October 10, 2005

Mr. H.P. Brown, Jr., Chairman
Llano Estacado Regional Water Planning Group
Regional Water Planning Coordinator
C/o High Plains Water District
2930 Avenue Q
Lubbock, TX 79411

Re: Comments on 2006 Initially Prepared Plan for Llano Estacado Water Planning Area

Dear Mr. Brown 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 the Llano Estacado Water Planning Area. 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. These written comments are an effort to contribute to making the regional plan a better plan for all residents of the Llano Estacado Region 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 this region. 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 as opposed to a list of potential, but expensive and damaging, projects that likely will produce more controversy than water supply.

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. Key principles that inform our comments are summarized below, followed by specific comments keyed to different aspects of the initially prepared plan.

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 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 management strategies consisting of "water conservation practices." Section 357.7(a)(7)(B) addresses water management strategies that consist of drought management measures. The separate evaluation of water management strategies that rely on reuse is mandated by 31 TAC § 357.7 (a)(7)(C).

We acknowledge and commend the recognition of the essential role of improved water efficiency in meeting municipal water demands. However, we urge the planning group to give

[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.

stronger consideration to municipal water efficiency measures, as well as the potential for additional irrigation and industrial conservation measures.

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, Senate Bill 2 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.

Consideration of drought management measures is required in order for the initially prepared plan to comply with applicable requirements. While drought management plans are mentioned in some detail in the regional plan, the impacts of these plans on water demand are not considered or incorporated into the plan.

C. Plan to Ensure Environmental Flows

Although critically important, designing and selecting new water management strategies that minimize adverse impacts on environmental flows is only one aspect of planning to meet environmental flow needs. New rules applicable to this round of planning require a quantitative analysis of environmental impacts of water management strategies[2] in order to ensure a more careful consideration of those additional impacts. However, if existing water rights, when fully used, 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.

Accordingly, 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. Although we recognize that surface flows are very limited in the area, in many ways that only serves to make them more valuable.

D. Minimize New Reservoirs

Because of the associated adverse impacts, new reservoirs should be considered only after existing sources of water, including reuse, are developed to the maximum extent reasonable. When new reservoirs are considered, adverse impacts to regional economies and natural resources around the reservoir site should be minimized. Regardless of whether the proposed reservoir is located inside or outside the boundaries of the region, reservoir development must be shown to be consistent with long-term protection of the state's water, agricultural, and natural resources. We have serious concerns about the inclusion of the Post Reservoir in the Plan. As

[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).

there is no identified need for this project, it appears to be more of an economic development project than a water supply project.

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 urge the planning group to consider measures to move the region more rapidly towards true, long-term sustainable management of its precious groundwater resources.

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. Those approaches seem to have received little attention in the planning process to date. 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. Water Code Section 16.053 (e)(5)(I), as added by S.B. 1, 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 nonmunicipal 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. We are unable to locate in the initially prepared plan any discussion or consideration of short-term transfers.

II. PAGE-SPECIFIC COMMENTS

EXECUTIVE SUMMARY

Page ES-13 **Social and Economic Impacts of Not Meeting Projected Water Needs**. Although we understand that this information is provided by the Texas Water Development Board (TWDB), we are concerned that it may be misinterpreted. These are worst-case calculations that represent the impacts projected if no actions are taken. That simply is not a accurate portrayal of

reality. In order to present a more balanced message, we urge the planning group to include language acknowledging the potential to mitigate the predicted impacts and the low probability that this level of impacts would occur.

Page ES-14. We commend the planning group and consultant for including Table ES-1, Water User Groups with Projected Needs (Shortages) in the executive summary. This seems to be an excellent way to make summary information easily accessible to the general public. It would be even more valuable if it were expanded to include a listing of recommended water management strategies.

Page ES-15. Best management practices for irrigators are noted as a water management strategy. By contrast, the discussion of Irrigation Conservation in Section 4.4.1.2 (page 4-119) notes "irrigation farmers of the Llano Estacado Water Region are practicing irrigation water conservation farming to the extent feasible." This apparent contradiction should be explained. As discussed further below, we believe additional irrigation conservation measures are feasible.

