Section 10
Regional Water Plan Adoption
[31 TAC §357.11-12]

10.0 Overview

Facilitation and Public Participation played an integral part in the development of the 2001 and 2006 Regional Water Plans. The contributions of facilitation and public participation in were also evident in the timely, consensus adoption of the 2011 Regional Water Plan. The facilitation process is presented in Section 10.1 and the public participation process is presented in Section 10.2, with responses to comments received on the Initially Prepared Plan (IPP) presented in Section 10.2.3.

10.1 Facilitation

From the outset of the planning process, the South Central Texas Regional Water Planning Group (SCTRWPG) decided to emphasize a consensus approach to decision-making. That process has been facilitated first by the members' awareness of the need for cooperative and open attitudes when dealing with controversial issues. This process has also drawn extensively on the public involvement effort that has kept the SCTRWPG members informed at critical times of the full range of ideas, values, and concerns of constituencies throughout the region. This is an on-going process that will continue through approval of the Regional Water Plan. The following is a brief summary of the facilitation efforts undertaken in developing the 2011 South Central Texas Regional Water Plan, by both the Chair and the facilitation consultant, to aid Members of the SCTRWPG in the process of developing the Initially Prepared Plan. In addition, the Technical Consultant supported the process of building consensus by providing the necessary tools and technical means for testing alternative approaches.

10.1.1 Facilitation Process for the 2011 Regional Water Plan

The SCTRWPG contracted with Ximenes and Associates (Ximenes) as the facilitation consultant for the 2011 Regional Water Plan. During the course of the planning cycle, the facilitation team worked with the Chairman to improve interpersonal communication among the planning group members, initiating a pre-meeting social time to encourage members to get to

know one another and discuss upcoming issues informally. The facilitation consultants provided support at public meetings and hearings.

Beginning in October 2007, Ximenes interviewed the Members of the Regional Water Planning Group by telephone regarding their interests in regional water planning, their background and experience, their assessments of the planning process and its effectiveness, their needs for additional preparation (orientation, terminology, technical issues), and their impressions of stumbling blocks to effective planning. Each interview was summarized in a detailed report to the planning group.

An Environmental Assessment Committee to consider potential improvements to the environmental assessments to be incorporated into the Region L plan was formed in December 2007. This committee was comprised of selected SCTRWPG members and representatives from interested organizations and agencies. HDR provided a summary of the environmental assessments completed in development of the 2006 Regional Water Plan, and Ximenes provided a summary of comments regarding environmental issues in the 2006 Regional Water Plan for background documentation. The group reviewed the 2006 Regional Water Plan environmental assessments and the cumulative effects analysis, then brainstormed possible improvements to the process, different approaches, effectiveness of previous assessments, etc. Recommendations of the Environmental Assessment Committee are summarized in a report[1] and implementation of these recommendations is reflected in the technical evaluations of water management strategies (Section 4C, Volume II) and assessments of cumulative effects (Section 7, Volume I) in the 2011 Regional Water Plan.

In August 2008, Ximenes contacted planning group members to schedule telephone interviews to discuss the Lower Guadalupe Water Supply Project for GBRA needs. A summary report was provided to the SCTRWPG.

Upon identifying two contentious sets of issues affecting the development of the IPP, Chairman Con Mims created the Guadalupe Basin Water Needs Workgroup (Guadalupe Workgroup) and the Gonzales County Groundwater Projects Workgroup (Gonzales Workgroup) involving selected SCTRWPG members and representatives from interested parties. Objectives for the Guadalupe Workgroup were identified as: 1) Develop a set of recommended projects and

[1] South Central Texas Regional Water Planning Group, "2011 Regional Water Plan, Study 5, Environmental Evaluations of Water Management Strategies," Texas Water Development Board, San Antonio River Authority, HDR Engineering, Inc., Ximenes & Associates, April 2009.

alternative projects, if needed, to meet the water needs of the Guadalupe Basin; 2) Ensure there is no "double dipping" of projects using the same water source; and 3) Describe how the San Antonio Bay and estuaries will be protected. The objective for the Gonzales Workgroup was to recommend how to account for the allocation of available Carrizo Aquifer groundwater from Gonzales County among proposed water projects, while preserving the Gonzales County Underground Water Conservation District's (GCUWCD) responsibility to issue permits and the project developers' ability to apply for permits.

Beginning in August 2009 and concluding in October 2009, the Guadalupe Workgroup held a series of three workshops resulting in a set of recommendations adopted by the SCTRWPG on November 5, 2009 and refined by the SCTRWPG on December 3, 2009. Similarly, the Gonzales Workgroup met in September 2009 and developed a recommendation adopted by the SCTRWPG on November 5, 2009. The activities of each workgroup were led by Chairman Mims, technically supported by HDR, and documented by Ximenes. Recommendations developed by these workgroups are reflected throughout the 2011 Regional Water Plan and facilitated its adoption by consensus.

10.2 Public Participation

Laura Raun Public Relations (LRPR) was contracted by the SCTRWPG to provide Public Participation professional services. The approach used by LRPR continued the two-way communications model used in the previous two planning cycles. The objective was to enable the SCTRWPG to provide information about its activities to the public and receive feedback about those activities in a systematic way. Public participation for the 2011 Regional Water Plan was conducted in three phases:

1. Phase I was improvement of the Region L website.
2. Phase II was public involvement in the technical studies conducted for the Regional Water Plan.
3. Phase III was public comment on the 2011 Initially Prepared Regional Water Plan.

10.2.1 Phase I: Website Improvement

The SCTRWPG website, http://www.regionltexas.org, plays a key role in the public participation process. Information about planning group meetings, members, technical studies,

and the 2011 Initially Prepared Regional Water Plan has been made available for public review in a timely manner and feedback has been invited.

In 2007, the website was redesigned with oversight by a Region L Communications Committee, comprised of four SCTRWPG members. The website improvements were intended to:

- Make it easier to find key information, such as meeting details;
- Improve site navigation; and
- Create a more intuitive look and feel.

Text was condensed, photos updated, hyperlinks added, and the 2006 Regional Water Plan posted. Information was added on past and future meetings, SCTRWPG members, and involvement opportunities in the 2007-2011 water planning cycle. Finally, the website was moved to a new host and given a more intuitive URL.

The goal was to provide a high-level overview that would increase the website's appeal and relevance to a wider range of audiences, whether newcomers to the site or stakeholders wanting to stay abreast of the planning process. The redesigned website allowed visitors to dig down to a more detailed level if additional information was required.

The website was updated in about one month. This accelerated schedule was used to make the site available to members prior to the group's quarterly meeting. A logo was created for Region L and added to the website.

10.2.2 Phase II: Public Involvement in Technical Studies

Public input was gathered at each SCTRWPG meeting and through direct communications from the public, about the technical studies and general topics. Comments were informally categorized for the purposes of identifying trends and relaying information to the Planning Group.

The comment categories were essentially those used in the 2006 Regional Water Plan, with minor refinements. A total of 105 public comments on all topics were received by the Planning Group prior to issuance of the Initially Prepared Plan. Of those comments, 15 related to the five technical studies were posted on the Region L website.

10.2.3 Phase III: Comment on Initially Prepared Plan

The Initially Prepared 2011 South Central Texas Regional Water Plan (IPP) was posted for review and comment on the Region L website on March 1, 2010. The comment period ended on June 16, 2010. Three public hearings were held to receive comments on the IPP: Victoria (April 12, 2010), San Marcos (April 13, 2010), and San Antonio (April 15, 2010). Over 100 people attended the sessions. Informal notes of public comments at the hearings were taken by the public participation consultant and the technical consultant. Audio recordings of each public hearing were posted on the website, along with the sign-in sheets and comment cards.

During the comment period on the 2011 IPP, a total of 105 comments were received by the Public Participation consultant, directly or indirectly, for categorizing. Those received indirectly were forwarded by the San Antonio River Authority, HDR Engineering, the Texas Water Development Board, and/or other entities. Written comments received before the June 16 deadline were posted on the SCTRWPG website. An additional 217 comments were received after the June 16 deadline. In addition to public comments on the IPP, TWDB staff and Texas Parks and Wildlife Department staff provided comments.

Comments on the Initially Prepared 2011 South Central Texas Regional Water Plan and South Central Texas Regional Water Planning Group responses are provided herein. Responses to TWDB comments, as required, are addressed in Section 10.2.3.1. Comments from Texas Parks and Wildlife Department are presented and addressed in Section 10.2.3.2. Finally, public comment is categorically addressed in Section 10.2.3.3, which also includes a section dedicated to comments received from the Lone Star Chapter of the Sierra Club.

10.2.3.1 TWDB Comments on Initially Prepared 2011 South Central Texas Regional Water Plan and SCTRWPG Responses

TWDB Staff Comments, Letter of June 28, 2010: Attachment -- South Central Texas Regional Water Plan – Region L

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

General Comment

1. Population, demand, and water availability figures in various tables and text are slightly different than the amounts in the online planning database (DB12). These differences may be

due to rounding or reallocation between river basins. Please revise or coordinate with TWDB staff to ensure that the data in the plan is consistent with DB12. (e.g. Page ES-4, last paragraph, total municipal water demand should be 637,235 acft/yr not 637,236 acft/yr; Page ES-9, total Carrizo Aquifer groundwater availability differs by 2 acft/yr from the online planning database data in each planning decade.) *[Title 31 Texas Administrative Code (TAC) §357.7(d)(1)&(2) and §357.5(a)(3)]*

Response: Revisions have been made to the plan and DB12 to ensure consistency.

Chapter 1

2. Page 1-9, 3rd paragraph: The Yegua-Jackson is an official minor aquifer and covers parts of La Salle, Atascosa, Wilson, Karnes, and Gonzales counties within Region L. Please mention the Yegua-Jackson as a minor aquifer that underlies the region. *[31 TAC §357.7(a)(1)(D)]*

Response: Reference to the Yegua-Jackson Aquifer has been included.

3. Page 1-31, 1st paragraph: Frio and Zavala counties should to be added to the list of counties overlying the Edwards Aquifer. *[31 TAC §357.7(a)(1)(D)]*

Response: Reference to Frio and Zavala counties has been included.

Chapter 3

4. Comal, Hays, and Kendall counties in Region L are located in the Hill Country Priority Groundwater Management Area and have water availability requirements adopted by county commissioner's courts. Guadalupe and Medina counties also have water availability requirements adopted by county commissioner's courts. Please provide a statement regarding any water availability requirements promulgated by a county commissioners court pursuant to TWC §35.019. *[31 TAC §357.5(k)(1)(H)]*

Response: A statement regarding water availability requirements promulgated by a county commissioners court has been added to Chapter 3.

5. Page 3-3, 4th paragraph: Please include a discussion of how groundwater availability models were used to calculate groundwater availability, for example, describe whether the

groundwater availability values used from district management plans were developed using groundwater availability models.

Response: A discussion of how groundwater availability models (GAMs) were used to calculate groundwater availability has been added to Chapter 3.

6. Page 3-5, Table 3-1: Total volumes for the Gulf Coast Aquifer 2010 supplies in Table 3-1 (100,640 acft/yr) do not match the total Gulf Coast Aquifer 2010 supplies in Table 3-2 (102,723 acft/yr). Please revise as appropriate throughout plan.

Response: A line indicating the estimated 2010 groundwater supply of 2,083 acft/yr from the Gulf Coast Aquifer in Gonzales County has been added to Table 3-1, thereby increasing the total 2010 Gulf Coast Aquifer supplies shown in Table 3-1 to 102,723 acft/yr and matching Table 3-2.

