

**TWDB Comments on the Initially Prepared 2016 Region C
Regional Water Plan
Proposed responses in bold**

Level 1: Comments and questions must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

1. Please consider including a general statement clarifying whether or not the planning group met all requirements under the Texas Open Meetings Act in the final, adopted regional water plan. [31 Texas Administrative Code (TAC) §357.21 and §357.50(d)]

These requirements were met; add statement in Chapter 10 saying they were met.

2. Please describe how publicly available plans for major agricultural, municipal, manufacturing and commercial water users were considered in the final, adopted regional water plan. [31 TAC §357.22(a)(4)]

Region C consulted published plans for major municipal water providers (TRWD IWSP, NTWMD, DWU Long Range Plan, etc) and met with all major WWPs to gather input; add a statement referencing these plans and meetings.

Region C also sent surveys to all WUGs and WWPs not met with asking for future plans. There is no major agriculture use in region and no published ag water plans. Manufacturing and commercial uses are covered under most WWPs plans.

3. Chapter 2: Please include a summary of the the municipal demand savings due to plumbing fixture requirements (as previously provided by TWDB) in the final, adopted regional water plan. [31 TAC §357.31(d)]

This information is already in Table 5E.9 as a total for the Region. Add to Chapter 2 and expand explanation.

4. Please provide a statement regarding any water availability requirements promulgated by a county commissioners court pursuant to Texas Water Code (TWC) §35.019, which in Region C applies to the North-Central Texas Trinity and Woodbine Aquifers Priority Groundwater Management Areas. [31 TAC §357.22(a)(6)]

To our knowledge, no Region C county commissioners court set for any water availability requirements, but will verify with GMA and add a statement to the report.

5. The plan does not appear to include a listing of the water rights that are the basis for the surface water availability in the plan. Please include such a listing in the final, adopted regional water plan. [Contract Exhibit 'C', Section 3.1]

Water rights were included in Table 1.5 (Chapter 1) of the IPP; for the Final Plan will add to Table I.3 as well.

6. The plan does not appear to tabulate the local supplies used in the plan along with an explanation of the basis of the associated local supply water volumes. Please include the

required information on local supplies in the final, adopted regional water plan. [*Contract Exhibit 'C', Section 3.3*]

This information is presented in detail in Appendix I (page I.22 text and Table I.6); add statement in Chapter 3 that refers reader to Appendix I.

7. Please clarify how the run-of-river availabilities were calculated for municipal water users to ensure that all monthly demands are fully met for the entire simulation of the unmodified Texas Commission on Environmental Quality Water Availability Model run 3 in the final, adopted regional water plan. [*Contract Exhibit 'C', Section 3.4*]

Add a statement that run-of-river items were based on WAM 3, with exception of Neches-Run-Of-River for Dallas which was developed by HDR. Get information from HDR on how Neches-Run-Of-River was calculated.

8. The plan does not appear to include documentation of the public process for identifying potentially feasible water management strategies. Please include this documentation in the final, adopted regional water plan. [*31 TAC §357.12(b)*]

Include the following documentation of the public process:

As part of Task 4B (Potentially Feasible Water Management Strategies), Region C produced a memo to TWDB dated November 10, 2011 with Subject “Methodology for Evaluating Water Management Strategies for the 2016 Region C Water Plan.” The RCWPG approved the methodology laid out in this memo at the October 25, 2011 RCWPG public meeting (Agenda Item III.B.). Region C consultants later presented the RCWPG with a full list of Potentially Feasible Water Management Strategies at the January 26, 2015 RCWPG public meeting (Agenda Item IV.F.). RCPWG approved the potentially feasible and recommended WMSs as part of the Initially Prepared Plan at the April 20, 2015 RCWPG public meeting (Agenda Item IV.A.).

9. Page 3.2, Table 3.1: Please include a description of the basis for the estimated increase in reuse availability between 2020 and 2070. [*31 TAC §357.32(a)(1)*]

Chapter 5E contains a more detailed description of the reuse availability. Include a few sentences from Chapter 5E in the Chapter 3 description.