Page ES-17. The planning group notes that it is not possible to calculate additional quantities of irrigation water that might be considered as a water management strategy to meet projected irrigation needs in the 2006 Plan. That sweeping statement requires further explanation.

Page ES-19. The discussion of municipal water conservation on pages ES-19, ES-20, and ES-23 is confusing. On ES-19 the following statement appears: "The proposed municipal water conservation water management strategy has the potential to reduce per capita water use in the region from an average of 168 gallons per day in 2010 to 145 per person per day in 2060." Yet on page ES-23 the conservation goal is 172 stated as gpcd. Figure ES-2 on page ES-20 appears to present several different scenarios but further explanation is needed to make them understandable. The municipal conservation goal remains unclear. Given the recommendation of the Water Conservation Implementation Task Force of 140 gallons per capita per day and the shortage of water in the region, we urge the planning group to adopt a goal of achieving a per capita municipal water use rate by 2060 of no more than 140 gallons per person per day.

Page ES-21. The sections entitled "Reuse of Municipal Effluent" and "Use of Reclaimed Water" (page ES-19) appear to be very similar. Although the ultimate proposed uses may be different, the sections might be combined under one heading to make the relationships and distinctions more clear.

Page ES-22. We commend the planning group for acknowledging the important value of playas as recharge sources and as wildlife habitat.

Page ES-25. Though not specifically stated, it seems the planning group has chosen to assume the current rate of depletion in the Ogallala, 50 percent depletion of the current supply over a 50-year period as being the appropriate approach. We recognize the extent of economic impact that would result from a short-term movement to sustainable management of the region's groundwater resources. However, we also believe that a failure to move, in a reasonable time period, to sustainable management will leave the region without a viable long-term water supply.

The discussion goes on to note the vital importance of water conservation. The contrast between those strong statements and the comparatively weak water conservation recommendations in the plan is striking. We urge the planning group to consider strengthening its water conservation recommendations.

Section 1. PLANNING AREA DESCRIPTION

Page 1-14. **Section 1.2.4.3 Wildlife Resources**

This section, along with Section 1.5.7, would benefit greatly from more detailed (types, distributions) discussion about the role of water in supporting wildlife resources in the region. In addition, because of the great potential for species that are particularly dependent on water to be affected by water management decisions, those resources merit additional attention and discussion. There is some discussion of aquatic resources in Section 1.8.3.1, but only as it pertains to game fish (large-mouth bass) and reservoirs.

Section 1.5.5 Irrigation Water Use

Page 1-39 and 1-40. There appears to be a small discrepancy between the statement that about 70% of irrigated acres in 2000 were irrigated by center pivot systems, included on the bottom of page 1-39 and continuing onto page 1-40, and the statement that about 75% of irrigated acres in 1998 were irrigated with center pivot systems, included on page 1-41.

Page 1-41. From the information provided here (and in Table 1-16) it appears that, as of 1998, about 25% of irrigated acres in the planning region have irrigation systems that would be expected to achieve 86 to 98% efficiency. About 50% of the irrigated acres have irrigation systems that would be expected to achieve 75 to 80% efficiency. Another 20% have irrigation systems that would be expected to achieve 80 to 90% efficiency. The remaining 5% appear to have irrigation systems with efficiency levels between 40 and 98%. Those figures would change slightly if the actual acreage irrigated with center pivot systems is 70% rather than 75%. Regardless, this suggests significant additional potential for improved irrigation efficiency.

Page 1-46**. Section 1.6.1.1 Ogallala Aquifer**. Information about more recent rates of decline in aquifer levels should be included.

Page 1-53. **Section 1.6.4 Playa Basins**

The purpose of the last paragraph in this section is unclear. It also appears to contradict statements elsewhere in the plan (for example, page 1-46) regarding the important role of playas in aquifer recharge. If playas are sealed so effectively, it does not seem that they would be effective recharge points. Some additional discussion is needed regarding the apparent inconsistency of the statements.

