   DISTRICT RESPONSE: **The values are corrected to match the values provided by the City of Sarasota. The District notified Mr. Hall that the values were corrected.**

Peace River Manasota Regional Water Supply Authority – Mike Coates, Deputy Director

1. **COMMENT:** *[Chapter 1, Part B] Section 2. Support for Water Supply Planning (first paragraph): The Authority's water supply plan ("Integrated Regional Water Supply Plan 2015") was completed April 2015. It would be helpful to reference our current plan in paragraph 1.*

   DISTRICT RESPONSE: **The text is revised as requested.**

2. **COMMENT:** *[Chapter 1] Part C, Section 1. Land Use & Population: The listed 2010 population (1,093,873) and projected 2035 population (1,416,079) are significantly different than those in the latest BEBR work (BEBR Bulletin 172, June 2015) which shows 2010, 2014 and projected 2035 populations at 897,121, 925,578, and 1,157,243 respectively. Suggest you use most recent BEBR numbers.*

   DISTRICT RESPONSE: **The University of Florida Bureau of Economic and Business Research (BEBR) Bulletin 165, March 2013 was the most recent population projections at the time the District began preparing the 2015 RWSP. The District updates its population projections annually for use in water supply permitting and includes the most up to date BEBR population projections at that time.**

3. **COMMENT:** *[Chapter 3, Part A, Section 1, Subsection 5.0 Water Demand Projections] Table 3-1: The Authority's recently completed "Integrated Regional Water Supply Plan 2015" projected a 34.76 mgd increase in water demand for Authority Customers (Charlotte, DeSoto, Manatee, Sarasota, City of North Port) from 2015 to 2035, representing an annual growth rate of 1.93%. It's imperative that adequate supplies be developed to meet future need including having rotational and reserve capacity. How do the Districts demand projections in the draft 2015 water supply plan relate to the Water Use Permitting process*

for new supplies when local or regional utility demand projections don't conform to District projections?

DISTRICT RESPONSE: **The RWSP projections are not directly related to the permitting process. At permit application and renewal, the applicant's proposed projections are compared to the latest service area population projection produced by the District on an annual basis and the most recent 5-year per capita water use. The RWSP only provides projections at a given point in time every five years and is primarily a planning and not a permitting tool.**

4. **COMMENT:** *[Chapter 4, Section 3. Reclaimed Water] Figure 4-2: Can't read the long table on the left side of the page.*

   DISTRICT RESPONSE: **The District emailed Mr. Coates an electronic file (Adobe PDF) of Figure 4-2.**

5. **COMMENT:** *[Chapter 5] Part A. Water Supply Development Options, paragraph 2: The Authority's water supply plan ("Integrated Regional Water Supply Plan 2015") was completed April 2015. Suggest it be referenced as such in this section.*

   DISTRICT RESPONSE: **The text is revised as requested.**

6. **COMMENT:** *[Chapter 5, Part A] Section 4. Surface Water/Stormwater Options, Table 5-10: Since the USGS [U.S. Geological Survey] gage on Joshua Creek is one of the gages used to determine how much water is available for withdrawal by the PRMRWSA [Peace River Manasota Regional Water Supply Authority] (see WUP [Water Use Permit] 20010420), that fact and recognition that as an existing legal user our withdrawals must not be adversely impacted, should be listed in conjunction with the Joshua Creek (TBD) projects listed in this table.*

   DISTRICT RESPONSE: **A footnote was added to Table 5-10 explaining that existing legal users downstream of Joshua Creek need to be considered when evaluating this source.**

7. **COMMENT:** *[Chapter 5, Section 4] Subsection 2.0 System Interconnect/Improvement Options, Paragraph 2: Please include a statement in this section indicating that the pipeline segment name (e.g. Phase 2B, Phase 3B, Phase 4) does not denote any priority or order in which these projects will be developed. In other words – we may develop Phase 3B long before we develop Phase 2B.*

   DISTRICT RESPONSE: **The text is revised as follows: "The future phases are listed in no particular order of implementation below in Table 5-17."**

8. **COMMENT:** *[Chapter 5, Section 5] Brackish Groundwater Option #5 (Buffalo Creek Wellfield): Most recent information from Manatee County (included in the Authority's "Integrated Regional Water Supply Plan 2015") shows Buffalo Creek will be operational in 2024 (not 2022).*

   DISTRICT RESPONSE: **The text is revised as requested.**

9. **COMMENT:** *[Chapter 5, Section 5] Brackish Groundwater Option #6 (West Village Wellfield): Most recent information from City of North Port (included in the Authority's "Integrated Regional Water Supply Plan 2015") shows West Village Wellfield will be operational in 2024 (not 2022).*

   DISTRICT RESPONSE: **The text is revised as requested.**

10. **COMMENT:** *[Chapter 6, Section 3, Subsection 2.0] System Interconnect/Improvement Project #4. Regional Loop System Phase 1 Design Update: The last full sentence in that paragraph should say "The estimated cost for the PRMRWSA…"*

    DISTRICT RESPONSE: **The text is revised as requested.**

11. **COMMENT:** *[Chapter 6, Section 4] Brackish Groundwater Desalination Project # 2. City of Punta Gorda Brackish Wellfield Investigation for a Reverse Osmosis [RO] Facility at Shell Creek: Last sentence should state "….the city with a short-term alternative water supply while RO facility is constructed."*

    DISTRICT RESPONSE: **The text is revised as requested.**

12. **COMMENT:** *[Chapter 8, Part B] Section 1. Water Utilities, Paragraph 2: Please revise 3rd sentence to read "Regional water supply authorities, such as the Peace River Manasota Regional Water Supply Authority and Tampa Bay Water…."*

    DISTRICT RESPONSE: **The text is revised as requested.**

13. **COMMENT:** *References Cited – Neither the Authority's "Integrated Regional Water Supply Plan 2015", nor the Authority's "Integrated Regional Water Supply 2006 Master Plan" are listed anywhere in this section – yet they are referred to extensively in the text of the report.*

    DISTRICT RESPONSE: **The text is revised as requested.**

Florida Department of Environmental Protection, Carolyn Voyles, received August 4, 2015

Enclosed are the Florida Department of Environmental Protection (DEP)'s comments on the District's draft 2015 Regional Water Supply Plan (Southern Planning Region, dated April 2015), as submitted by Carolyn Voyles as email attachment (PDF mark-up).

1. **COMMENT:** ***[Chapter 1, Part B] Section 3. Minimum Flows and Levels Establishment, Subsection 2.0 MFLs Recovery Initiatives –*** *A reference to the SWUCA [Southern Water Use Caution Area] map would be helpful for this discussion.*

   DISTRICT RESPONSE: **The text is revised as requested.**

2. **COMMENT:** ***[Chapter 1, Part B] Section 4. Section 4. Quality of Water Improvement Program (QWIP) and Well Back-Plugging –*** *"The program plugs approximately 200 wells per year and more than 6,000 wells have been plugged since inception." How many in the SPR?*

   DISTRICT RESPONSE: The text is updated with the number of QWIP wells plugged in the Southern Planning Region (SPR) (4,362 since program inception) and by the Facilitating Agricultural Resource Management Systems (FARMS) program (68 plugged since program inception).

3. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** *"Water Supply investigations for the planning region were initiated in the 1960s as part of the United States Army Corps of Engineers' (USACE) Four River Basins project." How is this related to the SPR?*

   DISTRICT RESPONSE: While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

4. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** *"It was concluded that the Northern Planning Region demand for water through 2030 could be met with fresh groundwater; however, the need for additional fresh groundwater supplies could be minimized through the use of available reclaimed water and implementation of comprehensive water conservation measures." ?? This is the SPR report.*

   DISTRICT RESPONSE: Section 3 provides historical context of the District's water supply planning efforts. The paragraph explains why the northern region was included in the 2010 RWSP. While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

5. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** *"The 2010 RWSP adopted several alternative water supply options that were developed by regional water supply authorities in the respective planning regions, and from the 2009 Polk County Comprehensive Water Supply Plan in the Heartland Planning Region." ?? This is the SPR report.*

DISTRICT RESPONSE: **While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.**

6. **COMMENT: [Chapter 2, Part A, Section 1] Figure 2-1. Location of the District's water use caution areas and the MIA [Most Impacted Area] of the SWUCA –** *Missing Lake County label.*

   DISTRICT RESPONSE: **Figure 2-1 is updated.**

7. **COMMENT: [Chapter 2, Part B] Section 2. Priority Setting Process –** ***"The District's current Priority List and Schedule for the Establishment of MFLs is posted on the District web site and is included in the Chapter 2 Appendix." Which appendix, specifically?***

   DISTRICT RESPONSE: **The text is revised to identify the appendix.**

8. **COMMENT: [Chapter 2, Part B] Section 3. Technical Approach to the Establishment of MFLs, Subsection 3.0 Methodology –** ***"The District's methodology for MFL establishment for wetlands, lakes, rivers, springs and aquifers is contained in the Chapter 2 Appendix." Which appendix, specifically?***

   DISTRICT RESPONSE: **The text is revised to identify the appendix.**

9. **COMMENT: [Chapter 2, Part B] Section 4. MFLs Established to Date –** ***"A complete list of water resources with established MFLs throughout the District is provided in the Chapter 2 Appendix. Priority water resources with established MFLs in the planning region include the following…" Which appendix, specifically?***

   DISTRICT RESPONSE: **The text is revised to identify the appendix.**

10. **COMMENT: [Chapter 2] Part D. Reservations –** ***"For example, within the Heartland Planning Region, the District is planning to reserve water to aid in the recovery of MFLs in the Upper Peace River." Is there an example for the SPR?***

    DISTRICT RESPONSE: **There are no examples in the SPR.**

11. **COMMENT: [Chapter 3, Part A] Section 1. Public Supply, Subsection 2.0 Population Projections (2.1 Base Year Population) –** ***"The District calculated <u>the 2010</u> population by extrapolating from GIS Associates, Inc.'s 2012 population estimate." Typo.***

    DISTRICT RESPONSE: **The text is revised as requested.**

12. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture –** *See the comments in the NPR [Northern Planning Region] volume for specific comments on this section.*

    DISTRICT RESPONSE: A short description of the Florida Statewide Agricultural Irrigation Demand Version 2 (FSAID2) methodology is provided to contrast the District's methodology in Section 2 (Agriculture). A very brief comparison of the difference in District and FSAID2 results is provided in Section 3 (Water Demand Projections). In addition, Appendix 3-1 (Agricultural Technical Memorandum) includes a new section (Appendix C) that addresses the requirement of Section 373.709(2)(a), Florida Statutes (F.S.), to provide a description of any deviation from agricultural demand projections provided by FDACS. The new Appendix C provides a much more detailed description of the differences in the District's and FDACS' projections.

13. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture, Subsection 3.0 Water Demand Projections – "***For the average 5-in-10 condition, total agricultural demand, including non-irrigation demand, is projected to increase by 22.20 mgd from the 2010 base year quantity of 170.00 mgd to 192.20 mgd in 2035, a 13.06 percent increase. Increases in agricultural demand may be met with alternative sources and/or conservation." The 2009 Format and Guidelines... requires evaluation for a 1-in-10 drought year. Please provide a short description and reference Appendix 3-1. Why were results available only for 2035? Also, does FDACS have drought year estimates? If so, please provide.*

    DISTRICT RESPONSE: Language is added explaining that 2-in-10 drought demands are the best available information since our irrigation permitting model only produces results for 2-in-10 drought conditions. Also, additional information on 5-in-10 and 2-in-10 demand projection methods are included in Appendix 3-1.

    Additional text is added indicating that the only year for which drought condition demands were provided in the Central Florida Water Initiative (CFWI) RWSP was for the year 2035.

    FDACS provides drought year projections. They are addressed in detail in Appendix C of Appendix 3-1. The CFWI RWSP appendices indicate that the 2035 1-in-10 projections for the District are 2-in-10.

14. **COMMENT: [Chapter 3, Part A] Section 3. Industrial/Commercial, Mining/Dewatering, and Power Generation (I/C, M/D, and PG) –** *See the comments in the NPR volume for specific comments on this section.- Need to make it clear if the water quantities used are fresh or saline or both.*

    DISTRICT RESPONSE: Power Generation is separated into a new demand category. The water sources included in the demand projections are clarified. Included information from the 2009 Format and Guidelines indicating that the 5-in-10 and 1-in-10 demands are essentially the same for IC, MD and PG demand categories.

15. **COMMENT: [Chapter 3, Part A] Section 6. Summary of Projected Demands –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: A short discussion comparing the 5-in-10 demands with the 1-in-10 demands is included in the technical memorandums of Appendices 3-1 through 3-4.

16. **COMMENT: [Chapter 3, Part A, Section 6] Table 3-7. Summary of the projected demand for counties in the Southern Planning Region (5-in-10) (mgd) –** *A grand total for the region should be included.*

    DISTRICT RESPONSE: The table is revised to include a region total.

17. **COMMENT: [Chapter 3, Part A] Section 7. Comparison of Demands between the 2010 RWSP and the 2015 RWSP –** *This section should include some discussion on the huge increases in the L/R sector---the sector with the largest change.*

    DISTRICT RESPONSE: A short discussion of the increase in the Landscape/Recreation (L/R) sector is included in the Appendix 3-4 Landscape/Recreation Demand Projections Technical Memorandum.

18. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation – "***This has resulted in an estimated 6.1 mgd of water savings." Any info on the quantities saved in the SPR?*

    DISTRICT RESPONSE: The text is revised as requested.

19. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1 Public Supply) –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: The text is revised as requested.

20. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.2 Domestic Self-Supply) –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: The estimated value is regional. The text is revised to clarify.

21. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.3 Industrial/Commercial (I/C)) -** *See the comments in the NPR volume for specific comments on this section.*

DISTRICT RESPONSE: **The estimated value provided is regional. The text is revised to clarify.**

22. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 2.0 Agricultural Water Conservation –** *See the comments in the NPR volume for specific comments on this section.*

DISTRICT RESPONSE: **The savings shown are annual for the year shown in the table.**

Demand projections for irrigated commodities were determined by multiplying projected irrigated acreage by the irrigation requirements of each commodity. Acreage projections were formulated based on a cumulative review of the information through Geographic Information System (GIS)/permitting analysis and other sources using a base year of 2005. For those counties that are not located wholly within the District, only the portion of the commodity acreage located within the District was considered.

The District's GIS model was used to retrieve and compare the agricultural water use permitting information and land use/land cover property appraiser parcel data for each county and record the future land use for each parcel and permitted area. The acreage increases were limited by the total available remaining land and total permitted quantity of water. The model accounted for land use transition from agriculture to residential/commercial/industrial use and a land use conversion trend was determined. Aerial photography provided another layer of information for land use/land cover analysis and commodity category determination.

Recent land and water use projections and trends indicate that agricultural activities are expected to decline Districtwide over the next several decades. These trends include increases in urban development, full implementation of the North American Free Trade Agreement and other global competition issues, and destructive insect and disease outbreaks.

Citrus will remain the predominant crop category but is projected to decline by 15,000 acres and 13 mgd in water use. The majority of citrus acreage in the Southern Planning Region, 55,000 acres, is located in DeSoto County. Other major commodities in the region include tomatoes, sod and other vegetables/row crops.

The table was not updated to 2035, as there has been no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are being updated. The updated Model Farms projections are scheduled to be complete after publication of this RWSP.

23. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water –** *See the comments in the NPR & HPR [Heartland Planning Region] volumes for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised as requested.**

24. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water –** *"Table 4-7 illustrates the reclaimed water infrastructure, utilization and availability of reclaimed water within the District in 2010 as well as planned utilization that is anticipated to occur by 2020 as a result of funded projects." See the comments in the HPR volume.*

    DISTRICT RESPONSE: **The data for 2020 reclaimed water is included in Appendix 4-1. A reference is added after the sentence to see Appendix 4-1.**

25. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water – "***Existing and funded projects are expected to result in reclaimed water increases of 13.6 mgd, bringing utilization within the planning region to approximately to 47.5 mgd by 2020." Are you discussing Manatee County or the region here? I don't see these numbers in Table 4-7. Confusing.*

    DISTRICT RESPONSE: **The amounts are for the Southern Planning Region. The short discussion of Manatee County is an example. The data for 2020 reclaimed water is included in Appendix 4-1. A reference is added after the sentence to see Appendix 4-1.**

26. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 1.0 Criteria for Determining Potential Water Availability – "***If the minimum flow for a river was not yet established or a hydrodynamic model was not available, planning-level minimum flow criteria were utilized." What was and wasn't available for the SPR region?*

    DISTRICT RESPONSE: **If planning level or minimum flows and levels (MFL) was utilized is discussed in the overview of each river and in Table 4-8. Subsection 1.0 only discusses the criteria used.**

27. **COMMENT: Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of River/Creek Systems –** *Reference to a map with locations of these water bodies would be helpful.*

    DISTRICT RESPONSE: **Comment acknowledged. Future updates will consider this addition.**

28. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of River/Creek Systems (2.2 Braden River) – "***Based on existing withdrawals and planning level minimum flow criteria, an additional 0.3 mgd is potentially available from the river." Doesn't the Braden have a MFL? Needs to be discussed with respect to this finding of additional water in the river and in the SWUCA.*

DISTRICT RESPONSE: **Based on Table 4-8, the calculations were done at the most downstream point at the dam. This provides an estimate of the potential maximum flow available. The adopted MFL on the Braden River covers upstream of I-75 (USGS Braden River at Linger Lodge 0.5 east of I-75). MFLs are not set in water bodies affected by backwater conditions from dams. When the Lower Braden River MFL is set simultaneously with the Lower Manatee River MFL the estimated potentially available water from the river may change.**

29. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of River/Creek Systems (2.6 Peace River) –** *"Based on the minimum flow criteria, an additional 73.1 mgd of water supply is potentially available from the river." From where? The lower river?*

    DISTRICT RESPONSE: **Based on Table 4-8, the calculations were done at the most downstream point at the dam. This provides an estimate of the potential maximum flow available. As indicated in 3.0 Potential for Water Supply from Surface Water: "Additional factors that could affect the quantities of water that are ultimately developed for water supply include the future establishment of minimum flows, the ability to develop sufficient storage capacity, variation in discharges to the river from outside sources, and the ultimate success of adopted recovery plans."**

30. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of River/Creek Systems (2.7 Shell Creek) –** *"Based on existing withdrawals and planning level minimum flow criteria, an additional 16.1 mgd of water is potentially available from the river." Why were planning level criteria used? Doesn't Shell Creek have a MFL, or at least a proposed MFL?*

    DISTRICT RESPONSE: **Proposed MFL for the Lower Peace River and Shell Creek were completed in 2010. The MFL was never adopted. Since then, the decision was made to redo the analysis which is anticipated to be complete in 2018. Because the MFL is unknown at this time, the decision was made to use the more conservative estimate from the planning level criteria.**

31. **COMMENT: [Chapter 4, Part A] Section 6. Aquifer Storage Recovery – "***Within the District there are two fully permitted reclaimed water ASR projects and five fully permitted potable water ASR facilities." Are either of these facilities located in the SPR?*

    DISTRICT RESPONSE: **See Figure 4-5 for locations.**

32. **COMMENT: [Chapter 4, Part A] Section 7. Aquifer Recharge, Subsection 1.0 Aquifer Recharge –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The quantity is statewide. The text is revised as requested.**

33. **COMMENT: [Chapter 5, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation Options (2.1 FARMS) – "***The goal for the FARMS Program is to offset 40 mgd of groundwater use for agriculture by 2025." How much of this goal has been attained by the SPR?*

    DISTRICT RESPONSE: Out of 173 FARMS projects, there are 80 projects within the Southern Planning Region. The estimated offset from all of the District approved projects within the Southern Planning Region is nearly 19.3 mgd. Estimated offset of operational projects in the Southern Planning Region is approximately 14.4 mgd with the actual offset for those operational projects approximately 14.5 mgd.

34. **COMMENT: [Chapter 7, Part A] Section 2. Water Resource Development Projects, Subsection 1.0 Alternative Water Supply Research, Restoration and Pilot Projects –** *Any projects in the SPR?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects." Some of the projects benefit multiple regions. Five of the water resource development "projects" benefit the Southern Planning Region. The planning region of benefit is shown in the table.

35. **COMMENT: [Chapter 7, Part A] Section 2. Water Resource Development Projects, Subsection 3.0 Environmental Restoration and MFL Recovery Projects –** *Why are projects outside of the SPR included?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects." Some of the projects benefit multiple regions. The planning region of benefit is shown in the table.

36. **COMMENT: [Chapter 8, Part B] Section 3. State Funding –** *See the comments in the NPR volume for specific comments on this section, and apply to the SPR.*

    DISTRICT RESPONSE: Most descriptions of funding mechanisms apply Districtwide. The RWSP is divided into regional volumes to more comprehensively address the unique demands and conditions of each planning region. However, the District does not develop distinct budgets for each planning region. Therefore it is appropriate to describe the funding mechanisms in a Districtwide manner. Clarifications are added to each region's plan to alleviate any confusion.

37. **COMMENT: [Chapter 8, Part B] Section 5. Public-Private Partnerships and Private Investments –** *Any SPR examples? Discuss.*

    DISTRICT RESPONSE: The Public-Private Partnerships and Private Investments section discusses an additional method for water supply development funding that has not been extensively utilized within the District.

Heartland Planning Region

South Florida Water Management District, Chris Sweazy, email received July 16, 2016

1. **COMMENT:** *I think we submitted this comment earlier through the website but the text of the May draft of the Heartland Region Plan that is currently on line does not seem to reflect a change. In Chapter 4, [Part A, Section 4. Surface Water] Subsection 2.2, [there] is a discussion regarding Josephine Creek. In that section it is indicated that the future use of water from the Creek will depend on the MFL's set for Lake Istokpoga. This is true; however, the text as written might imply that the MFL for Lake Istokpoga is waiting to be set. It might be good to work into the text that SFWMD adopted a MFL for Lake Istokpoga in November 2005 and has completed more recent rulemaking that limit further withdrawals from this lake beyond their current levels. I think the language regarding joint planning on the source it still relevant but just was looking for these additional facts to be available for folks.*

   DISTRICT RESPONSE: **The text is revised as requested.**

Florida Department of Environmental Protection, Carolyn Voyles, received August 4, 2015

Enclosed are the Florida Department of Environmental Protection's comments on the District's draft 2015 Regional Water Supply Plan (Heartland Planning Region, dated April 2015), as submitted by Carolyn Voyles as email attachment (PDF mark-up).