10. Page 5B.5, Table 5B.2; Appendix P: The plan in some instances, does not appear to include a quantitative reporting of environmental factors. For example, the summary table 5B.2 for water management strategy evaluations in Appendix P appears to present qualitative scores (e.g., “medium”) but it is unclear if the scores are based upon quantitative data. Please include quantitative reporting in the final, adopted regional water plan. [*31 TAC §357.34(d)(3)(B)*]

Include quantitative data from App P (individual write-ups on each WMS) in Table 5B.2. Add any missing quantitative info if not in Appendix P. In addition, we will be using a quantitative rating system consistent with some other regions (scale of 0-5, with each number from 0 to 5 representing a set amount of acres impacted).

11. Page 5B.5, Table 5B.2; Appendix P: The plan in some instances, does not appear to include a quantitative reporting of impacts to agricultural resources. For example, the summary table

5B.2 for water management strategy evaluations in Appendix P appear to present qualitative (e.g., “medium”) scores but it is unclear if the scores are based upon quantitative data. Please include quantitative reporting in the final, adopted regional water plan. [31 TAC §357.34(d)(3)(C)]

Include quantitative data from App P (individual write-ups on each WMS) in Table 5B.2. Add any missing quantitative info if not in Appendix P. In addition, we will be using a quantitative rating system consistent with some other regions (scale of 0-5, with each number from 0 to 5 representing a set amount of acres impacted).

12. Pages 5B.10, 11.16, and P.57: The plan appears to incorporate by reference Marvin Nichols strategy evaluation material from the 2011 Region C Regional Water Plan. For example, page P.57 states that “Region C is retaining the original configuration of Marvin Nichols Reservoir (at elevation 328 msl, as detailed in the 2011 Region C Water Plan) as an alternative water management strategy for the 2016 Region C Water Plan.” Please include the relevant additional strategy information for that alternative strategy in the final, adopted regional water plan. [31 TAC §357.34(e)]

There is a separate write-up in Appendix P that gives the strategy evaluation for the Alternative Marvin Nichols (328.5 msl) as well as a full report on that strategy in App Y. Edit pages referenced above (Pages 5B.10, 11.16, and P.57) to refer reader to that information.

13. Page 5C.10; Appendix P, Pages P.8 and P.62: In some instances, the plan appears to present incomplete water management strategy evaluations. For example, the George Parkhouse Lake (South) strategy and the Neches River Run-of-River strategy configurations. The Neches Run-of-River strategy states the preferred project “would include run-of-river diversion . . . operated conjunctively with tributary storage, groundwater, and/or system operations with Lake Palestine . . .”, however it is not clear that the strategy evaluation for the conjunctive components of the project are included. Please clarify strategy labels or include the full strategy evaluations for all alternative and recommended strategies in the final, adopted regional water plan. [31 TAC §357.35(g)(3)]

Add more info to these WMS evaluations as necessary. Get Neches Run-Of-River detail from Dallas/HDR.

14. Pages 5D.285 and 5D.288: The plan does not appear to consider conservation as a potentially feasible strategy for all identified water supply needs. For example, there does not appear to be an explanation for why Navarro County Manufacturing and Steam Electric Power Water User Groups (WUGs) do not have conservation strategies. Please include documentation that conservation was considered to meet identified needs and, if not recommended, please document reason in the final, adopted regional water plan. [31 TAC §357.34(c)(3), §357.34(f)(2)(B)]

Conservation was considered for all WUGs, but there is a very small number of non-municipal WUGs for which we did not include a conservation strategy. Include a few sentences stating that conservation was considered but not found to be feasible for these few non-municipal WUGs (APAI).

15. Pages 5E.30 and 5E.31; Appendices P and Q: Some conservation water management strategies for municipal, manufacturing, and mining WUGs appear to be combined with reuse strategies. For example, the components listed on page 5E.30 for the ‘Expanded Water Conservation Package’ WMS include “reuse of treated wastewater effluent.” Unless the projects are directly interdependent, and reflected as such in the regional water planning database, each strategy type must be associated with separate volumes of water provided and should not be lumped together with other types of strategies. Strategy types must remain independent of one another to reflect implementation and to facilitate project prioritizations for funding. Please modify as appropriate throughout the final, adopted regional water plan and in the regional water planning database. *[31 TAC §357.34(e); Contract Exhibit ‘D’, Section 5.3]*

No reuse WMSs were combined with conservation WMSs in this plan. Reword the 6th bullet item at top of Page 5E.30 so that it is clear that they are separate in this plan.