Page 1-53. **Section 1.6.5 Springs**

We commend the LERWPG, and Jim Steiert in particular, for the spring and seep inventory included as Appendix B. It provides valuable information. We urge the planning group to include information about the natural resource value of significant springs. That information is required pursuant to Section 357.7 (a)(1)(D) of the Board's rules. The plan also should assess the significance of projected aquifer level declines on those springs in order to comply with the

requirement for evaluating the potential impact of water management strategies on groundwater surface water interrelationships. 31 TAC § 357.7 (a)(8)(B).

Although the spring and seep inventory was taken during a "wet" year, the period of hydrologic response for some springs may be longer than only one year. In other words, some springs may have ceased flowing as a result of ground water pumpage and not simply localized dry conditions. Consequently, the source water for these springs may require more than one year to circulate through the aquifer and discharge at a spring.

Page 1-60. **Section 1.8 Threats to Agriculture and Natural Resources**. Continued decline in aquifer levels also would appear to be a major threat to both agriculture and natural resources that merits discussion.

Page 3-13. **Table 3-2.** The projections of water in storage for the various counties in the region are very sobering. For many counties, the projected pumping rates would leave the entire county with only very limited supplies as early as 2060. Furthermore, once aquifer storage begins to reach such low levels, the ability to efficiently capture the available water is likely to be highly uncertain. Key examples include the projections for Castro County: 8,801,770 acre-feet in 2000 to 897,274 acre-feet in 2060; Cochran County: 2,578,704 in 2000 to 37,705 in 2060; Gaines County: 12,495,883 acre-feet in 2000 to 3,651,389 in 2060; Hale County: 9,867,018 in 2000 to 1,886,697 in 2060; Lamb County: 8,246,693 in 2000 to 2,533,373 in 2020; and Yoakum County: 4,381,613 in 2000 to 1,005,116 in 2060.

Although we hope those projections prove to be overly pessimistic, they appear to be based on the best information available and must be taken seriously. The economic impacts of that level of depletion likely would be severe. Accordingly, we urge the planning group to consider recommending a different approach that would usher in a more rapid reduction in pumping through enhanced conservation and pumping limits that would strengthen the potential for some level of irrigated agriculture to survive long-term in the region. We recognize that the planning group is not a regulatory body. However, it is charged with developing a vision for the future of water management in the region. The vision set out in the initially prepared regional water plan simply should not be considered acceptable.

SECTION 4. WATER MANAGEMENT STRATEGIES

4.4.1.1 Municipal Water Conservation

Page 4-94. The recommendation of the Water Conservation Implementation Task Force is that public suppliers should consider a minimum annual reduction (on a five-year rolling average) of one percent in total gpcd until the entity achieves a total of 140 gpcd. The Llano Estacado Region current average gpcd is 172, well above the task force goal. Yet, the LERWPG has elected to use this current level of water use as their municipal water conservation benchmark for 2060. A usage rate of 172 gpcd is too high today. In 2060, given inevitable advancements in water efficiency, it would be extremely wasteful. Particularly given the rapid rate at which the region's water supplies are being depleted, that simply is not good enough. At minimum, the current average gpcd rate should be adjusted to account for the automatic savings that will come from the state's Water Efficient Plumbing Act. Simply including that accounting would lower

water use by about an additional 12 or 13 gpcd by 2060 to 159 gpcd, without any overt effort. Settling for a goal of 172 gpcd is not consistent with the LWRWPG's stated effort (ES-26), "to make the available water last as long as possible for the benefit (sic) the people and economy of the region."

Even that 12 to 13 gpcd of additional savings from the Water Efficient Plumbing Act does not fully account for automatic savings. Recently adopted federal energy efficiency standards for washing machines will result in only water-efficient washing machines being available for sale beginning in 2007 or soon thereafter. Again, those automatic savings should be accounted for. Consultants for Region H indicated at the last Region H Water Planning Group meeting on 10/5/2005 that the saving from this new federal standard would probably translate to about 5.6 gpcd. Beyond that, we urge the planning group to consider endorsing a water conservation goal more in keeping with that adopted by the South Central Texas Regional Water Planning Group (Region L):

> "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 the Initially Prepared 2006 South Central Texas Regional Water Plan at p. 6-1.

