



November 4, 2005

John Burke, Chair
Region K Water Planning Group
c/o Aqua Water Supply
P.O. Drawer P
Bastrop, Texas 78602

Re: Comments on Initially Prepared 2006 Regional Water Plan for Region K

Dear Mr. Burke and Planning Group Members:

The National Wildlife Federation, Lone Star Chapter of the Sierra Club, and Environmental Defense appreciate the opportunity to provide written comments on the Initially Prepared Regional Water Plan for Region K. We consider the development of comprehensive water plans to be a high priority for ensuring a healthy and prosperous future for Texas. We recognize and appreciate the contributions that you have made towards that goal. As you know, our organizations have provided, either individually or collectively, periodic input during the process of developing the plan. These written comments will build upon those previous comments in an effort to contribute to making the regional plan a better plan for all residents of Region K and for all Texans.

We do recognize that the draft Plan is subject to revision prior to adoption and is subject to continued revision in the future and provide these comments with such revisions in mind. Our organizations appreciate the amount of effort that has gone into developing the draft Plan for Region K. Your consideration of these comments will be appreciated.

I. BACKGROUND AND OVERVIEW

Our organizations support a comprehensive approach to water planning in which all implications of water use and development are considered. Senate Bills 1 and 2 (SB1, SB2), and the process they established, have the potential to produce a major, positive change in the way Texans approach water planning. In order to fully realize that potential, water plans must provide sufficient information to ensure that the likely impacts and costs of each reasonable potential water management strategy are described and considered. Only with that information can regional planning groups ensure compliance with the overarching requirement that "strategies shall be selected so that cost effective water management strategies which are consistent with long-term protection of the state's water resources, agricultural resources, and natural resources are adopted." 31 TAC § 357.7 (a)(9). Complying with this charge is essential in order to develop true plans that are likely to be implemented.

This document includes two types of comments. We consider the extent to which the initially prepared plan complies with the requirements established by SB1 and SB2 and by the Texas Water Development Board (TWDB) rules adopted to implement those statutes. In addition, our comments address important aspects of policy that might not be controlled by specific statutes or rules.

We do recognize that the financial resources available to the planning group are limited, which may restrict the ability of the group to fully address some issues as much as you would like. These comments are provided in the spirit of an ongoing dialogue intended to make the planning process as effective as possible. We strongly support the State's water planning process and we want the regional water plans and the state plan to be comprehensive templates that can be endorsed by all Texans.

Section II of the letter summarizes key principles that inform our comments and how they relate to the Initially Prepared Plan (IPP). The last section of the letter, Section III, consists of page-specific comments on the Initially Prepared Plan.

II. KEY PRINCIPLES

A. Maximize Water Efficiency

We strongly believe that improved efficiency in the use of water must be pursued to the maximum extent reasonable. New provisions included in SB2 and TWDB rules since the first round of planning mandate strengthened consideration of water efficiency. Damaging and expensive new supply sources simply should not be considered unless, and until, all reasonable efforts to improve efficiency have been exhausted. In fact, that approach is now mandated. Consistent with TWDB's rules for water planning, we consider water conservation measures that improve efficiency to be separate and distinct from reuse projects. We do agree that reuse projects merit consideration. However, the implications of those projects are significantly different than for water efficiency measures and must be evaluated separately.

The Texas Water Code, as amended by SB1 and sb2, along with the TWDB guidelines, establishes stringent requirements for consideration and incorporation of water conservation and drought management. As you know, Section 16.053 (h)(7)(B), which was added after completion of the first round of regional planning, prohibits TWDB from approving any regional plan that doesn't include water conservation and drought management measures at least as stringent as those required pursuant to Sections 11.1271 and 11.1272 of the Water Code. In other words, the regional plan must incorporate at least the amount of water savings that are mandated by other law.¹

In addition, the Board's guidelines require the consideration of more stringent conservation and drought management measures for all other water user groups with water needs. Section 31 TAC § 357.7 (a)(7)(A) of the TWDB rules sets out detailed requirements for evaluation of "water conservation practices." Section 357.7(a)(7)(B) addresses drought management measures. The separate evaluation of reuse is mandated by 31 TAC § 357.7 (a)(7)(C).

We acknowledge the effort made by Region K in incorporating water conservation into the initially prepared regional plan. We believe more progress is possible in this area, particularly as it relates to the City of Austin's water conservation programs.

¹ This is a common-sense requirement. We certainly should not be basing planning on an assumption of less water conservation than the law already requires. TWDB guidelines also recognize the water conservation requirements of Section 11.085 for interbasin transfers and require the inclusion of the "highest practicable levels of water conservation and efficiency achievable" for entities for which interbasin transfers are recommended as a water management strategy.

B. Limit Nonessential Use during Drought

Drought management measures aimed at reducing demands during periods of unusually dry conditions are important components of good water management. As noted above, SB2 and TWDB rules mandate consideration and inclusion in regional plans of reasonable levels of drought management as water management strategies. It just makes sense to limit some nonessential uses of water during times of serious shortage instead of spending vast sums of money to develop new supply sources simply to meet those nonessential demands during rare drought periods. Because drought management measures are not included as water management strategies, the initially prepared plan does not comply with applicable requirements.

C. Plan To Ensure Environmental Flows

Designing and selecting new water management strategies that minimize negative impacts on environmental flows is critically important. New rules applicable to this round of planning require a quantitative analysis of environmental impacts of water management strategies² in order to ensure a more careful consideration of those impacts.

If existing water rights, when used as projected, would cause serious disruption of environmental flows resulting in harm to natural resources, merely minimizing additional harm from new strategies would not produce a water plan that is consistent with long-term protection of natural resources or that would protect the economic activities that rely on those natural resources.

In addition, environmental flows should be recognized as a water demand and plans should seek to provide reasonable levels of environmental flows. Environmental flows provide critical economic and ecological services that must be maintained to ensure consistency with long-term protection of water resources and natural resources.

We acknowledge and commend the planning group for recognizing environmental flows as a water demand to be met. However, the lack of substantive evaluation of environmental flow impacts of water management strategies is a serious deficiency in the initially prepared plan. We acknowledge the limitations resulting from the planning group's decision to pursue use of the "No-call WAM" for planning purposes. However, meaningful evaluations are required and currently are lacking. Accordingly, we urge the planning group either to provide such evaluations or explicitly to condition its recommendation of major surface water projects on a future review and approval by the planning group of those projects following the completion of quantitative evaluations of environmental flow impacts. Given the limitations of the "No-call WAM", that type of approach appears to be the only way for the planning group to move forward now while also ensuring that it avoids approving projects that don't adequately provide for environmental flows and that are not consistent with long-term protection of the state's natural resources, water resources, and agricultural resources.

² The rules require that each potentially feasible water management strategy must be evaluated by including 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." 31 TAC § 357.7 (a)(8)(A)(ii).

D. Minimize New Reservoirs

Because of the associated adverse impacts, major new reservoirs should be considered only after existing sources of water, including water efficiency and reuse, are utilized to the maximum extent reasonable. When new reservoirs are considered, adverse impacts to regional economies and natural resources around the reservoir site must be minimized. Reservoir development must be shown to be consistent with long-term protection of the state's water, agricultural, and natural resources.

E. Manage Groundwater Sustainably

Wherever possible, groundwater resources should be managed on a sustainable basis. Mining groundwater supplies will, in many instances, adversely affect surface water resources and constitute a tremendous disservice to future generations of Texans. Generally speaking, depleting groundwater sources will not be consistent with long-term protection of the state's water resources, natural resources, or agricultural resources. We commend the Region's stated long-term goal of sustainable groundwater withdrawal.

F. Facilitate Short-Term Transfers

Senate Bill 1 directs consideration of voluntary and emergency transfers of water as a key mechanism for meeting water demands. Water Code Section 16.051 (d) directs that rules governing the development of the state water plan shall give specific consideration to "principles that result in the voluntary redistribution of water resources." Similarly, Section 16.053 (e)(5)(H) directs that regional water plans must include consideration of "voluntary transfers of water within the region using, but not limited to, regional water banks, sales, leases, options, subordination agreements, and financing arrangements...." Thus, there is a clear legislative directive that the regional planning process must include strong consideration of mechanisms for facilitating voluntary transfers of existing water rights within the region, particularly on a short-term basis as a way to meet drought demands.

In addition, emergency transfers are intended as a way to address serious water shortages for municipal purposes. They are a way to address short-term problems without the expense and natural resource damage associated with development of new water supplies. Section 16.053 (e)(5)(I) specifically directs that emergency transfers of water, pursuant to Section 11.139 of the Water Code, are to be considered, including by providing information on the portion of each non-municipal water right that could be transferred without causing undue damage to the holder of the water right. Thus, the water planning process is intended as a mechanism to facilitate voluntary transfers, particularly as a means to address drought situations, by collecting specific information on rights that might be transferred on such a basis and by encouraging a dialogue between willing sellers and willing buyers on that approach.

The Region K plan has incorporated this with its "Transfer/Allocate Water from WUG's with a Surplus," management strategy, albeit on a small scale. We urge additional consideration of the potential for voluntary transfers, particularly on a temporary basis.

III. PAGE-SPECIFIC COMMENTS

We have identified individual comments with a number enclosed in brackets "[1]" for ease of tracking.

[1] There is no Table of Contents for the overall plan included in the initially prepared plan (IPP). For such a large and complex document to be reasonably accessible to the general public, a good table of contents that will provide a good overall sense of the content of the plan is essential.

EXECUTIVE SUMMARY

ES.4 Water Supplies

[2] (**Page ES-5**). The second paragraph in this section, which introduces the concept of the “No-call WAM,” needs to be expanded. This is an extremely important concept for understanding the overall plan. The information set out here simply is not adequate to provide an understanding of what was done or why. For example, few readers can be expected to understand the significance of the phrase “downstream water rights holders would not call on inflows from Region F.” In this instance, brevity, even for the executive summary, is less important than clarity. In addition, the following statement merits clarification: “This ‘No Call’ assumption does not have legal standing and does not impact the seniority of owner’s rights, but simply is a more accurate reflection of how water is managed in the basin.” The simple reality is we don’t know how water will be managed with future demands and a recurrence of critical drought conditions. According to the text, lower basin water right holders have indicated they are not willing to forego legal rights to call for water to be passed downstream. The “No Call” assumption may match how supplies have been managed in the absence of large unmet downstream demands, but it seems to be a bit of a leap to characterize that as reflecting future management in the absence of a willingness of water rights holders to enter into subordination agreements. At any rate, this uncertainty should be explicitly acknowledged.