1. **COMMENT: [Chapter 1, Part B] Section 3. Minimum Flows and Levels Establishment, Subsection 2.0 MFLs Recovery Initiatives** – *"The District's SWUCA [Southern Water Use Caution Area] recovery strategy, approved in 2006, relies on a wide range of activities that are collectively aimed at achieving MFLs for all priority water resources in the SWUCA by 2025". A reference to the SWUCA map would be helpful for this discussion.*

   DISTRICT RESPONSE: **The text is revised as requested.**

2. **COMMENT: [Chapter 1, Part B] Section 4. Quality of Water Improvement Program (QWIP) and Well Back-Plugging –** *"The program plugs approximately 200 wells per year and more than 6,000 wells have been plugged since its inception." How many in the HPR [Heartland Planning Region]?*

   DISTRICT RESPONSE: **Text is updated with the number of QWIP wells plugged in the Heartland Planning Region (611 wells since program inception).**

3. **COMMENT: [Chapter 1, Part B] Section 4. Quality of Water Improvement Program (QWIP) and Well Back-Plugging –** *"The program has retrofitted 74 wells as of September 2014, with 55 of these in the target watersheds." How many in the HPR?*

   DISTRICT RESPONSE: None have been retrofitted in the Heartland Planning Region. While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

4. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** *"Water Supply investigations for the planning region were initiated in the 1960s as part of the United States Army Corps of Engineers' (USACE) Four River Basins project." How is this related to the HPR?*

   DISTRICT RESPONSE: While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

5. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** *"It was concluded that the Northern Planning Region demand for water through 2030 could be met with fresh groundwater; however, the need for additional fresh groundwater supplies could be minimized through the use of available reclaimed water and implementation of comprehensive water conservation measures." This is the HPR report?*

   DISTRICT RESPONSE: Section 3 provides the historical context of the District's water supply planning efforts. The paragraph explains why the Northern Planning Region was included in the 2010 Regional Water Supply Plan (RWSP). While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

6. **COMMENT: [Chapter 1, Part D] Section 5. Modeling Investigations, Subsection 1.0 Groundwater Flow Models –** *Unclear which models are relevant to the HPR, outside of the SWUCA.*

   DISTRICT RESPONSE: The East Central Florida Transient groundwater model is current and being used by the Central Florida Water Initiative (CFWI).

7. **COMMENT: [Chapter 1, Part D] Section 5. Modeling Investigations, Subsection 2.0 Saltwater Intrusion Models –** *Is there salt water intrusion in the HPR? If so, please describe.*

   DISTRICT RESPONSE: No. While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

8. **COMMENT: [Chapter 2, Part A, Section 1] Figure 2-1. Location of the District's water use caution areas and the MIA [Most Impacted Area] of the SWUCA** – *Lake County needs to be labeled on this map.*

   DISTRICT RESPONSE: **Figure 2-1 is updated.**

9. **COMMENT: [Chapter 2, Part B] Section 2. Priority Setting Process** – *"The District's current Priority List and Schedule for the Establishment of MFLs is posted on the District web site and is included in the Chapter 2 Appendix." Which appendix, specifically?*

   DISTRICT RESPONSE: **Appendix number is added to the text.**

10. **COMMENT: [Chapter 2, Part B] Section 3. [Technical Approach to the Establishment of MFLs, Subsection 3.0] Methodology –** *"The District's methodology for MFL establishment for wetlands, lakes, rivers, springs and aquifers is contained in the Chapter 2 Appendix." Which appendix, specifically?*

    DISTRICT RESPONSE: **Text is revised to identify the appendix.**

11. **COMMENT: [Chapter 2, Part B] Section 4. MFLs Established to Date** – *A complete list of water resources with established MFLs throughout the District is provided in the Chapter 2 Appendix. Which appendix, specifically?*

    DISTRICT RESPONSE: **Text is revised to identify the appendix.**

12. **COMMENT: [Chapter 2, Part E] Section 3. Current Management Strategies –** ***"****The District's saltwater intrusion monitoring well network was initiated in the early 1990's due to impacts observed in the SWUCA." Not sure how this applies to the HPR.*

    DISTRICT RESPONSE: **The text is revised to describe the District's saltwater intrusion monitoring network that covers the entire District.**

13. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture** – *See the comments in the NPR [Northern Planning Region] volume for specific comments on this section. Apply to Polk Co. where needed.*

    DISTRICT RESPONSE: **A short description of the Florida Statewide Agricultural Irrigation Demand Version 2 (FSAID2) methodology is provided to contrast the District's methodology in Section 2 (Agriculture). A very brief comparison of the difference in District and FSAID2 results is provided in Section 3 (Water Demand Projections). In addition, Appendix 3-1 (Agricultural Technical Memorandum) includes a new section (Appendix C) that addresses the requirement of Section 373.709(2)(a), Florida Statutes (F.S.), to provide a description of any deviation from agricultural demand projections provided by FDACS. The new Appendix C provides a much more detailed description of the differences in the District's and FDACS' projections.**

14. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture, Subsection 3.0 Water Demand Projections –** *"As 2-in-10 agricultural demands were not projected in the Final Draft CFWI RWSP, except for 2035, increases in 2-10 quantities for Polk and the region are not reflected in Table 3-2, except for 2035." Why not?*

    DISTRICT RESPONSE: **Language is added explaining that 2-in-10 drought demands are the best available information since our irrigation permitting model only produces results for 2-in-10 drought conditions. Also, additional information on 5-in-10 and 2-in-10 demand projection methods are included in Appendix 3-1.**

    Additional text is added indicating that the only year for which drought condition demands were provided in the CFWI RWSP was for the year 2035. As county level drought demand data was not available for other years for CFWI counties, to include CFWI counties without data in the totals would produce misleading totals (in effect making the CFWI county demands equal zero). As a result, they are addressed as "NA", except for 2035.

    FDACS provides drought year projections. They are addressed in detail in Appendix C of Appendix 3-1. The CFWI RWSP appendices indicate that the 2035 1-in-10 projections for the District are 2-in-10.

15. **COMMENT: [Chapter 3, Part A] Section 3. Industrial/Commercial, Mining/Dewatering and Power Generation (I/C, M/D, and PG)** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **Power Generation is separated into a new demand category. The water sources included in the demand projections are clarified. Included information from the 2009 Format and Guidelines indicating that the 5-in-10 and 1-in-10 demands are the same for IC, MD and PG demand categories.**

16. **COMMENT: [Chapter 3, Part A] Section 4. Landscape/Recreation** – *See the comments in the NPR volume for specific comments on this section. Apply to Polk Co. where needed.*

    DISTRICT RESPONSE: **The text is revised as requested.**

17. **COMMENT: [Chapter 3, Part A] Section 6. Summary of Projected Change in Demand** - *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **A short discussion comparing the 5-in-10 demands with the 1-in-10 demands is included in the technical memorandums of Appendices 3-1 through 3-4.**

18. **COMMENT: [Chapter 3, Part A] Table 3-7. Summary of the Projected Demand for Counties in the Heartland Planning Region (5-in-10) (mgd)** – *A grand total for the region should be included.*

DISTRICT RESPONSE: **The table is revised to include a regional total.**

19. **COMMENT: [Chapter 3, Part A] Section 7. Comparison of Demands between the 2010 RWSP and the 2015 RWSP –** *This section should include some discussion on the huge increases in the L/R sector---the sector with the largest change.*

    DISTRICT RESPONSE: **A short discussion of the increase in the Landscape/Recreation (L/R) sector is included in the Appendix 3-4 Landscape/Recreation Demand Projections Technical Memorandum.**

20. **COMMENT: [Chapter 3, Part A] Section 7. Comparison of Demands between the 2010 RWSP and the 2015 RWSP – "***There are significant differences between the 2010 and 2015 RWSP Heartland demand projections in the agricultural, public supply and I/C, M/D, PG water use categories." Not as much growth for ag as for L/R in Table 3.7.*

    DISTRICT RESPONSE: **As noted in Section 7, the high population increases projected prior to the recession was generally not realized, which lead to reductions in projected demands for those demand categories primarily driven by population (PS, I/C, PG and LR). For Agricultural (AG), the anticipated conversion of agricultural lands to urban use was not realized. For the L/R sector, a methodology revision further reduced the increase in L/R for the 2015 RWSP, bringing it more in line with the 2010 to 2015 RWSP changes for other population driven sectors. There is not a strong correlation between AG and L/R demands.**

21. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation** – *"For example, the National Energy Policy Act of 1992 requires all new construction built after 1994 to be equipped with low-flow plumbing fixtures. In Florida, Senate Bill 494, which took effect in July 2009, requires all automatic irrigation systems to use an automatic shutoff device." What is the year for this bill?*

    DISTRICT RESPONSE: **The year for this bill is 2009.**

22. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation** – *"This has resulted in an estimated 6.1 mgd of water savings." Any info on the quantities saved in the HPR?*

    DISTRICT RESPONSE: **The text is revised as requested.**

23. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1 Public Supply)** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised as requested.**

24. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.2 Domestic Self-Supply (DSS)** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised to clarify.**

25. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.3 Industrial/Commercial)** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised to clarify.**

26. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.4 Landscape/Recreation)** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised to clarify.**

27. **COMMENT: [Chapter 4, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The savings shown are annual for the year shown in the table.**

    Demand projections for irrigated commodities were determined by multiplying projected irrigated acreage by the irrigation requirements of each commodity. Acreage projections were formulated based on a cumulative review of the information through Geographic Information System (GIS)/permitting analysis and other sources using a base year of 2005. For those counties that are not located wholly within the District, only the portion of the commodity acreage located within the District was considered.

    The District's GIS model was used to retrieve and compare the agricultural water use permitting information and land use/land cover property appraiser parcel data for each county and record the future land use for each parcel and permitted area. The acreage increases were limited by the total available remaining land and total permitted quantity of water. The model accounted for land use transition from agriculture to residential/commercial/industrial use and a land use conversion trend was determined. Aerial photography provided another layer of information for land use/land cover analysis and commodity category determination.

    Recent land and water use projections and trends indicate that agricultural activities are expected to decline Districtwide over the next several decades. These trends include increases in urban development, full implementation of the North American Free Trade Agreement and other global competition issues, and destructive insect and disease outbreaks.

Citrus will remain the predominant crop category but is projected to decline by 15,000 acres and 13 mgd in water use. The majority of citrus acreage in the Southern Planning Region, 55,000 acres, is located in DeSoto County. Other major commodities in the region include tomatoes, sod and other vegetables/row crops.

The table was not updated to 2035, as there has been no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are being updated. The updated Model Farms projections are scheduled to be complete after publication of this RWSP.

28. **COMMENT: [Chapter 4, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation (2.1 Potential Agricultural Water Conservation Savings)** – *"Table 4-5 summarizes savings by commodity through 2030 for the 5-in-10 condition." Why not through 2035?*

    DISTRICT RESPONSE: The table was not updated to 2035, since there is no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are being updated. The updated Model Farms projections are scheduled to be received after publication of this RWSP.

29. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: The text is revised as requested.

30. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water** – *"Table 4-6 illustrates the reclaimed water infrastructure, utilization and availability of reclaimed water within the District in 2010 as well as planned utilization that is anticipated to occur by 2020 as a result of funded projects." Table 4-6 appears to be for the region, not the district as cited here. Still don't understand why 2020 is cited and not 2035.*

    DISTRICT RESPONSE: The text is revised as requested. The data for 2020 reclaimed water is included in Appendix 4-1. A reference is added after the sentence to see Appendix 4-1.

31. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water** – *Are you discussing Polk County or the region here? I don't see these numbers in Table 4-6. Confusing.*

    DISTRICT RESPONSE: The amounts are for the Heartland Planning Region. The short discussion of Polk County is an example. The data for 2020 reclaimed water is included in Appendix 4-1. A reference is added after the sentence to see Appendix 4-1.

32. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 1.0 Criteria for Determining Potential Water Availability –** *"If neither the adopted minimum flow nor the hydrodynamic model was available, planning-level minimum flow criteria were utilized." What was and wasn't available for the HPR region?*

    DISTRICT RESPONSE: The specific criteria used are described in the overview of each river in Table 4-8.

33. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of River/Creek Systems –** *A map with locations of these water bodies would be helpful.*

    DISTRICT RESPONSE: Comment acknowledged. Future updates will consider this addition.

34. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of River/Creek Systems (2.1 Peace River) –** *"Based on the minimum flow criteria, an additional 73.1 mgd of water supply is potentially available from the river." Why isn't this quantity shown in Table 4-7?*

    DISTRICT RESPONSE: **See Footnote 7 from Table 4-7: "All available surface water is allocated to the Southern Planning Region because the calculation was based on flows in the Southern Planning Region; however, future withdrawals from the River in the Heartland Planning Region are possible."**

35. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 3.0 Potential for Water Supply from Surface Water – "***The estimated additional surface water that could potentially be obtained from rivers in the planning region ranges from approximately 0.84 mgd to 4.57 mgd." Why aren't these numbers presented in Table 4-7?*

    DISTRICT RESPONSE: **These numbers are presented in the Executive Summary, "Table 2. Potential additional water availability in the District from sources in each planning region through 2035 (mgd)" in context with other regional planning areas.**

36. **COMMENT: [Chapter 4, Part A] Section 5. Brackish Groundwater** – *I'm not sure what this has paragraph has to do with the HPR. I recommend focusing on what's happening in the HPR region, especially the proposed facility shown in Figure 4-4.*

    DISTRICT RESPONSE: The Lower Floridan aquifer is a potentially viable source of supply in the Heartland Planning Region and is being evaluated by the District, as stated in the first paragraph of Section 5.

37. **COMMENT: [Chapter 4, Part A] Section 6. Aquifer Storage and Recovery** – *"Within the District there are two fully permitted reclaimed water ASR projects and five fully permitted potable water ASR facilities." Are any of these facilities located in the HPR?*

DISTRICT RESPONSE: **See Figure 4-5 for locations.**

38. **COMMENT: [Chapter 4, Part A] Section 7. Aquifer Recharge** – *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The quantity is statewide. The text is revised as requested.**

39. **COMMENT: [Chapter 4, Part A] Section 8. Seawater, Subsection 1.0 Potential for Water Supply from Seawater –** *"The 2014 CFWI RWSP identified a partnership between Polk County Utilities and TBW [Tampa Bay Water] or a potential interconnect between the Lithia area of Hillsborough County and utilities in western Polk County." Typo? for?*

    DISTRICT RESPONSE: **The text is revised as requested.**

40. **COMMENT: [Chapter 4, Part A] Section 9. Stormwater –** *"Having defined many of the SHP impediments and considerations, following is a list of areas opportunity for stormwater harvesting now and in the future:" "...areas of..."*

    DISTRICT RESPONSE: **The text is revised as requested.**

41. **COMMENT: [Chapter 5, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation Options (2.1 Facilitation of Agricultural Resource Management Systems (FARMS))** – *"The goal for the FARMS Program is to offset 40 mgd of groundwater use for agriculture by 2025." How much of this goal has been attained by the HPR?*

    DISTRICT RESPONSE: **Out of 173 Facilitating Agricultural Resource Management Systems (FARMS) projects, there are 37 projects within the Heartland Planning Region. The estimated offset from all of the District approved projects within the Heartland Planning Region is nearly 3.85 mgd. Estimated offset of operational projects in the Heartland Planning Region is approximately 3.32 mgd with the actual offset for those operational projects approximately 1.94 mgd.**

42. **COMMENT: [Chapter 5, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation Options (2.2 Institute of Food and Agricultural Sciences (IFAS) Research and Education Projects)** – *The NPR has a section on well back-plugging. Is this practice not important in the HPR?*

    DISTRICT RESPONSE: **The text is revised as requested (see new 2.2).**

43. **COMMENT: [Chapter 5, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation Options (2.7 Development of Alternative Water Sources for Agricultural Irrigation)** – *"Reclaimed water has safely been used for more than 40 years for agricultural irrigation in Florida, and currently more than 9,000 acres of edible crops within the District are irrigated with it (DEP 2008 Reuse Inventory, 2010)." The 2013 report is available and would have more recent data.*

DISTRICT RESPONSE: **The District will cite the Florida Department of Environmental Protection 2013 Reuse Inventory, 2014, however the data in the 2013 inventory is similar, as such only the reference will be changed.**

44. **COMMENT: [Chapter 5, Part A] Section 4. Surface Water/Stormwater Options –** *"A complicating factor in developing water supply options in the upper watershed is the possibility that the availability of water may not be sufficient." The fact that the Upper Peace River is not meeting its MFL also needs to be addressed when considering options.*

    DISTRICT RESPONSE: **The sentence is updated to the following: "A complicating factor in developing water supply options in the upper watershed is the possibility that the availability of water may not be sufficient and must take into consideration the MFL."**

45. **COMMENT: [Chapter 5, Part A, Section 4] Surface Water/Stormwater Option #1. Polk County Regional Alafia River Basin Project** – *"Since the river is highly seasonal with a higher flow during the rainy season, an off-stream reservoir(s) and/or ASR system will be used to store water to provide for a more uniform supply." "...river flow is..."*

    DISTRICT RESPONSE: **The text is revised as requested.**

46. **COMMENT: [Chapter 6, Section 2, Subsection 1.0 (1.2 Outdoor Water Conservation)] Table 6-2. List of outdoor water conservation projects under development in the Heartland Planning Region** –*GPD [Gallons per Day] is not a dollar amount.*

    DISTRICT RESPONSE: **The text is revised as requested.**

47. **COMMENT: [Chapter 6] Section 2. Water Conservation, Subsection 2.0 Agricultural Water Conservation Projects (2.1 Institute of Food and Agricultural Sciences (IFAS) Research and Education Projects)** – *"Of the 42 research projects, 30 have been completed. Completed projects include 8 projects dealing with urban landscape issues and 22 involving various agricultural commodities. The 12 ongoing projects are described in Table 6.2." Which of these are in the HPR?*

    DISTRICT RESPONSE: **All of these research projects provide Districtwide benefit. See Table 6-3 List of agricultural water conservation research projects.**

48. **COMMENT: [Chapter 7, Part A] Section 1. Data Collection and Analysis Activities, Subsection 1.0 Hydrologic Data Collection (1.1 Surface Water Flows and Levels)** – *"The data is available to the public through the District's Water Management Information System (WMIS), and through the USGS [U.S. Geological Survey] Florida Water Science Center Web Portal." Agreement; plural noun*

    DISTRICT RESPONSE: **The reference to the term "data" is updated to reflect it as a plural noun consistent with the District's Words and Phrases List developed by the District's Communication Section, as of May 13, 2014.**

49. **COMMENT: [Chapter 7, Part A] Section 2. Water Resource Development Projects, Subsection 1.0 Alternative Water Supply Research, Restoration and Pilot Projects** - *Why are projects 1.1 and 1.3 included? They are not in the HPR.*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects". Seven of the water resource development "projects" benefit the Heartland Planning Region. The planning region of benefit is shown in the table.

50. **COMMENT: [Chapter 7, Part A] Section 2. Water Resource Development Projects, Subsection 3.0 Environmental Restoration and MFL Recovery Projects** - *Why are projects outside of the HPR included?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects." Some of the projects benefit multiple regions. The planning region of benefit is shown in the table.

51. **COMMENT: [Chapter 7, Part A, Section 2, Subsection 3.0] last paragraph** - *The indentation here suggests this paragraph applies to all of section 3, when it seems to apply to section 3.7 only.*

    DISTRICT RESPONSE: The text is revised as requested.

52. **COMMENT: [Chapter 8, Part B] Section 3. State Funding** - *See the comments in the NPR volume for specific comments on this section, and apply to the HPR.*

    DISTRICT RESPONSE: Section 3 provides the historical context of the District's water supply planning efforts. The paragraph explains why the northern region was included in the 2010 RWSP. Most descriptions of funding mechanisms apply Districtwide. Clarifications where funding mechanisms are not applied Districtwide are added to each region's plan as needed.

53. **COMMENT: [Chapter 8, Part B] Section 5. Public-Private Partnerships and Private Investment** – *Any HPR examples? Discuss.*

    DISTRICT RESPONSE: The Public-Private Partnerships and Private Investments section discusses an additional method for water supply development funding that has not been extensively utilized within the District.

Tampa Bay Planning Region

Tampa Bay Water – Paula Dye, email received June 10, 2015

1. **COMMENT:** *Chapter 2 [Part C, Section 2, Subsection 1.0 NTBWUCA], last paragraph: You may want to consider deleting the language in #(7) related to the exceptions period because that has ended and we did not need to use it. The paragraph may have been written before the period ended, so it is not incorrect. It is just out of date, and no longer applicable. So something to consider not including it or citing that it ended and we did not need to use it.*

   DISTRICT RESPONSE: **The text is revised as requested.**

Florida Department of Environmental Protection, Carolyn Voyles, received August 4, 2015

Enclosed are the Florida Department of Environmental Protection (DEP)'s comments on the District's draft 2015 Regional Water Supply Plan (Tampa Bay Planning Region, dated April 2015), as submitted by Carolyn Voyles as email attachment (PDF mark-up).