Conservation efforts associated with individual cities are discussed in Chapter 1, but not incorporated into the Water Conservation Tables in Chapter 4. For example, the City of Lubbock (page 1-91) plans to reduce per capita use by 20 gallons per day by 2014, yet this strategy is not listed on the table on page 4-99. The 2004 City of Lubbock Water Conservation Plan includes a 2010 goal to reduce water use from the current 190 gpcd to 170 gpcd and a 2020 goal of 150 gpcd. Denver City is shown, on page 1-89, as having a conservation goal of 140 gpcd, yet the table on page 4-100 shows Denver City 2060 gpcd to be 172 gpcd. Brownfield (4-292) shows that all of its needs can be met with water conservation, yet expanded supplies from CRMWA are also proposed. Brownfield is one of the largest per capita users in the Region.

Water audits are a suggested BMP by the Water Conservation Task Force. The planning group discusses water audits in Chapter 6, yet they do not discuss them in Chapter 4.

4.4.1.2 Irrigation Water Conservation

The High Plains Region has certainly done much to improve water conservation for irrigation. Yet, there is still much potential for irrigation water conservation in the region. According to information provided on page 4-117 and 4-118, there are still about 720,000 acres that could be irrigated with center pivots. From the information provided on page 1-41 and in Table 1-16, about 50% of the irrigated acres have irrigation systems that would be expected to achieve 75 to

80% efficiency. A 10 to 15% increase in efficiency for those acres, which is very much within the listed efficiencies for commonly used irrigation practices, could result in savings of around 200,000 to 300,000 acre-feet per year, based on 2000 irrigation levels. Given the impending depletion of aquifer storage, that level of savings merits careful consideration.

The LERWPG concludes (page 4-119), "Irrigation farmers of the Llano Estacado Water Region are practicing irrigation water conservation farming to the extent feasible." One year ago (September 2004), the TWDB authorized up to $6.2 million for "An Integrated Approach to Water Conservation in the Texas Southern High Plains." This grant application was submitted by several WUGS in the Planning Area: High Plains Underground Water Conservation District and producers in Floyd and Hale Counties. That application and the demonstration project seem to contemplate that additional savings are feasible.

In addition, the LERWPG states (4-120) that, "it is not possible to calculate additional quantities of irrigation water that might be considered as a water management strategy to meet projected irrigation needs (shortages) in the 2006 Llano Estacado Region Water Plan." Region A has done exactly this, specifically addressing their irrigation water shortages through the use of Evapotranspiration Networks, changes in crop variety, irrigation equipment efficiency improvements, changes in crop type, implementation of conservation tillage, precipitation enhancement, and conservation from irrigated to dryland farming. The experience of Region A indicateds that the LERWPG should be able to calculate the additional savings from irrigation conservation.

4.4.3.2 Lake Alan Henry Supply to City of Lubbock

Page 4-161. It is noted in the Plan that the City of Lubbock has a surplus of 8,000-9,000 ac-ft through 2060. Why, therefore, is it necessary to spend almost $1,200 ac/ft annually to develop water supplies for which there is no apparent need? Also, with such a surplus, it is unclear why the following additional projects are also presented in the plan for the City of Lubbock: City of Lubbock Well Field (4.4.3.3); Lubbock Expand Capacity of Bailey County Wellfield (4.4.3.4); CRMWA Expand Capacity of Groundwater Suppy (4.4.3.5).

4.4.3.5 CRMWA Expand Capacity of Groundwater Supply

Page 4-166. It is noted that an additional 32,000 ac-ft are to be added to this project to "meet the capacity of the transmission system." Yet, there does not appear to be a need to expand the capacity. The total demand by CRMWA customers is about 100,000 ac-ft, with 55,500 acre-ft from Region O and about 45,000 ac-ft from Region A. These demands are already being met by Lake Meredith (63,750 ac-ft safe yield) and the Roberts County wellfield (40,000 ac-ft).

