Regional Water Plan

Prepared For

Region D – North East Texas Regional Water Planning Group

September 1, 2010

Prepared By

Bucher Willis & Ratliff Corporation

In Association With:

Hayter Engineering, Inc.
Hayes Engineering Company
Bob Bowman Associates
LBG/Guyton Associates

Volume III - Appendix C, Chapters 5 - 10

(This Page Left Blank Intentionally)

Appendix C – Table of Contents

Appendix Chapter 5

IMPACTS OF SELECTED WATER MANAGEMENT STRATEGIES ON KEY PARAMETERS OF WATER QUALITY AND IMPACTS OF MOVING WATER FROM RURAL AND AGRICULTURAL AREAS

June 4, 2010

Mr. Richard LeTourneau
Chairman, North East Texas
Regional Water Planning Group
P.O. Box 12071
Longview, Texas 75607

Re: Socioeconomic Impact Analysis of Not Meeting Water Needs for the 2011 North East Texas Regional Water Plan

Dear Chairman LeTourneau:

We have received your request for technical assistance to complete the socioeconomic impact analysis of not meeting water needs. In response, enclosed is a report that describes our methodology and presents the results. Section 1 provides an overview of the methodology, and Section 2 presents results at the regional level, and Appendix 2 show results for individual water user groups.

If you have any questions or comments, please feel free to contact me at (512) 463-7928 or by email at stuart.norvell@twdb.state.tx.us.

Sincerely,

Stuart D. Norvell
Manager, Water Planning Research and Analysis
Water Resources Planning Division

SN/ao

Enclosure

c. Temple Mckinnon, TWDB
S. Doug Shaw, TWDB

Socioeconomic Impacts of Projected Water Shortages for the Northeast Texas Regional Water Planning Area (Region D)

Prepared in Support of the 2011 Northeast Texas Regional Water Plan

Stuart D. Norvell, Managing Economist
Water Resources Planning Division
Texas Water Development Board
Austin, Texas

Doug Shaw, Agricultural Economist
Water Resources Planning Division
Texas Water Development Board
Austin, Texas

February, 2010

Table of Contents

Tables

Introduction

Water shortages during drought would likely curtail or eliminate economic activity in business and industries reliant on water. For example, without water farmers cannot irrigate; refineries cannot produce gasoline, and paper mills cannot make paper. Unreliable water supplies would not only have an immediate and real impact on existing businesses and industry, but they could also adversely affect economic development in Texas. From a social perspective, water supply reliability is critical as well. Shortages would disrupt activity in homes, schools and government and could adversely affect public health and safety. For all of the above reasons, it is important to analyze and understand how restricted water supplies during drought could affect communities throughout the state.

Administrative rules require that regional water planning groups evaluate the impacts of not meeting water needs as part of the regional water planning process, and rules direct TWDB staff to provide technical assistance: "*The executive administrator shall provide available technical assistance to the regional water planning groups, upon request, on water supply and demand analysis, including methods to evaluate the social and economic impacts of not meeting needs*" [(§357.7 (4)(A)]. Staff of the TWDB's Water Resources Planning Division designed and conducted this report in support of the Northeast Texas Regional Water Planning Group (Region D).

This document summarizes the results of our analysis and discusses the methodology used to generate the results. Section 1 outlines the overall methodology and discusses approaches and assumptions specific to each water use category (i.e., irrigation, livestock, mining, steam-electric, municipal and manufacturing). Section 2 presents the results for each category where shortages are reported at the regional planning area level and river basin level. Results for individual water user groups are not presented, but are available upon request.

1. Methodology

Section 1 provides a general overview of how economic and social impacts were measured. In addition, it summarizes important clarifications, assumptions and limitations of the study.

1.1 Economic Impacts of Water Shortages

1.1.1 General Approach

Economic analysis as it relates to water resources planning generally falls into two broad areas. Supply side analysis focuses on costs and alternatives of developing new water supplies or implementing programs that provide additional water from current supplies. Demand side analysis concentrates on impacts or benefits of providing water to people, businesses and the environment. Analysis in this report focuses strictly on demand side impacts. When analyzing the economic impacts of water shortages as defined in Texas water planning, three potential scenarios are possible:

1) Scenario 1 involves situations where there are physical shortages of raw surface or groundwater due to drought of record conditions. For example, City A relies on a reservoir with average conservation storage of 500 acre-feet per year and a firm yield of 100 acre feet. In 2010, the city uses about 50 acre-feet per year, but by 2030 their demands are expected to increase to 200 acre-feet. Thus, in 2030 the reservoir would not have enough water to meet the city's demands,

and people would experience a shortage of 100 acre-feet assuming drought of record conditions. Under normal or average climatic conditions, the reservoir would likely be able to provide reliable water supplies well beyond 2030.

2) Scenario 2 is a situation where despite drought of record conditions, water supply sources can meet existing use requirements; however, limitations in water infrastructure would preclude future water user groups from accessing these water supplies. For example, City B relies on a river that can provide 500 acre-feet per year during drought of record conditions and other constraints as dictated by planning assumptions. In 2010, the city is expected to use an estimated 100 acre-feet per year and by 2060 it would require no more than 400 acre-feet. But the intake and pipeline that currently transfers water from the river to the city's treatment plant has a capacity of only 200 acre-feet of water per year. Thus, the city's water supplies are adequate even under the most restrictive planning assumptions, but their conveyance system is too small. This implies that at some point – perhaps around 2030 - infrastructure limitations would constrain future population growth and any associated economic activity or impacts.

3) Scenario 3 involves water user groups that rely primarily on aquifers that are being depleted. In this scenario, projected and in some cases existing demands may be unsustainable as groundwater levels decline. Areas that rely on the Ogallala aquifer are a good example. In some communities in the region, irrigated agriculture forms a major base of the regional economy. With less irrigation water from the Ogallala, population and economic activity in the region could decline significantly assuming there are no offsetting developments.

Assessing the social and economic effects of each of the above scenarios requires various levels and methods of analysis and would generate substantially different results for a number of reasons; the most important of which has to do with the time frame of each scenario. Scenario 1 falls into the general category of static analysis. This means that models would measure impacts for a small interval of time such as a drought. Scenarios 2 and 3, on the other hand imply a dynamic analysis meaning that models are concerned with changes over a much longer time period.

Since administrative rules specify that planning analysis be evaluated under drought of record conditions (a static and random event), socioeconomic impact analysis developed by the TWDB for the state water plan is based on assumptions of Scenario 1. Estimated impacts under scenario 1 are point estimates for years in which needs are reported (2010, 2020, 2030, 2040, 2050 and 2060). They are independent and distinct "what if" scenarios for a particular year and shortages are assumed to be temporary events resulting from drought of record conditions. Estimated impacts measure what would happen if water user groups experience water shortages for a period of one year.

The TWDB recognize that dynamic models may be more appropriate for some water user groups; however, combining approaches on a statewide basis poses several problems. For one, it would require a complex array of analyses and models, and might require developing supply and demand forecasts under "normal" climatic conditions as opposed to drought of record conditions. Equally important is the notion that combining the approaches would produce inconsistent results across regions resulting in a so-called "apples to oranges" comparison.

A variety tools are available to estimate economic impacts, but by far, the most widely used today are input-output models (IO models) combined with social accounting matrices (SAMs). Referred to as IO/SAM models, these tools formed the basis for estimating economic impacts for agriculture (irrigation and livestock water uses) and industry (manufacturing, mining, steam-electric and commercial business activity for municipal water uses).

Since the planning horizon extends through 2060, economic variables in the baseline are adjusted in accordance with projected changes in demographic and economic activity. Growth rates for municipal water use sectors (i.e., commercial, residential and institutional) are based on TWDB population forecasts. Future values for manufacturing, agriculture, and mining and steam-electric activity are based on the same underlying economic forecasts used to estimate future water use for each category.

The following steps outline the overall process.

Step 1*: Generate IO/SAM Models and Develop Economic Baseline*

IO/SAM models were estimated using propriety software known as IMPLAN PRO™ (Impact for Planning Analysis). IMPLAN is a modeling system originally developed by the U.S. Forestry Service in the late 1970s. Today, the Minnesota IMPLAN Group (MIG Inc.) owns the copyright and distributes data and software. It is probably the most widely used economic impact model in existence. IMPLAN comes with databases containing the most recently available economic data from a variety of sources.[1] Using IMPLAN software and data, transaction tables conceptually similar to the one discussed previously were estimated for each county in the region and for the region as a whole. Each transaction table contains 528 economic sectors and allows one to estimate a variety of economic statistics including:

- **total sales -** total production measured by sales revenues;
- **intermediate sales -** sales to other businesses and industries within a given region;
- **final sales –** sales to end users in a region and exports out of a region**;**
- **employment -** number of full and part-time jobs (annual average) required by a given industry including self-employment;
- **regional income -** total payroll costs (wages and salaries plus benefits) paid by industries, corporate income, rental income and interest payments; and
- **business taxes -** sales, excise, fees, licenses and other taxes paid during normal operation of an industry (does not include income taxes).