1. **COMMENT: [Chapter 1, Part B] Section 3. Minimum Flows and Levels Establishment, Subsection 2.0 MFLs Recovery Initiatives – "***In 2013, the District completed its first five-year assessment of the SWUCA [Southern Water Use Caution Area] recovery strategy (SWFWMD, 2013)." A reference to the SWUCA map would be helpful for this discussion.*

   DISTRICT RESPONSE: **The text is revised as requested.**

2. **COMMENT: [Chapter 1, Part B] Section 4. Quality of Water Improvement Program (QWIP) and Well Back-Plugging – "***The program plugs approximately 200 wells per year and more than 6,000 wells have been plugged since inception." How many in the TBPR [Tampa Bay Planning Region]?*

   DISTRICT RESPONSE: **Text is updated with the number of wells plugged in the Tampa Bay Planning Region (1,081) since program inception.**

3. **COMMENT: [Chapter 1, Part B] Section 4. Quality of Water Improvement Program (QWIP) and Well Back-Plugging –** *"The program has retrofitted 74 wells as of September 2014, with 55 of these in the target watersheds." How many in the TBPR?*

   DISTRICT RESPONSE: **The text is updated to indicate the number of wells plugged by Facilitating Agricultural Resource Management Systems (FARMS) in the Tampa Bay Planning Region (6 since program inception).**

4. **COMMENT: [Chapter 1, Part D] Section 1. Water Resource Investigations –** "*During the 1980s, hydrologic and biologic monitoring from the District's expanded data collection networks began to reveal water resource impacts in other areas of the District. In the late 1980s, the District initiated detailed water resource assessment projects (WRAPs) of the ETB NTB areas to determine causes of water level declines and to address water supply availability." First occurrence. Need to describe what an ETB area is.*

   DISTRICT RESPONSE: **The text is revised as requested.**

5. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** "*It was concluded that the Northern Planning Region demand for water through 2030 could be met with fresh groundwater; however, the need for additional fresh groundwater supplies could be minimized through the use of available reclaimed water and implementation of comprehensive water conservation measures." ?? This volume is for the TBPR.*

   DISTRICT RESPONSE: **Section 3 provides the historical context of the District's water supply planning efforts. The paragraph explains why the northern region was included in the 2010 Regional Water Supply Plan (RWSP). While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.**

6. **COMMENT: [Chapter 1, Part D] Section 3. Water Supply Investigations –** "*The 2010 RWSP adopted several alternative water supply options that were developed by regional water supply authorities in the respective planning regions, and from the 2009 Polk County Comprehensive Water Supply Plan in the Heartland Planning Region." What's going on in the TBPR?*

   DISTRICT RESPONSE: **While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.**

7. **COMMENT: [Chapter 2, Part A, Section 1] Figure 2-1. Location of the District's water use caution areas and the MIA [Most Impacted Area] of the SWUCA** – *Need to identify Lake County here.*

   DISTRICT RESPONSE: **Figure 2-1 is updated.**

8. **COMMENT: [Chapter 2, Part B] Section 2. Priority Setting Process** – "*The District's current Priority List and Schedule for the Establishment of MFLs is posted on the District web site and included in the Chapter 2 Appendix." Which appendix, specifically?*

   DISTRICT RESPONSE: **Text is revised to identify the appendix.**

9. **COMMENT: [Chapter 2, Part B] Section 3. Technical Approach to the Establishment of MFLs, Subsection 3.0 Methodology** – "*The District's methodology for MFL establishment for wetlands, lakes, rivers, springs and aquifers is contained in the Chapter 2 Appendix." Which appendix, specifically?*

DISTRICT RESPONSE: **Text is revised to identify the appendix.**

10. **COMMENT: [Chapter 2, Part B] Section 4. MFLs Established to Date –** *"A complete list of water resources with established MFLs in the District is provided in the Chapter 2 Appendix. Water resources with established MFLs in the planning region include the following…" Which appendix, specifically?*

    DISTRICT RESPONSE: **Text is revised to identify the appendix.**

11. **COMMENT: [Chapter 2, Part B, Section 4] Figure 2-3. MFL priority water resources in the Tampa Bay Planning Region –** *The map of the Hillsborough River looks weird without indication of the reservoir.*

    DISTRICT RESPONSE: **Comment acknowledged. The main focus of the map is MFL priority water resources.**

12. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture –** *See the comments in the NPR [Northern Planning Region] volume for specific comments on this section.*

    DISTRICT RESPONSE: **Language is added explaining that 2-in-10 drought demands are the best available information since our irrigation permitting model only produces results for 2-in-10 drought conditions. Also, additional information on 5-in-10 and 2-in-10 demand projection methods are included in Appendix 3-1.**

    Additional text is added indicating that the only year for which drought condition demands were provided in the Central Florida Water Initiative (CFWI) RWSP was for the year 2035. As county level drought demand data was not available for other years for CFWI counties, to include CFWI counties without data in the totals would produce misleading totals (in effect making the CFWI county demands equal zero). As a result, they are addressed as "NA", except for 2035.

    FDACS provides drought year projections. They are addressed in detail in Appendix C of Appendix 3-1. The CFWI RWSP appendices indicate that the 2035 1-in-10 projections for the District are 2-in-10.

13. **COMMENT: [Chapter 3, Part A] Section 3. Industrial/Commercial, Mining/Dewatering, and Power Generation (I/C, M/D, and PG) –** *Need to make it clear if the water quantities used are fresh or saline.*

    DISTRICT RESPONSE: **Power Generation has been separated into a new demand category. The water sources included in the demand projections are clarified.**

14. **COMMENT: [Chapter 3, Part A] Section 6. Summary of Projected Demands –** *See the comments in the NPR volume for specific comments on this section.*

DISTRICT RESPONSE: **A short discussion comparing the 5-in-10 demands with the 1-in-10 demands is included in the technical memorandums of Appendixes 3-1 through 3-4.**

15. **COMMENT: [Chapter 3, Part A, Section 6] Table 3-7. Summary of the projected increase in demand for counties in the Tampa Bay Planning Region (5-in-10) (mgd) –** *A grand total for the region should be included.*

    DISTRICT RESPONSE: **The table is revised to show a regional total.**

16. **COMMENT: [Chapter 3, Part A] Section 7. Comparison of Demands between the 2010 RWSP and the 2015 RWSP –** *This section should include some discussion on the huge increases in the L/R sector---the sector with the largest change.*

    DISTRICT RESPONSE: **A short discussion of the increase in the Landscape/Recreation (L/R) sector is included in the Appendix 3-4 Landscape/Recreation Demand Projections Technical Memorandum. The L/R methodology is revised and the previously projected increases in the L/R category are substantially reduced.**

17. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation – "***Since the program's inception, the leak detection team has conducted 104 comprehensive leak detection surveys throughout the District, locating 1,219 leaks of various sizes. This has resulted in an estimated 6.1 mgd of water savings." Any info on the quantities saved in the TBPR?*

    DISTRICT RESPONSE: **The text is updated with region-specific data.**

18. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1 Public Supply) –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised as requested.**

19. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.2 Domestic Self-Supply) –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The text is revised as requested.**

20. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.3 Industrial/Commercial (I/C) Sector) –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The estimated value is regional. The text is revised to clarify.**

21. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.4 Landscape/Recreational (L/R) Sector) –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The estimated value is regional. The text is revised to clarify.**

22. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 2.0 Agricultural Water Conservation –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The savings shown are annual for the year shown in the table.**

    Demand projections for irrigated commodities were determined by multiplying projected irrigated acreage by the irrigation requirements of each commodity. Acreage projections were formulated based on a cumulative review of the information through Geographic Information System (GIS)/permitting analysis and other sources using a base year of 2005. For those counties that are not located wholly within the District, only the portion of the commodity acreage located within the District was considered.

    The District's GIS model was used to retrieve and compare the agricultural water use permitting information and land use/land cover property appraiser parcel data for each county and record the future land use for each parcel and permitted area. The acreage increases were limited by the total available remaining land and total permitted quantity of water. The model accounted for land use transition from agriculture to residential/commercial/industrial use and a land use conversion trend was determined. Aerial photography provided another layer of information for land use/land cover analysis and commodity category determination.

    Recent land and water use projections and trends indicate that agricultural activities are expected to decline Districtwide over the next several decades. These trends include increases in urban development, full implementation of the North American Free Trade Agreement and other global competition issues, and destructive insect and disease outbreaks.

    Citrus will remain the predominant crop category but is projected to decline by 15,000 acres and 13 mgd in water use. The majority of citrus acreage in the Southern Planning Region, 55,000 acres, is located in DeSoto County. Other major commodities in the region include tomatoes, sod and other vegetables/row crops.

    The table was not updated to 2035, as there has been no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are being updated. The updated Model Farms projections are scheduled to be complete after publication of this RWSP.

23. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water –** *See the comments in the NPR & HPR [Heartland Planning Region] volumes for specific comments on this section.*

DISTRICT RESPONSE: **The text is revised as requested.**

24. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water –** "*Funded projects are expected to result in reclaimed water increases of 23 mgd, bringing utilization within the planning region to approximately 114 mgd by 2020." What is the estimated utilization rate for 2035?*

    DISTRICT RESPONSE: **The utilization rate "goal" for 2035 is 70%. The District forecasts utilization of 176 mgd in 2035 as discussed in Chapter 4, Section 3, Subsection 1.0 in the text and in Table 4-6.**

25. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water –** *A reference to the map showing these water bodies would be helpful for this discussion.*

    DISTRICT RESPONSE: **Comment acknowledged. Future updates will consider this addition.**

26. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 1.0 Criteria for Determining Potential Water Availability –** "*If the minimum flow for the river was not yet established or a hydrodynamic model was not available, a planning-level minimum flow criteria was utilized." What was and wasn't available for the TBPR region?*

    DISTRICT RESPONSE: **The specific criteria used are described in the overview of each river in Table 4-8.**

27. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 3.0 Summary of Surface Water Availability in the Planning Region – "***The estimated additional surface water that could potentially be obtained from rivers in the planning region ranges from approximately 65.6 mgd to 84.6 mgd." Why aren't these numbers presented in Table 4-7?*

    DISTRICT RESPONSE: **These numbers are presented in the Executive Summary, Table 2. Potential additional water availability in the District from sources in each planning region through 2035 in context with other regional planning areas.**

28. **COMMENT: [Chapter 4, Part A] Section 6. Aquifer Storage and Recovery – "***Within the District, there are two fully permitted reclaimed water ASR projects and five fully permitted potable water ASR facilities." Are any of these facilities located in the TBPR?*

    DISTRICT RESPONSE: **See Figure 4-4 for locations. In the TBPR there are two fully permitted reclaimed water aquifer storage and recovery (ASR) projects and one fully permitted potable water ASR facility.**

29. **COMMENT: [Chapter 4, Part A] Section 7. Aquifer Recharge –** *See the comments in the NPR volume for specific comments on this section.*

    DISTRICT RESPONSE: **The quantity is statewide. The text is revised as requested.**

30. **COMMENT: [Chapter 5, Part A] Section 2. Water Conservation Options, Subsection 2.0 Agricultural Water Conservation Options (2.1 FARMS) –** *The goal for the FARMS Program is to offset 40 mgd of groundwater use for agriculture by 2025." How much of this goal has been attained by the TBPR?*

    DISTRICT RESPONSE: **Out of 173 FARMS projects, there are 47 projects within the Tampa Bay Planning Region. The estimated offset from all of the Board approved projects within the Tampa Bay Planning Region is nearly 2.74 mgd.**

31. **COMMENT: [Chapter 6] Section 1. Water Conservation, Subsection 2.0 Agricultural Water Conservation Projects (2.1 IFAS Research and Education Projects) –** *"Of the 42 research projects, 30 have been completed. Completed projects include eight projects dealing with urban landscape issues and 22 involving various agricultural commodities. The 12 ongoing projects are described in Table 6.4." Which of these are in the TBPR?*

    DISTRICT RESPONSE: **All of these research projects provide Districtwide benefit. See Table 6-3 List of agricultural water conservation research projects.**

32. **COMMENT: [Chapter 6, Section 4] Brackish Groundwater Project #3. City of Clearwater Brackish Facility at Water Treatment Plant #2 – "***The project is scheduled for completion in February 2015." It's now July 2015. Was this project completed?*

    DISTRICT RESPONSE: **As of July 2015, the project is fully operational. Final billing and close-out is expected by December 2015.**

33. **COMMENT: [Chapter 6] Section 6. Aquifer Recharge Projects – "***This project is being designed to provide between 5 to 20 mgd of potential recharge…." Which of the two projects is being referred to?*

    DISTRICT RESPONSE: **The referenced project is the Pasco County Reclaimed Water for Natural System Treatment and Restoration project. The text is revised to clarify.**

34. **COMMENT: [Chapter 7, Part A] Section 2. Water Resource Development Projects, Subsection 1.0 Alternative Water Supply Research, Restoration and Pilot Projects** – *Why is project 1.2 included? It's not in the TBPR.*

    DISTRICT RESPONSE: **Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects." The planning region of benefit is shown in the table.**

35. **COMMENT: [Chapter 7, Part A] Section 2. Water Resource Development Projects, Subsection 3.0 Environmental Restoration and MFL Recovery Projects** – *Why are projects outside of the TBPR included?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects." Some of the projects benefit multiple regions. The planning region of benefit is shown in the table.

36. **COMMENT: [Chapter 8, Part B] Section 3. State Funding –** *See the comments in the NPR volume for specific comments on this section, and apply to the TBPR.*

    DISTRICT RESPONSE: Most descriptions of funding mechanisms apply Districtwide. Clarifications where funding mechanisms are not applied Districtwide are added to each region's plan as needed.

Gaydos Hydro Services – Dana Gaydos, letter received August 27, 2015

The following comments were received from Gaydos Hydro Services on August 27, 2015, as an email with attachment of a letter to George Schlutermann from Dana Gaydos.

1. **COMMENT:** *The Executive Summary states the following: "Approximately 25.54 mgd, or 9 percent of total demand, will be for environmental restoration. Approximately 15 mgd of this quantity will consist of decreases in groundwater withdrawals estimated to be needed to meet the saltwater intrusion minimum aquifer level in the SWUCA in the Southern, Heartland, and Tampa Bay planning regions. The remaining 5.54 mgd is needed to meet the Hillsborough River and Alafia River minimum flows in the Tampa Bay Planning Region and the upper Peace River minimum flow in the Heartland Planning Region." Where does the remaining 5 mgd come from?*

   DISTRICT RESPONSE: The environmental demand of 5 mgd for the Upper Peace River was inadvertently omitted from the Executive Summary. The text of the Executive Summary is revised to include the 5 mgd for the Upper Peace River.

2. **COMMENT:** *The Executive Summary indicates that identified project options could provide for a reduction of 6.35 mgd through agricultural conservation. However, [Table 4-5] of the Tampa Bay Planning Region draft document references a value of 6.34. Which is correct?*

   DISTRICT RESPONSE: The correct value is 6.34 mgd. The Executive Summary value is revised to reflect 6.34 mgd.

3. **COMMENT:** *With regard to agricultural use, the 256 square mile area [Dover/Plant City Water Use Caution Area (DPCWUCA)] recovery strategy in Hillsborough and Polk counties requires a reduction in the groundwater utilized during freeze/frost crop protection. Recovery strategies include finding an alternative source of water, implementing structural controls and/or augmentation systems to raise levels or increase flows in water bodies, or reducing allocated flows in water use permitting. The DPCWUCA MAL, related MALPZ goal, is to reduce the groundwater withdrawal by 20 percent by January 2020 as compared to January 2010 withdrawals with a goal of keeping the District Well DV-1 Suwanee potentiometric surface elevation 10 ft or higher (NGVD 1929). Recovery efforts stem from impacts to existing legal users and sinkhole occurrence during the 2010 freeze/frost event. Recovery and Environmental Restoration implementation is not well defined in the document. [In Chapter 7, Part A, Section 2, Subsection 2.0] it is noted that a goal of FARMS is to reduce the groundwater withdrawals by 20 percent. The projected offset for the frost-freeze protection projects currently under development by FARMS (post- January 2010) within the Dover/Plant City WUCA is 43 mgd per freeze event. It is unclear whether the 43 mgd volume meets the 20 percent goal set by FARMS or if this goal will be a means to limit groundwater withdrawals, or mandate implementation of BMPs.*

   DISTRICT RESPONSE: **The text is revised in the Tampa Bay Regional Water Supply Plan, Chapter 2, Section 3.0, and in the Heartland Regional Water Supply Plan, Chapter 2, Section 2.0, to address the concerns specified in the comment.**

   The currently estimated 43 mgd does not meet the goal of 20 percent of pumped quantities. FARMS is directed to try to achieve that goal by 2020.

   The goal is similar to other FARMS goals. The goal is intended to provide the agricultural community with an incentive to reduce water use. Whether Best Management Practices (BMPs) will be mandated is a separate issue from FARMS meeting the target of 20 percent reduction in cold protection use in the Dover Plant City Water Use Caution Area.

4. **COMMENT:** *In the Tampa Bay Planning Region document, agricultural conservation is projected through the "model" farms concept with 100% participation assumed. Irrigation usage at citrus, nurseries and strawberries were selected as the best options to model usage within the District. The model assumes sprinkler type systems as typical for container nurseries, field crops and sod farms with drip systems utilized for row crops grown using plastic film mulching conjunction with a seepage system that is used for bed preparation and crop establishment. Microjet systems are assumed for citrus. Surface irrigation, including semi- closed systems, is the most common type of irrigation for non-citrus crops in Florida. Based on publicly available data and interviews with irrigation system and farm management providers, costs to implement the model BMPs and irrigations systems were calculated. Out of the 6.34 mgd anticipated through this conservation effort, 1.17 mgd is estimated as the savings from strawberry crops through 2030 by commodity (5-in-10). The projected cost of capital investment and one year of operation and maintenance (O&M) is $172 per planted acre for this conservation effort. This cost assumes that main and sub-main lines are existing. Table 1 provides a summary of the potential agricultural water savings by commodity. The document is unclear on a funding source for this potential water savings. The maximum funding for FARMS And EQIP is 75 percent of the total project cost. Will these funds be available for water conservation projects identified through the model farms project? Will the farm be responsible for the remaining 25 percent of the costs or will*

other funding mechanisms be made available since the conservation efforts by agriculture are a means to establish MFLs and address water withdrawal concerns within WUCAs [water use caution areas]? Additionally, when is it assumed that the farms will convert?

DISTRICT RESPONSE: **For the purposes of this RWSP, the 25 percent costs of the BMPS are assumed to be paid by the growers who may benefit from reduced water use through reduced fuel costs and other commodity production efficiencies. The timeframe is assumed to be the planning horizon of this RWSP (2035).**

5. **COMMENT:** *Table 1: Summary of potential agricultural water savings by commodity (5-in-10) for the Tampa Bay Planning Region through 2030 (Table 4-5 Draft RWSP)*

Commodity	Total Estimated Savings (mgd)	Total Cost ($/acre)
Citrus	0.61	$105
Nurseries, container	0.53	$347
Strawberries	1.17	$172
Remaining	4.03	$100
Total	6.34	-

Tables 5-5 through 5-7 provide water saving information in mgd and cost savings information in cost per 1,000 gallons. It may be useful to add column(s) where the water and costs are presented in the same units.

DISTRICT RESPONSE: **Comment acknowledged.**

6. **COMMENT:** *[Chapter 7, Part A, Section 2] of the Tampa Bay Planning Region RWSP draft document has a typo. "The projects are listed in Table 7-2, below, along with their funding to date, total costs, participating cooperators, the estimated water quantity to be become available, and the planning region benefitted by the project.*

DISTRICT RESPONSE: **The text is revised.**

7. **COMMENT:** *Projected demand within the Tampa Bay Planning Region is expected to be met from sources other than groundwater. Withdrawals from the surficial and intermediate aquifers, and possibly from the UFA [Upper Floridan Aquifer], will be "subject to a rigorous, case-by-case permitting review." How will this affect permit renewals?*

DISTRICT RESPONSE: **Water Use Permit renewals will continue to be reviewed pursuant to the District's Water Use Permit Regulations including Chapter 40D-2, Florida Administrative Code, and the Water Use Permit Applicants Handbook, Part B.**

Northern Planning Region

Citrus County Department of Water Resources – Debra Burden, Water Conservation Manager, email received May 20, 2015

1. **COMMENT:** *[Chapter 4, Part A, Section 2, Subsection 1.0, "…low-flow showerheads and irrigation controllers…"] replace the word 'controllers' with system components*

   DISTRICT RESPONSE: **The text is revised as requested.**

2. **COMMENT:** *[Chapter 4, Part A, Section 2, Subsection 1.0 (1.1 Public Supply, 1.1.2 Assessment Methodology)] WRSA or WRWSA [Withlacoochee Regional Water Supply Authority]?*

   DISTRICT RESPONSE: **The text is revised as requested.**

3. **COMMENT:** *[Chapter 4, Part A, Section 1, Subsection 1.0 (1.1. Public Supply)] Do you mean achieve an additional 11.29 mgd?*

   DISTRICT RESPONSE: **The text is revised as requested.**

Citrus County Department of Water Resources – Debra Burden, Water Conservation Manager, email received July 2, 2015

The original email included the following comments and one (1) attachment titled, "Irrigation vs Domestic Wells in SMW.xls".

1. **COMMENT:** *[Chapter 5, Part A, Section 2] Table 5-4. Conservation BMP options for Public Supply sector. The Residential BMPs section identifies 'Soil Moisture Sensor' as a conservation option. The use of the specific term 'Soil Moisture Sensor' may be limiting and inconsistent with the title of the corresponding Non-Agricultural Water Conservation Options description in section 1.1.4 Irrigation Controller: Evapotranspiration, Soil-Moisture, and Rain Sensors. Please consider the following:*

   - *Table 5-4, change 'Soil Moisture Sensor' to 'Weather-based Irrigation Controller' (Northern RWSP pg. 88)*
   - *Section '1.1.4 Irrigation Controller', change to 'Weather-based Irrigation Controller' (Northern RWSP pg. 90)*

DISTRICT RESPONSE: **The District appreciates your comments. Modeling used to calculate savings shown in Table 5-4 were based on soil moisture sensors only. Also, the term "irrigation controller" includes weather based irrigation controller.**

2. **COMMENT:** *Additionally, within section 1.1.4 Irrigation Controller: Evapotranspiration, Soil-Moisture, and Rain Sensors, there is a reference to the Irrigation Association website (www.irrigation.org) for research of certified 'smart controllers'. While this organization is certainly an option, Water Sense is nationally recognized and continues to add products to their growing list of approved controllers. Currently Water Sense has 187 approved controllers vs. the 36 listed on the IA, and the most recently added IA approved product dates back to 2013. Please consider the following:*

    - *Include a reference to Water Sense (http://www.epa.gov/watersense)*

    DISTRICT RESPONSE: **The suggested link is added to the text.**

3. **COMMENT:** *The last note is to agree with Richard Owen's comments below that were previously submitted reference wells categorized as domestic within a public supply territory being used for irrigation purposes, but not included within demand projections. The attached spreadsheet consists of wells within the Sugarmill Woods community pulled from WMIS [the District's Water Management Information System]. There are 232 categorized as Domestic. I called a total of five customers to ask how the well was being used. All five indicated irrigation. 232 wells used for irrigation at 300 gpd is equal to nearly 70,000 gallons per day and over 25 million gallons per year.*

    DISTRICT RESPONSE: **The District relies on well construction permit use type descriptions for the identification of irrigation wells and the calculation of additional irrigation demand. While the use type of a well can change without notification, these are the best available information absent a current survey of domestic well usage.**

Withlacoochee Aquatic Restoration, Inc. (WAR) – Dan Hilliard, President

The following comments were received from Dan Hilliard on August 13, 2015. The original email included two (2) attachments titled, "WAR comments to SWFWMD Water Plan Final.pdf" and "PEF Environmental Report Part 3 Levy COL application.pdf".