[3] Presumably, the reference in the second to last sentence in the second paragraph to “WAM runs” for other basins is intended to refer to standard WAM Run 3 results. However, that is not clear from the current text.

[4] (**Page ES-5**). Figure ES.2. This Figure would be more useful if the amounts of water corresponding to each of the categories were reflected in addition to the percentages. That would allow for a better understanding of the changes predicted between 2000 and 2060 conditions.

ES.5 Identified Shortages

[5] (**Page ES-7**). The first paragraph on this page is confusing. The water supply for a WUG is not limited by “current needs.” This term should be eliminated because it causes undue confusion. As we understand the concept being addressed here, the point is that the amount of water available to individual WUGs is less than the total available in the region because of infrastructure limitations and/or contractual limitations. If that is correct, the concept needs to be conveyed clearly. At present, the message is garbled.

[6] (**Page ES-7**). **third paragraph** The return flows included in the plan are not just from Austin; they are from Aqua WSC and Pflugerville also. The issue of “paper shortages” which exist only because of contract renewal issues merits further discussion here. Neither Section ES.5 nor Section ES.6 provides any information about the amount of the projected shortages that are expected to be addressed through contract extensions. Because of the fundamental difference

in the type of action required to meet the need, that basic information should be included here in a format similar to the section on return flows.

ES.6.2.1 LCRA Management Strategies

[7] (**Page ES-10**). **End of first paragraph** – To provide more context for appreciating the length of the commitment, the phrase “until 2090” should be added after “on a temporary basis.” Because the term “excess flows” is ambiguous and incorrectly suggests the flows serve no purpose, the text in the last sentence should be modified to read “the LCRA is seeking a permit for the remaining unpermitted portion of Colorado River flows to help meet future water needs in this basin and in San Antonio.”

ES.6.3 Regional Water Management Strategies

[8] (**Page ES-11**). In the first sentence, the amount of the savings from water conservation should be listed just as for the other water management strategies discussed in this section or a cross-reference to Table ES.10 should be added.

[9] (**Page ES-12**). The 3rd sentence in the 3rd paragraph indicates that use of groundwater in excess of sustainable yield “would not pose a long-term impact to the aquifer.” It appears, from other information in the initially prepared plan, that persistent aquifer level declines are predicted at least in parts of Hays and Matagorda Counties. See, for example, pages 1-43 through 1-44. Accordingly, the basis for the contention of an absence of long-term impacts is unclear. Further explanation is needed.

ES.6.4 Municipal Water Management Strategies

[10] **Page ES-13** - We commend the planning group on its inclusion of municipal conservation as a strategy. A 1% reduction per year in water usage is an achievable goal. However, the calculations of savings are incomplete. The figures in Table ES.10 only include water savings achieved until the point that the various WUGs reach a usage rate of 140 gpcd. We believe additional savings are possible and urge the planning group to include a .25% gpcd reduction once the WUG reaches 140 gpcd that continues until it reaches 100 gpcd.

[11] The group has considered, but not recommended and counted towards meeting goals, water conservation for WUG’s that have a need that are between 100 and 140 gpcd. Water conservation often is the cheapest source of water and should be employed as extensively as possible in the Region K plan. We request that these savings be counted towards meeting the needs of these WUG’s.

ES.6.5 Irrigation Water Management Strategies

[12] (**Page ES-15**). It would be helpful to include a row in Table ES.12 that indicates the projected irrigation shortages. This kind of information would provide a concise and useful picture for the reader of how the strategies match up with demands. That type of information should be included in other tables throughout the plan.

ES.7 Management Strategy Impacts

[13] **Page ES-17, second full paragraph** – Additional explanation is needed regarding the characterization of municipal return flows as being available only on an interruptible basis.

[14] As discussed further below, analysis of environmental flow impacts is lacking from the initially prepared plan. Although we acknowledge that there may be uncertainty about specifics of return flow amounts and downstream diversions, that type of uncertainty exists for all strategies and for all of the regional plans. It is not a sufficient reason for failing to undertake the assessments required by TWDB rules, which, of necessity, would be based on reasonable assumptions regarding the areas of uncertainty.

[15] **Page ES-17, fourth full paragraph** – Regarding the possible impacts from the HB 1437 water transfer, there is no real doubt that there would be a reduction in instream flows from the diversion point downstream at least to the point at which the Ag Fund strategies are put in place. In addition, it is far from clear that the Ag Fund strategies would actually have the effect of fully offsetting the decrease in instream flows. Again, reasonable assumptions should be used about the potential diversion point and an assessment undertaken, as required by Section 357.7 (a)(8)(A)(ii) of the Board’s rules.

[16] (**Page ES-18**). The first sentence of the paragraph that carries over from page ES-17 states: “However, LCRA will continue to meet all environmental flow requirements as provided by its Water Management Plan (WMP).” That language suggests that the WMP somehow will serve to replace the lost flows. However, nothing in the WMP indicates that. The WMP allocates a limited commitment of firm water and a declining supply of interruptible water towards helping to meet environmental flow targets. There is no mechanism in the WMP, as it currently exists, to increase the commitment of firm or interruptible water to make up for any environmental flows lost as a result of a HB 1437 transfer. We suggest the IPP text be supplemented to clarify this.

[17] (**Page ES-18**). It is our understanding that the LCRA-SAWS project is still being designed, based on the results of the extensive studies currently underway. Although we certainly understand the intent is to develop a project that is “designed to have minimal detrimental environmental, social, economic and cultural impacts and provides benefits to lake recreation over what would occur without the project,” it is premature to characterize the project as already having been designed to achieve that or any other goal. We recommend changing the last sentence of the last full paragraph to reflect the absence of an actual project design by characterizing the various listed attributes as project goals, including the goal to “design a project that will have minimal detrimental environmental ... impacts....”

ES.8 Water Conservation and Drought Management

[18] (**Page ES-19**). Generally, we support and commend the water conservation recommendations in the plan. However, we are disappointed that the group has rejected consideration of drought management as a water management strategy. As required by 357.7 (a)(7)(B) of TWDB’s rules, drought management is a water management strategy that must be evaluated. That provision, along with Section 16.053 (h)(7)(B) also requires that drought management be included as a water management strategy for each entity required to prepare a drought management plan pursuant to Section 11.1272 of the Water Code. Although the planning group may decide, provided it documents the basis for that decision, not to include drought management as a water management strategy beyond those measures specifically required by Section 11.1272, it must include at least the Section 11.1272 level of drought management as a water management strategy. S.B. 2 made inclusion of drought management measures at least at the level required by Section 11.1272 a mandatory prerequisite for approval by TWDB of a regional water plan. See Tex. Water Code Ann. § 16.053 (h)(7)(B). The initially

prepared plan does not comply with that requirement. For each entity required to prepare a drought contingency plan pursuant to Section 11.1272 the water plan must include a water management strategy reflecting the drought period savings from that drought plan.

[19] In explaining the rationale for the decision not to include drought management as a strategy, the draft seems to suggest that drought management is not appropriate as a “long-term” management strategy. Certainly, it is true that drought management should be relied upon only during droughts rather than all of the time. Senate Bill 1 established a system of drought-based planning designed to address drought conditions. Water is in short supply during drought periods. If measures can be taken during the worst of those drought periods to limit water demands, it may not be necessary to develop expensive projects to supply additional water that would be needed only during the worst of the drought periods. We agree that it would not be appropriate to impose drought management measures on an ongoing, long-term basis. That isn’t what drought management is designed to do. Rather, it is designed to limit non-essential uses of water on a short-term basis during drought periods. The concept is based on the recognition that it may make more sense, in terms of economic and environmental impact, to temporarily limit some non-essential uses rather than to expend the money and resources necessary to develop additional water supply that would only be needed during those rare drought periods to meet non-essential uses of water. We urge the planning group to give the concept further consideration.

ES.9 Policy Recommendations

[20] (**Page ES-19**). Many of the policy recommendations here appear to be overly simplified compared to the full version in Chapter 8. We suggest that the planning group consider reproducing the full text of key policy recommendations here to avoid creating unnecessary ambiguity, especially for readers who may not reach Chapter 8. If summary versions are used, we urge the planning group to word the summaries carefully and offer the following suggestions for making them more consistent with Chapter 8.

ES.9.2 Environmental Flows

[21] (**Page ES-20**). In the 3rd sentence, delete “ensuring that proper mitigation is performed in areas where the addition of new permitted shares could be detrimental to critical flow conditions” and replace it with “issuing permits with thorough mitigation plans that would assure the maintenance of appropriate environmental flows.”

[22] (**Page ES-20**). In the last sentence of this sentence under this heading, delete “set restrictions on future permits to protect these surface water supplies” and replace it with “include provisions in all new permits that would further protect these flows.”

ES.9.3 Environmental-Sustainable Growth

[23] (**Page ES-20**). This summary is not very clear and does not seem to convey the intended message from the policy committee. Again, we believe the full text from page 8-8 should be used here.

ES.9.11 Recommended Improvements to the Regional Planning Process

[24] (**Page ES-22**). In the second bullet item, delete “continue to consider environmental water needs throughout the planning process” and replace it with “structure the planning process to

include and plan for environmental needs.” This will make this statement consistent with the actual recommendations in Chapter 8.

CHAPTER 1.0: INTRODUCTION AND DESCRIPTION OF THE LOWER COLORADO REGIONAL WATER PLANNING AREA

1.2.1.4. Water Resources

[25] (**Page 1-18**). There is no discussion of major springs as required by 31 TAC § 357.7 (a)(1)(D). Major springs that are important for water supply or natural resource protection purposes must be described.

There is no reference to springs in the plan other than San Saba Springs and Barton Springs and a description even of those springs is lacking. There is no description of any known springs or their related aquifer source although reference works such as Brune’s *Springs of Texas* or TWDB Report 189 list known springs in all but two counties of Region K.

1.2.1.6 Wildlife Resources

[26] (**Page 1-23**). The description of wildlife resources in the region is lacking. Simply listing the states threatened and endangered species leaves a lot of species out. For example, species that are economically significant or that require special management should be acknowledged. Waterfowl hunting, wildlife viewing, and coastal fishing are important activities that depend on healthy populations of fish and wildlife. Those key fish and wildlife species should be acknowledged.

1.2.2.2 Primary Economic Activities

[27] (**Page 1-28**). Table 1.4 acknowledges that tourism and hunting are important economic activities in many counties. Fishing probably should be added as well. In addition, some discussion of tourism and fishing activities, along with other “businesses dependent on natural water resources” should be added as required by Section 357.7 (a)(1)(G) of the Board’s rules.