16. Chapter 5: Please confirm that the calculated firm yields are based upon water available during the drought of record for the strategies utilizing sources from Lake Hugo, Lake Palestine, Lake Ralph Hall and Reuse, Lake Texoma, Lower Bois d'Arc Reservoir, Neches River Run-of-River, and Toledo Bend Reservoir. Please clarify in the final, adopted regional water plan. *[Contract Exhibit ‘C’, Section 3.4]*

Add statement confirming use of WAM 3 to calculate yields for all above except Lake Hugo (Oklahoma supply so there is no WAM) and Neches Run-Of-River which was calculated by HDR via Riverware.

17. Chapter 7: The plan does not appear to provide a general description of the local drought contingency plans that involve making emergency connections between water systems or wholesale systems. Please include these descriptions of local drought contingency plans, if any, in the final, adopted regional water plan or, if no local drought contingency plans involve making emergency connections, please indicate so in the final, adopted regional water plan. *[31 TAC §357.42(e)]*

Verify (with APAD) that none of the drought plans received included any specific emergency interconnect plans. Make reference in Chapter 7 to the separately submitted list of potential emergency interconnects.

18. Please clarify whether the plan development was guided by the principal that the designated water quality and related water uses as shown in the state water quality management plan shall be improved or maintained. *[31 TAC §358.3(19); Contract Exhibit ‘C’, Section 3.3].*

Add statement that this principal was followed (APAD).

19. Appendix K; Appendix Q, Tables Q-10 and Q-11: Please clarify the water savings volumes associated with recommended conservation strategies that have capital costs. Please include this information in the final, adopted regional water plan. *[31 TAC §357.34(d)(3)(A) and (e); Contract Exhibit ‘D’, Section 5.4]*

Edit Tables Q-10 and Q-11 to provide more detail. This information is available in consultant’s backup files and can easily be pulled into Q tables. Currently all conservation for each WUG is “rolled up”. Need to show individual conservation WMS

separately, particularly those with distinct capital costs (water loss control, irrigation restrictions, etc).

20. Appendix P, Page P.1: As noted in the plan, the plan does not appear to include a strategy evaluation for the “Reuse-General” strategy referenced in the plan on page P.1. Please include this information in the final, adopted regional water plan. *[31 TAC §357.34(d) and (e)]*

This has been prepared and was submitted to TWDB on 8/26/15. Will be included in Final Plan.

21. Appendix P, Page P.61: The plan does not clearly state whether the Neches River Run-of-River water management strategy evaluation incorporated environmental flow requirements. Please clarify whether analyses considered environmental flow requirements in the final, adopted regional water plan. If environmental flow requirements were not considered, please present results with environmental flow requirement considerations in the final, adopted regional water plan. *[31 TAC §357.34(d)(3)(B)]*

This is a Dallas WMS taken directly from their Long Range Plan. Verify with Dallas/HDR that environmental flows were considered when determining yield of project. Add this info to App P.

22. Appendix P: The plan does not appear to include strategy evaluations for the following potentially feasible strategies as described in the contract scope of work: "Lake Livingston," "Tawakoni Pipeline," "DWU Southside (Lake Ray Hubbard) Reuse," and "DWU Lake Lewisville Reuse." Please include these strategy evaluations or explain why this contract scope of work item was not included in the final, adopted regional water plan. *[Contract Scope of Work, Task 4D Subtask 2A]*

After final scope of work was negotiated, these strategies were either 1) far enough along that they were now considered “existing” (Tawakoni Pipeline) and didn’t need to be evaluated, or 2) were replaced by other strategies for consideration (these other strategies were evaluated in place of the ones listed in the contract).

23. The technical evaluations of the water management strategies do not appear to estimate anticipated water losses of the associated strategies. Please include an estimate of water losses in the final, adopted regional water plan, for example in a format of an estimated percent loss. *[31 TAC §357.34(d)(3)(A); Contract Exhibit 'C', Section 5.1.1]*

This was done, but not consistently. Calculate and include in final plan.

24. Appendix Q, Page Q.10: The cost estimate for “New Groundwater Wells” states that costs do not include engineering or land costs. Please ensure that all cost estimates include required costing elements in the final, adopted regional water plan. *[31 TAC §357.34(d)(3)(A); Contract Exhibit 'C', Sections 5.1.2 and 5.1.2.1]*

Clarify text regarding engineering and land costs. Verify that engineering was included and land costs were not included under the assumption that wells would be constructed on property already owed by the WUG.