Who are the customers for this additional water? With the exception of Brownfield, none of the CRMWA Region O customers have a water demand. Brownfield's water needs can easily be met with municipal conservation. There are also no demands for this additional water in the Region A Plan (Section 4.11 Wholesale Water Providers, page 181.)

Page 4-166. The Environmental Issues discussion fails to evaluate the impact of increased pumping on nearby wells and nearby springs.

Page 4-166. The Quantity of Water Available discussion fails to consider the new rules adopted by the Panhandle Groundwater Conservation District #3.

4.4.3.6 White River Municipal Water District-Reclaimed Water
Page 4-168. The Environmental Issues discussion fails to consider the current fate of the effluent stream. That issue should be acknowledged along with an evaluation of any anticipated impacts from the change in the discharge. For example, if the effluent currently is discharged to a stream or wetland, the effect of reduced flows should be evaluated.

4.4.4.1 Precipitation Enhancement
Page 4-179. The assumptions presented in the Estimated Potential Quantities of Water Supply Resulting from Weather Modification are oversimplified. An increase in precipitation during a period of cloud seeding cannot be directly attributed to cloud seeding efforts. A direct comparison between seeded and non-seeded rainfall events needs to be established, as does a comparison between seeded and non-seeded clouds within a specific event. Not all events can be seeded; not all clouds can be seeded; not all seeding events result in increased precipitation.

General comment. The potential impacts of reduced precipitation in other areas as a result of weather modification should be discussed.

4.4.4.2 Brush Management
General comment. The Texas Agricultural Experiment Station Research Report 05-1, *Shrub Control and Water Yield on Texas Rangelands: Current State of Knowledge 2005,* notes, "A common rule of thumb is that annual rainfall must be at least about 18 in. for vegetation removal to increase water yields." As about one half of the planning region receives less than 18 inches, brush management may not be an appropriate strategy region wide.

General comment. Brush management is only one part of land stewardship efforts that enhance water quantity and quality. Information about land stewardship practices can be found at the Texas Wildlife Association website.
http://www.texas-wildlife.org/PDFs/Stewardship%20II%20-%209.5.04-WEB1.pdf

4.4.4.3 Desalt Brackish Groundwater
Page 4-201. As the Santa Rosa Aquifer underlies the Ogallala, some discussion regarding the potential interaction between the aquifers as a result of pumping in the Santa Rosa would be helpful.

Page 4-202. More discussion is necessary regarding the Environmental Issues associated with this strategy. Specifically, what are the issues associated with treatment plants and their ability to process and dispose of the concentrate? These issues will vary depending on whether the treatment plant discharges to surface water or relies on land application for disposal of effluent.

4.4.4.4 Post Reservoir
Page 4-209. It is does not make sense to spend an estimated $30 million on a project that has no identified customers. In addition, it appears that much of the inflow to this proposed project will be diverted as part of the White River Municipal District Reclaimed Water project.

Drought Management
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. SB2 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 includes a summary discussion of drought contingency plans developed by various municipal water user groups. However, that discussion does not include consideration of the amount of water use reduction to be achieved by those plans during drought conditions and does not evaluate drought management as a water supply strategy for municipal or other water user groups.

Page 4-216 notes, "The surface water supplies of this plan are included only at the firm yield quantities and the groundwater supplies are included at the quantities estimated to be available through existing facilities and aquifer capabilities. Therefore, the LERWPG depends upon water users to follow their respective drought management plans and to implement any additional water conservation needed during droughts that may affect existing and planned water management strategies." While we commend the LERWPG for encouraging conservation and drought management, this statement somewhat misses the point and is not very clear. Water supplies in the Plan are based on firm-yields during the drought of record. Water demands in the Plan, however, are assumed to remain constant *even* during times of drought. As a result, the Plan creates an unrealistic demand that must be met because reductions in demand resulting from drought plans are not considered.