7. Page 3-5, Table 3-1: Values for the Gulf Coast Aquifer 2010 supplies in Table 3-1 do not include Gulf Coast Aquifer supply values for Gonzales County. Please revise as appropriate throughout plan. *[Contract Exhibit "C", Section 3]*

Response: See response to Comment #6.

8. Page 3-5, Table 3-1: Values for the Carrizo Aquifer 2010 supply in Table 3-1 (437,841 acft/yr) do not match the Carrizo Aquifer 2010 supplies in Table 3-2 (438,539 acft/yr). Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: A line indicating the estimated 2010 groundwater supply of 699 acft/yr from the Carrizo Aquifer in Karnes County has been added to Table 3-1, thereby increasing the total 2010 Carrizo Aquifer supplies shown in Table 3-1 to 438,539 acft/yr and matching Table 3-2.

9. Page 3-5, Table 3-1: Table 3-1 does not include Carrizo Aquifer values for Karnes and Zavala counties. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: See response to Comment #8 with regard to Karnes County. Table 3-1 does include Carrizo Aquifer values for Zavala County.

10. Page 3-14 Recycled water supply is not summarized in Chapter 3. Please present recycled water supplies in plan. *[Contract Exhibit "C", Section 3]*

Response: Existing supplies from reuse or recycled water are summarized in Chapter 3 and included in the computation of needs for additional supply summarized in Appendix C.

Chapter 4

11. Please describe how publicly available plans of major agricultural, municipal, manufacturing and commercial water users were considered. *[31 TAC §357.5(k)(1)(E)]*

Response: Planning information from water user groups was generally obtained and considered as part of the process for identification of potentially feasible water management strategies for the 2011 plan as outlined beginning on page 4B.1-3.

12. Page 4A-4: Calhoun County Manufacturing ('Industrial') water need of 245 acft/yr in 2060 does not match the Calhoun County Manufacturing water need volume of 209 acft/yr presented in Table 4B.2.4-1 (page 4B2-71) or 4B.2.4-11 (page 4B.2-76). Please revise as appropriate throughout plan.

Response: The revised need for Calhoun County Manufacturing ('Industrial') is 2,021 acft/yr in 2060. The plan has been revised accordingly.

13. Page 4A-4: Comal County-Other water need of 2,960 acft/yr in 2060 does not match the Comal County-Other ('Rural Area Residential and Commercial') water need volume of 2,742 acft/yr presented in Table 4B.2.5-1 (page 4B.2-79). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.5-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.5-1.

14. Page 4A-4: Comal County Manufacturing ('Industrial') water need of 9,022 acft/yr in 2060 does not match the Comal County Manufacturing water need volume of 8,672 acft/yr presented in Table 4B.2.4-1 (page 4B.2-79). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.4-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.4-1.

15. Page 4A-6: Schertz water need of 2,436 acft/yr in 2060 does not match the Schertz water need volume of 2,420 acft/yr presented in Table 4B.2.11-1 (page 4B.2-121). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.11-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.11-1.

16. Page 4A-7: Kendall County-Other water needs of 211 acft/yr in 2010 does not match the Kendall County-Other ('Rural Area Residential and Commercial') water need volume (zero) presented in Table 4B.2.14-1 (page 4B.2-171). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.14-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.14-1.

17. Page 4A-8: Medina County-Other water needs do not match the Medina County-Other ('Rural Area Residential and Commercial') water need volumes presented in Table 4B.2.16-1 (page 4B.2-171). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.16-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.16-1.

18. Page 4A-8: Medina Irrigation water needs do not match the Medina Irrigation water need volumes presented in Table 4B.2.16-1 (page 4B.2-171). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.16-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.16-1.

19. Page 4A-9: Sunko Water Supply Corporation water needs of 70 acft/yr in 2060 do not match the Sunko water need volume of 16 acft/yr presented in Table 4B.2.20-1 (page 4B.2-201). Please revise as appropriate throughout plan.

Response: Values in Table 4B.2.20-1 represent the sum of the Surplus/Shortage values for each river basin and/or across the entire county. These values may differ from the Need value reported in other tables because the Need represents only the sum of the shortages. A footnote has been added to Table 4B.2.20-1.

20. Page 4A-19, second and third sections of Table 4A-3: Regional water plans are required to be based on drought of record conditions including firm supplies available during a drought of record. 'Interruptible' water supplies should not be included in total Guadalupe-Blanco River Authority supplies on 4A-18 and 19. Please revise plan to present water supplies available on a firm yield basis as available in a drought of record. *[31 TAC §357.7(a)(3)(B)]*

Response: Under hydrologic assumptions approved by the TWDB for Region L planning, firm supplies under the GBRA/Dow water rights in the lower Guadalupe – San Antonio River Basin are estimated to be 89,501 acft/yr on a monthly computation basis (as is consistent with TWDB guidance). Appendix B, page B-3 includes a breakdown of the 89,501 acft/yr firm supply associated with the GBRA/Dow water rights in Calhoun County. Although all of these supplies are not shown in Appendix C for Calhoun County, sufficient supplies are shown to meet all projected demands for water to be supplied by GBRA under drought of record conditions. No revisions to the plan pursuant to Comment #20 are perceived to be necessary as the plan does present water supplies available on a firm yield basis in a drought of record.

Firm supplies available from the GBRA/Dow water rights in the lower Guadalupe – San Antonio River Basin are estimated to be 41,548 acft/yr on a daily computation basis as shown in Table 4A-3 on page 4A-19. This information is presented in Table 4A-3 only for consistency between state, regional, and GBRA water supply planning. Similarly, the

appearance of interruptible water supplies in Table 4A-3 simply reflects the actual agreements that GBRA has with irrigators and the Exelon Generation Company under which GBRA has not contracted for delivery of firm supplies. For example, Exelon has contracted for 75,000 acft/yr of interruptible water supply (Table 4A-3) and has a projected drought demand of 49,126 acft/yr (Victoria County, Table 2-6) which can be met on a firm basis with interruptible supplies from GBRA and storage available through cooling reservoir operations, as described in Section 4C.10. GBRA contracts for irrigation supply in Calhoun County are "year-to-year" and need not be sustained through a drought of record. In other words, irrigation demands in Calhoun County exist, but GBRA is not required to meet them in prolonged drought. Hence, GBRA's periodic commitments of existing supplies to irrigation in Calhoun County are, in fact, interruptible.

21. Page 4A-19, Table 4A-3, third section: Basis for calculation of Guadalupe-Blanco River Authority's total identified water needs is not clear. Please present the method used for determining Guadalupe-Blanco River Authority water needs. *[31 TAC §357.7(a)(4)(A)]*

Response: GBRA water needs presented in Table 4A-3 are consistent with current and planned uses of existing supply sources which include Canyon Reservoir, run-of-river ("mid-basin") water rights on the San Marcos River, and the GBRA/Dow lower basin water rights (which include both firm and interruptible components). Projected needs for GBRA's customers presently associated with Canyon Reservoir are calculated by subtraction of the Canyon Reservoir Total demands near the middle of page 4A-18 from the Canyon Reservoir supplies on page 4A-19. Mid-basin run-of-river customer needs are calculated by subtraction of the Mid-Basin Municipal Run-of-River Total demands near the middle of page 4A-18 from the Mid-Basin Rights supply on page 4A-19. Lower basin interruptible customer needs are calculated by subtraction of Lower Basin (Run-of-River, Interruptible) Total demands near the bottom of page 4A-18 from Lower Basin Rights (Interruptible, Daily Basis) supplies on page 4A-19. Finally, Lower basin firm customer needs are calculated by subtraction of Lower Basin (Run-of-River, Firm) Total demands near the bottom of page 4A-18 from Lower Basin Rights (Firm, Daily Basis) supplies on page 4A-19. Explanatory footnotes have been added to Table 4A-3.

22. Page 4B.1-14, Section 4B.1.2.7: 'Edwards Transfers' volume of 51,628 acft/yr does not match the volume presented on page ES-15 or in Appendix D, Table 2 of 51,875 acft/yr. Please revise as appropriate throughout plan.

Response: The value of 51,875 acft/yr is correct. The plan has been revised throughout.

23. Page 4B.1-22 footnote 10: In accordance with the standard footnote (e.g. footnote10) regarding inclusion of additional 'management supplies' (e.g. additional water management strategies) for entities that have recommended water management strategies relying on Gonzales County groundwater but which may not be able to obtain a groundwater permit, please identify the alternative sources of water that are associated with these additional water management strategies that would be used to meet needs of all associated entities (e.g. Garden Ridge, Goforth Water Supply Corporation, Kyle, San Marcos, Selma, Water Services Inc).

Response: Conservation is a recommended strategy to meet a component of the projected needs of all water user groups seeking groundwater supplies from Gonzales County. Similarly, the SCTRWPG recommends due consideration of economically viable Drought Management as an interim strategy to meet near-term needs through demand reduction until such time as economically viable long-term water supplies can be developed. Following is a summary of observations and/or alternative water management strategies identified for the water user groups list in Comment #23. The recommended Conservation strategy appears to provide sufficient demand reductions to meet projected needs for Selma in the absence of additional groundwater from Gonzales County. Purchase from WWP (GBRA) is identified as an alternative source for San Marcos, Kyle, and Goforth WSC as each of these water users has an existing contract with GBRA. Purchase from WWP (CRWA), possibly through Green Valley SUD, is identified as an alternative source for Garden Ridge based on proximity and potential difficulties in obtaining additional supplies from the Trinity Aquifer. Finally, Purchase from WWP (SAWS) and/or Edwards Transfers are identified as alternative sources for Water Services, Inc. based on proximity. Section 4B-2 (text) and Appendix D have been modified to reflect alternative sources for the referenced water users.

24. Page 4B.1-22, Section 4B.1.2.22: 'Regional Carrizo for SSLGC' unit cost of $568/acft/yr does not match the unit cost on page ES-16 or in Appendix D, Table 2 of $608/acft/yr. Please revise as appropriate throughout plan.

Response: The unit cost for Regional Carrizo for SSLGC is $568/acft/yr. The plan has been revised accordingly.

25. Page 4B.1-24, Section 4B.1.2.25: 'Local Groundwater Supplies (Carrizo)' volume of 29,933 acft/yr does not match the volume in Appendix D, Table 2 of 33,874 acft/yr. Please revise as appropriate throughout plan.

Response: The value of 33,874 acft/yr is correct. The plan has been revised accordingly.

26. Page 4B.3-1, Table 4B.3-1: Wholesale water provider Lavaca-Navidad River Authority and Texas Water Alliance water supplies and water needs are presented in Table 4B.3-1 but not referred to in the wholesale water provider Table 4A-3 on page 4A-15. Please revise to ensure consistent references to wholesale water providers throughout the plan.

Response: Texas Water Alliance is shown as a WWP in Table 4A-3 on page 4A-15. LNRA is not shown in Table 4A-3 because they are not a WWP physically located or relying on water sources in the South Central Texas Planning Region. LNRA is referenced in Section 4B.3 because it is the WWP for municipal (Point Comfort) and industrial (Formosa Plastics Corporation) uses in the portion of Calhoun County east of Lavaca Bay. Clarifying language has been added to Section 4B.3.

27. Page 4B.3-3: The 2010 San Antonio Water System drought management supply of 37,622 acft/yr does not match the 2010 San Antonio Water System drought management supply amount of 19,767 acft/yr on page D-8, Appendix D, Table 3 and is greater than the total 2010 region-wide drought management supply of 13,627 presented in Appendix D, Table 2 and on page ES-15. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: A 2010 drought management supply of 37,622 acft/yr has been included for SAWS in Appendix D Tables 1, 2, and 3, in Table ES-4, and in DB12.