25. Appendix Q, Page Q.22, Table Q-10: The plan does not appear to present a supply volume associated with the Oakwood WUG's Municipal Water Conservation water management strategy. Please present the associated supply volume for this strategy in the final, adopted regional water plan. [31 TAC §357.34(d)(3)(A), Contract Exhibit 'C', Sections 5.1.2 and 5.1.2.1]

Oakwood is a shared WUG with Region H, with a population of less than 50 located within Region C. It was pre-determined that Region H would develop all WMS for this WUG.

26. Appendix Q, Tables Q-12 and Q-13: The plan does not appear to present unit costs of municipal water savings in the dollars per acre-foot format as required. Please present information in the dollars per acre-foot format in the final, adopted regional water plan. [Contract Exhibit 'C', Section 5.1.2]

Costs shown in Tables Q-12 & Q-13 are in dollars per thousand gallons. Change them to dollars per acre-foot.

27. Appendix Q, Page Q.68, Table Q-39: The capital and annual costs for the Lake Columbia water management strategy in Table Q-39 (\$241,149,000 and \$53,284,000) do not appear to match the Lake Columbia costs presented in Appendix L, page 7.7-6 (\$288,640,000 and \$32,549,000). Please reconcile as appropriate in the final, adopted regional water plan. [31 TAC §357.34(d)(3)(A)]

The costs developed for Region C (App Q) differ from those developed for the Dallas Long Range Plan (App L) because Region C cost included additional costs of upsizing of the Integrated Pipeline to deliver Columbia water to point of use (Metroplex). Add explanation of this in text.

28. Appendix Q, Tables Q-67 and Q-74: It appears that, in some instances, cost estimates may include retail distribution infrastructure including for the Fort Worth Direct Reuse and Frisco Direct Reuse strategies. Please remove any costs associated with retail distribution from the final, adopted regional water plan. [31 TAC §357.34(d)(3)(A), §357.34(e); Contract Exhibit 'C', Section 5.1.2.3]

The majority of the cost for direct reuse projects is delivering the water from the WWTP to end users, so this is not considered retail distribution – it is a system to deliver water to major irrigation and industrial candidates. There is no supply available to anyone without these essential elements. These are not projects where water can put into the existing retail distribution system. Leaving these elements out of the projects would make these projects unworkable.

29. Appendix Q, Table Q-46: The cost estimate includes a negative value representing an "avoided cost." Please remove cost elements that are not directly part of the required planning cost elements for the Lake Texoma desalination plant project in the final, adopted regional water plan. [Contract Exhibit 'C', Section 5.1.2]

Table Q-46 is DWU's Lake Texoma Desalination Cost estimate. Most DWU costs were taken from Dallas Long Range Plan which did not have to follow TWDB costing criteria. Rework this cost estimate to meet TWDB criteria.

30. Appendix Q, Tables Q-18, Q-23, and Q-39: The plan in some instances, does not appear to present, separately, the estimated land purchase costs for reservoir footprint and mitigation land areas. For example, the Sulphur Basin Supply Strategy, Lower Bois d'Arc Creek Reservoir Strategy, and Lake Columbia Strategies do not separately present the estimated cost of conservation pool or mitigation land acreage. Please include land areas and estimated costs, separately, in the final, adopted regional water plan. *[Contract Exhibit 'C', Section 5.1.2]*

Table Q-18, The text of line items were edited to clarify each type of land cost.

Table Q-23, The land cost for the reservoir is on the first page of Table Q-23 (page Q.45) under the headings of "Dam & Reservoir, Land and Surveying"; the land cost for mitigation is on the second page of Table Q-23 (page Q.46) under the headings of "Permitting and Mitigation of reservoir and terminal storage, Land and Easement"; no change needed.

Table Q-39, Cost estimate for Lake Columbia was taken from Dallas Long Range Plan. Will attempt to separate land costs between those for reservoir and those for mitigation.