1. **COMMENT:** *Reference is made in Chapter 1 and elsewhere to a variety of research tools (Table 1-2) which involve computer modeling which we understand to integrate surface and ground water dynamics into a single model. We applaud this development and consider such investigations as the most proper tool for evaluating supply sources from either source. We recognize that models are often imprecise and/or subject to significant errors, but also recognize they are an evolving tool. An example is the ongoing enhancement of the Northern District Model (NDM-1 thru NDM-4).*

WAR has long held that long range planning is essential to the state's mandate to effectively oversee its core responsibility to the health, safety and welfare of the residents and visitors. We are skeptical of couching the draft as "long range". Within the draft are several references to the District's statutory obligation to perform this review on recurring cycles of 5 years, but note the 20 year planning envelope is stipulated as a "minimum". (Chapter 1, Sect 3, pg 20, par. 1)
While near to midterm planning may serve many endeavors we suggest that a more distant horizon is appropriate for purposes of the draft for several reasons. The water resource which is contemplated in the draft is finite in available volume and variable in quality. The costs of developing transmission infrastructure will certainly increase over time due to inflation and use of enhanced technology. The costs of installation will increase profoundly when installed as an after the fact reflex rather than before the fact as a result of planning.

In a span of 60 years (1954-2014) Florida's estimated population has increased approximately 5.7 times, from 3.5 million to 19.89 million. The population increased from 12.64 million to 19.89 million in the 25 years between 1989 and 2014, or by about 7.25 million residents. We suggest that if the state is intent upon water supply sufficient to support the incredible population growth that is a significant component of our economic model and past, a more synergistic and aggressive supply strategy is imperative.

When Progress Energy (now Duke Energy Florida) submitted its Site Certification Application to the state one of the requirements was showing need for the project. In the course of said justification the application presented population growth data extended to the year 2080. This data successfully supported a determination of need as a business plan for a regional utility. As demonstrated need for power generation capacity goes, so too does the need for water distribution and supply planning. WAR does not suggest water planning to that extent is necessary, but strongly urges the District to consider expanding the scope of the WSP to a minimum of 30 years.

DISTRICT RESPONSE: **Comment acknowledged. The 2015 Regional Water Supply Plan (RWSP) planning horizon meets the current State statutory requirement. The RWSP is updated every five years.**

2. **COMMENT:** ***[Chapter 2, Part C, Section 1] Subsection 3.0:*** *Discussion of springs restoration methods and planning methodologies. We suggest in very simple terms that the need for this activity on the part of the District is symptomatic of a systemic failure between state agencies and local governments. Certain activities related to development are known to cause degradation to springs and surface waters unless proactive steps are taken to mitigate harm. It is more costly to restore these systems than protect them. Their contribution to local economies is significant, particularly in the Northern Region. While we are in the restoration mode at present, a sensible approach to the prevention of further degradation would be properly directed at focused reduction of nutrient loading and system flows. As example, see the Rainbow River and Kings Bay BMAP and TMDL [Total Maximum Daily Load] documents.*

DISTRICT RESPONSE: **As noted in the Draft Regional Water Supply Plan, the District developed a Springs Management Plan that includes a general restoration strategy, an overview of relevant goals and issues, and a list of proposed projects for a five-year period ending in 2017. In addition, the District is coordinating the development of**

individual management plans for the five first-magnitude spring groups within the District. Working with multiple stakeholders, the Rainbow River Surface Water and Improvement (SWIM) Plan is nearing completion, with finalization expected by the end of 2015. Finalization of an updated SWIM Plan for Crystal River/Kings Bay is anticipated to occur in 2016. These plans include and future plans are expected to include water quality management actions and projects directed toward addressing issues identified as part of the Best Management Plans (BMAP) process. Coincident with development of the comprehensive conservation and management plans, the District continues to work on the development and reevaluation of minimum flows for the Rainbow, Crystal River/Kings Bay, Homosassa and Chassahowitzka spring groups.

3. **COMMENT:** ***Chapter 1, Part D, Section 5, Subsection 2.0:*** *The sum of discussion regarding saltwater intrusion into the regional aquifer concludes it is not significant or an imminent threat. In the broader context we agree. In more closely viewed perspective we disagree. During a prolonged drought cycle in 2012 numerous residents in NW [Northwest] Citrus County, generally between the Cross Florida Barge Canal and Withlacoochee River were forced to rely on bottled water for drinking due to high salinity in well water. The primary threat from this issue results from a lack of supply infrastructure. With the passage of time and lacking focus on specifically vulnerable locations, it is likely to become significant in the coastal portions of the Northern Region.*

   DISTRICT RESPONSE: District staff has evaluated the potential for saltwater intrusion in the area. The District's conclusion, based on data from monitor wells and numerical models of the region, is that while there may be localized water quality degradation, the overall threat for regional or sub-regional saltwater intrusion is minimal. Additionally, well withdrawals in the area are small and expected to increase modestly over the next 20 years. Upper Floridan aquifer (UFA) water levels monitored in wells near the Barge Canal have shown no appreciative coastal decline over the last 30 years. Chloride concentrations from the vast majority of the wells within the District's coastal saltwater interface monitoring network show no significant changes over the last 20 years. Predictive models of both aquifer levels and water quality show only a slight decline in UFA water levels and no appreciable degradation in groundwater quality over the next 20 to 50 years. Water supply evaluations by the District and the Withlacoochee Regional Water Supply Authority (WRWSA) demonstrate that groundwater sources are sufficient to meet the needs of growth in the area for the next 20 years.

4. **COMMENT:** ***Chapter 2, Part C, Section 1:*** *In discussion of prevention strategies related to MFL Rules and resource protection WAR finds basis to question policies which seemingly prioritize supply over other District Areas of Responsibility (AOR). Intent of the strategies stipulates protecting MFL Rules rather than the resource itself, which is troubling. Five first magnitude springs are located within the Northern District, each a powerful and ostensibly sustainable economic resource in its own right, and each impaired for a variety of reasons. Previous discussion points in this document point to current restoration strategies for these resources and as noted, this activity is the result of inadequate stewardship in the past. System flow within each of these systems is significantly vital to their continued function and groundwater withdrawal within each basin has a measurable adverse impact. The draft suggests repeatedly and in various fashions that we have sufficient groundwater to continue*

the practice despite known impacts which result. The use of ground water is put forth as the cheapest supply source throughout the draft, but WAR questions that perception in a very broad sense. The threshold for harm is either very close or perhaps exceeded in some of these systems. Continued reliance upon narrow economic evaluation of cost/benefit metrics has not been successful in this region in the past and will not be so in the future. The economic benefit of three springs in Citrus County, Florida approached $200,000,000 last year and this benefit must be balanced against other perceived advantages when labeling ground water as the cheapest source. While it is clear the District does not regulate development in the region, it does regulate the water resource in accordance with AORs, statute and code. There is no basis for assigning priority to any individual responsibility within this framework. There are alternatives that are sustainable and arguably cheaper over the long term. They are discussed at length in the draft. What is not discussed is the premise of using 150 gpd as a per capita objective as a planning metric or for economic analysis. As there are other economically successful jurisdictions in Florida and across the nation that function with less per capita usage it is considered a parameter which should be reevaluated from an economic perspective with minimized assumptions.

DISTRICT RESPONSE: **The Development and implementation of MFLs are the methods by which Florida's water management districts (WMDs) or the Florida Department of Environmental Protection (DEP) are required to utilize to prevent significant harm to water resources and the ecology of the area. To the District's knowledge, no other state has made such a comprehensive commitment to establish and use flow and water level criteria for the regulation of water withdrawals. The District is particularly aggressive in establishing and implementing MFLs, based in part on the need for hydrologic recovery in portions of the District that were impacted by excessive withdrawals that occurred prior to the existence of regulatory programs.**

Adopted MFLs protect against loss of economic activity related to the natural resource and recreational values, such as the springs, beyond those levels at which significant harm occurs. The process of developing an MFL is based primarily on hydrologic and ecologic science and not on the economic contribution of a particular attribute of the water body in question (e.g. recreation, tourism), although environmental values such as recreation in and on the water, aesthetic and scenic attributes and navigation are considered. Explicit introduction of economic analysis into the development of MFL may run counter to the State's statutorily expressed desire to protect water resources and the ecology of the area from significant harm. Many could likely argue that flows reserved for springs could create more jobs and economic activity in other industries than are provided by the springs. The MFL development process could devolve into a battle of economic assumptions and models. The only explicit role that economic analysis plays in the development of an MFL is when recovery to historic hydrological conditions may not be economically feasible and that such recovery effort could cause adverse environmental or hydrologic impact (Section. 373.0421(b)1, Florida Statutes (F.S.)).

In response to the 150 gpcd compliance per capita, it is important to recognize that per capita includes other uses served by the utility and allows certain deductions for large uses of water that are not related to the water needs of the service area population (e.g., large industrial or agricultural uses). The calculation of the regulatory compliance per capita is specifically designed to create a more level

playing field among utilities in terms of achieving compliance with the per capita standard. There are other jurisdictions that have different and perhaps lower per capita values but it is doubtful that they are equivalent to the District's compliance per capita. However, we do feel that the 150 gpcd compliance per capita standard provides the regulatory incentive that has helped to steadily reduce not only compliance per capita over time but also other measures of water use. We are unaware of any other jurisdiction with such a highly developed and monitored per capita reduction program. All three regulatory measures of Districtwide per capita have declined for the period 2001 – 2013:

Gross Per Capita	**126 gpcd to 98 gpcd**
Adjusted Gross Per Capita	**121 gpcd to 97 gpcd**
Compliance Per Capita	**109 gpcd to 93 gpcd.**

Regarding other jurisdictions, the U.S. Geological Survey (USGS) periodically publishes data in Estimated Water Use in the United States (Circular 1405). The most recent edition is for 2010. The USGS includes a per capita that is comparable to the residential per capita that the District provides to DEP and is included in Appendix E of the recent annual Estimated Water Use Reports. For 2010, the Districtwide residential (indoor and outdoor) per capita was 73 gpcd. For the same year, the USGS reported a statewide public supplied domestic water use (residential indoor and outdoor use) for Florida of 85. Only two other southern states (Kentucky and North Carolina) had a residential per capita lower than 73 gpcd. Northern states often have lower residential use because of lower irrigation demands. The District is committed to further reductions in per capita use. In the Northern Planning Region there is a strategic goal of reducing 2011 compliance per capita by 15% by 2020. The District expects further reductions in all forms of per capita use in the Northern Planning Region as we approach the 2019 deadline for the region's utilities to achieve the required 150 gpcd compliance per capita. Any reevaluation of per capita requirements would not likely be considered until after the 2019 deadline.

Clearly there is always room for improvement and as demands increase. The Northern Planning Region has a limited supply. Enhanced conservation and further reduction of per capita water use are key components of meeting future demand.

5. **COMMENT:** ***[Chapter 2, Part E]:*** *The section is directed at Sea Level Rise and other climate change issues. Forecasts of impending changes have substantial variation and due to uncertainty a strategy of reaction as necessary is appropriate. The District can neither forecast the magnitude of such trends nor influence the resulting impacts within a 20 year planning horizon.*

DISTRICT RESPONSE: The sea level rise projection calculated for the 20-year planning horizon is based on the quadratic formula adopted by the United States Army Corps of Engineers (USACE) for planning of civil works projects, including adjustments for historic observations at the St. Petersburg National Oceanic and Atmospheric Administration (NOAA) tidal gauge. To account for uncertainty, a wide range of potential sea level rise are provided. The "low" range is a linear projection based on the local historic rate. The "intermediate" rate accounts for an anticipated acceleration of rise predicted by the National Research Council. The "high" range has

a low probability of occurrence, but represents the potential rapid ice loss from Antarctica and Greenland. Additional information is available at: http://www.corpsclimate.us. There are less consistent predictions for air temperature and precipitation changes for southwest Florida. For this reason, The Intergovernmental Panel on Climate Change (IPCC) predictions for the more global region were provided in the RWSP. Other important elements of this section are the District's extensive hydrologic and geologic monitoring networks to vigilantly track conditions impacting water use including saltwater intrusion, current management strategies to ensure resilient water supplies, and support for municipalities in planning future adaptive management strategies.

6. **COMMENT:** ***Chapter 3: Demand projections.*** *While recognizing the value and necessity of such analysis it leaves much open to question. As previously stated, there is a question as to the applicability of the 150 gpd per capita consumption used to forecast demand. There are substantial unknowns within the planning horizon which could sharply modify projections of supply and demand for reclaimed water. Assumptions used to estimate per capita consumption for private wells are not specifically supported in the draft.*

   WAR objects to the exclusion of industrial, commercial, and agricultural consumption data in establishing per capita consumption figures. It is appropriate that these sectors are segregated and evaluated as individual components, but the sum of all consumption divided by the population fairly represents definition of the term "per capita." Doing otherwise presents a skewed perception to the public.

   DISTRICT RESPONSE: The value of 150 gpcd was not used to forecast public supply demand. Public supply demand by utilities is forecast using the most recent 5-year adjusted gross per capita of the utility. Regarding the water consumption of private wells, please see Appendix 3-3 for a detailed explanation. Regarding exclusion of various demand sectors in establishing per capita, it is unclear whether the comment is referring to utility-supplied demands or the demand of self-supplied industrial, commercial, etc., entities. Utility-supplied non-residential demands are included in public supply demand for RWSP purposes while non-utility supplied, non-residential demands are projected separately. There is no single standard definition for per capita water use. Generally, it is used in the context of utility-supplied water.

7. **COMMENT:** ***Chapter 3 [Part A]; Section 5: Environmental Restoration.*** *WAR reiterates previous comments pertaining to the costs of restoration versus protection. It is a questionable practice to set MFL rules as a target for groundwater withdrawals when the impacts to spring resources resulting from groundwater depletion are known. Any intent to do so without broad economic analysis before the fact is flawed.*

   There is the appearance in this discussion that the District has set certainty aside in reliance of WRWSA (Authority) projections and assumptions. The Authority's function is water supply planning and little more. While it is recognized that development of planning proposed by the Authority must undergo permit review, we question the validity of some components of its planning due to narrow focus. Adoption of this information by the District for the draft is of limited value.

WAR strongly objects to the practice of Aquifer Recharge/ASR as a methodology for long range planning due to many technical uncertainties in karst environments and checkered success elsewhere in Florida. It is an expensive process which uses immature technology that generates inconsistent results. As such it is inappropriate for inclusion in the draft as it presents as a hypothetical exercise for planning purposes.

DISTRICT RESPONSE: Comment acknowledged. The water supply evaluations completed by the District and WRWSA demonstrate that groundwater sources will be sufficient to meet the needs of growth in the area for the next 20 years. Therefore, with the exception of conservation and reuse, implementation of alternative water supply options mentioned in District and WRWSA planning documents are not needed or likely to be developed in the immediate future.

Aquifer Recharge and Storage (ASR) is successfully implemented in other planning regions. However, there are currently no ASR projects planned in the Northern Planning Region. The ASR projects mentioned in the Northern Planning Region document are intended to provide background information and are consistent between the plans.

The concept of aquifer recharge (as well as other identified options) is not necessarily the District's preferred option. However, it is a concept that water users could pursue. Options in the District's and WRWSA's plans are presented to demonstrate estimated costs to develop the supply. If pursued in the future, aquifer recharge (or any option) will require a feasibility assessment to investigate suitable locations, effects on the environment, projected quantities, cost effectiveness, permittability, etc.

8. **COMMENT:** ***Chapter 4:*** *Reclaimed Water discussion is notable and very appropriate for planning purposes. While it is thought that reclaimed water will become an integral component of water supply in our future it would appear that mechanisms which promote increased demand for the resource should be examined. Among these might be local or state rules or statute formulation which requires integration of distribution infrastructure as a condition of development in platted subdivisions during the permitting process. The concept of residential use of the resource is discussed in the draft [Chapter 4, Part A, Section 3. Reclaimed Water]. WAR suggests that metered supply and billing based on consumption is appropriate. Flat rate billing for the resource is contra indicated. Such practice is contrary to promoting conservation as maximum use is justified from the resident's perspective. Nor should flat rate billing be promoted for I/C use.*

The District should consider utilization of untreated or minimally treated stormwater and/or surface waters to augment reclaimed water supply. Depending on source site it can be supplied through existing or planned reclaimed water distribution infrastructure. Such distribution may dramatically reduce the use of potable water supply for residential irrigation, agricultural irrigation, industrial and commercial use.

DISTRICT RESPONSE: **Comment acknowledged. The District concurs with WAR's suggestion to include developer installed reclaimed water distribution systems as a condition of development. The District has included that requirement as a condition of receiving District reclaimed water funding since FY2000 (Paragraph 27.1 of the District's Reclaimed Water Cooperative Funding Agreement Template).**

The District also concurs with WAR's recommendation that reclaimed water billing should be metered and volumetrically based, and has included that requirement as a condition of receiving District reclaimed water funding since FY2000 (Paragraph 27.2 and 27.4 of the District's Reclaimed Water Cooperative Funding Agreement Template).

The District also concurs with WAR's recommendation to integrate stormwater supplies into conventional reclaimed water systems. The District encourages and cooperatively funds integrated stormwater/reclaimed water systems since the District's reclaimed water project co-funding began in FY1987. Examples of integration include the majority of the nearly 200 golf courses within the District that use reclaimed water delivered into on-site stormwater ponds and also several master planned communities that have multi-source irrigation storage and supply components such as Lakewood Ranch in Manatee/Sarasota Counties and The Villages in Sumter County.

9. **COMMENT:** ***Chapter 4; Section 7; [Subsection] 1.0:*** *Desalinization as discussed for planning purposes within the time frame of the plan is problematic. See Title 16 USC Sec. 460tt. http://trac.syr.edu/laws/16/16USC00460tt.html*

   In addition, TDS values represented in the draft (15-20,000 ppm) for water in the Cross Florida Barge Canal conflict with information provided by Progress Energy's Site Certification Application (SCA) for the Levy Nuclear Power Plant project, wherein TDS values of 21,500 ppm upstream to 32,500 ppm downstream were presented. The SCA stipulates that demand for cooling will be sufficient to cause flow reversal in the CFBC, thus the TDS levels will be weighted to the higher end of that range. Permit review for the project by NRC is underway at this time. Levy Nuclear Plant Units 1 and 2 COL Application Part 3, Environmental Report; page 2-378(attached)

   DISTRICT RESPONSE: **Comment acknowledged. It is unlikely that the desalination option would be pursued within the planning timeframe, if at all, due to the current availability of fresh water resources, high capital and operational costs, and permittability. The project option is presented in the RWSP to demonstrate its conceptual costs for comparative purposes to other new water source options. It is stated that water quality in the canal is widely variable. A thorough feasibility assessment of source water quality and treatment design would be necessary prior to development. The District has updated the description to note technical issues and potentially competing uses including the Levy Nuclear Power Plant.**

10. **COMMENT:** ***Chapter 5; [Part A] Section 4. Surface and Stormwater Options (Option #3):*** *Planning for the use of surface waters from Lake Rousseau is problematic for multiple reasons. It is not clear the Authority has considered issues outside the scope of its interest in planning processes; therefore the benefit of long range planning for this draft is suspect.*

    The District is developing MFL Rules for the Lower Withlacoochee River, or that component downstream of the Inglis Bypass Spillway. Regardless of the status of that rule development it is clear the Lower River has been severely impacted by reduced average flow from the system due to containment geometry for the reservoir. The loss of peak flow regimes has contributed to loss of scouring action in an Outstanding Florida Waterway. Further reduction in average flow will exacerbate these issues and contribute to incrementally greater seawater ingress in the Lower River system. Permitting of this development as presented in the draft will be of a contentious nature and litigation is likely unless these issues are addressed from the beginning.

    Ambient water quality and treatment necessary to utilize surface waters from the reservoir suggest the source will be expensive and perhaps more expensive than indicated in the draft. It is not clear the Authority has factored the cost of treatment necessary to remove contaminates from recurrent herbicide applications in the reservoir, nor that any agency collaboration has occurred which addresses alternative invasive aquatic vegetation control program methodologies or costs. We note the current program of applications of a variety of herbicides in significant volume include several in which the degradation process results in carcinogenic compounds. The EPA [Environmental Protection Agency] registration for this purpose does not, so far as we are aware, permit introduction of the compounds into drinking water supply sources. EPA does not evaluate these products in a fashion which includes other products or byproducts of production which are typically included in the final product for distribution by the manufacturer. WAR therefore cannot support the Authority's plan or inclusion of such discussion in the draft. For further reference we suggest dialog with [Florida Fish and Wildlife Conservation Commission] FWCC and review of applicable EPA pesticide registration decisions (RED) is indicated.

    DISTRICT RESPONSE: **Comment acknowledged. On October 2, 2015, the District forwarded the comment to the WRWSA for consideration.**

11. **COMMENT:** ***Conclusions:*** *WAR is generally supportive of the planning represented in the draft but is inclined to promote more aggressive methodology and shift liability for funding to the harm sources/jurisdicitions outlined and identified in BMAP and TMDL Rules supporting documents. Much of the costs outlined in the draft for restoration and/or water quality enhancement are due to inadequate methodologies, dated technology and/or simple ignorance of impacts resulting from same. They are not the responsibility of the District, but rather those jurisdictions which authorize such use. Future water supply should be contingent upon the concept of not doing harm in a long term economic context. Use of reclaimed or surface water sources at all levels can be utilized (at cost) and promoted as a mitigating factor and permitting condition.*

    As previously stated, we feel the planning horizon should be moved to a 30 year timeframe.

    We suggest that more detailed economic analysis is appropriate, primarily in context of scope which supports all of the District's AOR mandates.

    We support an aggressive approach by the District which protects groundwater supply sources vigorously and views such policy in an economic perspective.

    DISTRICT RESPONSE: **Comment acknowledged.**

Florida Department of Environmental Protection, Carolyn Voyles, received August 4, 2015

Enclosed are the Florida Department of Environmental Protection (DEP)'s comments on the District's draft 2015 Regional Water Supply Plan (Northern Planning Region, dated April 2015), as submitted by Carolyn Voyles as email attachment (PDF mark-up).

1. **COMMENT: [Chapter 1] Part A. Introduction to the Northern Planning Region RWSP –** *"Chapter 8, Overview of Funding Mechanisms, provides an estimate of the capital cost of water supply and water resource development projects proposed by the District and its cooperators to meet the water supply demand projected through 2030 and to restore MFLs to impacted natural systems." Why not through 2035?*

   DISTRICT RESPONSE: 2035 is the correct year. The sentence is revised.