28. Page 4B.3-3: The 2060 'Regional Carrizo for SAWS' supply of 11,687 acft/yr does not match the 2060 'Regional Carrizo for SAWS' supply amount of 11,700 acft/yr on page D-8, Appendix D, Table 3. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: Table ES-4 and Appendix D, Table 3 have been revised to show 11,687 acft/yr.

29. Page 4B.3-6, Table 4B.3.2-1: Totals shown at the bottom of the table appear incorrect based on the data contained within the table. Please revise as appropriate throughout plan.

Response: Totals have been revised.

30. Page 4B.3-12: The 2010 'GBRA Lower Basin Storage' supply of 28,369 acft/yr does not match the 2010 'GBRA Lower Basin Storage' supply amount of 26,452 acft/yr on page D-8, Appendix D, Table 3. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: The value of 28,369 acft/yr is correct. The plan has been revised accordingly.

31. Page 4B.3-12: The 2010 and 2060 'Wimberley and Woodcreek Water Supply Project' supplies of 4,480 af/yr and 0 af/yr, respectively, do not match the associated 2010 and 2060 'Wimberley and Woodcreek Water Supply Project' supply amounts of 1,120 acft/yr and 4,480 acft/yr presented on Appendix D, page D-2, Table 2. Please revise as appropriate throughout plan (e.g. page 4B.3-11) and, if necessary, in the online planning database.

Response: Table 4B.3.4-1 on page 4B.3-12 and relevant text on page 4B.3-11 have been revised for consistency with Appendix D.

32. Page 4B.3-20: The 2010 'TWA Regional Carrizo' supply of 0 acft/yr does not match the 2010 'TWA Regional Carrizo' supply amount of 27,000 acft/yr on page D-8, Appendix D, Table 3. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: The TWA Regional Carrizo Project is to come online by 2020. Appendix D has been revised accordingly.

Appendix C

33. It appears that total County Surplus/Shortage and Total Basin Surplus/Shortage volumes were calculated incorrectly throughout Appendix C Tables by subtracting 'Total [county-wide] Demand' from 'Total [county-wide] Supply'. Please revise to reflect total county water needs as the sum of the individual needs of each water user group in the county; needs that are calculated based on each water user group's own demands and supplies.

Response: County water needs based on the sum of the individual needs of each water user group in the county are presented elsewhere in the Appendix C tables and in Table 4A-1. Referenced headings have been modified to "County Balance" and "Total Basin Balance" to clarify that these county or basin estimates of "shortage" and not necessarily equivalent to "needs."

Appendix D

34. Table 1: Please clarify, for example by including a footnote, whether the list of water management strategies included in Appendix D, Table 1 comprises the complete list of potentially feasible water management strategies referred to within bullet number 7 on page 4B.1-4. *[Contract Exhibit "C" Section 11.1]*

Response: A footnote has been added to Appendix D Table 1 to clarify that it is intended to be a complete list recommended water management strategies.

35. Table 2: Various unit costs of water in Appendix D, Table 2 do not appear to match unit costs based on the total annual costs and total supplies in the planning database (DB12). Although some of these differences may be due to multiple users of strategies and the underlying weighting of associated volumes and costs, for single-sponsor projects these numbers should align. Please revise unit costs as appropriate or coordinate with TWDB staff to ensure that the annual cost data in the plan is consistent with the online planning database (e.g. Appendix D, Table 2: Guadalupe Blanco River Authority (GBRA) Exelon Project; GBRA Lower Basin Storage; GBRA Mid Basin Project; CRWA Siesta Project; LCRA-SAWS Water Project; TWA Regional Carrizo). *[31 TAC §357.7(a)(8)(A)(1);Contract Exhibits "C" and "D"]*

Response: Unit costs have been revised as appropriate to ensure that the plan is consistent with the online planning database (DB12).

36. Table 2: Storage Above Canyon Reservoir (ASR) First Decade Unit cost of $1,772/acft/yr does not match the unit costs presented on first summary page in Volume II, Section 4C.9 of $1,599/acft/yr or in Volume II, Table 4C.9-9 of $1,598/acft/yr. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: The unit cost for Storage Above Canyon Reservoir is $1,598/acft/yr. However, in implementing this project, it is likely that the water will be delivered via the Guadalupe River and/or Canyon Reservoir. Thus, secondary treatment and integration costs have been added to the project, making the unit cost in the plan $1,772/acft/yr.

37. Table 2: GBRA-Exelon Project (River Diversion) First Decade Unit cost of $641/acft/yr is less than both unit costs presented in Volume II, Section 4C.10 summary page (e.g $646/acft/yr). Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: The unit cost for GBRA-Exelon Project (River Diversion) is $646/acft/yr. The plan has been revised accordingly.

38. Table 2: Supply of 27,000 af/yr for TWA Regional Carrizo project in year 2010 does not match page 4B.3-20, Table 4B.3.8-1 which shows zero acft/yr of supply in 2010. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: The TWA Regional Carrizo Project is to come online by 2020. Appendix D has been revised accordingly.

39. Table 2: GBRA New Appropriation (Lower Basin) First Decade Unit cost of $1,953/acft/yr does not match unit cost presented in Volume II, Section 4C.9 summary page of $1,910/acft/yr or in Volume II, Table 4C.9-9 of $1,598/acft/yr. Please revise as appropriate throughout plan and, if necessary, in DB12.

Response: The unit cost for GBRA New Appropriation (Lower Basin) is $1910/acft/yr. The plan has been revised accordingly.

40. Table 2: Regional Carrizo for SSLGC First Decade Unit cost of $608/acft/yr is less than both unit costs presented in Volume II, Section 4C.19 summary page of $568/acft/yr. Please

revise as appropriate throughout plan (e.g. page 4B.3-11) and, if necessary, in the online planning database.

Response: The unit cost for Regional Carrizo for SSLGC is $568/acft/yr. The plan has been revised accordingly.

41. Table 2: 'Recommended' water management strategies 'Facilities Expansions' and 'Surface Water Rights' do not have quantified water amounts and costs associated with them. Please revise Appendix Table 2 to include only recommended water management strategies that have been evaluated for supply, impacts, and cost. *[31 TAC §357.7(a)(8)(A)(1); Contract Exhibits "C" and "D"]*

Response: Appendix D Table 2 has been modified to include technical information relevant to Facilities Expansions to be considered recommended water management strategies. This table and additional references throughout the plan have been modified to identify the Surface Water Rights water management strategy as an activity consistent with the 2011 regional water plan.

42. Table 2: Table does not include 'Balancing Storage' as a recommended water management strategy although it is described as "recommended" on page 4B.1-29. This recommended water management strategy also does not appear in the online planning database and has no water volume or cost associated with it. Please revise plan as necessary regarding Balancing Storage strategy in Section 4B, Appendix D, Table 2 and the online planning database to include only recommended water management strategies that have been evaluated for supply, impacts, and cost. *[31 TAC §357.7(a)(8)(A)(1); Contract Exhibit "C"]*

Response: Appendix D Table 2 and additional references throughout the plan have been modified to identify the Balancing Storage water management strategy as an activity consistent with the 2011 regional water plan.

43. Table 2: Table does not include 'Purchase from Wholesale Water Provider' as a recommended water management strategy although it appears to be a 'recommended' water management strategy on page 4B.1-30 and in DB12. Please revise the plan and the online planning database as necessary to present 'Purchase from Wholesale Provider' as a

recommended strategy in Appendix D, Table 2, including the associated water volumes. *[31 TAC §357.7(a)(8)(A)(1); Contract Exhibit "C"]*

Response: Purchase from Wholesale Water Provider has been added to Appendix D Table 2 as a recommended water management strategy.

VOLUME II

44. Section 4C.2: The determination of specific volumes, by decade, of drought management water supply for each entity using this strategy is not presented. Please present a table, for example equivalent to Table 4C.1-10 for conservation, showing how water amounts provided by drought management by entity were derived for each water user group. *[31 TAC §357.7(a)(8)(A)(1)]*

Response: The SCTRWPG has indicated that drought management is an interim strategy to meet near-term needs through demand reduction until such time as economically viable long-term water supplies can be developed. Hence, projections of potential demand reductions associated with Drought Management into future decades, as shown for Conservation in Table 4C.1-10, were not developed. Table 4C.2-4 shows potential demand reductions associated with various degrees of drought management based on 2010 demands. Text has been added to the plan to clarify that, with the exception of SAWS, only the 5 percent demand reduction scenario is recommended.

45. Page 4C.8-3, Section 4C.8: Potential water supply sources listed include Canyon Reservoir and groundwater. Please clarify the water supply for the recommended Wimberley and Woodcreek Water Supply Project water management strategy. Canyon Reservoir is indicated as the supply in the online planning database.

Response: As described in Section 4C.8, presently committed, but unused, supplies from Canyon Reservoir are the initial source and the GBRA Mid-Basin Project (Surface Water) and/or Hays/Caldwell PUA project will be the long-term source(s). Each of the potential long-term sources produces treated water at or very near the San Marcos Water Treatment Plant from which the recommended transmission facilities to the Wimberley area originate. The SCTRWPG has not expressed a preference among the potential long-term sources, recognizing that either is potentially feasible.

46. Section 4C.20 does not explain how capital costs of the Hays/Caldwell PUA Project were allocated among wholesale water suppliers and water user groups. Please show how capital costs are allocated among project participants. *[31 TAC §357.7(a)(8)(A)(1); Contract Exhibit "C"]*

Response: A table showing an example allocation of capital costs among participants has been added to Section 4C.20.

47. Section 4C.22, Table 4C.22-1: Please clarify in plan whether costs for local groundwater supply strategies include associated land acquisition, environmental permitting and mitigation costs. *[Contract Exhibit "C"]*

Response: Text has been added to Section 4C.22 to clarify that cost for local groundwater supply strategies include land acquisition, environmental permitting, and mitigation.

48. Section 4C.22, Table 4C.22-1: 'Total Project Cost' for Oak Hills WSC appears to be incorrect at $269,000 which is less than the 'Capital Cost' of $1,207,000. Please revise as appropriate throughout plan and, if necessary, in the online planning database.

Response: The 'Total Project Cost' for Oak Hills WSC should be $1,721,000. Table 4C.22-1 has been corrected.

49. Section 4C.24: Section does not explain how capital costs of the Brackish Wilcox Groundwater for Regional Water Alliance project were allocated among wholesale water providers and water user groups. Please show the allocation of capital costs among participants. *[31 TAC §357.7(a)(8)(A)(1); Contract Exhibit "C"]*

Response: A table showing an example allocation of capital costs among participants has been added to Section 4C.24.

50. Page 4C.31-20, Table 4C.31-7: 'Distribution' system improvement costs should not be included in the regional water plan. Costs should be limited to the infrastructure costs associated with developing and conveying increased water supplies from water supply sources and to treat the water for end water user group requirements. Please extract costs of project elements that do not enhance water supply volumes delivered to water user groups (e.g. $86,825,000 in

distribution costs associated with the 75 MGD capacity plant). *[31 TAC §357.7(a)(5); Contract Exhibit "C"]*

Response: "Distribution" has been replaced with "Integration" which is intended to represent connection of the water treatment plant to one or more major delivery points within a water system.