31. Appendix Q, Table Q.54: The project components and costs include \$600,000 for "equipment/vehicle storage" and \$4,250,000 for "foundation improvements." Water management strategy components included in regional water plans must be limited to the infrastructure required to develop and convey increased water supplies from sources and to treat the water for end user requirements. Please remove these and other costs that are not associated with providing additional supplies to WUGs from the final, adopted regional water plan. *[TAC §357.34(d)(3)(A); Contract Exhibit 'C', Section 5.1.2 and Section 5.1.2.3]*

This is UTRWD's CIP. Consultants will go through the cost estimate and pull out specific components that TWDB will not allow.

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

1. Section 3.3, Page 3.9; Appendix I, Page I.16: Please consider providing a complete description of the groundwater availability methodology employed for non-relevant portions of the Nacatoch Aquifer and "Other" aquifer groundwater sources in the final, adopted regional water plan.

MAG values were used from Nacatoch Aquifer supplies. Add more detail to this description if available.

2. Page 3.11, Table 3.5: Please consider including a line item for the non-relevant portion of the Nacatoch Aquifer in Henderson County in the final, adopted regional water plan.

Region C did not show any supply from non-relevant portions of the Nacotach Aquifer in Henderston County. MAG values were used for Nacatoch Aquifer supplies.

3. Page 5E.49, Item (3): Please consider correcting the URL reference to <http://www.texas.gov/conservation/doc/SB181Guidance.pdf> in the final, adopted regional water plan.

Correct the URL reference.

Summary of Texas Parks and Wildlife Department Comments on Region C IPP & Planned Responses

1. Few details given in Chapter 1 on how threats to natural resources will be addressed.
 - a. In Chapter 1 (Section 1.12), it would be appropriate to reference Chapter 6 (Section 6.4.1). This section provides some descriptions of ways in which threats can be minimized, including water conservation, reuse, full utilization of surface supplies, and federal and state permitting requirements.
 - b. Section 1.10.3 (page 1.35), Table 1.14 (pages 1.36-1.37), and Table 2 in Appendix I (pages 4-7) provide information related to threatened and endangered species. Recent updates have been made to the TPWD County Lists of Protected Species and Species of Greatest Conservation Need (SGCN).
 - i. The Smalleye Shiner and Sharpnose Shiner are now listed as Federally Endangered species and should be included in the table.
 - ii. The Texas Pigtoe, Texas Heelsplinter, Texas Fawnsfoot, Louisiana Pigtoe, Southern Hickorynut, and Sandbank Pocketbook are now State Threatened and should be included in the table.
 - iii. The Fawnsfoot, Wabash Pigtoe, Common Pimpleback, Little Spectaclecase, Wartyback, and White Heelflitter are no longer considered SGCN and can be taken off the tables.

Response:

Edit Section 1.12 to add reference to Section 6.4.1. Edit Threatened and Endangered Species listings in Chapter 1 and Appendix I to reflect specific changes in item 1.b. above.

2. Adopted Desired Future Conditions (DFCs) for the primary aquifer in Region C, the Trinity Aquifer, do not address protection of springs or groundwater surface water interaction. Ultimately TPWD would like to see DFCs adopted to protect these features.

Response:

Regional Water Planning Groups do not have input in the Groundwater Management Area and Groundwater Conservation District process of selecting Desired Future Conditions, but encourages those entities to address these concerns when setting DFCs.

3. TPWD recognizes the concerted effort to include more available quantitative environmental impact information in the 2016 IPP and encourages Region C to continue to improve this quantitative reports as information is available. Some suggested additions are:
 - a. Please attempt to include estimates on linear stream distances impacted or inundated.
 - b. Environmental flow impact data, including changes in downstream mean annual flow and changes in monthly or seasonal flows, is available for Lower Bois d'Arc Creek Reservoir WMS.
 - c. Appendix P (page P.34) appears to be missing a table under WMS Evaluation for Lake Columbia.
 - d. Appendices G, H, and I include interim environmental assessment information related to the Sulphur Basin Supplies WMS but the quantitative impact analysis on natural resources is not yet available to review.
 - e. TPWD encourages enhanced coordination regarding proposed reservoir project and the Sulphur Basin Supplies WMS in an effort to avoid, minimize, and mitigate impacts to fish and wildlife resources, including the White Oak Creek Wildlife Management Area. Attachment A

provided by TPWD summarizes information regarding potential impacts of raising the elevation of Wright Patman Lake.