2. **COMMENT: [Chapter 1, Part D] Section 5. Modeling Investigations, Section 1.0 Groundwater Flow Models –** *"Beginning in the late 1970s, the USGS, with cooperative funding from the District, created several models of the Hernando, Pasco, Pinellas and Hillsborough counties area that were generally used to evaluate effects of withdrawals for specific wellfield areas." Not in the N. Planning Region*

   DISTRICT RESPONSE: The paragraph provides the historical context of the District's groundwater modeling efforts. While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

3. **COMMENT: [Chapter 2] Part A. Water Use Caution Areas –** *What does this section have to do with the NPR [Northern Planning Region]?*

   DISTRICT RESPONSE: This section provides the historical context, and may be informative to readers in the NPR if a water use caution Area (WUCA) is considered within the region in the future. While most of the information provided is specific to the planning region, some of the text is general background information intended to be consistent within each of the regional plans.

4. **COMMENT: [Chapter 2, Part A, Section 1] Figure 2-1. Location of the District's water use caution areas and the MIA [Most Impacted Area] of the SWUCA [Southern Water Use Caution Area] –** *Lake County needs to be labeled on this map.*

   DISTRICT RESPONSE: Figure 2-1 is updated.

5. **COMMENT: [Chapter 2, Part B] Section 2. Priority Setting Process –** *"The District's current Priority List and Schedule for the Establishment of MFLs is posted in the District web site and is included in the Chapter 2-1 Appendix." Need to include complete Appendix references.*

   DISTRICT RESPONSE: Text is revised to identify the appendix.

6. **COMMENT: [Chapter 2, Part B] Section 4. MFLs Established to Date –** *"A complete list of water resources with established MFLs in the District is provided in the Chapter 2 Appendix." Which one--Appendix 2-1 or 2-2?*

   DISTRICT RESPONSE: **Text is revised to identify Appendix 2-1.**

7. **COMMENT: [Chapter 2, Part E] Section 3. Current Management Strategies** – *"The District's saltwater intrusion monitoring well network was initiated in the early 1990's due to impacts observed in the SWUCA." SWUCA? See report pp. 21-22 about saltwater intrusion in the NPR. Is there a saltwater intrusion monitoring network in the NPR?*

   DISTRICT RESPONSE: **The text is revised to describe the District's saltwater intrusion monitoring network that covers the entire District.**

8. **COMMENT: [Chapter 2] Part F. Central Florida Water Initiative (CFWI)** – *"The first ever multi-District RWSP was developed for the CFWI Planning Area as a draft collaborative work product in 2014." Is a header missing? See the HPR [Heartland Planning Region], p. 37.*

   DISTRICT RESPONSE: **The text is revised as requested.**

9. **COMMENT: [Chapter 2] Part F. Central Florida Water Initiative (CFWI) – "***The CFWI Solutions Planning Team, consisting of representatives from the Districts, DEP, FDACS, public supply utilities, agricultural industry, environmental groups, business representatives, and regional leaders used the CFWI RWSP to further develop specific water supply projects through partnerships with water users." Paragraph spacing.*

    DISTRICT RESPONSE: **The text is revised as requested.**

10. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture, Subsection 2.0 Water Demand Projection Methodology** – *How does your methodology compare to the FDACS methodology? Need some discussion of the FDACS methods here.*

    DISTRICT RESPONSE: **A description of the Florida Statewide Agricultural Irrigation Demand Version 2 (FSAID2) methodology is provided to contrast the District's methodology in Section 2 (Agriculture). For more detail see Appendix 3-1.**

11. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture, Subsection 3.0 Water Demand Projections –** *How did your results compare to FDACS' results? Need some discussion of the FDACS results here.*

    DISTRICT RESPONSE: **A very brief comparison of the difference in District and FSAID2 results is provided in Section 3 (Water Demand Projections). In addition, Appendix 3-1 (Agricultural Technical Memorandum) includes a new section (Appendix C) that addresses the requirement of Section 373.709(2)(a), F.S., to provide a description of any deviation from agricultural demand projections provided by FDACS. The new Appendix C provides a much more detailed description of the differences in the District's and FDACS' projections.**

12. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture, Subsection 3.0 Water Demand Projections –** *"Table 3-2 displays the projected change in total agricultural water demand (both irrigation and non-irrigation) for the 5-in-10 and 2-in-10 conditions for the planning period." The 2009 Format and Guidelines... requires evaluation for a 1-in-10 drought year. Please provide a short description of why the 2-in-10 was used, and reference Appendix 3-1. Why were results available only for 2035? Also, does FDACS have drought year estimates? If so, please provide. BTW, we did find that the drought numbers in the latest CFWI RWSP were 1-in-10.*

    DISTRICT RESPONSE: **Language is added explaining that 2-in-10 drought demands are the best available information since our irrigation permitting model only produces results for 2-in-10 drought conditions. Also, additional information on 5-in-10 and 2-in-10 demand projection methods are included in Appendix 3-1.**

    Additional text is added indicating that the only year for which drought condition demands were provided in the Central Florida Water Initiative (CFWI) RWSP was for the year 2035. As county level drought demand data was not available for other years for CFWI counties, to include CFWI counties without data in the totals would produce misleading totals (in effect making the CFWI county demands equal zero). As a result, they are addressed as "NA", except for 2035.

    FDACS provides drought year projections. They are addressed in detail in Appendix C of Appendix 3-1. The CFWI RWSP appendices indicate that the 2035 1-in-10 projections for the District are 2-in-10.

13. **COMMENT: [Chapter 3, Part A] Section 2. Agriculture, Subsection 3.0 Water Demand Projections –** *"As 2-in-10 agricultural demands were not projected in the Final Draft CFWI RWSP (April, 2014), except for 2035, 2-10 quantities for Lake County and the region are not reflected in Table 3-2 except for 2035." Why couldn't the methodology used for the other counties be used in Lake County*

    DISTRICT RESPONSE: **The 2015 RWSP methodology does not apply a single, global drought ratio to the aggregate average irrigation demands. The drought quantities are calculated at the crop level so it is not possible to develop drought quantity ratios for the CFWI Lake County projections since the crops have been aggregated to the grouped crop level.**

14. **COMMENT: [Chapter 3, Part A] Section 3. Industrial/Commercial, Mining/Dewatering, and Power Generation (I/C, M/D, and PG)** *– Need to make it clear if the water quantities used are fresh or saline or both.*

    DISTRICT RESPONSE: **Power Generation is separated into a new demand category. The water sources included in the demand projections are clarified.**

15. **COMMENT: [Chapter 3, Part A] Section 3. Industrial/Commercial, Mining/Dewatering, and Power Generation (I/C, M/D, and PG), Subsection 3.0 Water Demand Projections –** *To make this analysis complete, suggest adding info from the 2009 Format and Guidelines... about why there are no 1-in-10 drought demand figures. Also, why doesn't Lake Co. have demand projections?*

DISTRICT RESPONSE: Included information from the 2009 Format and Guidelines indicating that the 5-in-10 and 1-in-10 demands are essentially the same for IC, MD and PG demand categories. The blanks in lieu of zeroes for Lake County are in error. However, the projected demand from the CFWI RWSP is still zero. The District's portion of Lake County is very small and rural.

16. **COMMENT: [Chapter 3, Part A] Section 4. Landscape/Recreation (L/R), Subsection 3.0 Water Demand Projections** – *Why isn't there a projection for Lake Co.?*

    DISTRICT RESPONSE: The Lake County projections are from the CFWI RWSP and there are no current or projected permitted Landscape/Recreation (L/R) withdrawals in the District portion of Lake County. The District's portion of Lake County is very small and rural.

17. **COMMENT: [Chapter 3, Part A] Section 6. Summary of Projected Change in Demand** – *Please include a short discussion comparing the 5-in-10 demands with the 1-in-10 demands.*

    DISTRICT RESPONSE: A short discussion comparing the 5-in-10 demands with the 1-in-10 demands is included in the technical memorandums of Appendices 3-1 through 3-4.

18. **COMMENT: [Chapter 3, Part A, Section 6] Table 3-5. Summary of the projected demand in the Northern Planning Region (5-in-10 and 1-in-10)1 (mgd) -** *As noted above, the 1-in-10 drought data need to be completed and totaled. The 1-in-10 values are known (are the same as 5-in1-0).*

    DISTRICT RESPONSE: A short discussion comparing the 5-in-10 demands with the 1-in-10 demands is included in the technical memorandums of Appendices 3-1 through 3-4.

19. **COMMENT: [Chapter 3, Part A, Section 6] Table 3-6. Summary of the projected demand for counties in the Northern Planning Region (5-in-10) (mgd) –** *A grand total for the region should be included.*

    DISTRICT RESPONSE: The table is revised to include a region total.

20. **COMMENT: [Chapter 3, Part A] Section 7. Comparison of Demands between the 2010 RWSP and the 2015 RWSP** - *This section should include some discussion on the huge increases in the L/R sector---the sector with the largest change.*

    DISTRICT RESPONSE: A short discussion of the increase in the L/R sector is included in the Appendix 3-4 Landscape/Recreation Demand Projections Technical Memorandum.

21. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation –** *"In Florida, Senate Bill 494, which took effect in July 2009, requires all automatic irrigation systems to use an automatic shutoff device." What is the year for this bill?*

DISTRICT RESPONSE: **The year for this bill is 2009.**

22. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation –** "*Since the program's inception, the leak detection team has conducted 104 comprehensive leak detection surveys throughout the District, locating 1,219 leaks of various sizes. This has resulted in an estimated 6.1 mgd of water savings." Any info on the quantities saved in the NPR?*

    DISTRICT RESPONSE: **The text is updated with region specific data.**

23. **COMMENT: Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1 Public Supply) –** "*It is estimated that savings for the public supply category could be another 11.29 mgd by 2035, if all water conservation programs presented below are implemented (see Table 4-3)." ?? Without "another" (if this is indeed true), there needs to be an explanation why overall quantities have decreased by 2035. Also, since this number differs from the one given in the HPR, it must be a regional number. This needs to be made clear in the text. The previous sentence was talking about districtwide savings.*

    DISTRICT RESPONSE: **The text is updated to clarify.**

24. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1.1 Water Conservation Potential in the Northern Planning Region) – "***A comprehensive assessment of public supply water conservation potential in the Withlacoochee Regional Water Supply Authority (WRWSA) four-county region was conducted for the planning period by the University of Florida's Conserve Florida Water Clearinghouse (CFWC)." When?*

    DISTRICT RESPONSE: **July 2014.**

25. **COMMENT: [Chapter 4, Part A] Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1.2 Assessment Methodology) – "***Additional details on the EZGuide Online tool, including a full description of the input data used in the model, are available at the Conserve Florida website (www.conservefloridawater.org), and also are also------ described in Appendix 4, of Water Conservation Analysis for WRWSA." Split verb. Where is this appendix? There is no appendix for water conservation on SWF's web site. When there is, please reference the specific appendix (e.g. 4-1).*

    DISTRICT RESPONSE: **The referenced appendix is in the WRWSA Regional Water Supply Plan Update of July 2014. It is not a District document.**

26. **COMMENT: [Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.2 Domestic Self-Supply (DSS))** *– "It is estimated that savings for the DSS sector could be 4.20 mgd by 2035 if all water conservation programs are implemented (see Table 4-3)." Need to make it clear that you are giving a regional, not districtwide number.*

    DISTRICT RESPONSE: **The text is updated to clarify.**

27. **COMMENT: [Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.2.1 DSS Assessment Methodology)** – "*This potential was derived from the WRWSA RWSP Update and the 2015 CFWI RWSP for Lake County." A map showing both the WRWSA and CFWI would be helpful.*

    DISTRICT RESPONSE: **Comment acknowledged. A map of the CFWI is provided (see Figure 2-3).**

28. **COMMENT: Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.3 Industrial/Commercial (I/C)) –** *"According to a survey sent to I/C permittees, water use efficiency improvements related to industrial processes have been implemented to a limited extent since 1999." This is an example of what I meant in earlier comments. This sentence sounds like you are discussing I/C conservation districtwide. The last sentence of this paragraph (pink) appears to be for the NPR only, but I don't know if the in-between sentences apply districtwide or just regionwide. This is a global problem in Section 2 in all volumes.*

    DISTRICT RESPONSE: **The referenced statement is Districtwide.**

29. **COMMENT: Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.3 Industrial/Commercial (I/C)) –** *"It is estimated that the savings for the I/C sector could be 0.92 mgd by 2035 (see Table 4-3)." In the region or districtwide?*

    DISTRICT RESPONSE: **The value is regional.**

30. **COMMENT: Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.4 Landscape/Recreation (L/R)) –** "*It is estimated that the savings for the L/R water use sector could be 2.13 mgd by 2035 (see Table 4-3)." In the region or districtwide?*

    DISTRICT RESPONSE: **The value is regional.**

31. **COMMENT: Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.4.1 L/R Assessment Methodology) –** *"The estimate of water conservation potential of this sector was derived from the percentage of water conservation estimated by the WRWSA RWSP Update and the 2015 CFWI RWSP for Lake County for publically supplied outdoors water use. Savings were based on the soil moisture sensor and irrigation audit BMPs." How was this number from public supply applied to L/R well withdrawals?*

    DISTRICT RESPONSE: **Best Management Practices (BMPs) typically used in the Public Supply sector are applied to L/R demands consistent with CFWI methodology. The BMP uses target outdoor water use and have possible applications in both Public Supply and L/R sectors. This is the best available estimate based on available data. This method was vetted on a regional scale with many stakeholders during the CFWI process.**

32. **COMMENT: Chapter 4, Part A, Section 2. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.4.1 L/R Assessment Methodology) – "***Lake County did not have a projected 2035 demand for this use type, therefore did not have a projected savings potential." Why couldn't this be estimated for Lake Co. in the manner used for other counties?*

    DISTRICT RESPONSE: Lake County estimates are from the CFWI RWSP and there are no current or projected permitted L/R withdrawals in the District portion of Lake County. The District's portion of Lake County is very small and rural.

33. **COMMENT: [Chapter 4, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation** – *"An additional benefit of the model farms data is that it is used to determine whether specific elements of projects implemented as part of the FARMS Program are cost-effective." Agreement*

    DISTRICT RESPONSE: Comment acknowledged.

34. **COMMENT: [Chapter 4, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation –** *"Sprinkler-type systems are typically used for container nurseries, field crops and sod farms. Drip systems are steadily increasing in popularity, particularly for row crops grown using plastic film mulch, and are used in conjunction with a seepage system that is used for bed preparation and crop establishment." Split verb.*

    DISTRICT RESPONSE: The paragraph is edited to eliminate the split verb.

35. **COMMENT: [Chapter 4, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation – "***The potential savings associated with each of the model farm scenarios is included in Table 4-4 and Table 4-5. The data in these tables represent the maximum potential savings if all growers were to install the most efficient irrigation systems and implement appropriate BMPs for their respective commodities." Are the savings shown annual or cumulative? If cumulative, please explain the decreasing trends for citrus. Also, why aren't the estimated savings shown through 2035?*

    DISTRICT RESPONSE: The savings shown are annual for the year shown in the table. Demand projections for irrigated commodities were determined by multiplying projected irrigated acreage by the irrigation requirements of each commodity. Acreage projections were formulated based on a cumulative review of the information through Geographic Information System (GIS)/permitting analysis and other sources using a base year of 2005. For those counties that are not located wholly within the District, only the portion of the commodity acreage located within the District was considered.

    The District's GIS model was used to retrieve and compare the agricultural water use permitting information and land use/land cover property appraiser parcel data for each county and record the future land use for each parcel and permitted area. The acreage increases were limited by the total available remaining land and total permitted quantity of water. The model accounted for land use transition from agriculture to residential/commercial/industrial use and a land use conversion trend was determined. Aerial photography provided another layer of information for land use/land cover analysis and commodity category determination.

Recent land and water use projections and trends indicate that agricultural activities are expected to decline Districtwide over the next several decades. These trends include increases in urban development, full implementation of the North American Free Trade Agreement and other global competition issues, and destructive insect and disease outbreaks.

Citrus will remain the predominant crop category but is projected to decline by 15,000 acres and 13 mgd in water use. The majority of citrus acreage in the Southern Planning Region, 55,000 acres, is located in DeSoto County. Other major commodities in the region include tomatoes, sod and other vegetables/row crops.

The table was not updated to 2035, as there has been no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are being updated. The updated Model Farms projections are scheduled to be complete after publication of this RWSP.

36. **COMMENT: [Chapter 4, Part A, Section 2, Subsection 2.0] Table 4-4. Model farm potential water savings (5-in-10) –** *See last comment, p. 64, concerning 2035 and decreasing trends.*

    DISTRICT RESPONSE: Decreasing trends are the result of the conservation model accounting for land use transition from agriculture to residential/commercial/ industrial use. A land use conversion trend was determined. Aerial photography provided another layer of information for land use/land cover analysis and commodity category determination. The table was not updated to 2035, as there has been no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are currently being updated. The Model Farms projections are scheduled to be complete after publication of this RWSP.

37. **COMMENT: [Chapter 4, Part A, Section 2, Subsection 2.0] Table 4-5. Model farm potential water savings (1-in-10) –** *See last comment, p. 64, concerning 2035 and decreasing trends.*

    DISTRICT RESPONSE: Decreasing trends are the result of the conservation model accounting for land use transition from agriculture to residential/commercial/ industrial use. A land use conversion trend was determined. Aerial photography provided another layer of information for land use/land cover analysis and commodity category determination. The table was not updated to 2035, as there has been no revision to the Model Farms projections since the 2010 RWSP. The Model Farms projections are currently being updated. The Model Farms projections are scheduled to be complete after publication of this RWSP.

38. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water** – *"Reclaimed water is defined by the Florida Department of Environmental Protection (DEP) as water that is beneficially reused after being treated to at least secondary wastewater treatment standards by a domestic wastewater treatment plant (WWTP). Reclaimed water can be used ~~in~~ to accomplish a number of ~~ways~~ goals, including decreasing reliance on potable water supplies, increasing groundwater recharge and restoring natural systems. Table 4-7 illustrates the reclaimed water infrastructure, utilization and availability of reclaimed water within the District in 2010, as well as planned utilization that is anticipated to occur by 202~~0~~35 as a result of funded projects."*

    DISTRICT RESPONSE: **The text is revised as requested.**

39. **COMMENT: [Chapter 4, Part A] Section 3. Reclaimed Water –** *"Existing and funded projects are expected to result in reclaimed water increases of 4.9 mgd, bringing utilization within the planning region to approximately to 14 mgd by 2020." Where did this number come from? There is no equivalent in Table 4-7. 2035?*

    DISTRICT RESPONSE: **The data for 2020 reclaimed water is included in Appendix 4-1. A reference is added after the sentence to see Appendix 4-1.**

40. **COMMENT: [Chapter 4, Part A, Section 3] Figure 4-2. Districtwide reclaimed water map –** *This figure needs to be referenced in the text and discussed.*

    DISTRICT RESPONSE: **A reference for Figure 4-2 and discussion are added to Chapter 4, Section 1.0 Potential for Water Supply From Reclaimed Water.**

41. **COMMENT: [Chapter 4, Part A, Section 4, Subsection 1.0]** – *"A complete description of this process is included in the Chapter 4 Appendix 4-~~7~~2."*

    DISTRICT RESPONSE: **The reference to the appendix is revised to Appendix 4-2.**

42. **COMMENT: [Chapter 4, Part A] Section 4. Surface Water, Subsection 2.0 Overview of the Withlacoochee River System** – *"The Withlacoochee River watershed covers approximately 2,100 square miles. The river originates in the Green Swamp in Polk County and flows northward for 157 miles where it discharges into the Gulf of Mexico near Yankeetown, Florida." Without a map of the aerial extent of the watershed compared to the planning region, it's hard to understand why this river is emphasized in this document.*

    DISTRICT RESPONSE: **The Withlacoochee River is emphasized because it is the major river in the Northern Planning Region.**

43. **COMMENT: [Chapter 4, Part A] Section 6. Aquifer Recharge** – *"Of the total volume of reclaimed water used in 2013 (719.49 mgd) (DEP Reuse Inventory for 2013), 100.96 mgd was used for groundwater recharge, which constitutes approximately 14 percent of the total volume." Is this figure districtwide or for the NPR?*

    DISTRICT RESPONSE: **The quantity is statewide. The text is revised as requested.**

44. **COMMENT: [Chapter 4, Part A] Section 6. Aquifer Recharge, Subsection 1.0 Direct Aquifer Recharge –** *"Recovery of the direct AR water may occur through other wells constructed in the area. However, direct AR projects are often designed to improve aquifer conditions." Split verb.*

    DISTRICT RESPONSE: **The text is revised as requested.**

45. **COMMENT: [Chapter 4, Part A] Section 6. Aquifer Recharge, Subsection 1.0 Direct Aquifer Recharge –** *"Recent experience with operational ASR projects incorporating oxygen degasification systems and post treatment stabilization have proven that metals mobilization can be minimized and controlled by reducing the dissolved oxygen content in the injection source water in addition to maintaining a negative oxygen-reduction potential (ORP)." Check spacing between paragraphs.*

    DISTRICT RESPONSE: **The text is revised as requested.**

46. **COMMENT: [Chapter 5, Part A, Section 2] Subsection 2.0 Agricultural Water Conservation Options** – *It seems as though most of these do not apply to the NPR. Why are they presented here?*

    DISTRICT RESPONSE: **The agricultural conservation options are presented to give the reader examples of what can be done to conserve agricultural water. Although the District does not have an array of projects in the Northern Planning Region, most areas of the Northern Planning Region are amenable to water conservation projects. Examples are one of the best ways to encourage projects.**

47. **COMMENT: [Chapter 5, Part A, Section 2] Section 2.0 Agricultural Water Conservation Options (2.1 Facilitating Agricultural Resource Management Systems (FARMS)) –** *"The goal for the FARMS Program is to offset 40 mgd of groundwater use for agriculture by 2025." How much of this goal has been attained by the NPR?*

    DISTRICT RESPONSE: **Out of 173 Facilitating Agricultural Resource Management Systems (FARMS) projects, there are nine projects within the Northern Planning Region. The estimated offset from all of the District approved projects within the Northern Planning Region is approximately 0.45 mgd. Estimated offset of operational projects in the Northern Planning Region is approximately 0.39 mgd with the actual offset for those operational projects approximately 0.66 mgd.**

48. **COMMENT: [Chapter 5, Part A, Section 2, Subsection 2.0 (2.6 Best Management Practices)] BMP Option #1. Tailwater Recovery System** – *"The USDA [U.S. Department of Agriculture] Dairy project located in Manatee County is an example of a tailwater recovery project that could be developed in the planning region." Not in the planning region. See the phrase marked in green above ["Below are a number of BMP options that the District, its cooperators, and the agricultural community have successfully implemented in the planning region."] Are there any tailwater recovery systems in the NPR?*

DISTRICT RESPONSE: **At the time the revision to the RWSP was initiated, projects in the Northern Planning Region had not been in operation long enough to provide meaningful data on actual groundwater offset performance. The sample projects are intended to give the reader an idea of the equipment and benefits of FARMS projects. The equipment and benefits are similar no matter what planning region is being discussed. There are variations in terms of what type of project can be located in any particular geologic area, but on a planning region scale, these example projects are relevant throughout the district.**

However, since the release of the draft 2015 RWSP, the District has an example of this option at Bethel Farms in Sumter County. The Bethel Farms project involves the operation of an existing 5-acre reservoir to collect tailwater and surface water from the property and surrounding watershed to offset Upper Floridan aquifer groundwater quantities used to irrigate approximately 130 acres of commercial sod. The Water Use Permit (WUP) authorizes an annual average groundwater withdrawal of 0.324 mgd. FARMS project components consist of a surface water pump station, filtration system, and the mainline pipe to connect the surface water pump station to a center pivot irrigation system, automated pump controls, soil moisture sensors, hydraulic control valves, and a weather station. The estimated water savings is 0.08 mgd. Actual surface water use has averaged approximately 0.15 mgd. Table 5-10 in the Northern Planning Region summarizes the potential costs and savings as a result of the Bethel Farms project.