1.2.2.3 Historical Water Uses

[28] (**Page 1-34**). A reference should be added here to the almost completed, but ongoing, revision of the freshwater inflow needs study and to the draft results indicating a need to increase the target and critical inflow numbers.

[29] The reference to water quality conditions in footnote 1 to Table 1.7 is confusing. It is not our understanding that the critical inflow number is a “water quality consideration” in the traditional sense of complying with water quality requirements. It is officially defined as the inflow sufficient to maintain a “sanctuary habitat during the most severe droughts.”³

[30] (**Page 1-43**). In the first full paragraph, information is lacking about the role of “critical” instream flows and about the role of critical and target freshwater inflows. Discussion is provided regarding the goal of target instream flows but not regarding the goal of critical instream flows, which are also referred to, in the WMP, as “subsistence flows.” On page 2-26, the initially prepared plan describes the critical instream flows as being “those necessary to

³ See page VII-22 in Lower Colorado River Authority, 1997, Freshwater Inflow Needs of the Matagorda Bay System.

maintain species population during severe drought conditions.” Some definition also should be provided here.

Although freshwater inflows are mentioned in the first sentence of this paragraph, no substantive discussion of issues related to critical and target freshwater inflows is provided. Discussion at least comparable to that provided for instream flows should be included.

[31] (**Page 1-43**). The last full paragraph acknowledges issues related to flows from Barton Springs as they relate to the Barton Springs salamander. However, it seems that the potential for the loss of springflows from Barton Springs and other springs in the region also would adversely affect water availability downstream. Because the WAMs inherently assume the continued contributions of historical springflows, a loss or significant reduction in flows from springs and seeps would adversely affect water supplies downstream. That issue should be acknowledged here and discussed.

[32] (**Page 1-44**). The first full paragraph on this page acknowledges the potential for groundwater withdrawals to adversely affect surface flows in some rivers in the planning area. The last sentence sounds ominous: “Increased pumping during drought conditions will decrease the base flow of the rivers that cross the Trinity Aquifer; however, the groundwater flow model suggests that **these rivers will continue to flow seasonally**.” (Emphasis added.). This could be a significant issue not only for wildlife resources, but for domestic and livestock users. Further discussion is needed about the extent, and likelihood, of these impacts.

[33] (**Page 1-46**.) The discussion regarding water conservation plans should be updated to note the recent amendments to Chapter 11 of the Water Code requiring revisions to conservation plans, including the development of specific, quantified targets for water savings. Table 1.11, on page 1-48, reflects the status of water conservation plans prior to the updates, which were required to be filed no later than May 1, 2005. Similarly, Table 1.12a should be updated to reflect the required filing of updated drought contingency plans.

CHAPTER 2: POPULATION PROJECTIONS AND WATER DEMAND PROJECTIONS

2.2.1 Methodology (Population Projections)

[34] (**Page 2-3**). The first full paragraph on this pages notes that TWDB population projections were adjusted in some situations. It would be informative to have a summary table of those adjustments, as was done, for example, in the Region C plan.

2.3.1.1 Methodology (Municipal Water Demand Projections)

[35] (**Page 2-6**). We urge the planning group to include information on baseline municipal demand projections in gallons per capita per day (gpcd) for individual WUGs, either in this chapter or in Appendix 2A. That information, including the adjustments for efficient fixtures, would be useful for assessing and understanding the water conservation management strategies discussed in Chapter 4 and for understanding the projected impact of the plumbing fixtures code over the coming decades. This is a fundamental statistic for municipal demands, the dominant type of demand in terms of growth. It also would provide further insight into the calculation of the projected municipal demands, which are based on population and per person demands.

[36] **(Page 2-7)**. Were the demand projections for the City of Austin also developed from the year 2000 base year? We are under the impression that the City developed its projections differently. If that is true, the City's approach should be explained here. It represents a huge piece of the projected water demands for the region.

2.3.3.1 Methodology (Irrigation Water Demand Projections)

[37] **(Page 2.11)**. The text indicates the options that were available to the planning group for calculating irrigation demand, such as the choice of one of several base years. However, that discussion does not indicate how the demand was actually calculated. That information is needed. For example, what year was used as the base year for irrigation projections and why was that year chosen as being appropriate?

[38] **(Page 2.13)**. In Section 2.3.4.2, it appears that the "130,875" acre-feet figure should be changed to 103,875 to match the amounts given on page 2.14.

2.4 Environmental Water Needs

[39] **(Page 2-19)**. We acknowledge and commend the planning group for recognizing environmental water demands as a use category. We agree that supplying those demands is necessary to preserve the aquatic ecosystem within the region and believe that it also is necessary to support significant economic activities, such as commercial and recreational fishing and tourism, in the region. The third sentence under the "Environmental Water Needs" heading appears to be missing some text. The sentence would read better as follows: "In particular, planning for and meeting environmental water demands have been determined necessary to protect the habitat associated with the Colorado and Colorado-Lavaca estuary."

[40] **(Page 2.20)**. The fourth full paragraph includes a confusing statement. The second sentence, referring to the potential reopening of Parker's Cut, notes the claim of some that such a reopening might benefit fisheries production. The next sentence seems to say that resource agencies oppose reopening the cut because it might benefit fisheries production. That seems unlikely as a reason for such opposition. Some clarification is needed.

[41] In the fifth full paragraph, there is a reference to the bay reaching a point of receiving "practically zero discharge" from the river. It has been our understanding that while the total percentage of river discharge reaching Matagorda Bay certainly has varied, it has always been significant. We would appreciate some clarification of that issue, as well.

[42] **(Page 2-28)**. The second to last paragraph presents the critical and target freshwater inflows. Some reference would be appropriate here, and on page 2-30, to the draft results of the revision to the freshwater inflow needs study for Matagorda Bay.

[43] **(Page 2-30)**. Both the Study Commission on Water for Environmental Flows and the Senate Committee on Water Policy have completed their work. The references to those entities either should be deleted or updated to reflect the current status and the availability of reports generated.

[44] **(Pages 2-35 and 2-36)**. The reference in the second sentence on page 2-35 to Table 2.19 should be changed to a reference to Table 2.20.

Appendix 2A: LCRWPG Population and Water Demand Projections

[45] (**Page 2 of 8**). In the table titled *Region K Water Demand Projections by Water User Group* on page 2 of 8, change “Blanco County Total Water Demand” to “Burnet County Total Water Demand” the second time it appears, on line 37.

CHAPTER 3: IDENTIFICATION OF CURRENTLY AVAILABLE WATER SUPPLIES

[46] (**Page 3-2**). In the 1st bullet point of the two at the bottom of the page, the text should clarify that a “run-of-river” right may not be able to divert even if there is water in the river or stream due the constraints of the prior appropriation system or environmental flow limitations.

[47] (**Page 3-4**). The last sentence in the third paragraph is unclear. What is meant by the statement that the WMP does not take return flows into consideration? Is it intended to mean that return flows are assumed to be present or are assumed to be absent? That point should be clarified.

[48] (**Page 3-4**). More explanation is needed in the last paragraph regarding which model results were actually used in developing the initially prepared plan. In our April 11, 2005 letter to Mr. Burke and Mr. Grant, we noted our concern about the potential for confusion and uncertainty created by the use of this “No-call” WAM scenario and proposed, instead, that the planning groups use a subordination strategy to address the need for providing reasonable supplies for Region F. However, given that the planning group has chosen to use the “No-call WAM,” we believe great care must be taken to carefully explain what has been done. Because of this complication, the initially prepared plan is extremely confusing, even for readers with significant familiarity with water availability modeling. We suggest adding to this paragraph language explaining which results were actually used in the planning process: “The surface water availability amounts developed through the no-call model are the amounts actually used in developing this plan. These availability numbers are presented starting on page 3-15.”

[49] (**Page 3-4**). Also in the last paragraph on this page, we suggest revising the existing second sentence to read: “The No Call WAM was developed as a result of a request from the Region F Planning Group. The November 2004 WAM indicated a lack of water available on a firm yield basis in a number of Region F’s reservoirs as compared to the last planning cycle.” We believe that is more informative, and accurate, than the existing language: “The No Call WAM was developed as a result of the lack of available water in a number of Region F’s reservoirs.”

[50] (**Page 3-5**). The first sentence of the third paragraph creates confusion. As we understand it, the firm yield results described here were NOT used for purposes of this plan. Instead, the results set out beginning on page 3-15 were used. Some clarification is needed.

[51] (**Page 3-7**). In the paragraph on Instream Flow Requirements, the explanation of how these amounts were determined is quite unclear. The LCRA WMP lays out the several reaches and their respective Critical flows by month, but the rationale for apparently subtracting one from the other is unclear. The significance of “Ins” and “Outs” and how they are derived from the Critical values is unexplained. Finally, it is not at all clear that these individual averages by reach can then be added. There would seem to be potential duplication and overlap.

[52] 3.2.1.2 Colorado River Availability Adjustments for Planning Purposes

We believe that the use of the “No-call WAM” is an ill-conceived approach to planning for the future of both Region F and Region K. It produces unnecessary uncertainty and confusion. The calculation of the amount of water available is a critical component of the planning process. As acknowledged in the initially prepared plan, at page 3-15, this approach represents a “quick fix.” Unfortunately, the use of this quick fix results in a lack of confidence in the modeling results. It also results in a plan that does not appear to comply with applicable requirements. As we understand the Board’s rules, needs are to be identified based on “current water supplies legally and physically available to the regional water planning area for use during drought of record.” 31 TAC § 357.7 (a)(3). As acknowledged in several places in the initially prepared plan, the “No-call WAM” does not portray the water supplies legally available to Region K. Instead, it portrays only a subset of those rights. In addition, estimates of surface water availability are to be based on information from TCEQ⁴ in the absence of “better site-specific information.” 31 TAC § 357.7 (a)(3). Nothing in the initially prepared plan suggests that the “No-call WAM” provides better information about surface water availability. Instead, the “No-call WAM” appears to provide questionable information about the impacts of embedded management strategies.

[53] We continue to believe that the planning process and the general public would be better-served by using an explicit subordination approach, analyzed as a Water Management Strategy. This approach would provide the most transparency and it would avoid the use of a quickly put together surface water model with only questionable accuracy as the basis for the entire planning exercise.