51. *(Attachment B)* Comments on the online planning database (i.e. DB12) are herein being provided in spreadsheet format. These Level 1 comments are based on a direct comparison of the online planning database against the Initially Prepared Regional Water Plan document as submitted. The table only includes numbers that do not reconcile between the plan (left side of spreadsheet) and online database (right side of spreadsheet). An electronic version of this spreadsheet will be provided upon request.

Response: Appropriate revisions to DB12 for consistency between the plan and DB12 have been completed.

52. *(Attachment C)* Based on the information provided to date by the regional water planning groups, TWDB has also attached a summary, in spreadsheet format, of potential interregional conflicts, apparent water source over allocations, and apparent unmet water needs that were identified during the review of the online planning database and Initially Prepared Regional Water Plan. *[Additional TWDB comments regarding the general conformance of the online planning database (DB12) format and content to the Guidelines for Regional Water Planning Data Deliverables (Contract Exhibit D) are being provided by TWDB staff under separate cover as 'Exception Reports']*

Response: The TWDB has identified two potential interregional conflicts associated with the GBRA Simsboro Project. The potential conflict with Region G has been resolved by reduction of the maximum planned Lee County withdrawals associated with the GBRA Simsboro Project from 20,000 acft/yr to 19,777 acft/yr. Region L initially sought to resolve the potential conflict with Region K in a manner similar to that used by Region L to address potential source over allocations in Gonzales County. More specifically, Region L recognizes the regulatory authority of the Lost Pines Groundwater Conservation District (LPGCD) to issue (or not issue) permits in accordance with its rules and state law. As permits for the GBRA Simsboro Project and/or for the Expansion of Carrizo-Wilcox

Aquifer strategy in the Region K plan have yet to be granted, Region L has included additional recommended and/or alternative water management strategies to ensure that projected needs can be met in the event that such permits are not granted. It was the expectation of the SCTRWPG that Region K would do the same recognizing that applications or permits associated with the GBRA Simsboro Project are pending before LPGCD. Region K, however, did not choose to identify one or more alternative water management strategies in the event that permits for the Expansion of Carrizo-Wilcox Aquifer strategy in Bastrop County are not issued by the LPGCD. Furthermore, Region K chose not to identify Expansion of Carrizo-Wilcox Aquifer as an overdraft despite the facts that the LPGCD has issued permits totaling 43,486 acft/yr when estimated total availability from the Carrizo-Wilcox Aquifer in Bastrop County is only 28,000 acft/yr and new supply associated with this strategy (up to 14,166 acft/yr) exceeds the difference between total availability and existing supplies pumped in 2009 (20,198 acft/yr)[2]. The SCTRWPG has decided to resolve this potential conflict by including "overdraft" notation and explanatory language to documentation of the GBRA Simsboro Project in the 2011 Regional Water Plan.

In the absence of a groundwater conservation district (GCD) regulating the Carrizo Aquifer in Bexar County, water users groups (WUGs) or wholesale water providers (WWPs) therein may be able to produce groundwater well in excess of the availability estimates in the regional water plan which actually date to the 1997 state water plan. This potential over allocation has been resolved by "temporary overdraft" notation and/or identification of alternative water management strategies to meet projected needs in the event that WUGs or WWPs are unable to develop planned new supplies from the Carrizo Aquifer.

A discussion of unmet irrigation needs is found on page 4B.1-10.

[2] Information provided by LPGCD during an August 2, 2010 coordination meeting involving representatives of Region L and Region K interests.

LEVEL 2. Comments and suggestions that might be considered to clarify or enhance the plan.

Executive Summary

1. Page ES-14, Figure ES-7 and page 4B.1-5, Figure 4B.1-2: Drought management is a distinct water management strategy and not a subcategory of conservation. Please consider presenting drought management as a separate category of water supply in Figure 4B.1-2 and throughout plan.

Response: Due to the reliance of both the Water Conservation and Drought Management strategies on significant reductions in residential landscape irrigation use, Drought Management is not identified as a separate category of water supply in the referenced summary figures in the 2011 regional water plan. Potential separation of these water management strategies in summary graphics will be considered for the 2016 plan.

Chapter 1

2. Page 1-1, 1st paragraph: Section 1.7 states there are five major aquifers, however the Edwards-Trinity (Plateau) is missing from the first sentence in Section 1.1. Please consider including the Edwards-Trinity (Plateau) as a major aquifer.

Response: The Edwards-Trinity (Plateau) has been added as a major aquifer.

3. Page 1-3, Table 1-1: Please consider clarifying in Table 1-1 whether Edwards Aquifer Area means the area covered by the Edwards Aquifer or the Edwards Aquifer Authority. If the region is referring to the Edwards Aquifer, it should include an 'X' next to Frio and Zavala counties.

Response: A footnote has been added to Table 1-1 to clarify that the Edwards Aquifer Area means the area within the Edwards Aquifer Authority statutory boundaries.

Chapter 3

4. Page 3-5, Table 3-1: Text on page 3-3 and 3-4 states that Table 3-1 shows availability for all major aquifers except the Edwards Aquifer. Please consider including the Edwards-Trinity (Plateau) Aquifer in Table 3-1 or revising the text on page 3-3.

Response: Text on page 3-3 has been revised to indicate that availability for the Edwards-Trinity (Plateau) Aquifer is not shown in Table 3-1.

Chapter 4

5. Consider presenting the capital costs of water management strategies associated with Water User Groups' water supply plans, within Chapter 4 for ease of locating associated project costs.

Response: Capital costs associated with water management strategies are presented in Section 9 (Volume I), Appendix D (Volume I), and Section 4C (Volume II). The SCTRWPG will consider adding capital cost to the project descriptions in Section 4B.2 for the 2016 Regional Water Plan.

6. Page ES-14, Figure ES-7 and page 4B.1-5, Figure 4B.1-2: Drought management is a distinct water management strategy and not a subcategory of conservation. Please consider presenting drought management as a separate category of water supply in Figure 4B.1-2 and throughout plan.

Response: See response to Level 2 Comment #1.

7. Page ES-14, Figure ES-7 and page 4B.1-5, Figure 4B.1-2: While recycled water is a recommended water management strategy it is not presented in Figure 4B.1-2. Please consider presenting recycled water as a separate category of water supply in Figure 4B.1-2.

Response: Figures ES-7 and 4B.1-2 and relevant text have been revised to show Recycled Water as a category of new water supplies separate from Available Resources.

Chapter 5

8. Chapter 5: Consider presenting quantitative reporting of and impacts of voluntarily redistributing water in Chapter 5, instead of Chapter 4 in accordance with TWDB Guidance.

Response: Presentation of quantitative reporting and impacts of voluntarily redistributing water has been moved to Chapter 5.

Appendix C

9. Page C-33 and C-78: Pages contain tables that do not present any data and that occur between connected tables. Please consider deleting these empty table/pages.

Response: Empty table segments and pages have been deleted.

VOLUME II

10. Section 4C.18, 4C.18-4, 1st paragraph: Please consider updating the statement indicating that desired future conditions have not been established for Groundwater Management Area 13. Groundwater Management Area 13 has since adopted desired future conditions on April 9, 2010.

Response: Text has been revised to reflect that GMA13 adopted Desired Future Conditions on April 9, 2010.

10.2.3.2 TPWD Comments on the Initially Prepared 2011 South Central Texas Regional Water Plan and SCTRWPG Responses

TPWD Letter of June 15, 2010 – South Central Texas Region L Initially Prepared Plan

Thank you for the opportunity to review and comment on the 2010 Initially Prepared Regional Water Plan (IPP) for South Central Texas Region L. Texas Parks and Wildlife (TPW) acknowledges the time, money and effort required to produce the regional water plan as mandated by Senate Bill 1 of the 75th Legislature. A number of positive steps have been taken since the first planning cycle to advance the issue of environmental protection. For example, the regional water planning groups are required by TAC §357.7(a)(8)(A), to perform a "quantitative reporting of environmental factors including effects on environmental water needs, wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico" when evaluating water management strategies (WMS). Quantification of environmental impacts is a critical step in planning for our state's future water needs while also protecting environmental resources.

TPW staff has reviewed the IPP with a focus on the following questions:

- Does the plan include a quantitative reporting of environmental factors including the effects on environmental water needs, and habitat?

- Does the plan include a description of natural resources and threats to natural resources due to water quantity or quality problems?
- Does the plan discuss how these threats will be addressed?
- Does the plan describe how it is consistent with long-term protection of natural resources?
- Does the plan include water conservation as a water management strategy? Reuse?
- Does the plan recommend any stream segments be nominated as ecologically unique?
- If the plan includes strategies identified in the 2006 regional water plan, does it address concerns raised by TPW at that time?

The South Central Texas Region L IPP includes a brief description of natural resources including fish and wildlife resources. A detailed table listing threatened and endangered species by county with notations concerning their habitat preferences and protected status is presented in Appendix H of the IPP. Major springs are also described and potential threats to natural resources were evaluated.

The Region L IPP includes a detailed quantitative reporting of environmental factors. Volume II of the IPP discusses technical evaluations of strategies and presents water management strategy summary sheets that include acreages impacted by each strategy. Where applicable, changes in environmental flows are predicted using Water Availability Models.

Environmental assessments are presented for proposed water management strategies included in the 2010 IPP as well as for the 1984, 1990, 1997, 2002 and 2007 Water Plans. While necessarily broad in scope, this quantitative analysis comparing each water plan highlights some interesting trends. For example, the 2010 IPP is projected to have more impact (per unit of supply) than any plan listed when considering endangered, threatened, and species of concern due to the number of projects and pipelines traversing sensitive areas. The 2010 IPP is also projected to have a greater environmental impact (per unit of supply) on vegetation and wildlife habitat than either the 2007 or 2002 plans and fewer impacts (per unit of supply) to wildlife habitat than the 1984, 1990, or 1997 plans, largely due to the absence of large main-stem reservoirs included in earlier plans. Finally, the 2010 IPP appears to project moderate water quality and aquatic habitat impacts, although this is difficult to evaluate because the numbers in Table 7.2-5 do not match the values shown in Figure 7.2-5. Please double-check the calculations and presentation of the

results. Overall, the 2010 IPP appears to have the highest cumulative impacts (per unit of supply) compared to earlier plans except for the 1984 plan.

While specific conclusions cannot be made at this point, TPW staff tends to agree with the statement that the predicted impacts associated with the smaller (but more numerous) strategies in the 2010 IPP may be more easily avoided and/or mitigated than the large scale impacts associated with reservoirs in earlier water plans.

The Region L IPP recommends water conservation for all water user groups. Region L is to be commended for including advanced water conservation as a water management strategy. According to the IPP, per capita water use in Region L is projected to decline over the planning period from 148 gallons per person per day in 2000 to 132 gallons per person per day in 2060. The IPP also recommends the expansion of water recycling, or use of reclaimed wastewater, for non-potable purposes such as parkland irrigation and instream flow augmentation.

Region L is also to be commended for considering and recommending reasonable drought management strategies to reduce water demands during droughts. While TPW understands the need for planning to provide needed water supplies, municipalities and other water user groups have successfully promoted sensible restrictions during droughts. It is important that the success of these programs be reflected in regional water planning.

TPW staff is encouraged that Region L has recommended five segments for nomination as ecologically unique. TPW staff believes that the "clarifying provisions" provided by Region L are consistent with existing statutes.