Table 5-10. *Surface Water Sources costs/savings*

Option	Potential Savings (mgd)	Capital Cost	O&M Cost ($)/Acre	Cost/1,000 Gallons
Surface Water Project	0.08	$270,000	NA	$0.77

49. **COMMENT: [Chapter 5, Part A, Section 2, Subsection 2.0 (2.7 Development of Alternative Water Sources for Agricultural Irrigation)] Agricultural Alternative Source Option #2. Reclaimed Water** – *"Reclaimed water has safely been used for more than 40 years for agricultural irrigation in Florida, and currently more than 9,000 acres of edible crops within the District are irrigated with reclaimed water (DEP 2008 Reuse Inventory, 2010)." The 2013 report is available and would have more recent data.*

DISTRICT RESPONSE: **The District will cite the Florida Department of Environmental Protection (DEP) 2013 Reuse Inventory, 2014. However the data in the 2013 inventory is similar, as such only the reference will be changed.**

50. **COMMENT: [Chapter 5, Part A, Section 2, Subsection 2.0 (2.7 Development of Alternative Water Sources for Agricultural Irrigation)] Agricultural Alternative Source Option #3. Surface Water Sources** – *"A field-scale example of this option is the M.D. Council and Sons Surface Water Withdrawal Project in Hillsborough County." See previous comment & green highlighted text, p. 93. Why is this example included here? Any in the NPR?*

DISTRICT RESPONSE: At the time the revision to the RWSP was initiated, projects in the Northern Planning Region had not been in operation long enough to provide meaningful data on actual groundwater offset performance. The sample projects are intended to give the reader an idea of the equipment and benefits of FARMS projects. The equipment and benefits are similar no matter what planning region is being discussed. There are variations in terms of what type of project can be located in any particular geologic area, but on a planning region scale, these example projects are relevant throughout the district.

However, since the release of the draft 2015 RWSP, the District has an example of this option at Bethel Farms in Sumter County. The Bethel Farms project involves the operation of an existing 5-acre reservoir to collect tailwater and surface water from the property and surrounding watershed to offset Upper Floridan aquifer groundwater quantities used to irrigate approximately 130 acres of commercial sod. The WUP authorizes an annual average groundwater withdrawal of 0.324 mgd. FARMS project components consist of a surface water pump station, filtration system, and the mainline pipe to connect the surface water pump station to a center pivot irrigation system, automated pump controls, soil moisture sensors, hydraulic control valves, and a weather station. The estimated water savings is 0.08 mgd. Actual surface water use has averaged approximately 0.15 mgd. Table 5-10 in the Northern Planning Region summarizes the potential costs and savings as a result of the Bethel Farms project.

Table 5-10. *Surface Water Sources costs/savings*

Option	Potential Savings (mgd)	Capital Cost	O&M Cost ($)/Acre	Cost/1,000 Gallons
Surface Water Project	0.08	$270,000	NA	$0.77

51. **COMMENT: [Chapter 6] Section 1. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.1 Indoor Water Conservation Projects)** – *"Since 2010, the District has cooperatively funded the distribution of approximately 1,565 ultra-low-flow or high-efficiency fixtures." The text reads as though this is a districtwide number, yet the number differs in each report. Need to be clear about numbers being districtwide or region-wide.*

    DISTRICT RESPONSE: **The text is revised as requested. The amount is for region.**

52. **COMMENT: [Chapter 6] Section 1. Water Conservation, Subsection 1.0 Non-Agricultural Water Conservation (1.2 Outdoor Water Conservation Projects) – "***Since 2010, the District has cooperatively funded 1,050 rain sensor rebates and landscape and irrigation evaluations." Is this a districtwide or regional number?*

    DISTRICT RESPONSE: **The text is revised as requested. The amount is for region.**

53. **COMMENT: [Chapter 6] Section 1. Water Conservation, Subsection 2.0 Agricultural Water Conservation Projects (2.1 IFAS Research and Education Projects) –** *"Of the 42 research projects, 30 have been completed." Section 2.0, first sentence says the report will be describing projects in the NPR. This sentence appears to be discussing districtwide numbers (same values in each volume).*

    DISTRICT RESPONSE: **IFAS research sponsored by the District is generally not specific to a planning region. It's generally specific to a commodity that is applicable Districtwide. While these research projects are under development in this planning region, the same projects apply to the other regions as well.**

54. **COMMENT: [Chapter 6] Section 1. Water Conservation, Subsection 2.0 Agricultural Water Conservation Projects (2.1 IFAS Research and Education Projects) –"***Completed projects include eight projects dealing with urban landscape issues and 22 involving various agricultural commodities. The 12 ongoing projects are described in Table 6.3." Ditto this sentence. Which of these are in the NPR? Each volumes says 12 projects.*

    DISTRICT RESPONSE: **IFAS research sponsored by the District is generally not specific to a planning region. It's generally specific to a commodity that is applicable Districtwide. While these research projects are under development in this planning region, the same projects apply to the other regions as well.**

55. **COMMENT: [Chapter 7, Part A, Section 1] Subsection 1.0 Hydrologic Data Collection (1.1 Surface Water Flows and Levels) – "***The data is available to the public through the District's Water Management Information System (WMIS), and through the USGS Florida Water Science Center Web Portal." Plural noun*

    DISTRICT RESPONSE: **The text is revised as requested.**

56. **COMMENT: [Chapter 7, Part A, Section 2] Subsection 1.0 Alternative Water Supply Research, Restoration and Pilot Projects** – *None of these have to do with the NPR. Why are they here?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects". Some of the projects benefit multiple regions. The planning region of benefit is shown in the table.

57. **COMMENT: [Chapter 7, Part A, Section 2] Subsection 2.0 Facilitating Agricultural Resource Management Systems (FARMS) Projects** – *Why are projects outside of the NPR presented?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects". Some of the projects benefit multiple regions. The planning region of benefit is shown in the table.

58. **COMMENT: [Chapter 7, Part A, Section 2] Subsection 3.0 Environmental Restoration and MFL Recovery Projects** – *None of these projects are in the NPR. Why are they included here?*

    DISTRICT RESPONSE: Table 7-2 lists all ongoing projects in the District that meet the definition of water resource development "projects". Some of the projects benefit multiple regions. The planning region of benefit is shown in the table.

59. **COMMENT: [Chapter 8, Part B] Section 3. State Funding, Subsection 1.0 The Springs Initiative** – *"In FY2014 the District allocated $1.35 million of Springs Initiative appropriations to two stormwater improvement projects and one wastewater/reclaimed water project." Starting here, it's not clear if the projects mentioned in the rest of this paragraph apply to the NPR or not.*

    DISTRICT RESPONSE: The text is revised as requested.

60. **COMMENT: [Chapter 8, Part B] Section 3. State Funding, Subsection 2.0 Water Protection and Sustainability Program –** *Were past WPSP [Water Protection and Sustainability Program] funds used for projects in the NPR? If the Legislature funds this program in the future, how likely will funds be applied to NPR projects?*

    DISTRICT RESPONSE: The Water Protection and Sustainability Trust Fund (WPSTF) has not been applied in the Northern Planning Region, as there has been minimal alternative water supply or regional infrastructure development in the region. The text is revised to clarify.

61. **COMMENT: [Chapter 8, Part B] Section 3. State Funding, Subsection 3.0 The Florida Forever Program –** *"The District has allocated $95 million ($81.6 million for land acquisition and $13.4 million for water body restoration) of Florida Forever funding in support of WRD [water resource development]." For what time period--FY15, since FY99? Have any of these funds been used in the NPR?*

    DISTRICT RESPONSE: The text is revised to clarify.

62. **COMMENT: [Chapter 8, Part B] Section 3. State Funding, Subsection 3.0 The Florida Forever Program –** *"An example of how the funds were used by the District for WRD [water resource development] was the purchase of lands around Lake Hancock within the Peace River watershed, as the first step in restoring minimum flows to the Upper Peace River." Any examples from the NPR?*

    DISTRICT RESPONSE: The text is revised to clarify and lists some of the land tracts acquired in the Northern Planning Region.

63. **COMMENT: [Chapter 8, Part B] Section 3. State Funding, Subsection 5.0 West-Central Florida Water Restoration Action Plan (WRAP) –** *This is about the SWUCA--why is it included in the NPR?*

    DISTRICT RESPONSE: All state revenues available for funding in the District are included. The text is revised to clarify how similar funds may be generated for future recovery strategies in the Northern Planning Region if needed.

64. **COMMENT: [Chapter 8, Part B] Section 4. Federal Funding –** *"Federal matching funds from this initiative helped fund the construction of the Peace River Manasota Regional Water Supply Authority (PRMRWSA) reservoir and plant expansion." Are any federal funds used for projects in the NPR?*

    DISTRICT RESPONSE: There have been no major alternative water supply projects developed in the Northern Planning Region. If such projects become necessary in the future, federal funds may be sought to assist development.

65. **COMMENT: [Chapter 8, Part B] Section 4. Federal Funding, Subsection 1.0 USDA Natural Resources Conservation Service (NRCS) programs –** *"In addition to EQIP, the FARMS Program has partnered with NRCS through the Agriculture Water Enhancement Program (AWEP) and the Florida West Coast Resource Conservation and Development Council (RC&D) to bring additional NRCS cost-share funding to the SWUCA." Again, why focus on the SWUCA? What is going on in the NPR?*

    DISTRICT RESPONSE: The focus on projects in the Southern Water Use Caution Area (SWUCA) is to give examples of what types of work can be cost shared to achieve groundwater withdrawal reductions. While there are projects in the Northern Planning Region, most of the projects do not have sufficient history to serve as solid examples of FARMS projects. However, the following additional text will be included in the final 2015 RWSP Northern Planning Region report.

    "The District's FARMS Program works cooperatively with the NRCS Environmental Quality Incentives Program (EQIP), AWEP, and RC&D programs on both financial and technical levels and dual cost-share projects have been coordinated whenever possible. By an agreement between the District, FDACS, and the NRCS, the maximum funding for using both FARMS and EQIP is 75 percent of total project cost. As of FY2015, 40 FARMS projects, including one in the NPR, have involved some level of dual cost-share with EQIP, AWEP, and/or the RC&D, with several additional cooperative projects expected in the near future. On a technical level, agency interaction includes using the NRCS mobile irrigation lab to investigate using FARMS cost-share for improvements to overall irrigation system efficiency, using NRCS

engineering designs for regulatory agricultural exemptions whenever possible, and coordinating cost-share on specific project related infrastructure."

66. **COMMENT: [Chapter 8, Part B] Section 4. Federal Funding, Subsection 1.0 USDA Natural Resources Conservation Service (NRCS) programs –** *"As of FY2015, 40 FARMS projects have involved some level of dual cost-share with EQIP, AWEP, and/or the RC&D, with several additional cooperative projects expected in the near future." How many in the NPR?*

    DISTRICT RESPONSE: **See response to comment above.**

67. **COMMENT: [Chapter 8, Part B] Section 5. Public-Private Partnerships and Private Investment –** *Any NPR examples? Discuss.*

    DISTRICT RESPONSE: **There are no examples of public-private investments in water supply, or private water technology, identified specifically for the Northern Planning Region.**

68. **COMMENT: [Chapter 8, Part C] Section 2. Evaluation of Project Costs to Meet Projected Demand** – *"To develop an estimate of the capital cost of projects necessary to meet demand, the District compiled a list of large-scale WSD [water supply development] projects that have been proposed by the PRMRWSA, Tampa Bay Water, Tampa Electric Company and Polk County that will produce up to 49 mgd of water supply within the 2035 planning horizon." Why are quantities in these regions being discussed in the NPR document?*

    DISTRICT RESPONSE: **The RWSP is divided into regional volumes to more comprehensively address the unique demands and conditions of each planning region. However, the District does not develop distinct budgets for each planning region. Therefore it is appropriate to describe the funding mechanisms in a Districtwide manner. There are no major water supply development projects proposed for development in the Northern Planning Region within the planning timeframe.**

69. **COMMENT: [Chapter 8, Part C] Section 3. Evaluation of Potential Available Funding to Assist with the Cost of Meeting Projected Demand** – *This description needs to include discussion of the potentially available funding for AWS projects in the NPR, mentioned in the paragraph above.*

    DISTRICT RESPONSE: **The text is revised as requested.**

Brad Rimbey, P.E., email received August 14, 2015

Brad Rimbey, P.E., provided the following comments focusing on issues related to the Chassahowitzka and the Homosassa rivers. Mr. Rimbey's original email included one (1) attachment titled, "Spring Flow Change from Water Withdrawals (2010).pdf".

1. **COMMENT:** *Chapter 4, pg 55 of the RWSP states "The formal adoption of MFLs for Chassahowitzka and Homosassa Springs has been delayed pending the outcome of an administrative challenge." On July 14, 2015, Florida's 1st District Court of Appeal heard oral arguments on the referenced "administrative challenge". On July 15, 2015 the 1st DCA issued an opinion (affirmed) per curium. This ended the "administrative challenge" to the Chassahowitzka and Homosassa MFLs and allows the State to continue degrading the water quantity and water quality of these (and all) Outstanding Florida Waters via the MFL statute.*

   At the October 2012 SWFWMD Governing Board [GB] meeting, the GB instructed staff to develop rules setting the MFLs for the Chassahowitzka and Homosassa Rivers at 3% "natural flow" reduction. At the same meeting, the GB also instructed staff to begin development of a Springs Coast Water Use Caution Area.

   On February 28, 2013, SWFWMD filed the adopted 3% MFL "natural flow" reduction rules in the Florida Administrative Code. On March 28, 2013, a request for hearing before DEP was timely filed pursuant to 373.114(2)(a) FS. This was the beginning of the "administrative challenge" on the legality of MFL rule adoptions which would allow the continued degradation of water quantity and quality on Outstanding Florida Waters. At the April 2013 SWFWMD GB meeting, the GB instructed staff to stop working on the Springs Coast WUCA [Water Use Caution Area] until the "administrative challenge" was resolved.

   With the 1st DCA's decision ending the "administrative challenge", SWFWMD staff should continue the development of the Springs Coast WUCA. I suspect proper implementation of a Springs Coast WUCA will affect the 2015 Regional Water Supply Plan.

   DISTRICT RESPONSE: Regarding the potential for a Springs Coast WUCA, the District's Governing Board directed staff to include the northern six counties in the 2010 RWSP update process to ensure that a proactive, preventive approach was taken to water management in the Northern Planning Region. The goal was to develop measures, including conservation and reclaimed water, and optimize groundwater withdrawals to sustainably meet future demands while preventing unacceptable impacts to the resources. As per Chapter 373, Florida Statutes, the District's Governing Board can determine if regional action is necessary to address cumulative water withdrawals that are causing or may cause adverse impacts to water resources and related natural resources. The District's Governing Board may declare an area a WUCA by adopting a rule or issuing an order that imposes special requirements for existing water users and permit applicants to prevent or remedy impacts to water and related natural resources.

   On October 30, 2012, the District's Governing Board directed staff to initiate rule-making to adopt minimum flows for the Homosassa and Chassahowitzka River Systems at 97% of natural flows. The Governing Board motion also included the following:

   > ***"Direct staff to develop the framework for a Water Use Caution Area for Hernando and Citrus Counties, including options with associated costs, with such framework being developed with stakeholder input and being presented at its June meeting."***

The Governing Board subsequently delayed action on the development of a framework for a WUCA due to the pending legal proceedings. As the legal process continued, the District continued the development of the 2015 RWSP.

As part of the 2015 RWSP development process, which included stakeholder input, staff evaluated the need for a WUCA in the District's northern six counties. Results from this effort, as summarized in the 2015 RWSP, indicate sufficient water supply is available in the Northern Planning Region of the District through the 20-year planning period. Therefore, development of a WUCA in this region is not currently necessary. It should be noted that many of the provisions of a WUCA, such as enhanced conservation strategies, per capita goals, and improved utilization of reclaimed water, are already in effect and being implemented within the region.

In addition to the development of an updated 2015 RWSP for the Northern Planning Region, the District and other entities in the region are involved in additional water resource assessments and planning efforts. For example, a number of spring and river system minimum flows and levels (MFLs) will be established or reevaluated in the planning region during the next five years. A goal for these efforts is to ensure that future water supply demands will be met without adversely impacting proposed or established MFLs. The District updates the RWSP every 5 years to include the latest and best available information.

2. **COMMENT:** *It should be noted that SWFWMD was using the NDMv3 groundwater model when SWFWMD's GB instructed staff to develop a Springs Coast WUCA. NDMv3 estimated the change in "natural flow" attributed to groundwater use at 0.9% and 1.1 % for the Chassahowitzka and Homosassa Rivers, respectively.*

   On September 27, 2014, SWFWMD's Ron Basso, PG, made a presentation to the Citrus 20/20 Springs Workshop in Lecanto, FL. Attached is a slide from Mr. Basso's PowerPoint presentation. As indicated in this slide, SWFWMD's NDMv4 groundwater model estimated the change in "natural flow" attributed to groundwater use in 2010 at 2.1% and 2.2% for the Chassahowitzka and Homosassa Rivers, respectively.

   With the MFLs for the Chassahowitzka and Homosassa Rivers set at 3% "natural flow" reduction, this leaves less than 1% of the "natural flow" on both rivers remaining for future anthropogenic flow reduction. Considering NDMv4's developers, HydroGeoLogic, Inc., stated "a 6% error resulted between the steady-state observed and simulated spring discharges", SWFWMD may already be in violation of the adopted MFLs on these rivers.

   DISTRICT RESPONSE: **The Chassahowitzka Spring impacts in 2010 are 2.1 percent. If Blind, Crab, Potter and Chassahowitzka Springs are all included, the predicted 2010 impact is 1.7 percent. The Water Supply Plan update for the Withlacoochee River Water Supply Authority (Appendix 4-2) indicates a 1.9 percent impact by 2035 inclusive of the Chassahowitzka, Blind, Crab and Potter Springs.**

3. **COMMENT:** *Chapter 4, pg 56 of the RWSP presents Table 4-1 which indicates projected anthropogenic water use through 2035 will not exceed the adopted MFLs for the Chassahowitzka and Homosassa Rivers. The source of these projections is identified as "Cardno-Entrix, 2014". I do not see "Cardno-Entrix, 2014" identified in the list of References at the end of the draft RWSP. This document needs to be identified as a reference.*

   DISTRICT RESPONSE: **The text is revised as requested.**

4. **COMMENT:** *Table 4-1 indicates the Chassahowitzka Spring Group will experience a 1.9 % (natural) flow reduction due to pumping by 2035 and the Homosassa Spring Group will experience a 2.9 % (natural) flow reduction by 2035. This seems inconsistent with the attached data presented by Mr. Basso. Does Cardno-Entrix, 2014, assume there will be less anthropogenic flow reduction on the Chassahowitzka River in 2035 than the NDMv4 estimated in 2010?*

   DISTRICT RESPONSE: **No. The Chassahowitzka Spring impacts in 2010 are 2.1 percent. If Blind, Crab, Potter and Chassahowitzka Springs are all included, the predicted 2010 impact is 1.7 percent. The Water Supply Plan update for the Withlacoochee River Water Supply Authority (Appendix 4-2) indicates a 1.9 percent impact by 2035 inclusive of the Chassahowitzka, Blind, Crab and Potter Springs.**

Rainbow River Conservation, Inc. – Burton Eno, President, letter received August 17, 2015

The following comments are from a letter containing general comments received from Rainbow River Conservation, Inc. on August 17, 2015, as an email with attachment to George Schlutermann from Burton Eno. The attachment was titled, "SWFWMD Water Plan Critique.pdf".