TWDB analysts developed an economic baseline containing each of the above variables using year 2000 data. Since the planning horizon extends through 2060, economic variables in the baseline were allowed to change in accordance with projected changes in demographic and economic activity. Growth rates for municipal water use sectors (i.e., commercial, residential and institutional) are based on TWDB population forecasts. Projections for manufacturing, agriculture, and mining and steam-electric activity are based on the same underlying economic forecasts used to estimate future water use for each category. Monetary impacts in future years are reported in constant year 2006 dollars.

It is important to stress that employment, income and business taxes are the most useful variables when comparing the relative contribution of an economic sector to a regional economy. Total sales as reported in IO/SAM models are less desirable and can be misleading because they include sales to other industries in the region for use in the production of other goods. For example, if a mill buys grain from local farmers and uses it to produce feed, sales of both the processed feed and raw corn are counted as “output” in an IO model. Thus, total sales double-count or overstate the true economic value of goods

[1]The IMPLAN database consists of national level technology matrices based on benchmark input-output accounts generated by the U.S. Bureau of Economic Analysis and estimates of final demand, final payments, industry output and employment for various economic sectors. IMPLAN regional data (i.e. states, a counties or groups of counties within a state) are divided into two basic categories: 1) data on an industry basis including value-added, output and employment, and 2) data on a commodity basis including final demands and institutional sales. State-level data are balanced to national totals using a matrix ratio allocation system and county data are balanced to state totals.

and services produced in an economy. They are not consistent with commonly used measures of output such as Gross National Product (GNP), which counts only final sales.

Another important distinction relates to terminology. Throughout this report, the term *sector* refers to economic subdivisions used in the IMPLAN database and resultant input-output models (528 individual sectors based on Standard Industrial Classification Codes). In contrast, the phrase *water use category* refers to water user groups employed in state and regional water planning including irrigation, livestock, mining, municipal, manufacturing and steam electric. Each IMPLAN sector was assigned to a specific water use category.

Step 2: *Estimate Direct and Indirect Economic Impacts of Water Needs*

Direct impacts are reductions in output by sectors experiencing water shortages. For example, without adequate cooling and process water a refinery would have to curtail or cease operation, car washes may close, or farmers may not be able to irrigate and sales revenues fall. Indirect impacts involve changes in inter-industry transactions as supplying industries respond to decreased demands for their services, and how seemingly non-related businesses are affected by decreased incomes and spending due to direct impacts. For example, if a farmer ceases operations due to a lack of irrigation water, they would likely reduce expenditures on supplies such as fertilizer, labor and equipment, and businesses that provide these goods would suffer as well.

Direct impacts accrue to immediate businesses and industries that rely on water and without water industrial processes could suffer. However, output responses may vary depending upon the severity of shortages. A small shortage relative to total water use would likely have a minimal impact, but large shortages could be critical. For example, farmers facing small shortages might fallow marginally productive acreage to save water for more valuable crops. Livestock producers might employ emergency culling strategies, or they may consider hauling water by truck to fill stock tanks. In the case of manufacturing, a good example occurred in the summer of 1999 when Toyota Motor Manufacturing experienced water shortages at a facility near Georgetown, Kentucky.[2] As water levels in the Kentucky River fell to historic lows due to drought, plant managers sought ways to curtail water use such as reducing rinse operations to a bare minimum and recycling water by funneling it from paint shops to boilers. They even considered trucking in water at a cost of 10 times what they were paying. Fortunately, rains at the end of the summer restored river levels, and Toyota managed to implement cutbacks without affecting production, but it was a close call. If rains had not replenished the river, shortages could have severely reduced output.[3]

To account for uncertainty regarding the relative magnitude of impacts to farm and business operations, the following analysis employs the concept of elasticity. Elasticity is a number that shows how a change in one variable will affect another. In this case, it measures the relationship between a percentage reduction in water availability and a percentage reduction in output. For example, an elasticity of 1.0 indicates that a 1.0 percent reduction in water availability would result in a 1.0 percent reduction in economic output. An elasticity of 0.50 would indicate that for every 1.0 percent of unavailable water, output is reduced by 0.50 percent and so on. Output elasticities used in this study are:[4]

---

[2] Royal, W. "*High And Dry - Industrial Centers Face Water Shortages*." in Industry Week, Sept, 2000.

[3] The efforts described above are not planned programmatic or long-term operational changes. They are emergency measures that individuals might pursue to alleviate what they consider a temporary condition. Thus, they are not characteristic of long-term management strategies designed to ensure more dependable water supplies such as capital investments in conservation technology or development of new water supplies.

[4] Elasticities are based on one of the few empirical studies that analyze potential relationships between economic output and water shortages in the United States. The study, conducted in California, showed that a significant number of industries would suffer reduced output during water shortages. Using a survey based approach researchers posed two scenarios to different industries. In

- if water needs are 0 to 5 percent of total water demand, no corresponding reduction in output is assumed;

- if water needs are 5 to 30 percent of total water demand, for each additional one percent of water need that is not met, there is a corresponding 0.50 percent reduction in output;

- if water needs are 30 to 50 percent of total water demand, for each additional one percent of water need that is not met, there is a corresponding 0.75 percent reduction in output; and

- if water needs are greater than 50 percent of total water demand, for each additional one percent of water need that is not met, there is a corresponding 1.0 percent (i.e., a proportional reduction).

In some cases, elasticities are adjusted depending upon conditions specific to a given water user group.

Once output responses to water shortages were estimated, direct impacts to total sales, employment, regional income and business taxes were derived using regional level economic multipliers estimating using IO/SAM models. The formula for a given IMPLAN sector is:

$$D_{i,t} = Q_{i,t} *, S_{i,t} * E_Q * RFD_i * DM_{i(Q, L, I, T)}$$

where:

$D_{i,t}$ = direct economic impact to sector *i* in period *t*

$Q_{i,t}$ = total sales for sector *i* in period *t* in an affected county

$RFD_{i,}$ = ratio of final demand to total sales for sector *i* for a given region

$S_{i,t}$ = water shortage as percentage of total water use in period *t*

E_Q = elasticity of output and water use

$DM_{i(L, I, T)}$ = direct output multiplier coefficients for labor (L), income (I) and taxes (T) for sector *i*.

Secondary impacts were derived using the same formula used to estimate direct impacts; however, indirect multiplier coefficients are used. Methods and assumptions specific to each water use sector are discussed in Sections 1.1.2 through 1.1.4.

---

the first scenario, they asked how a 15 percent cutback in water supply lasting one year would affect operations. In the second scenario, they asked how a 30 percent reduction lasting one year would affect plant operations. In the case of a 15 percent shortage, reported output elasticities ranged from 0.00 to 0.76 with an average value of 0.25. For a 30 percent shortage, elasticities ranged from 0.00 to 1.39 with average of 0.47. For further information, see, California Urban Water Agencies, "*Cost of Industrial Water Shortages,*" Spectrum Economics, Inc. November, 1991.

General Assumptions and Clarification of the Methodology

As with any attempt to measure and quantify human activities at a societal level, assumptions are necessary and every model has limitations. Assumptions are needed to maintain a level of generality and simplicity such that models can be applied on several geographic levels and across different economic sectors. In terms of the general approach used here several clarifications and cautions are warranted:

1. Shortages as reported by regional planning groups are the starting point for socioeconomic analyses.

2. Estimated impacts are point estimates for years in which needs are reported (i.e., 2010, 2020, 2030, 2040, 2050 and 2060).They are independent and distinct "what if" scenarios for each particular year and water shortages are assumed to be temporary events resulting from severe drought conditions combined with infrastructure limitations. In other words, growth occurs and future shocks are imposed on an economy at 10-year intervals and resultant impacts are measured. Given, that reported figures are not cumulative in nature, it is inappropriate to sum impacts over the entire planning horizon. Doing so, would imply that the analysis predicts that drought of record conditions will occur every ten years in the future, which is not the case. Similarly, authors of this report recognize that in many communities needs are driven by population growth, and in the future total population will exceed the amount of water available due to infrastructure limitations, regardless of whether or not there is a drought. This implies that infrastructure limitations would constrain economic growth. However, since needs as defined by planning rules are based upon water supply and demand under the assumption of drought of record conditions, it improper to conduct economic analysis that focuses on growth related impacts over the planning horizon. Figures generated from such an analysis would presume a 50-year drought of record, which is unrealistic. Estimating lost economic activity related to constraints on population and commercial growth due to lack of water would require developing water supply and demand forecasts under "normal" or "most likely" future climatic conditions.