Response:

- a. **Determine if linear stream distances are readily available. If so, add. If not, add statement in plan that says such information is not readily available and that Region C will strive to improve this information in the next regional plan.**
 - b. **Add Lower Bois d'Arc environmental flow data to Appendix P sheet on Lower Bois d'Arc.**
 - c. **Quantitative Marvin Nichols 313.5 report published shortly after TPWD comment letter received, so it is now available for their review. No further action needed.**
 - d. **Pull information from Attachment A provided by TPWD and add to Appendix P write-up for Sulphur Basin Supplies.**
4. Appendix I of IPP includes information regarding threatened and endangered species that might be impacted by the Sulphur Basin Supplies WMS. TPWD lists several species they feel should be part of this list and give web reference for further information.

Response:

Verify that these species are listed on either the State or Federal Threatened & Endangered lists for the counties associated with Sulphur Basin Supplies. If they are, add them to Appendix I. If not, coordinate with TPWD.

5. TPWD comments Region C in the reduction in overall gpcd from 200 to 165 from the 2011 Plan to the 2016 IPP. TPWD encourages further progress towards meeting the statewide goal of 140 gpcd.

Response:

Region C appreciates TPWD's recognition of conservation efforts. Region C will continue to encourage additional conservation efforts. No change to IPP needed.

6. Section 1.11.3 describes invasive species. Please include updated information to help clarify the present state of zebra mussels in Texas. The present known distribution (as of July 27, 2015) of zebra mussels in Texas reservoirs is: Texoma, Ray Roberts, Lewisville, Bridgeport, Lavon, Waco, and Belton. Zebra mussels have also been found on isolated occasions in the Red River below Texoma, the Elm Fork of the Trinity River below Lake Ray Roberts, Sister Grove Creek above Lake Lavon, and a boat with zebra mussels attached was found in Lake Ray Hubbard. To prevent the transmission of invasive species TPWD recommends avoiding transport of water from basins where these species are known to occur. If this is unavoidable these transfers of water should be directly to water treatment plants.

Response:

To Section 1.11.3, add locations of known Zebra Mussels as of July 27 per TPWD list. Include statement that all WMSs involving transfer of water from basins where Zebra Mussels exist were re-evaluated and re-routed to take water directly to WTPs.

General Comments on 2016 Initially Prepared Region C Water Plan

1. Need more conservation and more efficient use of water
 - a. Achieve state goal of 140 gpcd;
 - b. Better enforcement of restrictions;
 - c. Reduce water losses (to 10% like Region H);
 - d. Drought contingency plans;
 - e. Perceived low percentage of WUGs implementing conservation.
2. More reuse/water recycling
3. No new reservoirs
4. Stop further urbanization
5. Utilize ASR (Aquifer Storage and Recovery)
6. Utilize Lake O' the Pines; comments assert that 89,600 af/y is available.
7. Ban/curtail oil fracking due to high water use
8. Plan does not recognize or study the impacts of climate change

Region C Responses

1. The Region C Water Planning Group (RCWPG) desires to see the water user groups in Region C achieve the highest practicable level of water conservation and the highest practicable efficiency in water systems. Water is an important resource that is vital to the economy of Region C and the State, and Region C desires the best use possible. Much progress has already been made, demonstrated by a number of factors. Between the 2011 Plan and 2016 Plan, Region C's projected 2060 municipal per capita was reduced from 200 to 165 gpcd, and further reduced to 161 gpcd by 2070. By 2070, Region C anticipates almost 250,000 acre-feet per year of water savings for "build in" water conservation items associated with plumbing fixtures and efficient appliances (Table 5E.9). In addition, Region C anticipates another 135,000 acre-feet per year of water savings from "active" conservation efforts (Table 5E.9). RCWPG recognizes that future technologies may be developed that will enable even more conservation and RCWPG is open to adopting those technologies as strategies in future plans as they become practicable and implementable.
 - a. It is important to understand that the State goal of 140 gpcd is for an average (not dry) year and is also the net water use goal after giving credit for any reuse. Regional planning gpcd's are for dry year (per TWDB guidelines) and do not have the reuse strategies credited to them. Region C's municipal use for an average year, giving credit for the region's large amount of reuse, does meet the State goal of 140 gpcd. Region C's ability to meet this goal is particularly noteworthy given the large amount of non-residential municipal use (commercial and retail) that is included in Region C's municipal demand as compared to other regions. Examples of this non-residential municipal demand are: DFW Airport, Dallas and Fort Worth Convention Centers, Professional Sporting Facilities (5+), major retail areas (Galleria, Dallas Market, Grapevine Mills, etc), major hospital/medical facilities (UT Southwestern, Baylor, etc), large universities (TCU, SMU, UT Dallas, UNT), and national corporate offices (Exxon Mobil, AT&T, American Airlines, Texas Instruments, etc). It is also important to note that much of the Metroplex's commercial/retail serves population visiting Region C from other regions.
 - b. The RCWPG supports and encourages the efforts for better enforcement of existing watering restrictions including time-of-day and day of the week watering.
 - c. Water Loss Reduction is a conservation strategy for any Region C WUGs that had high water losses. Each WUG's historical water loss was used to determine the amount of water that could be saved through replacement of water lines that were a significant source of water