[54] We do appreciate that a lot of hard work went into putting all the information together. We also acknowledge the efforts to present the availability results from both the Nov 2004 WAM3 run and the “No-call WAM” run. Although we believe further clarification is needed about which numbers were actually used, providing both sets of numbers does allow experienced reviewers to compare the two sets of results. Unfortunately, those not well-versed in water availability modeling are likely to have a difficult time understanding the complexities of the information provided.

3.2.1.2.1 Other Considerations Regarding Adjustments to Availability

[55] (**Page 3-16**). Regarding point 1, we agree with the decision of the regions to coordinate to address this issue. However, as noted above, we believe a subordination approach would be preferable.

[56] (**Page 3-16**). Regarding point 2, there are numerous assumptions embedded here. If a subordination strategy were used, supply shortages resulting from such subordinations could have been identified. Also, it is not clear, at this point, that the shortages identified in the “No-call WAM” results for Region K are real shortages, particularly in the absence of any commitment by downstream water rights holders actually to subordinate their water rights, even temporarily.

[57] (**Page 3-16**). Regarding point 3, the same comments as made for point 2 apply. The relevant question is whether the indicated shortages are real. Although this certainly may not be the

⁴The Board’s rules refer to the Texas Natural Resource Conservation Commission, but the name of that agency has since been changed.

intent, as currently drafted, this language suggests that the purpose of the planning exercise is to justify the permitting of potential management strategies rather than to identify and address supply shortages.

[58] (**Page 3-16**). Regarding point 4, see comments above regarding point 3.

[59] (**Page 3-16**). Regarding point 5, the assumption of the absence of a need to make a priority call should be reflected through an overt acknowledgement of willingness to subordinate rights, at least on a conditional or temporary basis.

[60] (**Page 3-16**). Regarding point 6, this statement seems to be inconsistent with the basic intent of the planning process. The Legislature has expressly directed that consistency with regional water plans is a significant consideration in water rights permitting decisions.

3.2.1.2.3 Highland Lakes System Availability After Implementing the No-Call Assumption

[61] (**Page 3-20**). In Table 3.1a and footnote 6 to the table, an explanation is needed regarding why it is appropriate to remove yield impacts of the O.H. Ivie Reservoir from this determination.

[62] (**Page 3-20**). In Table 3.1a and footnote 8 to the table, further explanation is needed regarding what happens to the approximately 7,000 ac-ft/yr of contractual obligations in this “No-call” WAM alternative supply determination.

[63] (**Page 3-20**). In Table 3.1b, the difference given here is based on the firm yields for the Highland Lakes from Table 3.2 and 3.1a. However, the firm yield listed in Table 3.1 for the lakes was over 521,000 ac-ft/yr since it included Ivie reservoir. Discussion of this apparent extra loss of some 85,700 ac-ft of firm yield for Ivie reservoir (Table 3.1) should be provided.

[64] (**Page 3-21**). In the 1st paragraph on Instream Flow Requirements, it is not clear what was done or why. There is no explanation for how these numbers were arrived at. The terms, such as IFCA-IN and IFCC-OT are not adequately defined. It is not apparent that this determination correctly relates to the Critical flows of the LCRA WMP and how often they are met in the drought of record.

[65] **Page 3-21, second paragraph on Instream Flow Requirements** – It is unclear why the 2nd paragraph beginning with “The 1999 LCRA Water Management Plan states:” is included. Additional explanation is needed regarding how the listed constraints affected the modeling results.

[66] (**Page 3-28**). As implicitly acknowledged in paragraph number 3, the use of the “No-call WAM” precludes the ability of the planning group to undertake the required quantitative evaluation of environmental flow impacts. Although we appreciate the acknowledgement of the need to have this information, the required information is missing. Accordingly, as noted above, we believe the planning group, at minimum, must explicitly condition its recommendations to require future review and approval by the planning group once that information becomes available.

3.2.2.1 Major Aquifers

[67] (**Pages 3-32 and 3-33**). We commend the planning group on working collaboratively with the Groundwater Conservation District's in the region. This is a necessary partnership. We also commend the group on their method for determining the availability in aquifers in the region that were not included in groundwater conservation districts. Sustainable groundwater management goals are an important component of sound planning. In particular, we commend the planning group for recognizing the need to maintain surface flow contributions that depend on groundwater sources.

We realize that the predictive models for the Central Gulf Coast Aquifer were not completed in time to be used for this report. That is unfortunate. Because that Aquifer is such a major water supply component in the region, this represents a significant information shortfall. We look forward to seeing that information in the next version of the Region K plan.

[68] (**Page 3-40**). The second full paragraph indicates that water availability for the Barton Springs segment of the Edwards (BFZ) aquifer was based on maintaining "a mean monthly spring flow of approximately 1 cubic foot per second (cfs) at Barton Springs." This amount of flow appears to be potentially inadequate for protection of the Barton Springs salamander. According to the Recovery Plan for the salamander, the lowest recorded short-term flow at Barton Springs was 9.6 cfs in March of 1956. (*Barton Springs Salamander Draft Recovery Plan*, page 1.6-31 (U.S.F.W.S. Jan. 2005)). At any rate, additional analysis should be provided to demonstrate consistency with long-term protection of natural resources.

[69] (**Page 3-60**). A more explicit statement should be included in Table 3.24 to indicate that the Colorado Basin surface water availability numbers are based on the "No-call WAM."

[70] (**Page 3-67**). The first sentence of the first full paragraph on this page is confusing. The statement that water availability for WUGs is limited by current needs doesn't seem to make sense. Even if a WUG doesn't currently need the water, it still may be available if the infrastructure is in place to deliver it when the need arises. If availability numbers actually were adjusted on the basis of the absence of a current need, the numbers should be revised. If the numbers weren't adjusted in that way, then the sentence should be corrected to accurately reflect what was done.

CHAPTER 4: IDENTIFICATION, EVALUATION, AND SELECTION OF WATER MANAGEMENT STRATEGIES BASED ON NEED

Quantitative Environmental Analysis: general comments on Chapter 4

[71] In general, there is a lack of quantitative environmental analysis of individual water management strategies as required by TWDB rules. The rules require an analysis of impacts to environmental water needs as well as wildlife habitat and cultural resources. 31 TAC § 357.7 (a)(8)(A)(ii). This analysis should include a comparison of current environmental conditions to future conditions.

[72] We recognize the modeling limitations resulting from the planning group's decision to use the "No-call WAM" that was developed for this process. However, at minimum, a basic analysis

should be performed for each strategy proposed for inclusion in the plan. This analysis should be performed using the current water usage levels and return flows as its baseline. We can see these conditions in our rivers and streams every day and under those conditions we know that there are fish in the water and wildlife along the shore. We do not know the condition of the river under the “No-call WAM” full use-no return flows scenario. Comparing future conditions to current conditions or some biologically sound targets is the only way to get meaningful results.

[73] All but two of the analyses that are included are largely qualitative. TWDB rules require a quantitative analysis for each strategy. The Region K plan should provide the required quantitative environmental analysis of each water management strategy.

4.1 Identification of Water Needs

[74] **Page 4-1, second paragraph** – It is not clear why municipal return flows are characterized as “interruptible.” At least within the planning period, we understood, from earlier discussion in the plan, that specified quantities of return flows were expected to be available on a consistent basis. Although we realize that the City of Austin is planning on reusing a portion of its return flows during the planning period, it appears that specific amounts of return flows would be expected from the city on a reliable basis. The use of the term “interruptible” also is problematic because “interruptible supplies” have a specific meaning in the context of the LCRA WMP.

The discussion of “conservative estimates” in this paragraph fails to acknowledge the major impact of treating contract rights as not being available if the current contract will expire during the planning period. That impact should be clearly acknowledged here so that readers will understand that significant amounts of the projected needs can be met through simple contract renewals.

[75] **Page 4-3, fourth paragraph, last 2 sentences** – These sentences state that LCRA will fund several strategies through “leveraging the sale outside of the region of any **surplus water** made available through these measures. LCRA believes that this funding mechanism will also provide a significant cost savings to the customers of LCRA...” (Emphasis added). A critical issue here is the definition of “surplus water.” When is water going to be considered to be surplus? Even without quantifying the amounts needed for protecting environmental flows and the economic activities dependent on this flows, there are large predicted shortages in the region. Discussion of that issue is needed.

4.2 County Summaries of Water Needs

[76] **(Page 4-4)**. We support and appreciate the effort to highlight those projected needs that are expected to be met through contract extensions. It would be even more informative if a row were added to the various tables to reflect the amount of the total needs expected to be met in that way.

[77] **(Page 4-5)**. In Section 4.2.4 and Table 4.4 (Colorado County Needs), the discussion should explicitly acknowledge the needs that are projected primarily as a result of the use of the “No-call WAM.” By comparing the results of availability determinations for run-of-river rights with and without the No-call assumption (shown in Tables 3.3a and 3.3, respectively), it appears that approximately 97,000 ac-ft/yr less water is available due to this assumption alone among the four large irrigation rights in the lower basin. The change in availabilities are, respectively,

Garwood: -21,300 ac-ft/yr; Lakeside: -15,800 ac-ft/yr; Gulf Coast: - 48,500 ac-ft/yr; Pierce Ranch: - 11,400 ac-ft/yr.

[78] (**Page 4-7**). As noted above for Colorado County, in Section 4.2.9 and Table 4.8 (Matagorda County Needs), the text should explicitly acknowledge that a good portion of the “need” in the irrigation category is potentially due to the adoption of the “No-call” WAM alternative supply determination.

[79] (**Page 4-9**). **Section 4.2.12 and Table 4.11, Travis County Needs** – In the interests of clarity, the text should note that a good portion of the apparent “need” for the City of Austin is potentially due only to the adoption of the “No-call” WAM alternative supply determination. By comparing the results of availabilities for run-of-river rights with and without the No-call assumption (shown in Tables 3.3a and 3.3, respectively), it appears that approximately 45,700 ac-ft/yr less water is available due to this assumption alone for the City’s rights.

[80] (**Page 4-10**). **Section 4.2.13 and Table 4.12, Wharton County Needs** – As noted above for Colorado and Matagorda counties, it should be stated here that a good portion of the apparent “need” in the irrigation category is potentially due only to the adoption of the “No-call” WAM alternative supply determination.

[81] (**Page 4-11**). We commend the planning group for including information to allow comparison of projected water supply surpluses with needs. The sixth sentence in the first paragraph under Section 4.2.15 indicates that “additional water” must be developed because region-wide needs on a county-by-county basin exceed surpluses. Although we support the inclusion of this comparison in the plan, the use of the term “additional water” seems to ignore the potential for water conservation strategies and drought management strategies to address some of the identified needs.