3. While useful for planning purposes, this study is not a benefit-cost analysis. Benefit cost analysis is a tool widely used to evaluate the economic feasibility of specific policies or projects as opposed to estimating economic impacts of unmet water needs. Nevertheless, one could include some impacts measured in this study as part of a benefit cost study if done so properly. Since this is not a benefit cost analysis, future impacts are not weighted differently. In other words, estimates are not discounted. If used as a measure of economic benefits, one should incorporate a measure of uncertainty into the analysis. In this type of analysis, a typical method of discounting future values is to assign probabilities of the drought of record recurring again in a given year, and weight monetary impacts accordingly. This analysis assumes a probability of one.

4. IO multipliers measure the strength of backward linkages to supporting industries (i.e., those who sell inputs to an affected sector). However, multipliers say nothing about forward linkages consisting of businesses that purchase goods from an affected sector for further processing. For example, ranchers in many areas sell most of their animals to local meat packers who process animals into a form that consumers ultimately see in grocery stores and restaurants. Multipliers do not capture forward linkages to meat packers, and since meat packers sell livestock purchased from ranchers as "final sales," multipliers for the ranching sector do fully account for all losses to a region's economy. Thus, as mentioned previously, in some cases closely linked sectors were moved from one water use category to another.

5. Cautions regarding interpretations of direct and secondary impacts are warranted. IO/SAM multipliers are based on "fixed-proportion production functions," which basically means that input use - including labor - moves in lockstep fashion with changes in levels of output. In a

scenario where output (i.e., sales) declines, losses in the immediate sector or supporting sectors could be much less than predicted by an IO/SAM model for several reasons. For one, businesses will likely expect to continue operating so they might maintain spending on inputs for future use; or they may be under contractual obligations to purchase inputs for an extended period regardless of external conditions. Also, employers may not lay-off workers given that experienced labor is sometimes scarce and skilled personnel may not be readily available when water shortages subside. Lastly people who lose jobs might find other employment in the region. As a result, direct losses for employment and secondary losses in sales and employment should be considered an upper bound. Similarly, since projected population losses are based on reduced employment in the region, they should be considered an upper bound as well.

6. IO models are static. Models and resultant multipliers are based upon the structure of the U.S. and regional economies in 2006. In contrast, water shortages are projected to occur well into the future. Thus, the analysis assumes that the general structure of the economy remains the same over the planning horizon, and the farther out into the future we go, this assumption becomes less reliable.

7. Impacts are annual estimates. If one were to assume that conditions persisted for more than one year, figures should be adjusted to reflect the extended duration. The drought of record in most regions of Texas lasted several years.

8. Monetary figures are reported in constant year 2006 dollars.

1.1.2 Impacts to Agriculture

Irrigated Crop Production

The first step in estimating impacts to irrigation required calculating gross sales for IMPLAN crop sectors. Default IMPLAN data do not distinguish irrigated production from dry-land production. Once gross sales were known other statistics such as employment and income were derived using IMPLAN direct multiplier coefficients. Gross sales for a given crop are based on two data sources:

1) county-level statistics collected and maintained by the TWDB and the USDA Farm Services Agency (FSA) including the number of irrigated acres by crop type and water application per acre, and

2) regional-level data published by the Texas Agricultural Statistics Service (TASS) including prices received for crops (marketing year averages), crop yields and crop acreages.

Crop categories used by the TWDB differ from those used in IMPLAN datasets. To maintain consistency, sales and other statistics are reported using IMPLAN crop classifications. Table 1 shows the TWDB crops included in corresponding IMPLAN sectors, and Table 2 summarizes acreage and estimated annual water use for each crop classification (five-year average from 2003-2007). Table 3 displays average (2003-2007) gross revenues per acre for IMPLAN crop categories.

Table 1: Crop Classifications Used in TWDB Water Use Survey and Corresponding IMPLAN Crop Sectors	
IMPLAN Category	**TWDB Category**
Oilseeds	Soybeans and "other oil crops"
Grains	Grain sorghum, corn, wheat and "other grain crops"
Vegetable and melons	"Vegetables" and potatoes
Tree nuts	Pecans
Fruits	Citrus, vineyard and other orchard
Cotton	Cotton
Sugarcane and sugar beets	Sugarcane and sugar beets
All "other" crops	"Forage crops", peanuts, alfalfa, hay and pasture, rice and "all other crops"

Table 2: Summary of Irrigated Crop Acreage and Water Demand for the Northeast Texas Regional Water Planning Area (average 2003-2007)				
Sector	Acres (1000s)	Distribution of acres	Water use (1000s of AF)	Distribution of water use
Oilseeds	3	19%	3	16%
Grains	5	28%	5	25%
Vegetable and melons	<1	<1%	0	<1%
Fruits	<1	<1%	<1	<1%
All other crops	9	53%	12	59%
Total	17	100%	21	100%

Source: Water demand figures are a 5- year average (2003-2007) of the TWDB's annual Irrigation Water Use Estimates. Statistics for irrigated crop acreage are based upon annual survey data collected by the TWDB and the Farm Service Agency. Values do not include acreage or water use for the TWDB categories classified by the Farm Services Agency as "failed acres," "golf course" or "waste water."

Table 3: Average Gross Sales Revenues per Acre for Irrigated Crops for the Northeast Texas Regional Water Planning Area (2003-2007)		
IMPLAN Sector	**Gross revenues per acre**	**Crops included in estimates**
Oilseeds	$202	Irrigated figure is based on five-year (2003-2007) average weighted by acreage for “irrigated soybeans” and “irrigated ‘other’ oil crops”.
Grains	$397	Based on five-year (2003-2007) average weighted by acreage for “irrigated grain sorghum,” “irrigated corn”, “irrigated wheat” and “irrigated ‘other’ grain crops.”
Vegetable and melons	$5,335	Based on five-year (2003-2007) average weighted by acreage for “irrigated shallow and deep root vegetables”, “irrigated Irish potatoes” and “irrigated melons.”
Fruits	$3,502	Based on five-year (2003-2007) average weighted by acreage for “irrigated citrus”, “irrigated vineyards” and “irrigated ‘other’ orchard.”
All Other Crops	$253	Irrigated figure is based on five-year (2003-2007) average weighted by acreage for “irrigated ‘forage’ crops”, “irrigated peanuts”, “irrigated alfalfa”, “irrigated ‘hay’ and pasture” and “irrigated ‘all other’ crops.”
*Figures are rounded. Source: Based on data from the Texas Agricultural Statistics Service, Texas Water Development Board, and Texas A&M University.		

An important consideration when estimating impacts to irrigation was determining which crops are affected by water shortages. One approach is the so-called rationing model, which assumes that farmers respond to water supply cutbacks by fallowing the lowest value crops in the region first and the highest valued crops last until the amount of water saved equals the shortage.[5] For example, if farmer A grows vegetables (higher value) and farmer B grows wheat (lower value) and they both face a proportionate cutback in irrigation water, then farmer B will sell water to farmer A. Farmer B will fallow her irrigated acreage before farmer A fallows anything. Of course, this assumes that farmers can and do transfer enough water to allow this to happen. A different approach involves constructing farm-level profit maximization models that conform to widely-accepted economic theory that farmers make decisions based on marginal net returns. Such models have good predictive capability, but data requirements and complexity are high. Given that a detailed analysis for each region would require a substantial amount of farm-level data and analysis, the following investigation assumes that projected shortages are distributed equally across predominant crops in the region. Predominant in this case are crops that comprise at least one percent of total acreage in the region.

The following steps outline the overall process used to estimate direct impacts to irrigated agriculture:

1. *Distribute shortages across predominant crop types in the region*. Again, unmet water needs were distributed equally across crop sectors that constitute one percent or more of irrigated acreage.

2. *Estimate associated reductions in output for affected crop sectors*. Output reductions are based on elasticities discussed previously and on estimated values per acre for different crops. Values per acre stem from the same data used to estimate output for the year 2006 baseline. Using multipliers, we then generate estimates of forgone income, jobs, and tax revenues based on reductions in gross sales and final demand.

Livestock

The approach used for the livestock sector is basically the same as that used for crop production. As is the case with crops, livestock categorizations used by the TWDB differ from those used in IMPLAN datasets, and TWDB groupings were assigned to a given IMPLAN sector (Table 4). Then we:

1) *Distribute projected water needs equally among predominant livestock sectors and estimate lost output*: As is the case with irrigation, shortages are assumed to affect all livestock sectors equally; however, the category of "other" is not included given its small size. If water needs were small relative to total demands, we assume that producers would haul in water by truck to fill stock tanks. The cost per acre-foot ($24,000) is based on 2008 rates charged by various water haulers in Texas, and assumes that the average truck load is 6,500 gallons at a hauling distance of 60 miles.