loss. More detail on this is provided in Appendix K. Table Q-10 has also been expanded to show how much conservation savings is attributed to the water loss prevention strategy for each WUGs.

- d. RCWPG maintains its assertion regarding Drought Contingency Plans as presented in Chapter 7 (Section 7.6).
- e. There seems to be a general misunderstanding by the public of the conservation survey data presented in Chapter 5E. In future plans, Region C will strive to present this information more clearly. An example of this misinterpretation follows.

Table 5E.6 presents results of a Region C survey of water retailers related to conservation efforts. The implementation percentages presented in this table represent the percentage of those entities responding to the survey, not the percentages of all water retailers or percentage of population in Region C that implement conservation strategies. For example, Table 5E.6 shows that 43% of the entities responding to the survey have implemented Time-of-Day Watering Restrictions. This does not equate to only 43% of all Region C water retailers that implement this strategy, nor does it equate to only 43% of the population implementing this strategy. For example, while two entities (Fort Worth and Dallas) represent only 1% of the water retailers responding to the survey (2 of 148), these two entities represent about 30% of the Region's population. Both of these entities have implemented significant watering restrictions, as have most of the larger water retailers in Region C.

2. Reuse (or water recycling) is a major strategy for Region C. Table 5E.7 (existing reuse projects) and Table 5E.8 (reuse strategies) show that Region C will have about 784,000 acre-feet of reuse by 2070. This represents 27% of the overall water use that will be recycled. This exceeds all other regions in the state. RCWPG encourages further reuse of water as is practicable and feasible.
3. Region C water suppliers do not enter into the planning of reservoirs lightly because they understand the difficulty of developing such projects and the impacts they have. Region C water suppliers would not undertake these reservoir projects if other alternatives were more feasible. Region C water suppliers have an obligation to provide water needed for the future of this region and for the good of the entire state, and have determined that these reservoirs, along with other selected strategies, are necessary to adequately provide for the future.
4. Region C Water Planning Group and water suppliers do not have control over future growth. At the same time, the RCWPG does have an obligation to plan for the growth that is anticipated.
5. An expanded description of ASR will be included in Section 5A.1.11 of the final plan. While several ongoing feasibility studies are being performed within Region C, those studies are not advanced enough to determine the suitability of ASR as a source of supply for Region C at this time. Studies of ASR should continue, and pilot projects should be implemented if the strategy appears to be promising. ASR projects determined to be viable should be added to future Regional Water Plans.
6. Lake O' The Pines: Based on strategies presented in Region D's 2016 IPP for the Northeast Texas Municipal Water District (Lake O' The Pines water right holder), it is the understanding of Region C that Lake O' The Pines will be fully committed to Region D water demands. However, Region C will verify with Region D and NETMWD that this is the case.
7. Mining water use makes up only 2.3% of the total projected demand in 2020 and only 1.5% in 2070. This mining use includes oil and gas fracking as well as other mining operations such as lignite mining for power plants and sand and gravel operations. The 2016 Region C Plan does contain several water management strategies of using reuse/recycled water to meet mining demands.
8. Although not explicitly stated, the 2016 plan is the first Region C Plan that attempts to address the effects of climate change. The use of safe yield rather than firm yield for both Dallas and Tarrant Regional Water District reservoirs is the chosen response to the potential effects of climate change. Future Region C Plans may further refine the anticipated effects of climate change and adjust supplies and strategies accordingly.