Section 5. IMPACTS OF KEY WATER MANAGEMENT STRATEGIES
Page 5-2 **Water Supply from Nearby Groundwater Sources**
This discussion does not address potential water quality issues expected as water levels decline with continued mining of aquifer supplies. Water tends to be of lower quality in the lower regions of the water bearing formation. In view of the predicted water level declines, the potential for those impacts to affect the use of available supplies should be assessed.

Page 5-3. **Recovery of Capillary Water and Cistern Well Construction**
Neither of these strategies is mentioned elsewhere in the plan. Please provide additional information.

Page 5-3. **Post Reservoir-Raw Water**
It is unclear why there are no impacts on water quality parameters resulting from this project. The discussion of impacts associated with nearby Lake Alan Henry lists several impacts.

Page 5-4. **Impacts of Moving Water from Rural and Agricultural Areas**
The discussion in this section only refers to the Nearby Groundwater Sources strategy. Other strategies, especially the CRMWA Groundwater Expansion need to be addressed.

Section 6. CONSOLIDATED WATER CONSERVATION AND DROUGHT MANAGEMENT
Page 6-1. We commend the planning group for suggesting water utilities address the issue of unaccounted for water.

Page 6-1. The discussion of irrigation water conservation lacks substance. There are no real recommendations and it is unclear why dryland farming is included in the discussion.

Page 6-2. The discussion of Drought and Drought Response highlights the discrepancy associated with the Water Planning Process whereby water supplies are based on firm yields during drought of record, but water demands are based on fully meeting even non-essential water needs during the drought of record, even though drought plans implemented by municipalities will result in lower water demands during drought. Drought management needs to be incorporated as a water management strategy to accurately portray the water demands that will exist during a drought of record. Otherwise, the Regional Plan will create an artificially large demand for water that will create unnecessary planning efforts, unnecessary projects, and unnecessary expenses.

Page 6-2. Drought Triggers can certainly be based on PET stations and precipitation, but should also incorporate other components such as reservoir levels and ground water levels. Large precipitation events do not always alleviate drought conditions, as much of the water cannot be used effectively. In addition, large precipitation events can often skew data. Therefore, we suggest that medians rather than means be considered for drought triggers.

Section 7. CONSISTENCY WITH LONG-TERM PROTECTION OF THE STATE'S WATER RESOURCES, AGRICULTURAL RESOURCES, AND NATURAL RESOURCES
This chapter of the initially prepared plan is lacking in substance, particularly as it relates to consistency with long-term protection of natural resources. For example, there is no discussion of the potential impacts of continued depletion of groundwater supplies on springflows and on natural resources dependent on those flows. The legislative charge is to consider how water resource management might affect natural resources. That type of analysis appears to be completely lacking in the initially prepared plan. That information is needed to support an essential finding that the plan is consistent with long-term protection of natural resources.

As you know, the Texas Legislature, in recognition of the key importance of this information, specifically provided that TWDB may not approve a regional water plan absent an affirmative

finding that the plan is consistent with long-term protection of the state's water resources, agricultural resources, and natural resources. See Texas Water Code Section 16.053 (h)(7)(C).

Section 8. UNIQUE STREAM SEGMENTS

Unique Stream Segments. We are disappointed that the planning group has again chosen not to recommend segments for designation. It is not clear what more the Legislature could do to clarify the legal effect of such designations beyond its current declaration that the designation "solely means that a state agency or political subdivision of the state may not finance the actual construction of a reservoir in a specific river or stream segment" designated for this status. See Tex. Water Code Ann. § 16.051 (f) (emphasis added). It would be beneficial if the planning group included information about the characteristics that resulted in TPWD's nomination of the fourteen segments for consideration by the planning group.

Thank you for your consideration of these comments and please free to contact us if you have any questions. We look forward to a continuing positive dialogue with the planning group during this and future planning cycles.

Sincerely,

Myron Hess
National Wildlife Federation

Mary Kelly
Environmental Defense

Ken Kramer
Sierra Club, Lone Star Chapter

cc: Carolyn Brittin, TWDB
Kevin Ward, TWDB
Cindy Loeffler, TPWD
Herb Grubb, HDR Engineering