3) *Estimate reduced output in forward processors for livestock sectors*. Reductions in output for livestock sectors are assumed to have a proportional impact on forward processors in the region such as meat packers. In other words, if the cows were gone, meat-packing plants or fluid milk manufacturers) would likely have little to process. This is not an unreasonable premise. Since the

[5] The rationing model was initially proposed by researchers at the University of California at Berkeley, and was then modified for use in a study conducted by the U.S. Environmental Protection Agency that evaluated how proposed water supply cutbacks recommended to protect water quality in the Bay/Delta complex in California would affect farmers in the Central Valley. See, Zilberman, D., Howitt, R. and Sunding, D. "*Economic Impacts of Water Quality Regulations in the San Francisco Bay and Delt*a." Western Consortium for Public Health. May 1993.

1950s, there has been a major trend towards specialized cattle feedlots, which in turn has decentralized cattle purchasing from livestock terminal markets to direct sales between producers and slaughterhouses. Today, the meat packing industry often operates large processing facilities near high concentrations of feedlots to increase capacity utilization.[6] As a result, packers are heavily dependent upon nearby feedlots. For example, a recent study by the USDA shows that on average meat packers obtain 64 percent of cattle from within 75 miles of their plant, 82 percent from within 150 miles and 92 percent from within 250 miles.[7]

Table 4: Description of Livestock Sectors

IMPLAN Category	TWDB Category
Cattle ranching and farming	Cattle, cow calf, feedlots and dairies
Poultry and egg production	Poultry production.
Other livestock	Livestock other than cattle and poultry (i.e., horses, goats, sheep, hogs)
Milk manufacturing	Fluid milk manufacturing, cheese manufacturing, ice cream manufacturing etc.
Meat packing	Meat processing present in the region from slaughter to final processing

1.1.3 Impacts to Municipal Water User Groups

Disaggregation of Municipal Water Demands

Estimating the economic impacts for the municipal water user groups is complicated for a number of reasons. For one, municipal use comprises a range of consumers including commercial businesses, institutions such as schools and government and households. However, reported water needs are not distributed among different municipal water users. In other words, how much of a municipal need is commercial and how much is residential (domestic)?

The amount of commercial water use as a percentage of total municipal demand was estimated based on "GED" coefficients (gallons per employee per day) published in secondary sources.[8] For example, if year 2006 baseline data for a given economic sector (e.g., amusement and recreation services) shows employment at 30 jobs and the GED coefficient is 200, then average daily water use by that sector is (30 x

[6] Ferreira, W.N. "*Analysis of the Meat Processing Industry in the United States*." Clemson University Extension Economics Report ER211, January 2003.

[7] Ward, C.E. "*Summary of Results from USDA's Meatpacking Concentration Study*." Oklahoma Cooperative Extension Service, OSU Extension Facts WF-562.

[8] Sources for GED coefficients include: Gleick, P.H., Haasz, D., Henges-Jeck, C., Srinivasan, V., Wolff, G. Cushing, K.K., and Mann, A. "*Waste Not, Want Not*: *The Potential for Urban Water Conservation in California*." Pacific Institute. November 2003. U.S. Bureau of the Census. 1982 Census of Manufacturers: Water Use in Manufacturing. USGPO, Washington D.C. See also: "*U.S. Army Engineer Institute for Water Resources, IWR Report 88-R-6.*," Fort Belvoir, VA. See also, Joseph, E. S., 1982, "*Municipal and Industrial Water Demands of the Western United States*." Journal of the Water Resources Planning and Management Division, Proceedings of the American Society of Civil Engineers, v. 108, no. WR2, p. 204-216. See also, Baumann, D. D., Boland, J. J., and Sims, J. H., 1981, "*Evaluation of Water Conservation for Municipal and Industrial Water Supply*." U.S. Army Corps of Engineers, Institute for Water Resources, Contract no. 82-C1.

200 = 6,000 gallons) or 6.7 acre-feet per year. Water not attributed to commercial use is considered domestic, which includes single and multi-family residential consumption, institutional uses and all use designated as "county-other." Based on our analysis, commercial water use is about 5 to 35 percent of municipal demand. Less populated rural counties occupy the lower end of the spectrum, while larger metropolitan counties are at the higher end.

After determining the distribution of domestic versus commercial water use, we developed methods for estimating impacts to the two groups.

Domestic Water Uses

Input output models are not well suited for measuring impacts of shortages for domestic water uses, which make up the majority of the municipal water use category. To estimate impacts associated with domestic water uses, municipal water demand and needs are subdivided into residential, and commercial and institutional use. Shortages associated with residential water uses are valued by estimating proxy demand functions for different water user groups allowing us to estimate the marginal value of water, which would vary depending upon the level of water shortages. The more severe the water shortage, the more costly it becomes. For instance, a 2 acre-foot shortage for a group of households that use 10 acre-feet per year would not be as severe as a shortage that amounted to 8 acre-feet. In the case of a 2 acre-foot shortage, households would probably have to eliminate some or all outdoor water use, which could have implicit and explicit economic costs including losses to the horticultural and landscaping industry. In the case of an 8 acre-foot shortage, people would have to forgo all outdoor water use and most indoor water consumption. Economic impacts would be much higher in the latter case because people, and would be forced to find emergency alternatives assuming alternatives were available.

To estimate the value of domestic water uses, TWDB staff developed marginal loss functions based on constant elasticity demand curves. This is a standard and well-established method used by economists to value resources such as water that have an explicit monetary cost.

A constant price elasticity of demand is estimated using a standard equation:

$$w = kc^{(-\varepsilon)}$$

where:

- w is equal to average monthly residential water use for a given water user group measured in thousands of gallons;
- k is a constant intercept;
- c is the average cost of water per 1,000 gallons; and
- ε is the price elasticity of demand.

Price elasticities (-0.30 for indoor water use and -0.50 for outdoor use) are based on a study by Bell et al.[9] that surveyed 1,400 water utilities in Texas that serve at least 1,000 people to estimate demand elasticity for several variables including price, income, weather etc. Costs of water and average use per month per household are based on data from the Texas Municipal League's annual water and

[9] Bell, D.R. and Griffin, R.C. "*Community Water Demand in Texas as a Century is Turned*." Research contract report prepared for the Texas Water Development Board. May 2006.

wastewater rate surveys - specifically average monthly household expenditures on water and wastewater in different communities across the state. After examining variance in costs and usage, three different categories of water user groups based on population (population less than 5,000, cities with populations ranging from 5,000 to 99,999 and cities with populations exceeding 100,000) were selected to serve as proxy values for municipal water groups that meet the criteria (Table 5).[10]

Table 5: Water Use and Costs Parameters Used to Estimated Water Demand Functions (average monthly costs per acre-foot for delivered water and average monthly use per household)

Community Population	Water	Wastewater	Total monthly cost	Avg. monthly use (gallons)
Less than or equal to 5,000	$1,335	$1,228	$2,563	6,204
5,000 to 100,000	$1,047	$1,162	$2,209	7,950
Great than or equal to 100,000	$718	$457	$1,190	8,409

Source: Based on annual water and wastewater rate surveys published by the Texas Municipal League.

As an example, Table 6 shows the economic impact per acre-foot of domestic water needs for municipal water user groups with population exceeding 100,000 people. There are several important assumptions incorporated in the calculations:

1) Reported values are net of the variable costs of treatment and distribution such as expenses for chemicals and electricity since using less water involves some savings to consumers and utilities alike; and for outdoor uses we do not include any value for wastewater.

2) Outdoor and "non-essential" water uses would be eliminated before indoor water consumption was affected, which is logical because most water utilities in Texas have drought contingency plans that generally specify curtailment or elimination of outdoor water use during droughts.[11] Determining how much water is used for outdoor purposes is based on several secondary sources. The first is a major study sponsored by the American Water Works Association, which surveyed cities in states including Colorado, Oregon, Washington, California, Florida and Arizona. On average across all cities surveyed 58 percent of single family residential water use was for outdoor activities. In cities with climates comparable to large metropolitan areas of Texas, the average was 40 percent.[12] Earlier findings of the U.S. Water Resources Council showed a national

[10] Ideally, one would want to estimate demand functions for each individual utility in the state. However, this would require an enormous amount of time and resources. For planning purposes, we believe the values generated from aggregate data are more than sufficient.

[11] In Texas, state law requires retail and wholesale water providers to prepare and submit plans to the Texas Commission on Environmental Quality (TCEQ). Plans must specify demand management measures for use during drought including curtailment of "non-essential water uses." Non-essential uses include, but are not limited to, landscape irrigation and water for swimming pools or fountains. For further information see the Texas Environmental Quality Code §288.20.