[82] (**Page 4-17**). We agree that LCRA’s role in helping to meet environmental flow needs should be acknowledged. However, it would be more accurate to state that LCRA provides water that goes towards meeting environmental flow needs. The current language seems to suggest that the environmental flow needs are fully met by LCRA. That is not accurate.⁵ In addition, from a review of the two tables on this page and the referenced sources for those tables, it does not appear that any commitment of water towards meeting environmental flow needs actually is reflected in the listed totals.

4.5 Evaluation and Selection of Water Management Strategies

[83] (**Page 4-19**). The 3rd full paragraph under this heading discusses the “No-call WAM” and its use. It is very disquieting to read that the results of those analyses should be “considered unreliable” for assessing impacts. Basically, this result indicates that key requirements for development of the regional water plan have not been met. For many proposed strategies, there is no substantive effects analysis, much less the type of quantitative analyses required by 31 TAC §

⁵ For example, LCRA previously calculated that under its 1999 Water Management Plan, Matagorda Bay Target Flows were only projected to be met in 38% of years. Attachment to April 17, 2002 letter from Quentin Martin (unpublished 11x17 tables of impacts of various Water Management Plan alternatives titled “Preliminary Impact Assessments of Additional Alternatives with Revised Parameters for 12/03/01 meeting).

357.7 (a)(8)(A)(ii). The qualitative analyses that are provided for some strategies are lacking in substance. The decision of the planning group to rely on this model has created serious deficiencies in the regional plan. As noted above, we believe the only feasible approach⁶ available at this juncture for addressing these deficiencies is to qualify the recommendations in the plan to explicitly state that large surface water management strategies could be considered consistent with the plan only if the planning group, after later review of impacts, determines the impacts are reasonable and approves the strategy as being consistent with protection of environmental flows and with long-term protection of the state's water resources, natural resources, and agricultural resources.

4.5.1.1 COA Return Flows

[84] (**Page 4-20**). The last sentence of the first paragraph in Section 4.5.1.1 is unclear. This language seems to suggest that the amount of return flows assumed may have been somewhere between 100,000 and 150,000 acre-feet. However, the precise assumptions are not explained.

[85] The first sentence of the second paragraph of this section indicates that projected return flows were allocated according to priority. Some explanation is needed for how environmental demands, which don't carry an actual priority, were addressed in that allocation.

[86] (**Page 4-21**). In Table 4.26, a footnote states that some of the figures in the table represent increases in firm supply. Other footnotes do not indicate whether the indicated numbers represent firm availability or something else. That information should be provided, particularly for the listed "benefits" to Matagorda Bay.

[87] The required evaluation of environmental factors is lacking for Sections 4.5.1.1 and 4.5.1.2. The strategies evaluated here are the use of return flows to meet various water needs. The use of those flows will have adverse impacts on environmental water needs. Those impacts are required to be evaluated pursuant to 31 TAC § 357.7 (a)(8)(A)(ii). The last row of Table 4.26 seems to conflict with the strategy being considered. The information in that row assesses the strategy as though return flows were being added to the river. However, the strategy actually involves taking return flows out of the river. Accordingly, rather than an overall benefit to Matagorda Bay, the net effect of the strategy is to reduce inflows to the Bay. That effect must be evaluated.

4.6.1 LCRA WATER MANAGEMENT STRATEGIES

4.6.1.1 General LCRA Strategy – LCRA System Operation

[88] (**Page 4-23**). The last sentence on this page introduces confusion because it refers to the "overall management plan" rather than the overall system operation. The existing water management plan does not address either the LSWP or HB 1437.

4.6.1.2 Amendments to Water Management Plan

[89] (**Page 4-24**). The 2nd and 3rd paragraphs are in conflict with one another. One describes the additional commitment of 17,000 acre-feet of water to environmental flows as involving "firm" supplies and the other describes it as a commitment of "interruptible" supplies. The proper

⁶ Obviously, if the required analyses could be undertaken in a reliable and timely manner, the explicit qualification called for here would not be necessary. However, we understand the initially prepared plan to indicate that the analyses simply cannot be done in a timely manner.

characterization of that commitment is very significant, particularly for the 2060 time frame, when, as noted in Table 4.28, very little interruptible supplies are projected to be available.

[90] (**Page 4-24**). The last sentence of the 2nd paragraph is very significant. Basically, it indicates that target instream flows would almost never be met under 2060 conditions and target freshwater inflow flows would only be met very rarely. Those changes to the WMP would result in large impacts on environmental flows. The potential impacts of not providing those target flows are not analyzed here.

[91] (**Page 4-24**). The “issues and considerations” discussion is very confusing. The referenced “minimum amounts currently included in the LCRA’s systems operations model” need to be explained. The last sentence which talks about derivative benefits to environmental flows from meeting irrigation demands is particularly confusing because the strategy being evaluated involves making less water available both for direct provision of environmental flows and for irrigation demands.

[92] (**Page 4-26**). Table 4.28 should be clarified to make clear if it indicates the total amount of interruptible water expected to be available, as the title indicates, or only the amount of interruptible water expected to be available to meet irrigation needs, as the text at the bottom of page 4-25 indicates. If it is the latter, then information is needed about the amounts of interruptible water projected to be available to meet environmental demands.

[93] (**Page 4-26**). The discussion under the “Environmental and Other Impacts” heading is extremely inadequate for purposes of providing a meaningful evaluation, much less a quantitative reporting, of environmental factors as required by 31 TAC § 357.7 (a)(8)(A)(ii). Again, the strategy being evaluated involves changing the WMP with the effect of making less interruptible water available for irrigation and less water available for environmental flows. The impacts of those changes must be assessed. No such assessment results are provided. The discussion includes a confusing reference to increased use of groundwater for rice irrigation. Increased use of groundwater is not part of this strategy.

4.6.1.3 Amendments to ROR Rights

[94] (**Page 4-26**). The last sentence of the first paragraph under this heading refers to a 10,000 ac-ft demand reduction due to operational efficiencies that will be used as a supply strategy. Where is that strategy discussed? If it is proposed as part of this strategy, more information and discussion is required.

[95] (**Page 4-27**). The second full sentence on this page refers to the use of about 150,000 to 200,000 acre-feet of water from the Lakeside, Gulf Coast, and Pierce Ranch water rights for irrigation to meet 2060 demands. However, Table 3.24 (on page 3-60) seems to indicate that only about 115,000 acre-feet is projected to be available in 2060 from those water rights. That apparent discrepancy should be explained.

[96] (**Page 4-27**). The 2nd sentence of the 2nd full paragraph on this page refers to “LCRA’s ‘flood flow’ permit application.” That application does not purport to seek only “flood flows.” The reference would be more accurate if it referred to “LCRA’s permit application for the remaining unappropriated water in the Lower Colorado River Basin.”

[97] **(Page 4-28)**. The “Issues and Considerations” discussion is extremely general and borders on being misleading. The discussion does not seem to provide a fair consideration of environmental flow impacts because it never acknowledges, as a starting point for discussion, that the conversion of irrigation rights to other uses means that the water would be diverted out of the river far upstream of the current diversion points. Although the use of the converted rights **could** result in somewhat increased return flows compared to those without the conversion, the overall amount of flow in the river most of the time still would be significantly reduced. Moreover, the discussion of return flows ignores the increase in reuse discussed elsewhere in the plan. In general, this text reads more like an attempt to paint a rosy picture than an attempt to provide a clear discussion of the issues. In addition, it does not come close to presenting a quantitative presentation of the issue.

4.6.1.4 LCRA Contract Renewals and Amendments

[98] **(Page 4-31)**. The discussion under the “Issues and Considerations” heading probably should be retitled something like *Environmental Impact*. Regardless, however, that discussion is, at best, a very broad qualitative discussion of impacts and does not constitute a reasonable attempt at the quantitative analysis required by 31 TAC § 357.7 (a)(8)(A)(ii).

4.6.1.5 LCRA New Water Sale Contracts

[99] **(Page 4-32)**. The title of the “Issues and Considerations” discussion probably should be changed to *Environmental Impact* because that appears to be what is discussed.

4.6.1.8 Excess Flows and Off Channel Storage

[100] **(Page 4-33)**. As noted above, we do not believe the term “excess flows” is accurate or appropriate. It connotes flows that perform no function. Much of the “excess flow” that is potentially proposed for capture provides important services to the environment and to the human economy, particularly along the coast. A title such as “Application for Unappropriated Flows and Off-Channel Storage” would be more appropriate.

There does not appear to be any analysis of the amount of water expected to be available from this strategy or of the approximate unit cost for the water. Those analyses are required pursuant to Section 357.7 (a)(8)(A)(i) of the Board’s rules. Although no quantitative environmental analysis is provided, the text seems to indicate that the project was assumed to be subject to a limitation only allowing diversions when flows below the diversion point equaled or exceeded the target instream and target freshwater inflows established in the LCRA Water Management Plan. That type of limitation would be very helpful in minimizing adverse impacts. As discussed elsewhere, the draft revision of the freshwater inflow needs study recommends a sizeable increase in the target freshwater inflow amount. Some explanation of what value was used for purposes of this analysis would be helpful. In addition, analysis is needed regarding the potential impacts from construction of the off-channel reservoirs and associated facilities. See 31 TAC § 357.7 (a)(8)(A)(ii). No information is provided about the calculation of potential yield or unit cost in this discussion, as required by Section 357.7 (a)(8)(A)(i) of the Board’s rules. We did not find that information elsewhere in the initially prepared plan.

4.6.1.9 LCRA-SAWS Water Sharing Project (LSWP)

[101] (Page 4-34). We suggest changing language in the last sentence of the 1st paragraph from “the *project is designed* to have minimal detrimental environmental ... impact” to “the *goal is to design a project that will have* minimal environmental, social ... impacts.” It is our understanding that the project has not yet been designed.

[102] (Page 4-34). Under the opinion of probable cost paragraph, there appears to be a typographical error resulting in three missing zeroes. The projected cost of the LSWP elsewhere in the initially prepared plan is listed as \$1,704,473,000. This cost estimate does not provide the specific unit cost information required pursuant to Section 357.7 (a)(8)(A)(i) of the Board’s rules.

SECTION 4.6.2 CITY OF AUSTIN WATER MANAGEMENT STRATEGIES

4.6.2.1 Water Conservation

[103] (Page 4-35). Contrary to the last sentence of the 1st paragraph on this page, we had understood that the City of Austin did not use 2000 as the base year for its water demand calculation because of summer water use restrictions during that year.⁷ We would appreciate clarification of that issue. Further explanation is needed regarding the statement that recorded usage was increased “to reflect actual contracted amounts.” Contracted amounts do not reflect actual usage and it is not clear why it is appropriate to include them in base year demands.