1. **COMMENT:** ***Chap 1, Part C, Sec 3, Para 3.0,*** *Flow data on the Rainbow River is out of date. Since flows in Wakulla, Silver and other rivers have fallen in recent decades Rainbow, by default, now has the largest flow rate at approximately 430 mgd.*

   DISTRICT RESPONSE: **District staff believes the comment is directed at text in the first, not the third paragraph in Chapter 1, Part C of the draft 2015 RWSP – Northern Planning Region. Based on available flow records from 1965 through 2014 for U.S. Geological Survey site number 02313100 (Rainbow River at Dunnellon, FL), the average flow in the river was 677 cfs or 438 mgd. This information is used to revise text.**

2. **COMMENT:** ***Chap 2, Part B, Sec 3,*** *The District's approach to MFLs is flawed in the fact that it does not take account of the anti-degradation requirement of the federal Clean Water Act. The argument that new threshold hydrologic regimes may exist that protect the water resources and ecology of the area is flawed. Reductions in flow have already adversely affected the water resources and associated ecology. Furthermore, "significant harm" is not sufficiently defined or absolutely measured . This paragraph is worded in such a way as to allow continual MFL adjustments leading to more reductions in flow and related adverse ecological conditions.*

DISTRICT RESPONSE: **The District establishes minimum flows and levels in accordance with the Florida Water Resources Act (Section 373, Florida Statutes), the Florida Department of Environmental Protection's Water Resources Implementation Rule (Chapter 62-40, Florida Administrative Code) and the District's Water Levels and Rates of Flow Rules (Chapter 40D-8, Florida Administrative Code).**

3. **COMMENT:** ***Chap 2, Part C, Sec 1, Para 1.0,*** *The SWFWMD target of 150 gpd for the Northern Region by 2019 is much too weak. This target should be I 00 gpd. Other areas in the District have already achieved this lower per capita consumption.*

DISTRICT RESPONSE: **The 150 gpcd compliance per capita standard provides the regulatory incentive that has helped to steadily reduce not only compliance per capita over time but also other measures of water use. The District is committed to further reductions in per capita use. In the Northern Planning Region, there is a strategic goal of reducing 2011 compliance per capita by 15 percent by 2020. The District expects further reductions in all forms of per capita use in the Northern Planning Region as we approach the 2019 deadline for the region's utilities to achieve the required 150 gpcd compliance per capita. Any reevaluation of per capita requirements would not likely be considered until after the 2019 deadline.**

4. **COMMENT:** ***Chap 4, Part A, Sec 1, Para 2.0,*** *It is hard to believe that the LFA is sufficiently confined to not have a hydrologic connection to the UFA and allow seepage from the UFA to the LFA. Extractions from the LFA would still cause a drop in UFA levels and thus a significant loss of spring flows.*

DISTRICT RESPONSE: **The District maintains a regional data collection program that involves coring geologic materials and drilling monitor wells to test the hydraulic properties of all aquifers from land surface to the base of the Floridan aquifer. This data is utilized in the District's regional groundwater flow models that simulate the entire groundwater system. The hydraulic connection between the UFA and Lower Floridan aquifer (LFA) is variable throughout the Northern Planning Region. It depends locally on the properties of the confining unit. Any withdrawals that occur within the LFA are simulated with the model so District staff can determine water level changes in the UFA and surficial aquifer above and how they may affect springflow. Where the confining unit is leaky, there is a greater effect on the overlying UFA. Where the confining unit is tight, there is little effect on the overlying UFA. Currently, LFA withdrawals are limited to a small area of northern Sumter County. It is not anticipated that LFA withdrawals would occur further west of that location in the near term as the groundwater below the confining unit is more mineralized and likely non-potable.**

5. **COMMENT:** ***Chap 4, Part A, Sec 1, Para 1.1.3,*** *SWFWMD should not depend on conservation results proposed by the Withlacoochee Regional Water Supply Authority. WRWSA represents water utilities who are interested in selling water, not conserving water. They are interested in finding more water extraction points and building infrastructure to transport water to large consumers such as The Villages. SWFWMD should adhere to the "Local Sources First" principle.*

DISTRICT RESPONSE: **The Withlacoochee Regional Water Supply Authority (WRWSA) is a special district of the State of Florida, governed by elected county and city representatives from its region, and serves the water planning needs of the member governments in a cost-efficient regional approach. The public supply conservation modeling was a cooperative effort involving the District, WRWSA, the University of Florida, and local government staff. The objective of the conservation modeling effort was to determine the water savings and costs of implementing BMPs and other measures for each utility in the member counties. Conservation measures are in the best interest of the local governments to retain the availability of existing groundwater resources and delay costly investments for new alternative water supply projects.**

6. **COMMENT:** ***Chap 4, Part A, Sec 4, Para 2.0,*** *WRWSA 's proposed water extraction from the lower Withlacoochee River will not only serve to alter and degrade the ecology of the Withlacoochee River but will also have an adverse effect upon the Rainbow River by lowering its level. The Rainbow River is already a shallow river and any further reductions in level will allow boating and other forms of recreation to cause additional destruction of the aquatic vegetation and displacement of the wildlife.*

   DISTRICT RESPONSE: **Comment acknowledged. The water supply evaluations completed by the District and WRWSA demonstrate that groundwater sources will be sufficient to meet the needs of growth in the area for the next 20 years. Therefore, with the exception of conservation and reuse, implementation of alternative water supply options are not likely to be developed in the near future. Options in the District's and WRWSA's plans are presented to demonstrate estimated costs to develop the alternative water supply. If pursued in the future, options will require a feasibility assessment to investigate suitable locations, effects on the environment, projected quantities, cost effectiveness, permittability, etc. Only those projects with positive results will be implemented.**

7. **COMMENT:** ***Chap 4, Part A, Sec 6, Para 1.0,*** *Direct Aquifer Recharge seems like a risky and expensive endeavor. Too little is known about the Karst geometry of the soils and the transfer times of ground water flow from injection points to extraction points. It is also concerning that too little may be known about the underground chemistry of this process. It simply seems that a forced pollution of the aquifer is a bad idea and a very expensive idea. It would seem that it makes more sense to highly treat waste water at centralized plants and re-circulate it through existing distribution systems.*

   DISTRICT RESPONSE: **Comment acknowledged. The water supply evaluations completed by the District and WRWSA demonstrate that groundwater sources will be sufficient to meet the needs of growth in the area for the next 20 years. Therefore, with the exception of conservation and reuse, implementation of alternative water supply options are not likely to be developed in the near future. The concept of aquifer recharge (as well as other identified options) is not necessarily the District's preferred option but is a concept that water users could pursue. Options in the District's and WRWSA's plans are presented to demonstrate estimated costs to develop the alternative water supply. If pursued in the future, options will require a feasibility assessment to investigate suitable locations, effects on the environment,**

projected quantities, cost effectiveness, permittability, etc. Only those projects with positive results will be implemented.

8. **COMMENT:** ***Chap 5, Part A, Sec 4,*** *This section proposes three options proposed by WRWSA to siphon water from the Withlacoochee River and pump it mostly in a southern direction to large consumers. The pumping and piping proposed is extensive and mostly serves to reward WRWSA and its represented utilities. Again, "Local Sources First" should be practiced and conservation enforced. The adverse consequences to flows, levels, and resource ecology are obvious.*

DISTRICT RESPONSE: Comment acknowledged. The principles of local sources first will be applied. The water supply evaluations in the 2015 RWSP demonstrate that groundwater sources will be sufficient to meet the needs of natural resources and growth in the area for the next 20 years. Therefore, with the exception of conservation and reuse, implementation of surface water or other alternative supply options are not needed or likely to be developed within the planning horizon.

The surface water project options are not necessarily the District's preferred option, but are concepts that water users could pursue. These options are presented to demonstrate estimated costs to develop and produce the supply. Due to their high cost and complexity of implementation, it's expected that local governments would combine their efforts into a single regional alternative supply project. This approach has been successfully executed by the Peace River Manasota Regional Water Supply Authority and Tampa Bay Water. The WRWSA is governed by representatives of local governments, and would be an appropriate entity to manage a cooperative supply project.

If pursued in the future, a surface water project requires a feasibility assessment to investigate suitable locations, effects on the environment, projected quantities, cost effectiveness, permittability, etc. Only those projects with positive results will be implemented. The seasonal capture and use of surface water for public supply has been successfully implemented in other planning regions. As of 2013, approximately 37 percent of water used by utilities for Public Supply in the District originated from surface water withdrawn under science-based regulatory constraints. These alternative supplies prevent and/or allow the recovery from adverse impacts of excessive groundwater use.

General Comments

Joe Bourassa, email received May 17, 2015

1. **COMMENT:** *You, as an engineer sure should understand the foolishness of using data to 5 significant figures [2010 PS [Public Supply] = 577.12 mgd, especially when the basic individual utility counts only start at 0.1 mgd, and the meter accuracy's used can vary up to 5%. Why not stick with 3 digits in summary data?*

   DISTRICT RESPONSE: **The District provides estimates of demand and supply with at least two decimal places because in absence, some supply options (those less than 0.5 mgd) would round to zero. When it comes to demand projections, some changes in demand are small and would appear non-existent if expressed with fewer significant figures..**

2. **COMMENT:** *Why is not the actual historical Water Use [WU] data shown in graph form for comparison, and the "Projections" data added to show the realistic long term trends?*

   DISTRICT RESPONSE: **Comment acknowledged. The District will continue to look for ways to improve the format of the Regional Water Supply Plan (RWSP).**

3. **COMMENT:** *Since virtually all the 2010-2015 "Projected" increased WU [water use] is centered in the Public Supply [PS] category where you use a 2010 base-line of 577 mgd, that is radically different from your previously published 506 mgd [5 Yr MA] actual. A more than 14 % INCREASE! I attach the historical SWF data, along with the 5 yr MA for smoothing for your revue.*

   DISTRICT RESPONSE: **Comment acknowledged.**

4. **COMMENT:** *Even using your grossly inflated 577 mgd 2010 base-line rather than the more correct 509 mgd, you show a 2015 value of 617 mgd, a 40.3 mgd INCREASE [+7% or 1.4%/yr]. Since the District has already published it's 2013 PS WU data, and it indicates a 2013 PS WU of 509 mgd, while the 2015 PS Projection is 617 mgd, a "Projected" INCREASE of 21% in but 2 Years. Something is radically wrong here!*

   DISTRICT RESPONSE: **Comparisons of Public Supply water use projections (2015 RWSP) and estimates (2013 Estimated Water Use Report) should only be performed at the utility level and for the year in question given that not all public supply utilities are required by permit to report data used in the Estimated Water Use Report. The 2015 RWSP projects water demand for all public supply permittees in the District.**

5. **COMMENT:** *Since all the needed "Solutions" are derived from your grossly inflated "Projections", not a realistic historical actual WU base, they sure would not be needed if we just continued following the long term SWFMD Total Water Use trend, which I Attach.*

DISTRICT RESPONSE: **Comment acknowledged.**

6. **COMMENT:** *For a wider historical Florida WU perspective I Attach the USGS [U.S. Geological Survey] data based 1975-2010 [35 yrs] graph showing a 5.8 % REDUCTION. That happened while Fl. experienced a 3+% average population growth rate. Note the Conservation savings from 1975 Projections based on even your present methodology.*

   DISTRICT RESPONSE: **Comment acknowledged.**

7. **COMMENT:** *You're using a 1.4 %/yr figure for PS WU growth, is already way over the 2010-2014 BEBR avg. which they have published at a less than 1% actual rate, let alone that PS WU has never followed the population growth rate!*

   DISTRICT RESPONSE: **Population growth is the primary driver of public supply demand. The state's five WMDs use University of Florida Bureau of Economic and Business Research (BEBR) projections for determining public supply needs per Chapter 373 (373.709), Florida Statutes (F.S.) The District relies on BEBR population projections and 5-year average per capita water use for projecting future water demand. The annualized growth rate in BEBR county-level population projections (Bulletin 165, March 2013) was 1.4 percent for 2010-2035. Likewise, the District's total public supply water demand is anticipated to grow at an average of 1.4 percent per year through the planning horizon 2010-2035.**

8. **COMMENT:** *Please review this material and point out any errors I might have inadvertently made.*

   DISTRICT RESPONSE: **Review comments by the District are provided above.**

Joe Bourassa, email received June 2, 2015

1. **COMMENT:** *I see in the fine print for the PS Projections in the Executive Summary, that what was once called Self Supplied etc. has been combined with what was historically categorized as only Public Supply >0.1 mgd in previous RWSP's and Yearly WU reports. REQUEST: Please supply the SS & PS data divided by the previous category types.*

   DISTRICT RESPONSE: **Please see the 2015 RWSP Appendix 3-3 Demand Projections for Public Supply for a breakdown of Public Supply demand projections.**

2. **COMMENT:** *How did the CFWI's RWSP get involved with my question? My request is centered on the SWFWMD's 2015 RWSP, and the PS data is [in Table 1] of the Executive Summary, last item under Total. The District is now including the DSS category water use as part of the PS category [e.g. 577 mgd for 2010]. I would like the values of the DSS for the years 2010 through 2035 x 5 years, or the previously typical PS-DSS.*

DISTRICT RESPONSE: **Initially, the District erroneously thought that your previous question was related to the Central Florida Water Initiative (CFWI) RWSP. The District response included directing Mr. Bourassa to the online draft document Appendix 3-3 – Demand Projections for Public Supply for the data requested.**

Joe Bourassa, email received June 2, 2015

1. **COMMENT:** *There's an old saying, maybe before your time--- "Useless as Tits on a Bull" that properly defines your effectiveness.*

   DISTRICT RESPONSE: **No comment.**

Joe Bourassa, email received June 4, 2015

1. **COMMENT:** *You indicate "no additional analysis is planned". Well for your information, none is required because in order to publish the past 2010 and 2035 "Projections" for PS in the Exec. Summary, an evaluation of DSS must have been made. In fact in the 2010 & 2013 WU reports, DSS is indicated as 68 & 57 mgd.*

   DISTRICT RESPONSE: **The online draft document Appendix 3-3 – Demand Projections for Public Supply contains the Domestic Self-Supply (DSS) numbers for the 2015 RWSP. The final numbers will be posted on the District's webpage in December 2015.**

2. **COMMENT:** *What were the DSS numbers used for the 2015 RWSP?*

   DISTRICT RESPONSE: **The online draft document Appendix 3-3 – Demand Projections for Public Supply contains the DSS numbers for the 2015 RWSP. The final numbers will be posted on the District's webpage in December 2015.**

3. **COMMENT:** *Of course dealing in the "Facts" is not a strong suit for you or District, but then time is running out!*

   DISTRICT RESPONSE: **No comment.**

Joe Bourassa, email received June 8, 2015

1. **COMMENT:** *Of course I went to the Appendix Section [3.3] you referred to for PS, and it says---" Purpose--- This memo explains the assumptions, methodologies, and sources used to develop the projections for the Public Supply component. The Public Supply sector includes: • Domestic self-supply ---" [DSS].*

   This is the first time any District, DEP or USGS has included DSS under the PS category! Even your 2013 WU report does indicate what DSS was [57 mgd], but does not include it in the PS category. Another change SWFWMD has made in methodology is that those small Utility's [<0.1 mgd] that were traditionally added to the DSS category are now also totaled under PS. Why the two changes in methodology??

   DISTRICT RESPONSE: Please see the 2015 RWSP Appendix 3-3 Demand Projections for Public Supply for a breakdown of Public Supply demand projections. The DSS category is separated from other public supply categories within Appendix 3-3. The District listed individual small utilities instead of grouping them by county upon request from stakeholders.

2. **COMMENT:** *QUESTION: Were these major changes in methodology approved by the DEP, as they are contrary to what the SJRWMD [St. Johns River Water Management District] is doing for its 2015 RWSP? That which is also contrary to the DEP's top priority of establishing "Consistency" in all WMD's methodology to guarantee Comparability, both historically and between WMD's.*

   DISTRICT RESPONSE: The District's 2015 RWSP is consistent with water supply planning requirements of Chapter 373, Florida Statutes.

3. **COMMENT:** *Of course to use what is the most rational approach, one would compare the previous historical PS Water Use with your 2015 RWSP "Projections", now made impossible without the detailed "Projected" 2015 RWSP DSS values, or the past published PS adjusted using the new methodology. Of course you should/could have supplied a simple graph combining the historical adjusted PS WU record, with the new 2025 RWSP "Projections" for an "apples to apples" comparison.*

   DISTRICT RESPONSE: Comment acknowledged.

4. **COMMENT:** *After the SJRWMD's top level personnel changes, primarily driven by not referencing and using the historical WU in its Projections, it sure seems strange to see the SWFWMD follow that same path.*

   DISTRICT RESPONSE: Comment acknowledged.

5. **COMMENT:** *As you are specifically titled [Ombudsman] and directed to address Citizen issues with the District, and since no additional analysis is needed, I again request the DSS numbers used for the 5 year intervals in the 2015 RWSP.*

   DISTRICT RESPONSE: Mr. Bourassa was directed by email to the online draft document Appendix 3-3 – Demand Projections for Public Supply which contains the DSS numbers for the 2015 RWSP.

Joe Bourassa, email received June 16, 2015

1. **COMMENT:** *Since it has been almost a week since my last request for the DSS numbers used in your recent 2015 RWSP Draft--- without any response, I have to assume the District will not supply them in time for my publishing a realistic graph showing the historical Total Water Use vs 2015 RWSP "Projections". Of course the comparison of the 2 trend lines slope is the primary feature, not strictly their magnitude; I will publish the graph without adjustment tomorrow, but with an explanatory statement.*

   I do here ATTACH again the SWFWMD's 1985-2013 [28 Yrs] actual historical Total Water Use graph for you and others to see the past negative slope.

   DISTRICT RESPONSE: Mr. Bourassa was directed by email to the online draft document Appendix 3-3 – Demand Projections for Public Supply which contains the DSS numbers for the 2015 RWSP.

Joe Bourassa, email received June 17, 2015

1. **COMMENT:** I ATTACH my spreadsheet that has the long term major Category's Water Use values, to which I have added the 2010 baseline through 2035 Projections from the 2015 RWSP.

   Since the District has already published the 2010, 2011 and 2013 Public Supply numbers on a yearly basis, with DSS as a separate category, if one adds the PS & DSS numbers one comes up with an actual value considerably lower than the RWSP uses. For 2010 the difference is -13 mgd [577-564] and for 2013 it is -36 mgd [601-565] or a 6.4% difference in just 3 years.

   QUESTION; Please have Staff explain why even the actual 2010 and RWSP 2010 baseline do not match, and why the obvious Projections are growing so much faster than the actual PS use?

DISTRICT RESPONSE: **Comparisons of Public Supply water use projections (2015 RWSP) and estimates (2013 Estimated Water Use Report) should only be performed at the utility level and for the year in question given that not all public supply utilities are required by permit to report data used in the Estimated Water Use Report. The 2015 RWSP projects water demand for all public supply permittees in the District.**

Joe Bourassa, email received June 19, 2015

The original email from Joe Bourassa contained the following comment and one (1) attachment, titled, "AAAAAAA--- SWF PS.xlr"

1. **COMMENT:** *Please send this on to appropriate Staff. Of course click on "View" than "Chart 2" or Chart 1 for a zero based version. Both show the tremendous difference in slope for the Historical vs Projections of the SWFWMD's 2005 DWSP. Of course I expect that the Legislature has closed shop for the year with an approved Budget, but the Governor, will do his thing to some items. and you have escaped what will happen when they everyone learns how you again want to continue "Defrauding" the Public by showing only "Projection's" without showing the actual historical picture. I will of course start showing the "Facts" to everyone in hope that some might want to deal with reality!*

   DISTRICT RESPONSE: **The District's demand projections do not include projections of water conservation as it is considered by the District as a source of future water (by off-setting projected demands). Therefore, the slope of projections will typically be steeper than those based on historical data, which includes the beneficial impact of water conservation. Water conservation potential is addressed in Chapter 4 Evaluation of Water Sources.**

Joe Bourassa, emails received June 28, 2015

Three (3) emails containing comments were received from Joe Bourassa on June 28, 2015. These comments are as follows:

1. **COMMENT:** *Your sure right on the ball---thank you.*

   DISTRICT RESPONSE: **Comment acknowledged.**

2. **COMMENT:** *Who is now the RWSP Group Leader now that Tom Bartol is no longer with the SJRWMD?*

   DISTRICT RESPONSE: **John Shearer responded on June 28, 2015, stating that Ms. Joanne Chamberlain is the CWFI Team Leader for SJRWMD.**

3. **COMMENT:** *At the June 26 SC meeting, Mark Hammond presented a 19 page PP "Draft Plan Review" that had page's 11 & 12 graphs of "Gross Per Capita" [GPC] for 2005-2014. When will the page 3's "Historic Water Use -vs- Population in the CFWI" be similarly updated through 2014? Is Mark now the leader of that group?*

   DISTRICT RESPONSE: **Mark Hammond is the leader of the group. The following webpage link http://cfwiwater.com/solutions.html provides information regarding the CFWI process.**

4. **COMMENT:** *Please send on the detailed Spreadsheet data used for these GPC [gallons per capita] graphs*

   DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please visit the CFWI webpage cfwiwater.com for additional information.**

5. **COMMENT:** *The GPC graphs indicate a continuing lower trend line for at least 2006-2014. When will the 2015 CFWI RWSP's 2010-2035 "Actual Water Use History" vs "Projections" be properly displayed on the website??*

   DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please visit the CFWI webpage cfwiwater.com for additional information.**

6. **COMMENT:** *Please send on these QUESTIONS & REQUEST to the proper Staff member for a quick response.*

   DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please visit the CFWI webpage cfwiwater.com for additional information.**

7. **COMMENT:** *With the departure of SJRWMD's Tom Bartol and other SJRWMD Staff changes, I am not sure who heads up which group, but assume you are a central player in the RWSP by this presentation. Obvious was the presentation of more very recent/relevant RWSP "Facts" by your PP's page 11 & 12 "Gross Per Capita" [GPC] graphs with the latest 2014 data shown. Of course the page 3 graph of past Water Use vs Projections with Population was not, although using the same GPC data. Why not?? REQUEST: Please supply me with the spreadsheet data used for those 2 GPC graphs.*

   DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please visit the CFWI webpage cfwiwater.com for additional information.**

8. **COMMENT:** *Note: On the page 12 "CFWI County Level GPC---" graph the change in Osceola from 2013 to 2014 is so large to be very questionable. Of course Osceola is such a small part of the CFWI Total Water Use. REQUEST: Please supply the reason for such a radical change in GPC over that single year?*

DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please contact Jason Mickel at the District with CFWI questions.**

9. **COMMENT:** *Obviously the actual 2010-2014 Total & PS Water Use is coming in way below the RWSP's 2010 base-line data used in the CFWI's 2015 RWSP, let alone the 2015 "Projections"---see ATTACHED Major Utility's 2010-2014 report. When will that be addressed by this group and SC? Surely before presentation to the 3 WMD's Boards for approval!*

   DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please contact Jason Mickel at the District with CFWI questions.**

Joe Bourassa, email received July 2, 2015

1. **COMMENT:** *In the draft report, the category--"Landscape & Recreation" indicates a "Projected" 2010-2015 INCREASE--from 65.32 to 72.77, or 7.45 mgd = 11.4 % or 2.38 %/Yr. A "Projected" 2010-2035 INCREASE---from 65.32 to 108.78, or 43.46 mgd = 66.5 % or 2.66 %/Yr. With a present 2010-2014 BEBR Population growth estimate of 1 %/yr, and even a long term [2010-2035] "Projection" of 1.4 %/Yr the INCREASE's used in the RWSP are a significant multiple of actual or projected population growth.*

   DISTRICT RESPONSE: **The methodology for Landscape/Recreation (L/R) demand projections is revised and the Districtwide 2010-2035 percentage increase is substantially reduced (now 46.33 percent). See the current Appendix 3-4 on the District's website for additional detail.**

2. **COMMENT:** *REQUEST; Please explain in "detail" why a non-essential Water Us of this type, will be allowed to grow at these super-fast rates. Who are the specific user groups causing this increase? Why will not "Conservation", or more not counted Re-Use alone restrict Water Use to way less than the population growth rate?*

   DISTRICT RESPONSE: **A revised projection methodology has substantially reduced the projected demands. The specific user groups are addressed in Chapter 3, Section 4, Sub-section 1 of each regional plan. These demand projections do not include explicit offsets from conservation or reuse. Those are considered alternative sources to meet demands. Potential reuse is somewhat limited by population growth.**

3. **COMMENT:** *Since we already have the actual Water Use for 2010, 2011 & 2013---REQUEST; Please indicate what the results are for those 3 years and compare that with the 2010-2015 Projection.*

DISTRICT RESPONSE: **The following are the L/R demands from the Estimated Water Use reports for the years 2010, 2011, 2012 and 2013: 61 mgd, 62 mgd, 66 mgd and 55 mgd. The 2010 and 2015 projections are 71.0 and 74.6 mgd. The L/R demands for the years requested from the Estimated Water Use reports are lower than normal in part due to the recession. It should be noted that 2008 and 2009 estimated L/R demands from the Estimated Water Use reports were 72 mgd and 77 mgd, respectively.**

Joe Bourassa, email received July 3, 2015

The original email from Joe Bourassa included the following comment and two (2) attachments titled, "AAAAAAB---SWF RWSP DSS & POP.xlsx" and "AAAAAAB---SWF PS, AG & TOTAL HISTORY 1979-2013 + 2035 PROJ .xlsx".