[12] See, Mayer, P.W., DeOreo, W.B., Opitz, E.M., Kiefer, J.C., Davis, W., Dziegielewski, D., Nelson, J.O. "*Residential End Uses of Water*." Research sponsored by the American Water Works Association and completed by Aquacraft, Inc. and Planning and Management Consultants, Ltd. (PMCL@CDM).

average of 33 percent. Similarly, the United States Environmental Protection Agency (USEPA) estimated that landscape watering accounts for 32 percent of total residential and commercial water use on annual basis.[13] A study conducted for the California Urban Water Agencies (CUWA) calculated average annual values ranging from 25 to 35 percent.[14] Unfortunately, there does not appear to be any comprehensive research that has estimated non-agricultural outdoor water use in Texas. As an approximation, an average annual value of 30 percent based on the above references was selected to serve as a rough estimate in this study.

3) As shortages approach 100 percent values become immense and theoretically infinite at 100 percent because at that point death would result, and willingness to pay for water is immeasurable. Thus, as shortages approach 80 percent of monthly consumption, we assume that households and non-water intensive commercial businesses (those that use water only for drinking and sanitation would have water delivered by tanker truck or commercial water delivery companies. Based on reports from water companies throughout the state, we estimate that the cost of trucking in water is around $21,000 to $27,000 per acre-feet assuming a hauling distance of between 20 to 60 miles. This is not an unreasonable assumption. The practice was widespread during the 1950s drought and recently during droughts in this decade. For example, in 2000 at the heels of three consecutive drought years Electra - a small town in North Texas - was down to its last 45 days worth of reservoir water when rain replenished the lake, and the city was able to refurbish old wells to provide supplemental groundwater. At the time, residents were forced to limit water use to 1,000 gallons per person per month - less than half of what most people use - and many were having water delivered to their homes by private contractors.[15] In 2003 citizens of Ballinger, Texas, were also faced with a dwindling water supply due to prolonged drought. After three years of drought, Lake Ballinger, which supplies water to more than 4,300 residents in Ballinger and to 600 residents in nearby Rowena, was almost dry. Each day, people lined up to get water from a well in nearby City Park. Trucks hauling trailers outfitted with large plastic and metal tanks hauled water to and from City Park to Ballinger.[16]

---

[13] U.S. Environmental Protection Agency. *"Cleaner Water through Conservation*." USEPA Report no. 841-B-95-002. April, 1995.

[14] Planning and Management Consultants, Ltd. "*Evaluating Urban Water Conservation Programs: A Procedures Manual*." Prepared for the California Urban Water Agencies. February 1992.

[15] Zewe, C. "*Tap Threatens to Run Dry in Texas Town*." July 11, 2000. CNN Cable News Network.

[16] Associated Press, "*Ballinger Scrambles to Finish Pipeline before Lake Dries Up*." May 19, 2003.

Table 6: Economic Losses Associated with Domestic Water Shortages in Communities with Populations Exceeding 100,000 people

Water shortages as a percentage of total monthly household demands	No. of gallons remaining per household per day	No of gallons remaining per person per day	Economic loss (per acre-foot)	Economic loss (per gallon)
1%	278	93	$748	$0.00005
5%	266	89	$812	$0.0002
10%	252	84	$900	$0.0005
15%	238	79	$999	$0.0008
20%	224	75	$1,110	$0.0012
25%	210	70	$1,235	$0.0015
30%[a]	196	65	$1,699	$0.0020
35%	182	61	$3,825	$0.0085
40%	168	56	$4,181	$0.0096
45%	154	51	$4,603	$0.011
50%	140	47	$5,109	$0.012
55%	126	42	$5,727	$0.014
60%	112	37	$6,500	$0.017
65%	98	33	$7,493	$0.02
70%	84	28	$8,818	$0.02
75%	70	23	$10,672	$0.03
80%	56	19	$13,454	$0.04
85%	42	14	$18,091 ($24,000)[b]	$0.05 ($0.07)[b]
90%	28	9	$27,363 ($24,000)	$0.08 ($0.07)
95%	14	5	$55,182 ($24,000)	$0.17 ($0.07)
99%	3	0.9	$277,728 ($24,000)	$0.85 ($0.07)
99.9%	1	0.5	$2,781,377 ($24,000)	$8.53 ($0.07)
100%	0	0	Infinite ($24,000)	Infinite ($0.07)

[a] The first 30 percent of needs are assumed to be restrictions of outdoor water use; when needs reach 30 percent of total demands all outdoor water uses would be restricted. Needs greater than 30 percent include indoor use

[b] As shortages approach 100 percent the value approaches infinity assuming there are not alternatives available; however, we assume that communities would begin to have water delivered by tanker truck at an estimated cost of $24,000 per acre-foot when shortages breached 85 percent.

Commercial Businesses

Effects of water shortages on commercial sectors were estimated in a fashion similar to other business sectors meaning that water shortages would affect the ability of these businesses to operate. This is particularly true for "water intensive" commercial sectors that are need large amounts of water (in addition to potable and sanitary water) to provide their services. These include:

- car-washes,
- laundry and cleaning facilities,
- sports and recreation clubs and facilities including race tracks,
- amusement and recreation services,
- hospitals and medical facilities,
- hotels and lodging places, and
- eating and drinking establishments.

A key assumption is that commercial operations would not be affected until water shortages were at least 50 percent of total municipal demand. In other words, we assume that residential water consumers would reduce water use including all non-essential uses before businesses were affected.

An example will illustrate the breakdown of municipal water needs and the overall approach to estimating impacts of municipal needs. Assume City A experiences an unexpected shortage of 50 acre-feet per year when their demands are 200 acre-feet per year. Thus, shortages are only 25 percent of total municipal use and residents of City A could eliminate needs by restricting landscape irrigation. City B, on the other hand, has a deficit of 150 acre-feet in 2020 and a projected demand of 200 acre-feet. Thus, total shortages are 75 percent of total demand. Emergency outdoor and some indoor conservation measures could eliminate 50 acre-feet of projected needs, yet 50 acre-feet would still remain. To eliminate" the remaining 50 acre-feet water intensive commercial businesses would have to curtail operations or shut down completely.

Three other areas were considered when analyzing municipal water shortages: 1) lost revenues to water utilities, 2) losses to the horticultural and landscaping industries stemming for reduction in water available for landscape irrigation, and 3) lost revenues and related economic impacts associated with reduced water related recreation.

Water Utility Revenues

Estimating lost water utility revenues was straightforward. We relied on annual data from the "*Water and Wastewater Rate Survey*" published annually by the Texas Municipal League to calculate an average value per acre-foot for water and sewer. For water revenues, average retail water and sewer rates multiplied by total water needs served as a proxy. For lost wastewater, total unmet needs were adjusted for return flow factor of 0.60 and multiplied by average sewer rates for the region. Needs reported as "county-other" were excluded under the presumption that these consist primarily of self-supplied water uses. In addition, 15 percent of water demand and needs are considered non-billed or "unaccountable" water that comprises things such as leakages and water for municipal government functions (e.g., fire departments). Lost tax receipts are based on current rates for the "miscellaneous gross receipts tax, "which the state collects from utilities located in most incorporated cities or towns in Texas. We do not include lost water utility revenues when aggregating impacts of municipal water shortages to regional and state levels to prevent double counting.

Horticultural and Landscaping Industry

The horticultural and landscaping industry, also referred to as the "green Industry," consists of businesses that produce, distribute and provide services associated with ornamental plants, landscape and garden supplies and equipment. Horticultural industries often face big losses during drought. For example, the recent drought in the Southeast affecting the Carolinas and Georgia horticultural and landscaping businesses had a harsh year. Plant sales were down, plant mortality increased, and watering costs increased. Many businesses were forced to close locations, lay off employees, and even file for bankruptcy. University of Georgia economists put statewide losses for the industry at around $3.2 billion during the 3-year drought that ended in 2008.[17] Municipal restrictions on outdoor watering play a significant role. During drought, water restrictions coupled with persistent heat has a psychological effect on homeowners that reduces demands for landscaping products and services. Simply put, people were afraid to spend any money on new plants and landscaping.

In Texas, there do not appear to be readily available studies that analyze the economic effects of water shortages on the industry. However, authors of this report believe negative impacts do and would result in restricting landscape irrigation to municipal water consumers. The difficulty in measuring them is two-fold. First, as noted above, data and research for these types of impacts that focus on Texas are limited; and second, economic data provided by IMPLAN do not disaggregate different sectors of the green industry to a level that would allow for meaningful and defensible analysis.[18]

Recreational Impacts

Recreational businesses often suffer when water levels and flows in rivers, springs and reservoirs fall significantly during drought. During droughts, many boat docks and lake beaches are forced to close, leading to big losses for lakeside business owners and local communities. Communities adjacent to popular river and stream destinations such as Comal Springs and the Guadalupe River also see their business plummet when springs and rivers dry up. Although there are many examples of businesses that have suffered due to drought, dollar figures for drought-related losses to the recreation and tourism industry are not readily available, and very difficult to measure without extensive local surveys. Thus, while they are important, economic impacts are not measured in this study.