[104] Pages 4-35 through 4-36 – While we commend the planning group for including fairly substantial levels of savings for water efficiency measures, the goals for the City of Austin, which represents by far the largest municipal demand amounts, are disappointing. We believe that the City could do much better than the proposed savings of 33,537 ac-ft/yr. As shown in the following table, this would still leave the City’s per person demand at 151 gpcd after nearly 60 years of effort. As you know, the recent report of the Water Conservation Implementation Task Force recommended a long-term goal of 140 gpcd for municipal users.

Table K-IPP-1 – Calculation of City of Austin net water use rate at 2060 time frame with water efficiency measures in Initially Prepared Plan.

Region K IPP proposed water use and water efficiency data, City of Austin, Year 2060					
Popula- tion	Portion of region (%)	IPP total demand of WUG (ac-ft/yr)	base TWDB use rate (gpcd) [includes plumbing code]	addtnl. water effi- ciency sav.* (ac-ft/yr)	net water use rate with efficiency measures (gpcd)
1,634,578	60.2%	309,433	169	33,573	151

⁷ We certainly do not believe that the use of summer water restrictions should result in the rejection of that year as the base year for calculations. Drought contingency measures need to be accounted for. That can be done either by including it in a base year or by applying drought contingency measures as a water management strategy. Regardless, it needs to be included. Unfortunately, it does not appear that limitation of demand through use of drought contingency measures has been included for any water user group.

[105] **Pages 4-35 through 4-36** – The following table illustrates that the City of Austin could save an additional 19,525 ac-ft/yr through reasonable levels of effort to achieve improved water efficiency.

Table K-IPP – 2 Illustration of potential additional water efficiency savings that the City of Austin could attain by 2060.

Year 2000 use rate (gpcd)	Region K IPP proposed water use and water efficiency data, City of Austin, Year 2060					environmental community proposed savings		
	Population	IPP total demand of WUG (ac-ft/yr)	TWDB base use rate (gpcd) [includes plumbing code]	addtnl. water efficiency sav.* (ac-ft/yr)	net water use rate with efficiency measures (gpcd)	use rate** (gpcd)	revised total demand (ac-ft/yr)	addtl. savings (ac-ft/yr)
175	1,634,578	309,433	169	33,573	151	140	256,327	19,525

NOTES:*Reg K IPP proposed savings from Section 4.6.2 for City of Austin

** proposed water use rate is based on 1% per year reduction from year 2000 water use, but no less than 140 gpcd.

We know that this suggested municipal water use rate of 140 gpcd is not unreasonable for Texas. San Antonio provides a real world example of the potential of improved water efficiency. Through a concerted effort, San Antonio has reduced its municipal water use to about 132 gpcd from a use level of about 213 gpcd in a period of around 20 years. This reduction was achieved through water efficiency measures without accounting for reuse.

The South Central Texas Regional Water Planning Group (Region L), in its initially prepared plan, has established water efficiency goals as follows:

“For municipal water user groups (WUGs) with water use of 140 gpcd and greater, reduction of per capita water use by 1 percent per year until the level of 140 gpcd is reached, after which, the rate of reduction of per capita water use is one-fourth percent (0.25) per year for the remainder of the planning period; and

For municipal WUGs having year 2000 water use of less than 140 gpcd, reduction of per capita water use by one-fourth percent per year.”

These excerpts are from Initially Prepared 2006 South Central Texas Regional Water Plan at p. 6-1.

[106] (**Page 4-36**). Although a range of costs is noted for conservation programs, an average cost for achieving the estimated savings also should be provided in order to allow for better comparison with other management strategies.

[107] (**Page 4-36**). The discussion of “Environmental and Other Impacts” also should note that water conservation generally does not result in adverse impacts to environmental flows or other environmental considerations.

4.6.2.2 Reclaimed Water Initiative

[108] (**Page 4-36**). The fifth sentence in the first paragraph of this section refers to “developing water factories.” That is a fairly unusual term and some explanation is needed regarding what is actually intended by that reference. It seems unlikely that the City actually will be making water at those locations.

[109] (**Page 4-38**). The last sentence indicates that no cost is associated with the proposed indirect reuse for the Fayette Power Project. That contention should be explained. It seems likely that some costs would be incurred for increased pumping and pipeline capacity and increased operating costs. If no such costs are anticipated, the basis for assuming the absence of such costs should be explained.

[110] (**Pages 4-39 to 4-46**). We are pleased to see an actual quantitative environmental analysis for this strategy. As noted elsewhere in these comments, the absence of quantitative analyses for almost all strategies is a significant deficiency in the plan. Unfortunately, because of the limitations resulting from use of the “No-call WAM,” this analysis is, as the plan acknowledges, not reliable. In addition, the instream flow impacts are only evaluated against 7Q2 values, which is a limited water quality parameter. It is the amount of flow expected during an extremely dry period below which serious water quality impacts are predicted. Accordingly, it does not appear appropriate to compare a **median** flow value to the 7Q2 standard.

The LCRA WMP has specific values reflecting instream flow needs in the Colorado River that should be used in these impact evaluations. The WMP inflow values are used in assessing freshwater inflow impacts and the WMP instream values should be used in assessing the instream flow impacts.

[111] There is no discussion indicating that the water management strategy was adjusted to account for environmental water needs. See 31 TAC § 357.5 (e)(1). Again, the values included in the WMP, which are site-specific, would be appropriate for that consideration.

[112] (**Pages 4-44 and 4-45**). The results shown in Figure 4.5 and Figure 4.6 are sobering. They show median inflow values far below the target freshwater inflow values for most of the year. They also show **median** inflow values falling below critical freshwater inflow values for several consecutive months of the year. Those critical inflows are intended to provide a fishery sanctuary habitat during droughts from which species could recover to repopulate the bay during more normal weather conditions.⁸ As such, the amounts needed to support those sanctuary flows should be compared to drought period inflows not median inflows. These results are particularly troubling because the critical inflow value included in the proposed revision to the inflow needs study is much higher than the value reflected in these figures. Although we acknowledge the uncertainty about the accuracy of the underlying WAM analysis, the picture painted here is pretty dire. Again, we believe the planning group needs to qualify its recommendations of this and other significant surface water strategies by making them contingent on future evaluation and approval after better environmental analyses are undertaken.

⁸ Water Management Plan for the Lower Colorado River Basin (including amendments through March 1, 1999), LCRA at p.35.

4.7.1.2 Edwards BFZ Aquifer

[113] (**Page 4-49**). There does not appear to be any discussion of the environmental impacts of increased pumping from this portion of the Edwards Aquifer. In fact, the text does not even explicitly indicate which section of the aquifer the additional pumping would impact. It appears, however, that it would impact the Barton Springs segment. As noted above, if that is correct, the potential for springflow impacts are significant and require discussion in accordance with Section 357.7 (a)(8)(A)(ii). At any rate, the issue must be acknowledged and discussed.

4.7.4 Temporary Overdraft of Aquifers

[114] (**Page 4-73**). The last sentence of the 5th paragraph states that the Gulf Coast Aquifer will recover from temporary overdrafting. However, table 4.97 on page 4-108 shows that there will be a maximum long-term drawdown of up to 60 feet. That apparent inconsistency should be addressed, particularly given the absence of GAM results adequate to provide good information about water availability from this aquifer.

4.8.1 Water Conservation and 4.8.1.1 Additional Conservation

[115] (**Pages 4-75 to 4-79**). We commend the planning group on its inclusion of municipal conservation as a strategy. A 1% reduction per year in water usage is a good and attainable goal that should be applied region-wide.

[116] (**Page 4-75**). The savings calculations reflected in Table 4.74 are somewhat incomplete. The group has also recommended a .25% reduction per year for WUG's with a usage rate in the 100 – 140 gpcd range. The calculations in Table 4.74 only include water savings until the WUG reaches 140 gpcd. These entities will already have conservation programs in place and it only makes sense for those conservation practices to be continued. Accordingly, the table should be updated to reflect the additional savings from a .25% reduction per year for those WUGs that reach the 140 gpcd goal and still have a remaining need. Table 4.76 reflects the potential savings from other WUGs starting with a gpcd of 140 or below. Unfortunately, it does not appear that the potential savings shown in Table 4.76 are included as a water management strategy.

[117] There are significant additional water conservation savings that could be realized. For many WUGs, their projected per capita water use, even at the 2060 time frame, is well above the usage levels that can reasonably be achieved today with a concerted effort. We have attached a document, labeled as Table K-IPP – 3, that reflects our calculations of additional savings of 23,531 ac-ft/yr that could be achieved if these WUGs were to reduce their usage levels to 140 gpcd. As reflected in our comments above, the majority of this savings are for the City of Austin. Approximately 4,000 ac-ft/yr would be from other WUGs as indicated in the table.

[118] (**Page 4-77**). *Opinion of Probable Cost* – We appreciate the efforts of the Region K consultants to develop good cost estimates for these water conservation strategies. The information from the TWDB/GDS report provides a good basis for those estimates. We request that the planning group reference TWDB Report 362 – *Water Conservation Best Management Practices Guide* as a resource for WUGs to use in developing their specific water conservation programs.

[119] (**Page 4-77**). Under the “environmental impact” heading the discussion of environmental flow impacts from improved water use efficiency seems a bit over-simplified. Improved water

use efficiency for groundwater sources, even through in-home measures, likely would not adversely affect stream flows if the source aquifer directly contributes to flows through springs or seeps.

[120] (**Page 4-78**). As noted above, Table 4.78 reflects savings that could be achieved through improved water use efficiency for WUGs that have a need and that have usage rates between 100 and 140 gpcd. However, these savings are not reflected in a recommended water management strategy. Water conservation generally is the cheapest source of water, particularly when environmental and other impacts are included, and should be employed as extensively as possible in the Region K plan. We urge the planning group to include this additional water conservation as a recommended water management strategy.

4.8.4 Recharge Edwards BFZ with Onion Creek Recharge Structure for Hays County

[121] (**Pages 4-84 to 4-86**). The discussion of this strategy does not indicate which WUGs or water needs this strategy is intended to serve. More information is needed about the strategy (e.g., size and type of impoundments), the potential impacts of the strategy, and the potential water supply produced by each proposed structure.

[122] The data from the dye tracing studies performed by the BSEACD make this strategy look quite unreliable. Given those results, there does not appear to be any justification for including an estimated firm annual recharge figure for the structures. More discussion is needed about the basis for assuming that drought period supplies would be available.