1. **COMMENT:** *I have taken the liberty of putting the detail DSS & Population data and constructed a spreadsheet, ATTACHED. I then added the 2015's 51.8 mgd DSS to the History + Projections spreadsheet, ATTACHED. Obviously the 2015 detail Projection [51.8] is way below the claimed 2010's 68 mgd and all but one of the 2010-2013 actual values [Avg. =55 mgd]. CONCLUSION; The Projected 2035 DSS value of 78.9 mgd, or an increase of 52.3 mgd [51% or 2.6 %/Yr] for the 2015-2035 [20 Yrs] period, is very likely impossible when the 2010-2015 trend line is so negative! Please include both ATTACHMENTS in the RWSP's "Public Comment" summary. Next we will look at the how the 2014 BEBR Population estimates compares to the RWSP's 2010-2015 projections.*

   DISTRICT RESPONSE: **Your attachments have been included in the 2015 RWSP file of record and may be accessed from the District upon request.**

Hopping Green & Sams, P.A., Eric Olsen, email received July 6, 2015

1. **COMMENT:** *Would you mind emailing me a copy of the May 28 public information workshop PowerPoint presentation on the draft 2015 regional water supply plan in PowerPoint format? I would like to use some of the graphics for an update on this topic at a presentation I am giving. Thanks for your help.*

   DISTRICT RESPONSE: **The District provided by email a PowerPoint presentation copy from the May 28, 2015 workshop.**

Florida Department of Environmental Protection – Carolyn Voyles, email received July 27, 2015

On July 27, 2015, Carolyn Voyles wrote, "We have three major comments on the plan. They concern the requirements found in statute, rule, and the Department's June 2009 Format and Guidelines for Regional Water Supply Plans (attached). (The 2009 Guidelines are the most recent version.)" The original email included two (2) attachments titled, "2009 RWSP Format and Guidelines-06-11-2009—FINAL.doc" and "RWSP Review_2010 Comments_final.pdf".

1. **COMMENT:** *The plan volumes do not present separate demand projections for all of the individual use categories prescribed in Rule 62-40, F.A.C. and in the 2009 Format and Guidelines (Table 1). Specifically, the Domestic Self Supply and Small Public Systems category needs to be separated from the Public Supply category, and the Power Generation Self-Supply category needs to be broken out of the Industrial/Commercial category.*

   Furthermore, in the fall, DEP will be asking the District for the latest data for these exact categories in order to prepare the legislatively mandated Annual Report on Regional Water Supply Planning. We make this request every year and must have a consistent set of water use sector categories from each District in order to calculate statewide totals.

   DISTRICT RESPONSE: Power Generation is separated into a new demand category. The water sources included in the demand projections are clarified.

2. **COMMENT:** *Chapter 373, F.S. and the Guidelines require the plan to present 1-in-10 demand projections. The Northern and Heartland region volumes have some 1-in-10 data missing data for certain counties and, consequently, for the regional totals (e.g., Table 3-5 in the Northern region). It is not clear why the projections could not be made for certain counties. Furthermore, for the agricultural category, all plan volumes need to explain why 2-in-10 projections were used instead of 1-in 10 projections, and what the difference means. Also, for the Industrial/Commercial and Power Generation categories, in all plan volumes, the either tables should be revised to show the 1-in-10 estimates (albeit the same values), or the text needs to explain that these drought estimates are assumed to be the same as the 5-in-10 estimates. Finally, the plan volumes should include a short discussion of whether or not it's likely that there are sufficient water sources to meet projected demand during the 1-in-10 drought condition.*

   DISTRICT RESPONSE: The Northern (Lake) and Heartland (Polk) counties that do not have drought demands except for 2035 are from the CFWI RWSP. Drought demands for those counties were not provided for years other than 2035. To our knowledge there is not a single multiplier that can be applied to aggregate 5-in-10 agricultural projections to make them 2-in-10 or 1-in-10 projections. Additional text is provided in each regional plan to explain why 2-in-10 drought projections are used for agriculture. Additional text is added to each regional plan to indicate that the I/C, M/D and PG 5-in-10 and 1-in-10 projections are the same.

3. **COMMENT:** *The statute requires the District to consider future water supply demands data provided by the Department of Agriculture and Consumer Services (FDACS). It requires any deviation from the FDACS data to be described fully, and the original data must be presented along with the adjusted (District's) data. We recognize that the District began assembling the agricultural data for the 2015 plan before the FDACS data were available, and that the statute does allow for deviation from using the FDACS data. Still, the plan volumes need to acknowledge the new statutory requirements, and whether or not the FDACS data are available now. If they are available, there needs to be a discussion of differences between the two data sets, including the meaning of any significant deviations.*

   DISTRICT RESPONSE: **A short description of the Florida Statewide Agricultural Irrigation Demand Version 2 (FSAID2) methodology is provided to contrast the District's methodology in Section 2 (Agriculture). A very brief comparison of the difference in District and FSAID2 results is provided in Section 3 (Water Demand Projections). In addition, Appendix 3-1 (Agricultural Technical Memorandum) includes a new section (Appendix C) that addresses the requirement of Section 373.709(2)(a), F.S., to provide a description of any deviation from agricultural demand projections provided by FDACS. The new Appendix C provides a much more detailed description of the differences in the District's and FDACS' projections.**

Ed Shindle, online comment form submitted July 30, 2015

1. **COMMENT:** *Good report. Please include or require geophysical imaging (tomography?) with new ASR site proposals to verify absence of fractures. Require future testing (how frequent?) to confirm safe.*

   DISTRICT RESPONSE: **A feasibility analysis is typically conducted prior to installation of ASR test wells. DEP requires cycle testing (injection and recovery of water) for the test wells prior to issuing an operating permit. During cycle testing, samples from near-by monitoring wells are collected and analyzed for parameters of concern prior to issuance of the operating permit. If an ASR well receives an operating permit, monitoring continues to ensure it is not violating groundwater quality standards specified in the permit.**

2. **COMMENT:** *Water is valuable and should have a cost. Payment for that volume should go to the county from which the water is drawn.*

   DISTRICT RESPONSE: **Comment acknowledged. Water is valuable and does have an economic, environmental and social cost associated with it. The cost of water is paid on a local (private, municipal, and county) and regional basis.**

Charles Dudley, online comment submitted August 3, 2015

1. **COMMENT:** *Re seawater desalination projects, has any thought/study been done on a solar-powered desalination plant? Given the cost of beachfront property, if such a unit could be developed and mounted on a large barge with solar towers, and clean water pumped in via a flexible pipe, intrusion on beach areas would be minimal. In addition the unit would be portable and could be used to replenish different existing aquifers as needed.*

   DISTRICT RESPONSE: **Comment acknowledged.**

Florida Department of Environmental Protection – Carolyn Voyles, email received August 4, 2015

On August 4, 2015, Carolyn Voyles wrote, "Thanks for meeting with Janet and me last week to discuss our concerns with the draft 2015 RWSP. I thought our discussion was constructive and productive. By the end of the meeting, we agreed that you would address our two big concerns, 1-in-10 drought data and the FDACS agricultural data, by including more descriptive text in the main volumes. As I mentioned at the end of our meeting, I made comments directly in the .pdf files." The original email included two (2) attachments titled,

"RWSP_DRAFT_HPR_MAY_2015_Release.pdf"
"RWSP_DRAFT_NPR_May_2015_Release.pdf"

1. **COMMENT:** *Particularly in Chapter 4, when presenting numbers about a topic, often it is not clear if the numbers you're discussing are regionwide or districtwide. For example, in the Northern volume, p. 62, is this a regional or districtwide number:*

   > *"It is estimated that savings for the DSS sector could be 4.20 mgd by 2035 if all water conservation programs are implemented."*

   During my review I usually could tell which type was being discussed because I had multiple documents open and could compare the values to see if they stayed the same or differed among volumes. I suspect most people won't be looking at multiple volumes simultaneously, and won't be able to tell. A problem may arise if you are presenting districtwide numbers and the reader assumes they are region-wide simply because they appear in the regional volume s/he is reading. This can lead to miscommunication. I marked these instances in the documents when I remembered to, but you may want to do a more thorough checking.

   DISTRICT RESPONSE: **The 4.20 mgd estimate is regional. As suggested, the District has edited text throughout the 2015 RWSP documents to aid in understanding and reducing miscommunication.**

Joe Bourassa, email received August 4, 2015

[Introduction… e.g. "Enclosed are the [Name of Organization]'s comments on the District's draft 2015 Regional Water Supply Plan (Generally)…"]

1. **COMMENT:** *In response to your last email, through an unmonitored address, --- I see that your 2015 RWSP is back on line [Aug. 3, 2015]. Of course there is no indication that it differs from the March 24, 2015 version, which it should.*

   DISTRICT RESPONSE: **The 2015 RWSP draft documents were continuously online during the public comment period of May 13, 2015, through August 17, 2015. The Executive Summary and four regional documents have not varied during the review period. However, selected technical memorandums were changed during this time.**

2. **COMMENT:** *For 2035 Public Supply [PS] the earlier March version has been reduced from 825.8 to 779.1 mgd [-46 mgd = -5.6%] in but 4 1/2 months. REQUEST: 1; Could you please have Staff supply the reason for this significant reduction.*

   DISTRICT RESPONSE: **The March 24, 2015, 2015 RWSP draft presents a total average public supply demand of 779.1 mgd and 1-10 drought year demand of 825.8 mgd for 2035. The difference of 6 percent is the projected increase in 2035 demand results from 1-10 drought year demand.**

3. **COMMENT:** *Also relevant is that since PS is also the major driver in the CFWI's 2015 RWSP---2: Will your revised SWFWMD PS input to the CFWI's RWSP be forwarded to them for their PS updating?*

   DISTRICT RESPONSE: **The CFWI water demands have not been changed.**

4. **COMMENT:** *Of course very evident again is the lack of the long term SWFWMD Water Use history included for a realistic "Trend/Projections" comparison. I'll ATTACH the SWFWMD's "Total" comparison for your review.*

   DISTRICT RESPONSE: **Comment acknowledged.**

Joe Bourassa, online comment form submitted August 14, 2015

1. **COMMENT:** *Unfortunately this format does not allow for attachments or copying, therefore I will submit my Public Comments on the SWFWMD's 2015 RWSP to Ombudsman Ross Morton for adding to the official Public Comment file before the Aug. 17 deadline.*

   DISTRICT RESPONSE: **The District received your final comments and attachments prior to the August 17, 2015 deadline.**

Joe Bourassa, email received August 14, 2015

The original email from Joe Bourassa included the following comments and five (5) attachments as follows:

"AAAAAG---FL TOTAL WATER USE 1975-2010 MY USGS.tif"

"AAAG---SWF PUBLIC SUPPLY WATER USE 1985-2013.tif"

"AAAAAG---TBW WATER DEMAND HISTORY 1998-2014.tif"

"AAAG---SWF TOTAL WATER USE 1985-2013.tif"

"AAAAAAAAG---SWF PUBLIC SUPPLY + PROJ. 0 base 001.bmp"

1. **COMMENT:** *Time is running out for a Public Comment, so I thought I would start by reminding everyone that the Water Management District's [WMD's] were formed by the Legislature in 1972 [43 Years ago] to plan for and solve the "PROJECTED" lack of Aquifer Capacity, generally Upper Florida Aquifer [UFA], needed to cope with the expected "Population Growth". What does history now indicate?*

   DISTRICT RESPONSE: **The District followed requirements set forth for regional water supply planning originated from legislation passed in 1997 that amended Chapter 373, F.S. Regional water supply planning requirements are codified in Part VII of Chapter 373 (373.709), F.S., and the District's RWSP has been prepared pursuant to these provisions.**

2. **COMMENT:** *In an attempt to fill in the real "Facts" regarding Florida's Total "Water Use" [WU], I ATTACH the long term [1975-2010 or 35 Yrs] graph showing the USGS's [Rich Marella, 2010] historical Florida data---collected under DEP contract and obvious approval, every 5 years---in comparison to the Bureau of Economics & Business Research [BEBR] of the University of Florida [UF] and US 10 Year Census in regards the historical Population Growth pattern for comparison. Obviously a high, 3.35%/Yr. Population Growth Rate, and yet a 5.8% REDUCTION in Freshwater Water Use [FWU] in 35 Yrs. Why should the next 20 years be much different?*

   DISTRICT RESPONSE: **The District's Public Supply demand projections do not include projections of water conservation since it is considered by the District as a source of future water (by off-setting projected demands). Water conservation potential is addressed in Chapter 4 Evaluation of Water Sources of the 2015 RWSP.**

3. **COMMENT:** *The graph line below the Population one, is the 1975-2010 "Projection" as calculated by the same "Methodology" the WMD's use for their 2015 and previous RWSP's. The obvious difference in the AWU historical difference signifies the 130 % REDUCTION due to the "Conservation" efforts of all Floridians. That of course is never publicized, nor is this obvious reduced long term Total Water and Public Supply Use trend used in their RWSP Projections.*

   DISTRICT RESPONSE: **See the District response to the comment above.**

4. **COMMENT:** *QUESTION: Why is the BEBR's latest Fl. 2010-2014 Population publication growth rate of less than 1%/Yr., NOT now considered and used today in a revised SWFWMD RWSP methodology?*

   DISTRICT RESPONSE: **The District used the BEBR March 2013 population projections since it was the best available information at the time the District began developing the demand projections for the 2015 RWSP.**

5. **COMMENT:** *NOTE: Since Water Use is significantly affected by yearly "Rainfall" variations [especially Agriculture] , and the USGS "Total" data is only published on an every 5 year basis, it shows high, drought based WU for 1990 & 2000 that was not characteristic of the average yearly WU then. A better trend picture is shown by a 5 Year Moving Average [5Yr MA] process, but not possible here for Total WU. With Public Supply [PS] being the only WU category being "Projected" by the CFWI's RWSP to grow significantly over the 2010-2035 [25 Yr.] period, it is more realistic to use only PS's 5Yr MA data in future analysis, even better because it is about 100% metered, not estimated.*

   DISTRICT RESPONSE: **The CFWI effort is a separate activity. Please visit the CFWI webpage cfwiwater.com for additional information.**

6. **COMMENT:** *Now to the SWFWMD situation---Since Public Supply [Utility's] is the only real category of significant "Projected" growth---ATTACHED is the long term [1985-2013, 28 Yrs.] "Total Water Use" & "Public Supply" Use graphs clearly showing the long term declining trends. I then ATTACH the historical Public Supply [PS] Water Use [5 YR. MA] graph with the RWSP "Projections. Obviously there is a major difference here in regards the SWFWMD's RWSP "Projections" trend line. Since TBW [Tampa Bay Water] is the major area PS provider, I ATTACH their historical [1998-2014] Water Use [WU] history for further reference---No INCREASE in WU in 16 Years!*

   DISTRICT RESPONSE: **Comment acknowledged.**

7. **COMMENT:** *Finally, the obvious long term historical "Actual Water Use" results, clearly indicate that the Legislature's worry has not come to pass, and that seriously questions, not only the need for the SWFWMD"s RWSP, but the 5 WMD's and all those expensive WMD's projects to unnecessarily further reduce Aquifer Water Use that are still being proposed ?.*

   DISTRICT RESPONSE: **In Florida, the WMDs develop regional water supply plans to ensure the protection of the water resources and related natural systems and to identify sustainable water supply for all water uses. The District's 2015 RWSP is consistent with water supply planning requirements of Chapter 373, Florida Statutes.**

8. **COMMENT:** *With today's announcement of very serious flooding in the Tampa Bay area, needing a Federal Gov. Solution [Money], it probably is time to follow the historical "Facts" and change direction? QUESTION---Would not the flooding be reduced [slightly] by increased "Withdrawals"?*

DISTRICT RESPONSE: **The low-lying parts of the Tampa Bay area are especially susceptible to flooding during the summer and fall with heavy rainfall. Prior to wellfield pumping reductions, there was less flooding potential in areas that were significantly impacted by higher groundwater withdrawals, but only at the expense of natural systems that rely on periodic inundation to remain healthy. Increased groundwater withdrawals, however, did not eliminate flooding. Flooding occurs when the rainfall rate exceeds the infiltration rate. Flooding is a function of soil type, permeability, and available storage. Water storage availability decreases with successive rainfall events that occur in short succession. When storage is full and a rainfall event occurs (similar to the summer of 2015), it can cause flooding. The District has a Watershed Management Program to assist local governments with flood planning. In addition, the District funds flood mitigation projects.**

Gaydos Hydro Services – Dana Gaydos, email received August 16, 2015

1. **COMMENT:** *Is the District going to reschedule the ag meeting that was cancelled due to a power outage?*

   DISTRICT RESPONSE: **The District responded to Ms. Gaydos on August 20, 2015, stating that the District was not going to reschedule the agriculture water demand workshop as the data presented was the same presented in February and individuals interested in that workshop could view the recorded webcast on the District's website.**

Save the Manatee Club – Anne Harvey, letter received August 17, 2015

The following comments are from a letter containing general comments received from the Save the Manatee Club on August 17, 2015, as an email with attachment to George Schlutermann from Anne Harvey. The attachment was titled, "Save the Manatee Club SWFWMD RWSP Comments.pdf".

1. **COMMENT:** *Section 373.0421(2), Fla. Stat., requires the districts to develop recovery strategies for any resource for which the existing or projected flow falls below established minimum flow levels ("MFLs"). Save the Manatee Club supports the District's recent efforts to establish MFLs for water bodies in its region, but believes that the work is incomplete, and urges the District to incorporate high-end estimates for future MFLs that are currently under development into its current RWSP. It is much more efficient and effective to prevent depletion of a water supply source than to have to devote resources to attempted recovery and restoration after the damage has occurred.*

   The RWSP supplies one particularly confounding example for MFL management. The Lower Alafia River recovery strategy requires industrial users "to augment the river with groundwater" to avoid their use of surface water contributing to MFL violations. Throughout most of Florida, groundwater is hydrologically connected to surface water.

Depleting groundwater in one area contributes to reduced surface flows somewhere, if not in the Lower Alafia River itself. Save the Manatee Club urges the District to reconsider this policy of robbing water from one area to meet MFL standards in another water body. Instead, users should be required to develop water reuse and efficiency measures, to reduce overall use and conserve water to meet MFLs.

DISTRICT RESPONSE: **The District strives to prevent impacts through its MFLs and permitting programs, rather than having to implement recovery post-impact. The complete methodology for determining surface water availability estimates, including consideration of environmental flows, is described in Chapter 4, Appendix 4-2. For rivers with established or proposed minimum flows, availability of water for withdrawal was determined using the methodology. Planning level minimum flows were developed to estimate availability in rivers without established or proposed minimum flows or surface water availability studies. Planning level minimum flow criteria include a series of constraints designed to ensure that existing uses and water supply needs of natural systems would be protected (CH2M Hill, 2000). Existing legal users were considered by subtracting permitted withdrawals from the quantity of water estimated available, taking into account minimum flows or planning level criteria. Finally, maximum withdrawals were restricted to twice the median flow of the river as a practical engineering limitation. Determination of actual yields from surface water sources could be lower than the quantity estimated to be available, since river yields are based on the assumption of unlimited storage capacity.**

The Mosaic Company's (Mosaic) water use permit to augment the Lower Alafia was a remedy to bring a longstanding, existing water use (with withdrawal records dating back to 1977) into compliance with minimum flow rules adopted after water use began. At the time of minimum flows adoption, Mosaic's withdrawals from Lithia and Buckhorn Springs did not have a low-flow threshold limitation. The purpose of the augmentation water use permit is to achieve the adopted minimum low flow threshold of 120 cubic feet per second for the Lower Alafia River System. Additionally, Mosaic's water use permit authorizing augmentation is dependent on Mosaic retiring historically used groundwater quantities from seven existing water use permits. New requests to withdraw water from the river must comply with the minimum flow rules.

2. **COMMENT:** *Tapping the Lower Floridan aquifer, as proposed in the case of the deep well projects in Lake and Polk counties, will result in further depletion of the Upper Floridan aquifer and may increase the risk of saltwater intrusion. Such projects are not sustainable and should not be incentivized.*

   The RWSP also identifies an additional 262.63 mgd of surface water as available as a water supply source. Over 150 mgd of this surface water has been identified as available in the Southern Region, which is under water use caution and which includes the "most-impacted area" of Manatee County. It seems untenable to continue to support additional water withdrawals in an area already suffering from insufficient water supply resources.

   DISTRICT RESPONSE: **Six of the seven surface water bodies identified in the Southern Planning Region have an established MFL or are in the development process providing for resource protection. An emphasis in the 2015 RWSP as well as the Southern Water Use Caution Area (SWUCA) Recovery Strategy is water**

conservation and the use of reclaimed water. Some water users may not be able to totally meet their demands through water conservation and reclaimed water so additional alternative water supply sources such as seasonal storage of surface water resources are valid options. Please remember the actual amount of water that could be developed in the future is determined through permitting processes recognizing both available supply and established minimum flows. See the SWUCA Recovery Strategy Five Year Assessment for FY2007-2011 on the District's website for detailed information.