Table 7 summarizes impacts of municipal water shortages at differing levels of magnitude, and shows the ranges of economic costs or losses per acre-foot of shortage for each level.

[17] Williams, D. *"Georgia landscapers eye rebound from Southeast drought."* Atlanta Business Chronicle, Friday, June 19, 2009

[18] Economic impact analyses prepared by the TWDB for 2006 regional water plans did include estimates for the horticultural industry. However, year 2000 and prior IMPLAN data were disaggregated to a finer level. In the current dataset (2006), the sector previously listed as "Landscaping and Horticultural Services" (IMPLAN Sector 27) is aggregated into "Services to Buildings and Dwellings" (IMPLAN Sector 458).

Table 7: Impacts of Municipal Water Shortages at Different Magnitudes of Shortages		
Water shortages as percent of total municipal demands	Impacts	Economic costs per acre-foot*
0-30%	✓ Lost water utility revenues ✓ Restricted landscape irrigation and non-essential water uses	$730 - $2,040
30-50%	✓ Lost water utility revenues ✓ Elimination of landscape irrigation and non-essential water uses ✓ Rationing of indoor use	$2,040 - $10,970
>50%	✓ Lost water utility revenues ✓ Elimination of landscape irrigation and non-essential water uses ✓ Rationing of indoor use ✓ Restriction or elimination of commercial water use ✓ Importing water by tanker truck	$10,970 - varies
*Figures are rounded		

1.1.4 Industrial Water User Groups

Manufacturing

Impacts to manufacturing were estimated by distributing water shortages among industrial sectors at the county level. For example, if a planning group estimates that during a drought of record water supplies in County A would only meet 50 percent of total annual demands for manufactures in the county, we reduced output for each sector by 50 percent. Since projected manufacturing demands are based on TWDB Water Uses Survey data for each county, we only include IMPLAN sectors represented in the TWBD survey database. Some sectors in IMPLAN databases are not part of the TWDB database given that they use relatively small amounts of water - primarily for on-site sanitation and potable purposes. To maintain consistency between IMPLAN and TWDB databases, Standard Industrial Classification (SIC) codes both databases were cross referenced in county with shortages. Non-matches were excluded when calculating direct impacts.

Mining

The process of mining is very similar to that of manufacturing. We assume that within a given county, shortages would apply equally to relevant mining sectors, and IMPLAN sectors are cross referenced with TWDB data to ensure consistency.

In Texas, oil and gas extraction and sand and gravel (aggregates) operations are the primary mining industries that rely on large volumes of water. For sand and gravel, estimated output reductions are straightforward; however, oil and gas is more complicated for a number of reasons. IMPLAN does not necessarily report the physical extraction of minerals by geographic local, but rather the sales revenues reported by a particular corporation.

For example, at the state level revenues for IMPLAN sector 19 (oil and gas extraction) and sector 27 (drilling oil and gas wells) totals $257 billion. Of this, nearly $85 billion is attributed to Harris County. However, only a very small fraction (less than one percent) of actual production takes place in the county. To measure actual potential losses in well head capacity due to water shortages, we relied on county level production data from the Texas Railroad Commission (TRC) and average well-head market prices for crude and gas to estimate lost revenues in a given county. After which, we used to IMPLAN ratios to estimate resultant losses in income and employment.

Other considerations with respect to mining include:

1) Petroleum and gas extraction industry only uses water in significant amounts for secondary recovery. Known in the industry as enhanced or water flood extraction, secondary recovery involves pumping water down injection wells to increase underground pressure thereby pushing oil or gas into other wells. IMPLAN output numbers do not distinguish between secondary and non-secondary recovery. To account for the discrepancy, county-level TRC data that show the proportion of barrels produced using secondary methods were used to adjust IMPLAN data to reflect only the portion of sales attributed to secondary recovery.

2) A substantial portion of output from mining operations goes directly to businesses that are classified as manufacturing in our schema. Thus, multipliers measuring backward linkages for a given manufacturer might include impacts to a supplying mining operation. Care was taken not to double count in such situations if both a mining operation and a manufacturer were reported as having water shortages.

Steam-electric

At minimum without adequate cooling water, power plants cannot safely operate. As water availability falls below projected demands, water levels in lakes and rivers that provide cooling water would also decline. Low water levels could affect raw water intakes and outfalls at electrical generating units in several ways. For one, power plants are regulated by thermal emission guidelines that specify the maximum amount of heat that can go back into a river or lake via discharged cooling water. Low water levels could result in permit compliance issues due to reduced dilution and dispersion of heat and subsequent impacts on aquatic biota near outfalls.[19] However, the primary concern would be a loss of head (i.e., pressure) over intake structures that would decrease flows through intake tunnels. This would affect safety related pumps, increase operating costs and/or result in sustained shut-downs. Assuming plants did shutdown, they would not be able to generate electricity.

[19] Section 316 (b) of the Clean Water Act requires that thermal wastewater discharges do not harm fish and other wildlife.

Among all water use categories steam-electric is unique and cautions are needed when applying methods used in this study. Measured changes to an economy using input-output models stem directly from changes in sales revenues. In the case of water shortages, one assumes that businesses will suffer lost output if process water is in short supply. For power generation facilities this is true as well. However, the electric services sector in IMPLAN represents a corporate entity that may own and operate several electrical generating units in a given region. If one unit became inoperable due to water shortages, plants in other areas or generation facilities that do not rely heavily on water such as gas powered turbines might be able to compensate for lost generating capacity. Utilities could also offset lost production via purchases on the spot market.[20] Thus, depending upon the severity of the shortages and conditions at a given electrical generating unit, energy supplies for local and regional communities could be maintained. But in general, without enough cooling water, utilities would have to throttle back plant operations, forcing them to buy or generate more costly power to meet customer demands.

Measuring impacts end users of electricity is not part of this study as it would require extensive local and regional level analysis of energy production and demand. To maintain consistency with other water user groups, impacts of steam-electric water shortages are measured in terms of lost revenues (and hence income) and jobs associated with shutting down electrical generating units.

1.2 Social Impacts of Water Shortages

As the name implies, the effects of water shortages can be social or economic. Distinctions between the two are both semantic and analytical in nature – more so analytic in the sense that social impacts are harder to quantify. Nevertheless, social effects associated with drought and water shortages are closely tied to economic impacts. For example, they might include:

- demographic effects such as changes in population,
- disruptions in institutional settings including activity in schools and government,
- conflicts between water users such as farmers and urban consumers,
- health-related low-flow problems (e.g., cross-connection contamination, diminished sewage flows, increased pollutant concentrations),
- mental and physical stress (e.g., anxiety, depression, domestic violence),
- public safety issues from forest and range fires and reduced fire fighting capability,
- increased disease caused by wildlife concentrations,
- loss of aesthetic and property values, and
- reduced recreational opportunities.[21]

[20] Today, most utilities participate in large interstate "power pools" and can buy or sell electricity "on the grid" from other utilities or power marketers. Thus, assuming power was available to buy, and assuming that no contractual or physical limitations were in place such as transmission constraints; utilities could offset lost power that resulted from waters shortages with purchases via the power grid.

[21] Based on information from the website of the National Drought Mitigation Center at the University of Nebraska Lincoln. Available online at: http://www.drought.unl.edu/risk/impacts.htm. See also, Vanclay, F. "*Social Impact Assessment*." in Petts, J. (ed) International Handbook of Environmental Impact Assessment. 1999.

Social impacts measured in this study focus strictly on demographic effects including changes in population and school enrollment. Methods are based on demographic projection models developed by the Texas State Data Center and used by the TWDB for state and regional water planning. Basically, the social impact model uses results from the economic component of the study and assesses how changes in labor demand would affect migration patterns in a region. Declines in labor demand as measured using adjusted IMPLAN data are assumed to affect net economic migration in a given regional water planning area. Employment losses are adjusted to reflect the notion that some people would not relocate but would seek employment in the region and/or public assistance and wait for conditions to improve. Changes in school enrollment are simply the proportion of lost population between the ages of 5 and 17.

2. Results

Section 2 presents the results of the analysis at the regional level. Included are baseline economic data for each water use category, and estimated economics impacts of water shortages for water user groups with reported deficits. According to the 2011 *Northeast Texas Regional Water Plan*, during severe drought municipal and steam-electric water user groups would experience water shortages in the absence of new water management strategies.