4.8.5 Obtain Surface Water from the COA for Hays County

[123] **Page 4-86** - This strategy does not have a user identified and no amount is given for the amount of water to be developed from the strategy. A table should be included in this section that provides the information, as is done for other strategies.

4.8.8 HB 1437 (Region G) for Williamson County

[124] **Page 4-97, *Environmental Impact*** – Regarding the possible impacts from the HB 1437 water transfer, there is no real doubt that there would a reduction in instream flows from the diversion point downstream at least to the point at which the Ag Fund strategies are put in place. In addition, it is far from clear that the Ag Fund strategies would actually have the effect of fully offsetting the decrease in instream flows. Reasonable assumptions should be used about the potential diversion point and an assessment undertaken, as required by Section 357.7 (a)(8)(A)(ii) of the Board’s rules.

[125] (**Page 4-97**). The second to last sentence of the last paragraph in Section 4.8.8 states: “However, LCRA will continue to meet all environmental flow requirements as provided by its WMP.” That language suggests that the WMP somehow will serve to replace the lost flows. However, nothing in the WMP indicates that. The WMP allocates a limited commitment of firm water and a declining supply of interruptible water towards helping to meet environmental flow targets. There is no mechanism in the WMP, as it currently exists, to increase the commitment of firm or interruptible water to make up for any environmental flows lost as a result of a HB 1437 transfer. In the absence of an explicit commitment by LCRA to replace any such reduced flows, the text should be corrected to accurately reflect that reality.

4.9 Irrigation Water Management Strategies

Page 4-99, Table 4.89 – Two of the listed strategies in this table need further explanation in the text. We were unable to locate any description of these strategies in Section 4.9:

[126] The strategy ‘Firm up ROR with Off-Channel Reservoir, 47,000 afy in 2060’ has no meaningful explanation in the text. Appropriate discussion should be added. A brief reference on page 4-100 represents that a discussion of the strategy can be found in Section 4.6.1. However, no “discussion” is found in that Section. Rather, there is only a statement that such a strategy is being considered. The information included does not comply with applicable requirements for evaluation of water management strategies.

[127] The strategy ‘Supply Reduction due to LSWP, 106,620 afy on 2060’ has no explanation in the text. Appropriate discussion should be added. Again, a brief reference on page 4-100 represents that a discussion of the strategy can be found in Section 4.6.1. Again, that “discussion” is not to be found.

[128] The approach used in the initially prepared plan for evaluating components of the LSWP results in an incomplete and potentially even misleading portrayal of environmental impacts. The impacts of a few components of the LSWP are evaluated separately, although those evaluations are only very general qualitative evaluations. Thus, for example, the impacts of “on-farm water conservation” on environmental flows are only characterized as though that practice would be undertaken in a vacuum. However, it would not. As the “opinion of probable cost” discussion and the “Social/Economic” entry in Table 4.91 make clear, that conservation is not proposed as a stand-alone project. It is proposed only as part of the LSWP. However, the impacts of the overall LSWP, including the impacts of sending 150,000 acre-feet of water out of the basin, are never evaluated. The LSWP is included as a recommended water management strategy but it is not evaluated as required by Section 357.7 (a)(8)(A)(i) and (ii). This is a huge project with potentially huge environmental impacts. The failure to provide meaningful evaluation is a major inadequacy of the initially prepared plan.

4.9.1 On-Farm Water Conservation

[129] In general, we are very supportive of agricultural water conservation. However, as noted above, the impacts of these conservation measures must be assessed in the context in which the measures are proposed for implementation. That is, they must be assessed as part of an evaluation of the overall LSWP. The required assessment is lacking.

Page 4-101 to 4-103, *Environmental Impact*:

[130] This evaluation seems to assume that the amount of surface water available at the diversion point for rice irrigation is a constant value. In other words, the evaluation fails to acknowledge the role of releases of interruptible stored or storeable water from the Highland Lakes. If, as a result of implementation of conservation practices, less water is released from or passed through the Highland Lakes, that also will have the effect of reducing environmental flows throughout the lower river system. Those impacts are not acknowledged here. The need for a comprehensive evaluation is illustrated by the discussion of impacts related to return flows from second crop rice. Another aspect of the LSWP involves introduction of a new rice variety that would result in cessation of the production of a second crop. The absence of a comprehensive evaluation makes a meaningful understanding of impacts virtually impossible.

[131] (**Page 4-103**). The 1st full paragraph on this page indicates that reduced return flows may improve water quality because fewer contaminants would be washed off of fields. It also seems possible that the effect would be to increase the concentration of contaminants in the return flows that do occur.

4.9.2 Irrigation District Conveyance Improvements

[132] (**Page 4-105**). The “Environmental Impact” discussion alludes to the potential for water to be transferred out of the basin. As noted above, that seems as close as the initially prepared plan comes to “evaluating” the impacts of the LSWP. This discussion again fails to consider how environmental flows might be affected by changes in delivery of water from the Highland Lakes as a result of conveyance improvements.

4.9.3 Conjunctive Use of Groundwater Resources

[133] (**Page 4-107**). Generally, we support the concept of conjunctive use of surface water and groundwater. The second paragraph under the “LSWP 2004 PVA Performed by CH2M Hill” heading states that 95,000 afy of groundwater can be pumped reliably with “no significant long-term impacts.” By contrast, Table 4.97 on page 4-108 indicates long-term drawdowns for the Chicot and Evangeline formations of the Gulf Coast Aquifer. More discussion is needed about the “significance” of these impacts and about the definitions used for identifying short-term and long-term impacts. Are there potential impacts on local wells, particularly those used for livestock watering? More information about the areal extent of both short-term and long-term drawdowns is needed for a meaningful assessment.

[134] **Page 4-110, *Environmental Impact*** – According to the second bullet point, decreased springflow would not be an issue since there are no known flowing springs in the area. There is, however, a known interaction between the Gulf Coast Aquifer and the Colorado River as well as Matagorda Bay. Accordingly, potential impact to baseflows to the Colorado River and also to Matagorda Bay needs to be addressed.

4.9.4 Development of New Rice Variety

[135] (**Page 4-110**). The 1st paragraph under the “Analysis” heading indicates that the 2004 LSWP viability assessment estimated a potential savings of about 26,000 acre-feet from this strategy. Table 4.99, by contrast, lists over 35,000 acre-feet. There is a cryptic reference to recent changes to the conservation estimate but no explanation of the basis for the 35,000 acre-foot figure.

4.9.5 HB 1437

[136] (**Page 4-112**). The information regarding this strategy should be presented in the same standard format used for most other strategies: Analysis, Opinion of Probable Costs, Issues and Considerations, Environmental Impact. Use of a consistent presentation format would greatly improve the presentation of information by making it easier to read and understand.

[137] (**Page 4-113**). The “*Environmental Impact*” discussion assumes that a given amount of flow is available at the diversion points for rice irrigation and assesses how improved conservation measures might affect environmental flow levels. However, the underlying concept of this strategy is to remove surface water from the upstream portions of the basin and provide improved conservation in the lower counties. This qualitative analysis never even acknowledges,

much less evaluates, the impact on environmental flows of the removal of those surface flows from the basin. The evaluation must address the overall strategy and not just one component of it. Again, the quantitative evaluation required pursuant to 31 TAC § 357.7 (a)(8)(A)(ii) is missing.

[138] (**Page 4-112**). Some explanation is needed regarding the relationship of the on-farm conservation proposed here and the on-farm conservation proposed in Section 4.9.1 (page 4-100) of the initially prepared plan. LCRA's draft HB 1437 report indicates that the total estimated amount of water that can be developed on a consistent basis in Region K's lower counties through on-farm conservation is 35,811 acre-feet per year.⁹ Section 4.9.1 proposes 36,480 acre-feet per year of on-farm conservation and this section proposes 24,200 acre-feet per year of on-farm conservation. Obviously, those combined totals greatly exceed the estimated amount that can be achieved on a consistent basis. Some justification is needed for the apparent assumption that over 60,000 acre-feet per year of water reasonably can be expected to be saved through on-farm conservation measures for rice irrigation in these counties.

4.11 Manufacturing Water Management Strategies

[139] (**Page 4-114**). The planning group should recommend conservation as a strategy for meeting manufacturing needs. Particularly to the extent that surface water supplies are used, a base level of water conservation is required pursuant to Section 357.7 (a)(7(A)(i) and consideration of additional measures is required pursuant to Section 357.7 (a)(7(A)(ii).

4.13.2 COA Steam Electric Water Management Strategies

[140] (**Page 4-115**). The section for this strategy does not include the standard sections that are included for most other strategies: Analysis, Opinion of Probable Costs, Issues and Considerations, Environmental Impact. Maintaining a consistent format would make the sections easier to read and understand.

4.13.3 STP NOC Water Management Strategies

4.13.3.1 Desalination

(**Pages 4-118 through 4-121**).

[141] Seawater and brackish water desalinization certainly are worthy of consideration as potential water supply strategies for the state of Texas. However, there are many environmental and energy implications that need to be carefully considered.

[142] It would be helpful to have information about the potential timing of when water supplied by such a project might be available.

[143] The proposed withdrawal of 50 mgd for the desalination process is 4600 ac-ft/month and 35,000 gpm. Some discussion should be provided regarding the potential impact of the withdrawal of this amount of water from the Colorado River or the bay. If water is diverted from lower salinity areas, particularly during low flow situations, flow patterns and salinity patterns could be affected. In addition, because low salinity areas are acknowledged as providing important sanctuaries for species during low rainfall periods, diversions also would have the

⁹ Draft Report House Bill 1437 Implementation Study, prepared for LCRA by LBJ School of Public Affairs and CH2MHILL (June 2005) at Chapter 2, page 6.

potential for significant impacts as small organisms are sucked into the diversion pipe.

[144] More discussion about potential groundwater impacts also is needed.

[145] (**Page 4-120**). The location of the discharge from such a facility is a major concern. The potential near-shore discharge of reject water raises significant issues that merit careful discussion.

4.13.3.2 Rainwater Harvesting

[146] (**Page 4-122**). Rainwater harvesting is a concept that makes sense in many settings. However, this seems to be a fairly unique approach. Frankly, it is not at all clear what change actually is being proposed and what impacts might result. Further explanation is needed.

4.15.1 Potential Conservation

[147] **Page 4-125** - The planning group is to be commended for its evaluation and recommendation of water conservation for WUGs that do not have a need during the planning period. Water is a limited resource and using it efficiently is of critical importance.