The 2010 Region L IPP is a well organized report. Recognition is deserved for proposed designation of five ecologically unique stream segments, advanced conservation, drought management as a water management strategy, seawater desalination, use of off-channel reservoirs, recommended use of recycled water for non-potable uses for several WUGs, aquifer recharge, aquifer storage and recovery, brush management, and an ecological analysis of the impact of the 2010 plan. No major on-channel reservoirs are proposed within the region at this time.

While TPW is pleased to see that many of our earlier comments have been addressed, and appreciated being included in discussions with the Environmental Committee, concerns remain regarding potential impacts associated with several strategies. Increased reliance on groundwater from the Carrizo-Wilcox aquifer, particularly in Wilson, Gonzales, and Caldwell counties, is projected to cause substantial local drawdowns which could impact seeps, small springs, instream flows, and the biota dependent on these habitats. Recommended placement of four Type II recharge structures in stream segments identified by TPW as ecologically significant stream segments could result in environmental impacts to those segments. With this IPP in place, Comal Springs is projected to stop flowing if a repeat of the drought of record occurs, imperiling endangered species. The proposed interbasin transfer from the lower Colorado River could also potentially negatively impact the Matagorda Bay ecosystem. New appropriations from the Guadalupe River and/or increased use of previously unused water rights from the Guadalupe River will impact instream flows and freshwater inflows to San Antonio Bay that will likely reduce long-term inflows and increase bay salinities. This will invoke a host of complex estuarine community changes. Both seawater and brackish groundwater desalination can be ecologically advantageous strategies, as long as issues such as impingement and entrainment at intake locations and brine disposal options are carefully considered. Continued consultation with TPW staff will help to ensure that fish and wildlife impacts can be avoided or minimized.

Section 7.1.3.3 illustrates model simulations comparing “natural”, “present”, “baseline” and “RWP” scenarios. In our opinion, the “present” simulation results in an overly conservative demand scenario since stacking the ten-year maximum diversion of each water right into a single year has not been observed. In part because of this assumption, the “present” conditions simulation results are fairly close to the “baseline” and “RWP” results, all of which show substantial deviations from the “natural” condition. TPW suggests that a comparison also be made with the average or median of the last 10 years for each water right and associated return flows. This scenario is significantly different from the “baseline” and “present” scenarios and will allow a useful representation of current, on-the-ground, conditions. Please let us know if we can help in this endeavor.

Thank you for your consideration of these comments. TPW looks forward to continuing to work with the planning group to develop water supply strategies that not only meet the future water supply needs of the region but also preserve the ecological health of the region's aquatic resources. Please contact Cindy Loeffler at (512) 389-8715 if you have any questions or comments.

General Response: The SCTRWPG appreciates the thoughtful and constructive comments provided by the Texas Parks & Wildlife Department (TPWD) on the Initially Prepared 2011 South Central Texas Regional Water Plan. In addition, the SCTRWPG gratefully acknowledges the valuable technical support provided by TPWD staff throughout the development of the 2011 Regional Water Plan. Such technical support is exemplified by staff participation in the Environmental Assessment Committee, sharing of resource information relevant to the recommendation of five stream segments for legislative designation as having unique ecological value, and valuable contributions to SCTRWPG and workgroup meetings.

Following are SCTRWPG responses to specific comments:

A. Water Quality and Aquatic Habitat

The 2010 IPP appears to project moderate water quality and aquatic habitat impacts, although this is difficult to evaluate because the numbers in Table 7.2-5 do not match the values shown in Figure 7.2-5. Please double check the calculations and presentation of results.

Response: Table 7.2-5 is correct. Figure 7.2-5 has been revised to portray the correct values.

B. Present Conditions Simulations in the Cumulative Effects (Section 7)

TPW suggests that a comparison also be made with the average or median of the last 10 years for each water right and associated return flows.

Response: The South Central Texas Regional Planning Group will consider performing such an analysis for the 2016 Plan.

10.2.3.3 Public Comments on the Initially Prepared 2011 South Central Texas Regional Water Plan and SCTRWPG Responses

Public Comments

A. Freshwater Inflows

Several commentors expressed concern about freshwater inflows into the Guadalupe Estuary. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

A.1. There are concerns that SB3 won't be enough to protect freshwater inflows.

Response: The environmental flows process established by SB3 is just underway for the Guadalupe - San Antonio River Basin and the Guadalupe Estuary. Among other things, both the Bay and Basin Stakeholder Committee and the Bay and Basin Expert Science Team will be considering the freshwater inflows necessary to maintain a sound ecological environment. Pursuant to TWDB guidance for regional water planning, Consensus Criteria for Environmental Flow Needs (CCEFN) have been applied in the technical evaluation of potentially feasible water management strategies.

A.2. Increased uses of existing water rights will reduce freshwater inflows during dry periods.

Response: Full utilization of existing water rights is authorized by Texas water law and recognized in the fundamental hydrologic assumptions adopted by the SCTRWPG and approved by the TWDB for regional water planning. Changes in freshwater inflows to the Guadalupe Estuary are illustrated in Figures 7.1-25 through 7.1-29 and are deemed acceptable by the SCTRWPG. Due to natural hydrologic conditions and the doctrine of prior appropriation, it is unlikely that every existing water right will be able to divert its full authorization during a repeat of the drought of record.

A.3. Environmental needs are not considered in plan.

Response: The 2006 South Central Texas Regional Water Plan offered the most comprehensive environmental analyses of any regional water plan in the State of Texas. As the 2011 plan includes the same, and additional, environmental analyses, it is expected that

Region L will again compare quite favorably with other planning regions. Water needs of the environment are considered in the application of Consensus Criteria for Environmental Flow Needs (CCEFN) as part the technical evaluation of each water management strategy including a new appropriation of surface water.

A.4. Fisheries are impacted by low flows.

Response: Freshwater inflows are but one factor affecting the fisheries. Low freshwater inflows, caused by both natural and anthropogenic means, along with many other factors (e.g., hurricanes, harvest effort, red tide, sediment deposition, nutrient loadings, pollution, etc.) can affect the Guadalupe Estuary and associated fisheries.

A.5. March-October low-flows can adversely affect species and the plan affects these flows.

Response: Compared to the Baseline, the Plan does not increase the number of occurrences of 6 month or longer periods below an assumed Drought Tolerance Level (MinQsal) within critical months of March through October (Table 7.1-13).

A.6. Groundwater pumpage affects surface water.

Response: The decline in water levels in aquifers due to increased groundwater use can affect surface water. The effects of increased groundwater pumpage are accounted for in the cumulative effects assessment found in Section 7 of the South Central Texas Regional Water Plan.

A.7. SB3 Process will help define environmental needs.

Response: See A.1.

A.8. If planned supplies from the Colorado River (LCRA-SAWS Project) do not develop, freshwater inflows could be less.

Response: Should the LCRA-SAWS Water Project not come to fruition, SAWS would likely develop alternative sources of supply to replace it. If these alternative sources are non-Edwards groundwater or originate outside of the Guadalupe – San Antonio River Basin (e.g., Seawater Desalination), then freshwater inflows with plan implementation would be similar to those presented in Section 7 of the 2011 plan.

A.9. Reduced water flows during sparse rainfall conditions raised salinity levels in San Antonio Bay to 60-year record highs during the 2008/2009 period, directly affecting game fish and other aquatic life in the system.

Response: Noted.

A.10. Ecological integrity is essential to the economic vitality of Aransas County.

Response: Noted.

B. Whooping Cranes

Several commentors expressed concern about the Whooping Crane population that winters in or near the Aransas National Refuge, adjacent to the Guadalupe Estuary. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

B.1. Crane mortality in 2008-2009 is a significant concern.

Response: There is uncertainty in the estimation of crane mortality for 2008-2009, however, loss of this endangered species is clearly a matter of concern.

B.2. Use of existing water rights contributes to the deaths of cranes.

Response: Linkage, if any, between the mortality of whooping cranes and freshwater inflows, much less changes in freshwater inflows due to uses of surface water rights, has yet to be accurately defined. The SCTRWPG is monitoring scientific studies to better define this potential linkage, including the San Antonio Guadalupe Estuarine System research conducted by Texas A&M University.

B.3. If we can save snail darters and the spotted owl, surely we can spare a couple 100,000 acft of water for cranes and redfish.

Response: Noted.

B.4. The Region L Plan does not adequately address the needs of the Whooping Cranes.

Response: The 2011 South Central Texas Regional Water Plan has been prepared in accordance with TWDB rules and guidance and the actual needs of Whooping Cranes are not known in sufficient specificity.

C. Opposition to GBRA-Exelon Project

Several commentors expressed opposition to the GBRA-Exelon Project. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

C.1. This (water management strategy) should not be a recommended project and should be moved to the "needs further study" category, so it can be studied in the next cycle of planning.

Response: Noted.

C.2. The GBRA Exelon Project will not be needed in the 2010-2020 decade.

Response: The timing of the GBRA Exelon Project is uncertain. Exelon has, however, filed an Early Site Permit application with the Nuclear Regulatory Commission and could file a Combined Operation License Application at any point in time. Exelon holds a reservation contract with GBRA for up to 75,000 acft/yr of water from GBRA's existing water rights.

C.3. The project is uncertain: permits are not in place.

Response: Exelon is and will be pursuing permits in a timely manner, as they deem necessary.

C.4. No serious analysis of its impact on the environment and the endangered whooping crane is included.

Response: Environmental Impact Studies would be part of the permitting process and a subject of future feasibility studies.

D. Support for the GBRA-Exelon Project

Several commentors expressed support for the GBRA-Exelon Project. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

D.1. The project offers potential benefits to the local and regional economies.

Response: Noted.

D.2. The project is a responsible use of existing water rights.

Response: Noted.

E. GBRA Mid-Basin Projects

Several commentors provided comments on the GBRA Mid-Basin Projects. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

E.1. Support for the projects and recommendation that one of them should deliver water to the Lake Placid WTP.

Response: Noted.

E.2. There have been insufficient environmental studies. The plan does not take into account flow rates among other factors and the impact on the ecology of the rivers and wetlands.

Response: The GBRA Mid-Basin Project has been evaluated in accordance with TWDB guidance for regional planning. Detailed environmental studies would be part of the permitting process and future feasibility studies.

E.3. Project will modify the existing flow regime below the Gonzales diversion.

Response: Noted.

E.4. It is in the early formulation stage and would be appropriate to postpone until the next water plan when more info is available.

Response: There is a pending surface water right application at TCEQ for this water management strategy. One of the requirements for the permit is consistency with a regional water plan. By placing the GBRA Mid-Basin Project (Surface Water) in the Plan, the South Central Texas Regional Planning Group does not impede GBRA's pursuit of such permits.

F. GBRA Simsboro Project

The Lost Pines Groundwater Conservation District expressed concern about the GBRA Simsboro Project. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

F.1. The GBRA Simsboro Project was not represented in the GMA 12 simulations.

Response: Noted.

F.2. There is enough water from other projects (GBRA Mid-Basin Projects) that the GBRA Simsboro Project is not necessary.

Response: Noted.

F.3. The project creates an inter-regional conflict with Regions G and Regions K.

Response: The GBRA Simsboro Project has been revised to avoid an inter-regional conflict with Region G. The amount of water exported from Lee County (Region G) has been reduced from 20,000 acft/yr to 19,777 acft/yr in order to avoid the source over-allocation in Lee County. As a result, the size of the project has been reduced from 50,000 acft/yr to 49,777 acft/yr.

The SCTRWPG has decided to resolve this potential conflict by including "overdraft" notation and explanatory language to documentation of the GBRA Simsboro Project in the 2011 Regional Water Plan. Additional information is available in the SCTRWPG response to Level I Comment No. 52 provided by the TWDB.