2.1 Overview of Regional Economy

On an annual basis, the Northeast Texas regional economy generates nearly $27 billion in gross state product for Texas ($25 billion in income and $2 billion worth of business taxes) and supports 317,231 jobs (Table 8). Generating about $13 billion worth of income per year agriculture, manufacturing, and mining are the primary base economic sectors in the region.[22] Municipal sectors also generate substantial amounts of income and are major employers. However, while municipal sectors are the largest employer and source of wealth, many businesses that make up the municipal category such as restaurants and retail stores are non-basic industries meaning they exist to provide services to people who work would in base industries such as manufacturing, agriculture and mining. In other words, without base industries such agriculture, many municipal jobs in the region would not exist.

[22] Base industries are those that supply markets outside of the region. These industries are crucial to the local economy and are called the economic base of a region. Appendix A shows how IMPLAN's 529 sectors were allocated to water use category, and shows economic data for each sector.

Table 8: The Northeast Texas Regional Economy by Water User Group ($millions)*						
Water Use Category	Total sales	Intermediate sales	Final sales	Jobs	Income	Business taxes
Irrigation	$5.81	$2.44	$3.36	193	$2.88	$0.11
Livestock	$3,023.19	$1,484.70	$1,538.50	20,284	$509.63	$29.61
Manufacturing	$16,567.24	$2,542.98	$14,024.26	55,787	$4,008.66	$98.26
Mining	$13,982.68	$11,619.70	$2,362.97	12,748	$8,032.41	$854.58
Steam-electric	$615.14	$173.05	$442.09	1,439	$427.15	$72.90
Municipal	$19,500.64	$4,954.57	$14,546.07	226,780	$11,498.42	$1,120.28
Regional total	$53,694.70	$20,777.44	$32,917.25	317,231	$24,479.15	$2,175.74

[a] Appendix 1 displays data for individual IMPLAN sectors that make up each water use category. Based on data from the Texas Water Development Board, and year 2006 data from the Minnesota IMPLAN Group, Inc.

2.1 Impacts of Municipal Water Shortages

Water shortages are projected to occur in a significant number of communities throughout the region. Deficits range from approximately 2 to 100 percent of total annual water use. At the regional level, the estimated economic value of domestic water shortages totals $12 million in 2010 and $173 million in 2060 (Table 9). Due to curtailment of commercial business activity, municipal shortages would reduce gross state product (income plus taxes) by nearly $2 million in 2010 and $115 million in 2060.

Table 9: Economic Impacts of Water Shortages for Municipal Water User Groups ($millions)					
Decade	Monetary value of domestic water shortages	Lost income from reduced commercial business activity*	Lost state and local taxes from reduced commercial business activity	Lost jobs from reduced commercial business activity	Lost water utility revenues
2010	$12.46	$1.70	$0.06	15	$1.95
2020	$16.63	$5.47	$0.21	49	$3.10
2030	$21.72	$8.26	$0.30	70	$4.49
2040	$35.69	$15.90	$0.38	91	$6.37
2050	$63.29	$29.88	$0.78	184	$13.87
2060	$172.82	$113.00	$2.20	505	$29.50

*Changes to Income and business taxes are collectively equivalent to a decrease in gross state product, which is analogous to gross domestic product measured at the state rather than national level. Appendix 2 shows results by water user group.

2.3 Impacts of Steam-electric Water Shortages

Water shortages for electrical generating units are projected to occur in the counties of Titus, Hunt, Harrison and Lamar. These shortages would result in estimated losses of gross state product totaling $356 million dollars in 2010, and $2.1 billion in 2060 (Table 10).

Table 10: Economic Impacts of Water Shortages for Steam-electric Water User Groups ($millions)

Decade	Lost income due to reduced electrical generation	Lost state and local business tax revenues due to reduced electrical generation	Lost jobs due to reduced electrical generation
2010	$355.79	$51.07	1,209
2020	$509.28	$73.10	1,731
2030	$611.81	$87.82	2,080
2040	$855.10	$122.74	2,907
2050	$1,310.62	$188.12	4,455
2060	$1,847.21	$265.14	6,279

*Changes to Income and business taxes are collectively equivalent to a decrease in gross state product, which is analogous to gross domestic product measured at the state rather than national level. Appendix 2 shows results by water user group.

2.4 Social Impacts of Water Shortages

As discussed previously, estimated social impacts focus on changes in population and school enrollment in the region. In 2010, estimated population losses total 1,472 with corresponding reductions in school enrollment of 415 students (Table 11). In 2060, population in the region could decline by 8,171 and school enrollment would fall by 2,318.

Table 11: Social Impacts of Water Shortages (2010-2060)

Year	Population Losses	Declines in School Enrollment
2010	1,472	415
2020	2,144	608
2030	2,590	735
2040	3,611	1,024
2050	5,588	1,585
2060	8,171	2,318

2.5 Distribution of Impacts by Major River Basin

Administrative rules require that impacts are presented by both planning region and major river basin. To meet rule requirements, impacts were allocated among basins based on the distribution of water shortages in relevant basins. For example, if 50 percent of water shortages in River Basin A and 50 percent occur in River Basin B, then impacts were split equally among the two basins. Table 12 displays the results.

Table 12: Distribution of Impacts by Major River Basin (2010-2060)

Water Use	2010	2020	2030	2040	2050	2060
Municipal						
Cypress	3%	9%	13%	13%	8%	5%
Neches	0%	0%	0%	0%	1%	1%
Red	13%	11%	10%	8%	4%	2%
Sabine	25%	28%	30%	32%	53%	66%
Sulphur	59%	51%	47%	47%	35%	26%
Trinity	0%	0%	0%	0%	0%	1%
Steam-electric						
Cypress	0%	0%	0%	7%	32%	40%
Red	0%	0%	6%	12%	10%	10%
Sabine	100%	100%	94%	81%	58%	50%

Appendix 1: Economic Data for Individual IMPLAN Sectors for the Northeast Texas Regional Water Planning Area

Economic Data for Agricultural Water User Groups ($millions)								
Water Use Category	**IMPLAN Sector**	**IMPLAN Code**	**Total Sales**	**Intermediate Sales**	**Final Sales**	**Jobs**	**Income**	**Business Taxes**
Irrigation	Oilseed Farming	1	$0.64	$0.01	$0.63	23	$0.34	$0.01
Irrigation	Grain Farming	2	$2.22	$0.46	$1.75	130	$1.02	$0.04
Irrigation	Vegetable and Melon Farming	3	$0.03	$0.00	$0.03	1	$0.02	$0.00
Irrigation	Fruit Farming	5	$0.84	$0.26	$0.58	17	$0.48	$0.02
Irrigation	All "Other" Crop Farming	10	$2.08	$1.70	$0.38	22	$1.02	$0.04
	Total irrigation		**$5.81**	**$2.44**	**$3.36**	**193**	**$2.88**	**$0.11**
Livestock	Poultry processing	70	$1,127.04	$358.60	$768.44	5,019	$166.48	$7.66
Livestock	Cattle ranching and farming	11	$737.44	$511.34	$226.10	11,334	$58.26	$15.50
Livestock	Poultry and egg production	12	$441.75	$346.22	$95.54	1,813	$148.72	$1.50
Livestock	Rendering and meat byproduct processing	69	$289.77	$160.80	$128.97	515	$78.22	$2.25
Livestock	Dry- condensed- and evaporated dairy products	65	$119.97	$28.09	$91.88	149	$26.21	$0.77
Livestock	Fluid milk manufacturing	62	$108.80	$26.18	$82.63	189	$9.10	$0.54
Livestock	Creamery butter manufacturing	63	$75.33	$8.54	$66.79	158	$5.90	$0.33
Livestock	Animal- except poultry- slaughtering	67	$64.83	$17.33	$47.49	155	$11.52	$0.64
Livestock	Meat processed from carcasses	68	$35.92	$10.60	$25.32	85	$2.85	$0.15
Livestock	Animal production- except cattle and poultry	13	$16.36	$13.87	$2.49	853	$1.59	$0.25
Livestock	Ice cream and frozen dessert manufacturing	66	$5.99	$3.14	$2.85	14	$0.79	$0.03
	Total livestock		**$3,023.19**	**$1,484.70**	**$1,538.50**	**20,284**	**$509.63**	**$29.61**
	Total agriculture		**$3,029.00**	**$1,487.14**	**$1,541.86**	**20,477**	**$512.51**	**$29.72**
Based on year 2006 data from the Minnesota IMPLAN Group, Inc.								