4.15.2 Brush Management

[148] We believe the concept of land stewardship is a more inclusive and appropriate term than brush management. Simply removing brush does not guarantee positive results for water quality or quantity. The overall balanced management of the land is critical for positive results.

CHAPTER 5: IMPACTS OF RECOMMENDED WATER MANAGEMENT STRATEGIES ON KEY PARAMETERS OF WATER QUALITY AND IMPACTS OF MOVING WATER FROM RURAL AND AGRICULTURAL AREAS

5.2.1 Surface Water

[149] **Page 5-1 and 5-2** – This section lists the key water quality parameters that Region K is evaluating, however the evaluations of the water management strategies that follow are purely descriptive and do not address these individual parameters at all.

5.2.3 Management Strategies

[150] (**Page 5-4**). **second full paragraph, last line** – It appears that the assertion about a return to ‘normal levels’ should be qualified. Table 4.97 shows that the Gulf Coast aquifer will not return to normal levels with the amount of pumping proposed in the plan.

[151] **Page 5-5, fourth full paragraph** – The description of the possible water quality impacts from the COA Reclaimed Water Initiative does not actually address water quality impacts at all.

[152] (**Page 5-5**). The last paragraph fails to acknowledge the proposal for increased reuse of return flows, which would be expected to significantly change the overall return flow percentage.

[153] (**Page 5-6**). The paragraph labeled “LCRA Water Management Plan for Interruptible Supplies” seems to suggest that the provision of groundwater to irrigators is part of the WMP strategy. That is not accurate based on the descriptions included in the plan.

[154] **(Page 5-6)**. As drafted, the fourth sentence in the paragraph labeled House Bill (HB) 1437 suggests that no decrease in instream flows and freshwater inflows would be expected. As discussed above, the text should be revised to reflect the reality that the amount of water available under the WMP for those purposes is limited. The paragraph should acknowledge the probability that the project would result in a reduction in instream flows over a large stretch of the lower Colorado River and likely in a reduction of inflows as well.

5.3 Impacts of Moving Water From Rural and Agricultural Areas

[155] **(Page 5-7)**. This discussion is very incomplete. TWDB rules require evaluation of “third party social and economic impacts resulting from voluntary redistributions of water, including analysis of third-party impacts of moving water from rural and agricultural areas.” 31 TAC § 357.7 (a)(8)(G). Among those third-party impacts would be adverse impacts on recreational and commercial fishing and tourism as a result of reduced instream flows or freshwater inflows. However, that issue is not even acknowledged here. The reduction in environmental flows is a loss of water from rural areas with very real impacts. Those losses must be acknowledged and discussed.

[156] Two of the three strategies listed in the last sentence of the second paragraph under this heading actually are continuations of existing practices: use of interruptible supplies and COA return flows. Those strategies do not offset impacts from moving water to other uses or urban areas. Because interruptible water is used today and because the quantity of interruptible water is expected to decrease, it simply is not accurate to characterize it as a strategy to “offset losses.” With respect to COA return flows, those return flows are being relied upon today. There is a small projected net increase in return flows over the planning period, but it is much smaller than the projected loss of flows.

[157] **(Page 5-8)**. The last sentence of the first paragraph on this page describes the LCRA-SAWS project as an excellent example of implementing strategies with mutual benefit to meet both urban and rural needs. That may prove to be true. However, it has not yet been shown to be true, especially with respect to the impact on environmental flows and the economic activities dependent on those flows. The failure even to acknowledge those impacts is a major deficiency in this discussion.

CHAPTER 6: WATER CONSERVATION AND DROUGHT MANAGEMENT PLANS

[158] **(Page 6-1)**. As summarized in the first sentence, this chapter “presents the minimum necessary requirements for conservation plans and drought contingency plans for the various water user categories.” Although we certainly acknowledge that such a summary is of some value, it does not comply with the requirement for including a chapter “consolidating the water conservation and drought management recommendations of the regional water plan.” 31 TAC § 357.7 (a)(11). Most of the required information is missing.

[159] There is no specific information pertaining to the planning group and its recommendations for conservation and/or drought management. This information needs to be provided before the plan is finalized.

[160] The templates included in the appendices are logically constructed. They do not, however, constitute the “model” water conservation plans and drought contingency plans that had been anticipated based on the Water Development Board’s outline of sections of a regional water plan for this second round of planning. We appreciate the potential complexity of trying to provide even a model municipal water conservation plan for retail water suppliers that may vary widely in size of population served and other factors. However, the effort to promote and facilitate municipal water conservation, for example, would be enhanced by actual *model* conservation plans that would incorporate the most effective best management practices, particularly those recommended by the planning group, reflect the lessons learned by municipal suppliers implementing conservation programs, and go beyond reproducing a basic form.

CHAPTER 7: REGIONAL PLAN CONSISTENCY WITH THE STATE’S LONG TERM PROTECTION GOALS

[161] One of the key changes that SB2 made to the water planning process was to create a specific statutory criterion mandating that a regional water plan may not be approved by TWDB unless it is shown to be consistent with long-term protection of the state’s water resources, agricultural resources, and natural resources. As noted above, the initially prepared plan simply does not provide the level of assessment needed to support such a determination. There simply is no cumulative look at the impacts of the plan. In fact, the proposed diversion of water to San Antonio is not even mentioned in this chapter until the very last sentence. Even then, no meaningful analysis is provided.

[162] Unquestionably, the planning group’s decision to rely upon the “No-call WAM” has left the planning group with virtually no ability to perform a comprehensive quantitative assessment of the impacts of the plan. As a result, the planning group simply cannot make the requisite showing of consistency needed to provide final project recommendations for major surface water projects. Accordingly, in order to allow the planning group to proceed, the recommendations should be conditioned upon later review and approval by the planning group once adequate analyses have been performed and made available to allow a reasoned determination of whether the requisite level of protection for the state’s water resources, agricultural resources, and natural resources has been provided.

[163] In terms of a cumulative assessment to be used for comparison purposes, the Region L plan provides a good example. We currently are working with that planning group to include additional evaluation of impacts to freshwater inflows on the Guadalupe estuary.

CHAPTER 8: ADDITIONAL RECOMMENDATIONS (UNIQUE STREAM SEGMENTS AND RESERVOIR SITES, LEGISLATIVE ISSUES AND REGIONAL POLICY ISSUES)

8.2 Summary of Policy Recommendation

[164] (**Page 8-3 through 8-18**). It is obvious that much effort was put into the development of these policy statements and we commend the planning group. We are generally supportive of the policy recommendations and particularly commend the planning group for its statements on Environmental Flows, Sustainable Growth, Groundwater and Public Involvement and Education.

[165] (**Page 8-19**). We had understood that funding for additional work on designation of unique stream segments was available but was later moved to additional assessment of water

conservation. However, ultimately, it appears that the money was used elsewhere. We are disappointed that, in the end, no additional work was undertaken on potential recommendations for designation of unique stream segments and no additional work was undertaken on assessing water conservation potential. We do appreciate the inclusion in the initially prepared plan of information about the segments considered for such recommendations.

[166] **Page 8-39 through 8-41** – The discussion of Unresolved Issues identified by the planning group is thoughtful and insightful. We appreciate the work of the planning group members in examining these issues.

CHAPTER 9: INFRASTRUCTURE FINANCING (NOT INCLUDED IN THE IPP)

CHAPTER 10: PUBLIC INVOLVEMENT ACTIVITIES

We appreciate the public participation efforts of the planning group. We also appreciate the willingness that the planning group has shown to receive and consider our input throughout the planning process.

Sincerely,



Myron Hess	Mary Kelly	Jennifer Walker
National Wildlife Federation	Environmental Defense	Sierra Club, Lone Star Chapter

cc: David Meeseey, Region K liaison, TWDB
Bill Mullican, TWDB
Kevin Ward, TWDB
Cindy Loeffler, TPWD
Rebeka Lien, Turner, Collie and Braden
Mark Lowry, Turner, Collie and Braden

Table K-IPP-3 – Calculation of additional savings through municipal water efficiency measures for Water User Groups with net water use >140 gpcd at the 2060 time frame

		Year 2000 use rate (gpcd)	Region K IPP proposed water use and water efficiency data, Year 2060					environmental community proposed savings, Year 2060			
			Population	Portion of region (%)	IPP total demand of WUG (ac-ft/yr)	use rate (gpcd) [includes plumbing code]	addtnl. water effi- ciency sav.* (ac-ft/yr)	net water use rate with efficiency measures (gpcd)	use rate** (gpcd)	revised total demand (ac-ft/yr)	addtl. savings (ac-ft/yr)
1	AUSTIN	175	1,634,578	60.2%	309,433	169	33,573	151	140	256,327	19,525
2	FREDERICKSBURG	246	12,349	0.5%	3,223	233	0	233	140	1,937	1,286
3	CO.-- OTHER WILLIAMSON	175	23,609	0.9%	4,469	169	0	169	140	3,702	767
4	CO.--OTHER-TRAVIS	175	12,636	0.5%	2,392	169	0	169	140	1,982	410
5	COLUMBUS	230	4,333	0.2%	1,048	216	0	216	140	679	368
6	SAN SABA	302	2,654	0.1%	856	288	0	288	165	491	365
7	SCHULENBURG	186	5,282	0.2%	1,012	171	0	171	140	828	184
8	JOHNSON CITY	216	2,264	0.1%	512	202	0	202	140	355	157
9	BURNET	160	11,154	0.4%	1,849	148	0	148	140	1,749	100
10	MANOR	197	1,895	0.1%	388	183	0	183	140	297	91
11	LA GRANGE	160	10,057	0.4%	1,656	147	0	147	140	1,577	79
12	MUSTANG RIDGE	220	874	0.0%	205	209	0	209	140	137	68
13	SUNRISE BEACH VILLAGE	219	717	0.0%	167	208	0	208	140	112	55
14	BLANCO	166	2,611	0.1%	445	152	0	152	140	409	36
15	FLATONIA	200	2,247	0.1%	468	186	90	150	140	352	26
16	WHARTON	155	10,782	0.4%	1,703	141	4	141	140	1,691	8
17	CHISHOLM TRAIL SUD	113	553	0.02%	94	152	0	152	140	87	7
Totals			1,738,595	64.1%	329,920					272,713	23,531

notes:*Reg K IPP proposed savings from Table 4.74 and from Section 4.6.2 for City of Austin ** proposed water use rate is based on 1% per year reduction from year 2000 water use, but no less than 140 gpcd unless the WUG was already at that level in year 2000.