G. Opposition to GBRA New Appropriation (Lower Basin)

Several commentors expressed opposition to two water management strategies sponsored by GBRA – the GBRA-Exelon Project and the GBRA New Appropriation (Lower Basin). Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

G.1. This (water management strategy) should not be a recommended strategy and should be moved to the "needs further study" category, so it can be studied in the next cycle of planning.

Response: There are pressing water demands within the GBRA district and a pending application at TCEQ for this water management strategy. One of the requirements for the permit is consistency with a regional water plan. By placing the GBRA New Appropriation (Lower Basin) in the Plan, the South Central Texas Regional Planning Group does not impede GBRA in pursuing such permits.

G.2. Recommends project wait until the next water plan 2016-2017.

Response: See response to G.1.

H. Opposition to the Lower Guadalupe Water Supply Project for Upstream Needs (60,000 acft/yr) and the Lower Guadalupe Water Supply Project for Upstream Needs at Reduced Capacity (35,000 acft/yr)

One commentor expressed opposition to two alternative water management strategies sponsored by GBRA – the Lower Guadalupe Water Supply Project for Upstream Needs (60,000 acft/yr) and the Lower Guadalupe Water Supply Project for Upstream Needs at Reduced Capacity (35,000 acft/yr). Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

H.1. It is unclear as to whether this project would involve adding fresh groundwater to the strategy.

Response: Neither alternative water management strategy includes fresh groundwater, nor are there plans to add fresh groundwater to either strategy.

H.2. It is unclear about the relationship of these two strategies with regards to the GBRA Exelon strategy and other planned GBRA projects.

Response: Both the Lower Guadalupe Water Supply Project for Upstream Needs (60,000 acft/yr) and the Lower Guadalupe Water Supply Project for Upstream Needs at Reduced Capacity (35,000 acft/yr) are alternative strategies. At this time GBRA is not pursuing either project. Should one or more of GBRA's other recommended water management strategies become infeasible (GBRA Simsboro Project, GBRA Mid-Basin Project, GBRA New Appropriation (Lower Basin), etc), GBRA may ask the South Central Texas Regional Planning Group to elevate one of these alternative strategies to recommended status. Which of the two water management strategies GBRA would pursue depends on the status of the GBRA Exelon Project. As noted, if the GBRA Exelon Project is still active and being sought, then the Lower Guadalupe Water Supply Project for Upstream Needs at Reduced Capacity (35,000 acft/yr) would be the only viable option. However, if the GBRA Exelon Project is no longer active, then GBRA could choose either alternative water management strategy to elevate to recommended status.

I. Off-Channel Reservoirs / Private Property Rights

Several commentors expressed concern about private property rights, especially where condemnation could be required for siting of off-channel reservoirs. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

I.1. Off-channel reservoirs should be located closer to the point(s) of use.

Response: The locations and physical characteristics of off-channel reservoirs are subject to feasibility studies and permitting.

I.2. Property condemnation for an off-channel reservoir should be avoided.

Response: The South Central Texas Regional Planning Group specifically adopted a policy pertaining to condemnation. In Section 8 of the Plan, it states "*The SCTRWPG is of the opinion that it is not appropriate for a regional water planning group to tell a governmental entity to abandon its eminent domain powers if it wants its project to be approved as a recommended water management strategy. The SCTRWPG is further of the opinion that it is not within the planning group's jurisdiction to judge the merits of eminent domain. It is, however, the understanding of the SCTRWPG that all land needed for implementation of water management strategies will be obtained using a process of willing seller and willing buyer and that limited condemnation will be used as a last resort.*"

I.3. Reservoir sites are selected as examples only.

Response: As with all water management strategies in the South Central Texas Regional Water Plan, the locations and facilities are planning level approximations, subject to revision during permitting, design, and/or construction. Furthermore, some water management strategies, such as the Storage above Canyon Reservoir strategy, are illustrative to show the potential of a similar project. Detailed siting feasibility studies could be necessary before some projects move forward.

I.4. Surveys and documentation will be required before this process moves forward.

Response: As with all water projects, surveys and documentation are necessary for permitting, design, and construction.

I.5. Eminent domain should only be used to acquire pipeline easements as a last resort.

Response: See response to I.2.

J. Storage above Canyon Reservoir

One commentor had comments pertaining to the Storage above Canyon Reservoir water management strategy. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

J.1. While the shallow soils of the Hill Country are relatively "poor" in comparison to the deep soils of the Blackland Prairies, they do not render the land as useless or valueless as this seems to imply. Furthermore, the comments regarding recreation are totally inaccurate. Texans consider the Hill Country their big backyard and are utilized for a wide range of recreation, including mountain biking, hunting, hiking, fishing, bird-watching, and nature photography.

Response: The Storage above Canyon Reservoir description has been revised to correct the implication that the soils are useless. In addition, the statement about recreation has been revised to accurately depict the wide range of recreational activities in this area.

J.2. Eminent domain should only be used to acquire pipeline easements, as it relates to the ASR options of the water management strategy, as a last resort. It should be the goal of Region L to enlist voluntary cooperators.

Response: See response to I.2.

K. Groundwater Rights

One commentor expressed concern about private property rights regarding groundwater. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

K.1. Projects should not infringe upon groundwater or private property rights.

Response: Noted.

L. Groundwater Availability/Supply Definitions

One commentor had a comment regarding confusion about the definitions of groundwater availability, existing groundwater supplies, and drought of record.

L.1. It is suggested that there be a glossary of terms included in the Plan.

Response: The terminology used in the Plan is defined in TWDB's guidance for regional planning, which is available on the TWDB website.

M. Gonzales County Groundwater Strategies

Several commentors expressed concerns about large groundwater export projects from Gonzales County. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

M.1. All the pumpage for exports from Gonzales County could adversely affect the local pumpers by shifting the brackish groundwater line.

Response: The possibility of such a shift would most likely be evaluated in the permitting process before the Gonzales County Underground Water Conservation District.

M.2. Impacts to the springs and rivers due to the increased pumpage are of concern.

Response: Potential declines in water levels in aquifers due to increased groundwater pumpage can affect surface water. The estimated effects of increased groundwater pumpage are accounted for in the cumulative effects assessment (Section 7) of the South Central Texas Regional Water Plan.

M.3. The transfer of large amounts of water from one aquifer region to another is not part of a natural process and is damaging to the environment.

Response: While such transfers are certainly not a natural process, additional data is needed to determine whether these transfers are damaging to the environment.

M.4. There are insufficient water allocations given to agricultural (food-producing) areas. Water resources in the areas of food production are already over-allocated. Areas that have water may welcome economic development.

Response: Noted.

N. CRWA Wells Ranch Project

Several commentors, including entities that would receive water from the project, indicated that the description and cost estimate of the CRWA Wells Ranch Project did not include pipeline segments that need to be built to fully deliver the water from the Wells Ranch well field.

N.1 Please show costs for the pipeline segments of the CRWA Wells Ranch Project that are not currently constructed.

Response: After some discussion, CRWA and their engineer clarified the project status and gave direction of the missing pipeline segments. The CRWA Wells Ranch Project description and cost estimate has been revised to account for the pipeline segments.

O. TWA Carrizo Project

Representatives from Springs Hill WSC, Gonzales County WSC, and Canyon Lake WSC suggested minor revisions to the TWA Carrizo Project, including pipeline realignment.

O.1 Please revise the TWA Regional Carrizo Project pipeline to go east and south of the City of Gonzales.

Response: The TWA Carrizo Project has been revised to show the desired pipeline route. The documentation, including the cost estimate, has been updated as well.

P. Combined Pipeline from Gonzales County through Guadalupe County

Several commentors, including sponsoring entities of many of the Gonzales County Projects, expressed interest in a combined pipeline delivering supplies associated with two or more projects through Guadalupe County. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

P.1. The plan should consider a combined pipeline through Guadalupe County, capable of carrying SSLGC, CRWA, and SAWS Water.

Response: Due to time and budget constraints, combined pipelines were not evaluated in the 2011 Plan. However, several pipeline routes have been realigned so that they share

common transportation corridors. It is the understanding of the South Central Texas Regional Water Planning Group that the TWDB will accept applications for a combined pipeline if two or more projects have pipelines in the general vicinity and it can be shown that a combined pipeline is more economical than separate pipelines.

P.2. The combined pipeline should be over-sized to accommodate TWA and Simsboro water as well.

Response: See response to P.1.

P.3. Consider expanding the pipeline network to include the area from Guadalupe County to Bexar and Comal counties.

Response: Noted.

Q. Water Use Data and Demand Projections

Several commentors expressed concern that the water use estimates and demand projections for several WUGs are too low. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

Q.1. Water use and demand projections shown in Region L do not match that used in at least one Groundwater Conservation District Management Plan. Region L should use data provided by the groundwater conservation districts.

Response: Water demand projections are prepared and provided by the Texas Water Development Board and are based on a number of factors.

Q.2. Region L water demand projections for irrigation and mining (oil and gas) are underestimated.

Response: Water demand projections are prepared and provided by the Texas Water Development Board and are based on a number of factors.

Q.3. Region L is showing a decrease in irrigation demand in Gonzales and DeWitt Counties. With the falling value of the US Dollar, the profitability and demand for products should be increasing.

Response: Noted.

Q.4. Mining water uses in Karnes, DeWitt, and Goliad Counties for the fracturing of shale to release natural gas should be included.

Response: Water demand projections are prepared and provided by the Texas Water Development Board and are based on a number of factors. The SCTRWPG encourages the TWDB to carefully consider such mining water uses in the development of water demand projections for use in the 2016 Regional Water Plan.

Q.5. Steam-Electric demand projections in Victoria County are too low.

Response: Steam-electric water demand projections for the region, including Victoria County, were revised based on information from the steam-electric power generators within the region. TWDB approved these revisions.

R. Lavaca Off-Channel Reservoir

Several commentors expressed a desire to remove the Lavaca Off-Channel Reservoir from the Plan. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

R.1. LNRA, sponsor of the Lavaca Off-Channel Reservoir, has requested that the water management strategy be removed from the South Central Texas Regional Water Plan as a recommended strategy and designated as a water management strategy needing further funding or study.

Response: The Plan has not been modified as the Lavaca Off-Channel Reservoir is needed to meet needs in Calhoun County (Point Comfort and Calhoun County Industrial).

S. Palmetto Bend – Stage II

Over 100 commentors expressed a desire to remove the Palmetto Bend – Stage II from the Plan. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

S.1. Lake Texana did not deliver the economic benefits as promised.

Response: Additional data is necessary to support or reject this statement.

S.2. The Leave Our Lavaca River Alone (LOLA) organization will not sit back and let Region L take their water.

Response: The SCTRWPG appreciates the active engagement of LOLA in the planning process.

S.3. Other storage technologies exist.

Response: Noted.

S.4. Palmetto Bend – Stage II will increase taxes in Jackson County.

Response: Additional data is necessary to support or reject this statement.

S.5. The project would be in Jackson County, but would be delivered to Calhoun County, taking jobs with it.

Response: Additional data is necessary to support or reject this statement.

S.6. Damming the last remaining free river in Texas is simply the wrong thing to do when there are other options.

Response: Noted. The Lavaca River is not the last remaining free-flowing river in Texas.

S.7. If the Lavaca River is dammed, eminent domain will be used.

Response: See response to I.2.

S.8. The estuaries are already in danger, especially since the BP oil spill. Cutting off freshwater inflow just doesn't make sense.

Response: Noted.

S.9. LNRA, sponsor of Palmetto Bend – Stage II, has requested that the water management strategy be removed from the South Central Texas Regional Water Plan as an alternative strategy and designated as a water management strategy needing further funding or study.

Response: The Plan has been modified to designate Palmetto Bend – Stage II a water management strategy needing further funding or study prior to implementation.

T. Drought Management as a Water Management Strategy

One commentor provided a few comments regarding Drought Management as a Water Management Strategy. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

T.1. Praise for Region L recognizing Drought Management – not meeting non-essential water demands makes sense.

Response: Thank you.

T.2. It should be more than an interim strategy.

Response: The South Central Texas Regional Water Planning Group chose to recommend that water user groups consider implementing Drought Management as a means to reduce demands and meet near-term needs until other water management strategies are implemented. Potential recommendation of Drought Management as a long-term water management strategy may be considered in the development of the 2016 regional water plan.

T.3. The economic analyses should be re-evaluated. Based on SAWS experience, unit costs could be less than shown.

Response: The economic analyses of Drought Management water management strategy were developed using data from the TWDB.

U. Blanco Recharge Dam

Two commentors had varying opinions on the Blanco Recharge Dam (one of the Edwards Recharge – Type II projects). Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

U.1. It's a large dam on one of the last free flowing rivers in the state.

Response: Noted.

U.2. There will be sediment (gravel) issues due to the movement of the river during flooding.

Response: Noted.

U.3. The Blanco River dries up during drought, thus no water is available for springflow protection when it's needed.

Response: As a recharge enhancement project, the Blanco Recharge dam would take advantage of limited transient storage within the Edwards Aquifer and incrementally enhance spring discharges at San Marcos and Barton Springs.

U.4. There would be a great loss of water due to evaporation within the reservoir.

Response: Compared to conventional reservoirs, the Blanco Recharge Dam would lose less water to evaporation as a result of direct percolation into the Edwards Aquifer and diversions to the Edwards Aquifer recharge zone.

U.5. The Blanco Recharge Dam will help alleviate the flooding situation on the Blanco River.

Response: Noted.

V. Recommended & Alternative Water Management Strategies

Several commentors had general comments about the length of the list of recommended and alternative water management strategies, especially those that are planned to be implemented in the distant future. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

V.1. Strategies that aren't likely to be implemented in the next 5 years should be reclassified as alternative Water Management Strategies.

Response: Per TWDB guidance and rules for regional planning, recommended water management strategies must be identified to meet projected needs throughout the entire multi-decade planning period.

V.2. The plan should include recommended strategies that just meet the projected demands only and other projects should be listed as alternatives

Response: Water management strategies that will provide management supplies in excess of projected demands are recommended for a variety of reasons. These reasons include planning in the event of a drought worse than the drought of record, uncertainty in the firm supply of existing supply sources (e.g., the Edwards Aquifer), flexibility for entities to pursue permits and studies to determine the best strategy for them, and opportunities to refine water management strategies in response to public concerns regarding potential environmental impacts. The SCTRWPG may consider criteria for integration of management supplies in the development of the 2016 Regional Water Plan.

W. Population Growth

One commentor was concerned about the large population growth in the region as it relates to the ability of the region to support it and the environment. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

W.1. Growth can't continue beyond the capacity of the land to sustain the ecosystem.

Response: Noted.

X. Water Management

One commentor was concerned that water is becoming a commodity. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

X.1. Water is a community resource rather than a resource commodity.

Response: Noted.

Y. Springs Hill WSC: Wholesale Water Provider (WWP) Table

Springs Hill WSC requested changes to their WWP Table. Revisions should show purchase from GBRA (WWP) at 1,500 acft/yr for 2010 through 2060, and the Brackish Wilcox Groundwater for RWA should be limited to 1,500 acft/yr in 2060 only.

Response: The requested revisions have been made.

Z. Brush Management

One commentor had concern about the analysis performed in the Brush Management water management strategy. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

Z.1. Much of the recent research by Bradford Wilcox and Yun Huang disputes the claim that removal of Ashe Juniper increases river flows.

Response: Texas A&M University staff, including Bradford Wilcox, were technical consultants for the evaluation of the Brush Management water management strategy and worked with HDR Engineering in evaluating the strategy.

Z.2. Recommendation that Appendix D (in Volume II, which pertains to Brush Management) be revised and any part of the plan that relies on the clearing of brush be revised.

Response: Brush Management is not a recommended or alternative water management strategy in the Plan. At this time, no water user groups rely on the clearing of brush to meet projected needs.

AA. Rural Water Needs

One commentor had concern about how rural water needs are met. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

AA.1. The Plan makes no apparent provision for any anticipated future water needs of families residing in rural subdivisions with no access to municipal water supply systems.

Response: TWDB aggregates residences, including those in rural subdivisions, that lie outside of a designated Water User Group (WUG) into the County Rural WUG. TWDB guidance for water planning defines a WUG as a city serving more than 500 people or a water supplier supplying more than 280 acft/yr. Furthermore, TWDB is funding a separate ongoing study in Hays County to address this issue the regional planning process.

AA.2. The Regional Water Plan is to meet the needs of every Water User Group in the region.

Response: See AA.1.

AA.3. It may make sense to consider an inter-basin transfer from the Colorado Basin to meet the needs of rural Hays County.

Response: Noted.

BB. Support of the Region L Plan and the Regional Water Planning Process

Several commentors supported and praised the Plan and the regional planning process. Below are the specific comments and the South Central Texas Regional Water Planning Group responses.

BB.1. The Region L Plan is a well-organized, readable plan.

Response: Thank you.

BB.2. Compliments on the fact that Region L exceeds the state's requirements when it comes to environmental assessment and is the best plan in the state.

Response: Thank you.

BB.3. The planning process provides the public an opportunity to participate.

Response: Noted.

BB.4. Plan supports development of desalination projects.

Response: Noted.

BB.5. Plan supports development of regional pipelines.

Response: Noted.

Comments received from Sierra Club with SCTRWPG Responses

Sierra Club Letter, dated June 16, 2010, with Responses

Dear Mr. Mims and Planning Group Members:

The Lone Star Chapter of the Sierra Club appreciates the opportunity to review and comment on the Initially Prepared 2010 South Central Texas Regional Water Plan (Region L). The planning group, along with their consultants, has prepared a well-organized document that provides an understanding of the plan components and documents potential impacts.

The Sierra Club acknowledges the positive steps taken in the development and preparation of the plan, including the incorporation of drought management strategies, brush management/land stewardship efforts and the designation of unique stream segments. We also greatly appreciate the more thorough quantitative assessment of the environmental impacts of the plan as it relates to freshwater inflows to bays and estuaries. This assessment provides a more accurate depiction of the potential impact the South Central Texas Regional Water Plan may have on freshwater inflows to San Antonio Bay. It also highlights our overarching concern regarding the Plan.

In 2004, the National Wildlife Federation (NWF) released a report called *Bays in Peril: A Forecast for Freshwater Inflows to Texas Estuaries*. The report used a standard TCEQ water availability model (WAM) run for the Guadalupe and San Antonio Rivers to forecast inflows to the estuary if all the existing water permits were fully used and if reuse of wastewater were increased to 50%. The report then evaluated the predicted inflows against each of two ecologically significant criteria: a drought criterion and a freshwater pulse (or higher flows) productivity criterion based on the results of the state's freshwater inflows studies. In the report, San Antonio Bay received a ranking of Danger because of the potential impacts to the bay resulting from increased reliance on existing water rights.

The quantitative analysis prepared by the Region L consultants is based on the NWF analysis. It compares the number of occurrences of six months or longer periods below drought tolerance levels during critical months (March-October). Under Natural Conditions, there were three times during the period of analysis (1934-1989) when inflows to the estuary fell below drought tolerance levels. Under Current Usage, the model predicts the number of times these flow conditions would have occurred would have increased to five; and with implementation of the regional water plan and the full use of existing water rights, the number of times the bay doesn't get enough water during drought increases to eight.

The 2010 Initially Prepared South Central Texas Regional Water Plan, with its reliance on increased groundwater pumping that reduces baseflows in rivers and stream in the San Antonio and Guadalupe Basin, its reliance on the full utilization of existing water rights, and its reliance on additional surface water withdrawals from the Guadalupe River, is likely to have significant impacts to San Antonio Bay, if implemented.

The environmental flows process created by Senate Bill 3 is now beginning for the Guadalupe and San Antonio River basins. This new process will help to more precisely define needed freshwater inflows and to identify mechanisms for achieving those inflows. It will be imperative that the next water plan uses this information to better address the issue of insufficient freshwater inflows to our bays and estuaries.

Response: The SCTRWPG appreciates the thoughtful and constructive comments provided by the Lone Star Chapter of the Sierra Club on the Initially Prepared 2011 South Central Texas Regional Water Plan. Following are responses to specific comments.

Finally, we note at least two places in the document (Pages 4B.1-15 and 4B.1-32) where the 2006 Regional Water Plan is referenced. We believe the reference should be to the 2011 Regional Water Plan.

Response: Inappropriate references to the 2006 Regional Water Plan have been eliminated from the 2011 Regional Water Plan.

Page Specific Comments

Executive Summary

[1] (Page ES-20, first bullet): *Implementation of the 2011 Regional Water Plan is likely to result in increased instream flows in the San Antonio River.* It may be helpful to the reader to explain the reason for increased flows; it is not readily intuitive.

Response: Text has been added to explain that expected increases in San Antonio River flows are attributable to increases in treated effluent from all wastewater discharges (most notably associated with projected growth in Bexar County) and increases in springflow (associated with Edwards Aquifer Recharge Type 2 Projects).

[2] (Page ES-20, third bullet): Emphasizing the beneficial use of existing surface water rights does minimize the development of new water supplies and associated environmental impacts. However, if existing rights were issued without environmental flow protections, the use of existing rights may have significant adverse effects.

Response: Potential effects of increased use of existing surface water rights on instream flows and freshwater inflows to the Guadalupe Estuary are reported in Chapter 7. More data is being compiled and evaluated as part of the Texas Environmental Flows Program (pursuant to SB2 and SB3) to better understand the magnitude and significance of these effects with respect to habitat and species of interest.

[3] (Page ES-20, fourth bullet): *Plan avoids large-scale development of new mainstem reservoir.* The inclusion of Palmetto Bend II as an alternate strategy makes this statement invalid.

Response: The decisions of the SCTRWPG to include the Lavaca Off-Channel Reservoir as a recommended water management strategy and Palmetto Bend Stage II as an alternative water management strategy are the basis for this environmental benefit. These decisions were made despite the facts that Palmetto Bend Stage II has an existing water rights permit and has been designated a site of unique value for construction of a reservoir by the Texas Legislature.

[4] (Page ES-20, eighth bullet): Potential reductions in freshwater inflows to bays and estuaries also result from the implementation of existing GBRA appropriations.

Response: Text has been added to note concerns that increased uses of existing water rights may reduce freshwater inflows to bays and estuaries.

[5] (Page ES-21, second bullet): Large demands for electrical power should be acknowledged as additional environmental "concerns" for seawater desalination.

Response: Text has been added to note that there are concerns with electrical power demands associated with seawater desalination.

Section 4B.1.2 Water Management Strategy Descriptions

4B.1.2.6 Drought Management

[6] (Page 4B.1-14): The carryover paragraph from the previous page notes "*Drought management is an interim strategy to meet near-term needs through demand reduction until such time as economically viable long-term water supplies can be developed*."

We feel that such an approach does not accurately depict the role drought management plays as a water management strategy. Drought management in and of itself is an economically viable long-term water strategy that allows a water supplier to forego the development and maintenance of new sources by reducing non-essential water uses during times of drought.

As publicly noted by the San Antonio Water System, drought management efforts in 2009 resulted in a savings of between 24,000 and 30,000 acre-feet at a unit cost of $25 per acre-foot. We cannot imagine a more economically viable long-term strategy.

Response: The SCTRWPG may consider whether to recommend Drought Management as a long-term, rather than an interim, water management strategy in the development of the 2016 Regional Water Plan.

4B.1.2.11 Brush Management

[7] (Page 4B.1-16): We appreciate the efforts of the planning group to further inclusion of brush management (land stewardship) as a water management strategy.

Response: Thank you.

4B.1.2.13 Storage above Canyon Reservoir

[8] (Page 4B.1-17): We appreciate the consideration of this strategy as an Aquifer Storage and Recovery system rather than one relying on off-channel reservoirs.

Response: Thank you.

4B.1.2.14 GBRA-Exelon Project

[9] (Page 4B.1-17) We have grave concerns regarding the potential implementation of this water management strategy. As noted in the first paragraphs of these comments, the full utilization of existing water rights on the Guadalupe River is predicted to have significant impact to species that rely on sufficient freshwater inflows to San Antonio Bay.

Response: See Response to Comment #2.

4B.1.2.24 GBRA Simsboro Project

[10] (Page 4B.1-23): According to a letter from Region K Chairman, John Burke to Chairman Con Mims, dated February 10, 2010, the Simsboro Project creates a potential conflict between Region L and Region K.

Response: Regional water planning boundaries are not a factor in the consideration of applications for groundwater production permits by a groundwater conservation district. As permit applications for this project have been pending with the responsible groundwater conservation district for some time, it is anticipated that any potential conflicts in regional water planning will be resolved.

4B.1.2.39 Lavaca River Off-Channel Reservoir

[11] (Page 4B.1-29): According to Appendix D, water demands in Calhoun County for industrial use in 2060 are predicted to be 209 ac-ft (Note: Table 4A-1 in Section 4A shows this demand as 245 ac-ft). According to our records, until the January 2010 meeting of the Region L planning group, this small amount was to be met by means of purchase from the Lavaca-Navidad River Authority.

At the January 2010 meeting of the Region L planning group, this strategy (supplying 10,000 acre-ft to meet a 209 ac-ft need) was presented as a possible recommended strategy. While the Lone Star Chapter of the Sierra Club understands that there may have been circumstances beyond the control of consultant and the planning group, we are surprised that such a strategy was presented to the planning group on the same day it was to vote to approve the plan.

During this round of planning, the consultants and leadership of the South Texas Regional Water Planning Group have provided ample opportunity for planning group members and the public to

understand and comment on various proposed water management strategies. We are disappointed that little opportunity was provided for fully vetting this controversial project.

Response: Representatives of the SCTRWPG were made aware of a request by Formosa Plastics Corporation (Formosa) for an additional 10,000 acft/yr for industrial use in eastern Calhoun County during an April 2009 inter-regional coordination meeting among Regions L, N, and P. During this meeting, representatives of the Lavaca-Navidad River Authority (LNRA), which currently supplies Formosa about 30,000 acft/yr, advised that it intended to continue as the future wholesale water provider for Formosa and Point Comfort and would need to develop new sources in order to do so. As the SCTRWPG decided not to voluntarily pursue formal demand projections revisions (except those required by the TWDB for steam-electric power), the new demands of Formosa were addressed informally in a manner similar to that for a number of other water users in Region L that are growing faster than approved demand projections show. In the course of further coordination, LNRA provided relevant data and technical evaluation documentation for the Lavaca Off-Channel Reservoir. Unfortunately, however, this information was received late in the planning cycle providing limited time for consideration by the SCTRWPG.

4B.1.2.40 Palmetto Bend – Stage II

[12] See comments for 4B.1.2.39 Lavaca River Off-Channel Reservoir

Response: See Response to Comment #11.

4B.1.2.44 Rainwater Harvesting

[13] (Page 4B.1-31): We appreciate the comment noting rainwater harvesting's ability to supplement supplies from wells completed in the Trinity Aquifer. This is an important component of this strategy.

Response: Acknowledged.

Section 4C Technical Evaluations of Water Management Strategies

Section 4C.2 Drought Management

[14] There were several changes to the discussion of Drought Management in the April 2009 Study 3: Enhanced Water Conservation, Drought Management, and Land Stewardship. These

changes do not appear to have been transferred to Section 4C.2, including the discussion of the refined methodology for SAWS.

Response: The refined methodology for SAWS described in Study 3 was used for technical evaluation of the Drought Management strategy for all water user groups with projected needs in 2010 in development of the 2011 Regional Water Plan.

[15] (Page 4C.2-3): *…the WUG is planning to manage water shortages through drought contingency plan activation or water rationing if needed.* We feel the inclusion of the term "water rationing" presents a distorted picture of drought management as a water management strategy. First, we are not aware of any municipal water suppliers in the planning region that actually utilize water rationing as part of their drought contingency plan. Second, drought management, as used as a water management strategy in the plan only calls for a five percent reduction in use; this is very unlikely to result in the need for water rationing whereby water users are allocated only a certain amount of water for a given period of time.

Response: References to "water rationing" in association with the Drought Management strategy have been eliminated, although it is recognized that enforcement is a necessary component of most drought contingency plans and many water conservation plans.

[16] (Page 4C.2-5): The first paragraph discusses the methodology used to determine risk factors. As we have noted in two comment letters to the consultant and members of the regional planning group (February 5, 2008 and November 4, 2008), we have concerns with the method used to develop the Risk Factor. The Risk Factor is determined from a Risk Curve that is calculated using variations in annual per capita water use from 1964-2005.

We feel that utilizing such historical per capita water use may unnecessarily bias the Risk Curve. In more recent years, the variances in per capita water use have declined with the increased awareness and implementation of water conservation activities. Such decreases in variance should lessen the slope of the Risk Curve, and consequently, diminish the Risk Factor.

Response: The general methodology used to perform a technical evaluation of the Drought Management strategy clearly involves simplifying assumptions commensurate with funding allocated to this effort. It is noted that variances in per capita water use have

also declined as a result of the implementation of drought restrictions on Edwards Aquifer users since 1996.

[17] Our second concern relates to the determination of the Impact Factor. While we have made this comment previously, we feel it warrants repeating. The Impact Factor is obtained from the Texas Water Development Board and is used by the Board for calculating the economic impacts of not meeting water needs. The use of this Factor is inappropriate to determining the costs related Drought Management.

Drought Management efforts focus on directing available supplies from nonessential uses to more critical uses during times of shortage. The calculations used by the Board include factors such as lost sales for manufacturing. It is not reasonable to assume that the economic impacts of having water unavailable temporarily to fill a fountain, keep a lawn green, or wash a car are the same as having water unavailable to run a manufacturing line. In fact, most drought management plans do not reduce water available for manufacturing.

Response: Coordination with TWDB staff regarding applicability of Impact Factors in the technical evaluation of the Drought Management strategy indicates that such factors have been appropriately used in estimating the costs associated with this strategy for the 2011 Regional Water Plan. As described on page 4C.2-5, reductions in the manufacturing sector are not assumed to occur until reductions in residential use exceed 25 percent.

Section 4C.10 GBRA-Exelon Project

[18] (Page 4C.10-16): *After a review of the habitat requirements for each listed species, it is not anticipated that this project will have any permanent adverse effect on any federally listed threatened or endangered species, its habitat, or designated habitat, nor would it adversely affect any state listed species.* Given current litigation, we do not believe this to be a prudent statement.

Response: Noted.

Section 4C.14 GBRA New Appropriation (Lower Basin)

[19] (Page 4C.14-2): The first paragraph notes that the appropriation is subject the full application of environmental flow standards adopted pursuant to Section 11.1471 of the Texas

Water Code. For clarification, and by agreement of the Guadalupe Basin Water Needs Workgroup, Section A(2) of the Recommendations (October 12, 2009) should be added to this section.

Response: Section A(2) of the Guadalupe Basin Water Needs Workgroup Recommendations has been added to Section 4C.14.

[20] (Page 4C.14-14): *After a review of the habitat requirements for each listed species, it is not anticipated that this project will have any permanent adverse effect on any federally listed threatened or endangered species, its habitat, or designated habitat, nor would it adversely affect any state listed species.* Given current litigation, we do not believe this to be a prudent statement.

Response: Noted.

Section 4C.15 GBRA Mid-Basin (Surface Water)

[21] (Page 4C.15-2): The first paragraph notes that the appropriation is subject to the full application of environmental flow standards adopted pursuant to Section 11.1471 of the Texas Water Code. For clarification, and by agreement of the Guadalupe Basin Water Needs Workgroup, Section A(2) of the Recommendations (October 12, 2009) should be added to this section.

Response: Section A(2) of the Guadalupe Basin Water Needs Workgroup Recommendations has been added to Section 4C.15.

Section 4C.16 GBRA Mid-Basin (Conjunctive Use)

[22] (Page 4C.15-2): The first paragraph notes that the appropriation is subject the full application of environmental flow standards adopted pursuant to Section 11.1471 of the Texas Water Code. For clarification, and by agreement of the Guadalupe Basin Water Needs Workgroup, Section A(2) of the Recommendations (October 12, 2009) should be added to this section.

Response: Section A(2) of the Guadalupe Basin Water Needs Workgroup Recommendations has been added to Section 4C.16.

Section 7. Consistency with Long-Term Protection of the State's Water, Agricultural, and Natural Resources

[23] We appreciate the commitment by the consultants and the planning group to this section. It is well researched, organized, and informative.

Response: Thank you.

[24] (Page 7-85): Emphasizing the beneficial use of existing surface water rights is cited as an environmental benefit. Yet, Section 7.1.3.4.2 Discussion of Estuary Inflow Assessment highlights how increasing the use of existing water rights in the regional water plan results in increased low-inflow periods in San Antonio Bay. We do not see this as a benefit, only a trade-off.

Response: Noted.

Thank you for the consideration of these comments. Please feel free to contact us if you have any questions.

10.4 Coordination with Other Regions

Members of the SCTRWPG (Region L) have maintained contact with neighboring RWPGs for purposes of communicating content, status, and progress of planning work of the respective RWPGs. Meetings were held involving representatives of Regions L, N, and P, to discuss water management strategies of mutual interest, particularly the Lavaca Off-Channel Reservoir and Palmetto Bend – Stage II Project. Likewise, meetings were held involving representatives from Region L and Regions G and K, separately, to resolve potential conflicts associated with the GBRA Simsboro Project and various recommended water management strategies in Regions G and K.

10.5 Final Plan Adoption

As explained in Section 10.2.3, the RWGP held public hearings in Victoria, San Antonio, and San Marcos and also gathered written comments submitted by various individuals and organizations as well as public agencies. The TWDB reviewed the IPP and provided comments and questions. The TWDB comments, together with SCTRWPG responses are included in

Section 10.2.3.1. TPWD comments and SCTRWPG responses are presented in Section 10.2.3.2. A summary of public comments and SCTRWPG responses are presented in Section 10.2.3.3.

The SCTRWPG met on August 5, 2010 to consider adoption of the 2011 South Central Texas Regional Water Plan as revised pursuant to comments on the Initially Prepared Plan and the SCTRWPG adopted the Regional Water Plan by consensus.