Economic Data for Mining and Steam-electric Water User Groups ($millions)								
Water Use Category	**IMPLAN Sector**	**IMPLAN Code**	**Total Sales**	**Intermediate Sales**	**Final Sales**	**Jobs**	**Income**	**Business Taxes**
Mining	Oil and gas extraction	19	$12,250.70	$11,377.07	$873.63	7,562	$7,019.74	$769.86
Mining	Coal mining	20	$370.11	$138.69	$231.42	641	$174.10	$30.73
Mining	Iron ore mining	21	$4.81	$0.00	$4.81	14	$1.71	$0.15
Mining	Sand- gravel- clay- and refractory mining	25	$16.46	$1.74	$14.73	52	$9.80	$0.62
Mining	Other nonmetallic mineral mining	26	$14.56	$1.46	$13.11	95	$5.60	$0.27
Mining	Drilling oil and gas wells	27	$619.84	$3.09	$616.74	976	$183.05	$24.13
Mining	Support activities for oil and gas operations	28	$702.66	$97.60	$605.07	3,382	$637.25	$28.69
Mining	Support activities for other mining	29	$3.53	$0.05	$3.48	26	$1.17	$0.14
	Total mining		**$13,982.68**	**$11,619.70**	**$2,362.97**	**12,748**	**$8,032.41**	**$854.58**
Steam-electric	**Power generation and supply**	**30**	**$615.14**	**$173.05**	**$442.09**	**1,439**	**$427.15**	**$72.90**
Based on year 2006 data from the Minnesota IMPLAN Group, Inc.								

Economic Data for Manufacturing Water User Groups ($millions)								
Water Use Category	IMPLAN Sector	IMPLAN Code	Total Sales	Intermediate Sales	Final Sales	Jobs	Income	Business Taxes
Manufacturing	Aircraft manufacturing	351	$2,505.75	$127.48	$2,378.27	4,977	$429.37	$8.98
Manufacturing	Iron and steel mills	203	$1,352.36	$97.41	$1,254.95	1,597	$274.45	$10.40
Manufacturing	Railroad rolling stock manufacturing	356	$978.70	$28.32	$950.38	2,656	$162.81	$3.56
Manufacturing	Aluminum sheet- plate- and foil manufacturing	211	$796.77	$21.63	$775.14	870	$122.82	$7.73
Manufacturing	New residential 1-unit structures- all	33	$735.42	$0.00	$735.42	4,989	$240.75	$3.79
Manufacturing	Construction machinery manufacturing	259	$651.24	$88.88	$562.36	951	$101.95	$3.07
Manufacturing	Ammunition manufacturing	256	$633.28	$2.51	$630.77	2,525	$230.10	$15.10
Manufacturing	Petrochemical manufacturing	147	$614.14	$281.38	$332.76	83	$24.47	$1.40
Manufacturing	Commercial and institutional buildings	38	$411.68	$0.00	$411.68	4,351	$206.26	$2.54
Manufacturing	Travel trailer and camper manufacturing	349	$307.85	$16.72	$291.13	1,558	$71.23	$0.99
Manufacturing	Farm machinery and equipment manufacturing	257	$306.39	$50.28	$256.10	710	$76.49	$0.79
Manufacturing	Industrial gas manufacturing	148	$293.03	$154.09	$138.95	276	$120.30	$1.83
Manufacturing	Automobile and light truck manufacturing	344	$292.35	$0.31	$292.04	215	$17.59	$0.57
Manufacturing	Soap and other detergent manufacturing	163	$268.23	$71.65	$196.58	306	$53.13	$1.20
Manufacturing	Broadcast and wireless communications equipment	307	$251.91	$59.72	$192.19	477	$33.18	$0.82
Manufacturing	Fabricated structural metal manufacturing	233	$249.07	$12.90	$236.17	1,031	$80.83	$1.30
Manufacturing	Motor vehicle parts manufacturing	350	$244.17	$19.63	$224.53	709	$47.47	$0.73
Manufacturing	Plastics plumbing fixtures and all other plastics	177	$210.34	$152.38	$57.96	1,077	$78.31	$1.35
Manufacturing	Paperboard container manufacturing	126	$198.08	$2.10	$195.98	671	$43.11	$1.67
Manufacturing	Other new construction	41	$179.47	$0.00	$179.47	1,996	$95.66	$0.75
Manufacturing	Sugar manufacturing	56	$167.81	$69.90	$97.90	308	$12.14	$0.66
Manufacturing	Logging	14	$161.21	$120.46	$40.75	648	$42.34	$1.43
Manufacturing	Machine shops	243	$161.17	$38.90	$122.27	1,175	$75.00	$1.20
Manufacturing	AC- refrigeration- and forced air heating	278	$147.38	$0.00	$147.38	501	$23.90	$0.59
Manufacturing	Oil and gas field machinery and equipment	261	$145.34	$5.41	$139.93	415	$32.45	$0.66
Manufacturing	Ferrous metal foundries	221	$133.16	$0.13	$133.03	579	$58.69	$1.31
	All other manufacturing		**$4,170.97**	**$1,120.79**	**$3,050.17**	**20,136**	**$1,253.87**	**$23.87**
	Total manufacturing		**$16,567.24**	**$2,542.98**	**$14,024.26**	**55,787**	**$4,008.66**	**$98.26**
Based on year 2006 data from the Minnesota IMPLAN Group, Inc.								

Economic Data for Municipal Water User Groups ($millions)								
Water Use Category	IMPLAN Sector	IMPLAN Code	Total Sales	Intermediate Sales	Final Sales	Jobs	Income	Business Taxes
Manufacturing	Owner-occupied dwellings	509	$1,807.96	$0.00	$1,807.96	0	$1,400.57	$213.78
Manufacturing	Wholesale trade	390	$1,557.67	$745.76	$811.92	10,584	$820.08	$230.39
Manufacturing	State & Local Education	503	$996.46	$0.00	$996.46	27,388	$996.47	$0.00
Manufacturing	Monetary authorities and depository credit in	430	$895.44	$294.92	$600.52	4,448	$628.79	$11.45
Manufacturing	Hospitals	467	$821.38	$0.00	$821.38	7,287	$433.85	$5.54
Manufacturing	Food services and drinking places	481	$767.39	$97.99	$669.40	16,686	$303.65	$35.45
Manufacturing	Offices of physicians- dentists- and other he	465	$756.19	$0.00	$756.19	6,709	$534.38	$4.68
Manufacturing	Telecommunications	422	$726.78	$249.63	$477.14	1,439	$331.43	$56.33
Manufacturing	Truck transportation	394	$681.44	$368.98	$312.46	5,474	$300.10	$6.84
Manufacturing	Motor vehicle and parts dealers	401	$568.65	$61.83	$506.81	5,346	$292.98	$83.12
Manufacturing	State & Local Non-Education	504	$524.33	$0.00	$524.33	10,370	$524.33	$0.00
Manufacturing	General merchandise stores	410	$504.83	$53.21	$451.62	8,857	$230.75	$73.66
Manufacturing	Real estate	431	$359.85	$142.45	$217.40	2,035	$208.35	$44.20
Manufacturing	Nursing and residential care facilities	468	$339.28	$0.00	$339.28	8,031	$200.69	$4.73
Manufacturing	Federal Non-Military	506	$328.08	$0.00	$328.08	2,209	$328.08	$0.00
Manufacturing	Other State and local government enterprises	499	$305.70	$99.55	$206.16	1,537	$104.50	$0.04
Manufacturing	Building material and garden supply stores	404	$300.00	$46.52	$253.47	3,759	$139.36	$42.39
Manufacturing	Health and personal care stores	406	$264.57	$42.23	$222.35	2,689	$140.68	$40.88
Manufacturing	Home health care services	464	$257.05	$0.00	$257.05	7,229	$156.03	$0.92
Manufacturing	Management of companies and enterprises	451	$257.00	$241.68	$15.32	1,854	$119.18	$1.90
Manufacturing	Automotive repair and maintenance- except car	483	$242.19	$57.53	$184.66	3,205	$90.94	$18.03
Manufacturing	Food and beverage stores	405	$239.76	$32.06	$207.71	4,181	$122.20	$26.76
Manufacturing	Civic- social- professional and similar organ	493	$220.06	$77.32	$142.74	7,353	$93.14	$0.59
Manufacturing	Pipeline transportation	396	$218.03	$95.35	$122.68	273	$73.24	$15.51
Manufacturing	Legal services	437	$217.14	$137.81	$79.33	2,005	$133.41	$4.21
Manufacturing	Gasoline stations	407	$215.67	$32.75	$182.92	3,083	$116.04	$31.54
Manufacturing	All other municipal		$4,205.07	$1,634.57	$2,570.50	62,435	$2,186.63	$157.86
Manufacturing	**Total**		**$19,500.64**	**$4,954.57**	**$14,546.07**	**226,780**	**$11,498.42**	**$1,120.28**

Based on year 2006 data from the Minnesota IMPLAN Group, Inc.

Appendix 2: Impacts by Water User Group Northeast Texas Regional Water Planning Area

Municipal ($millions)						
	2010	2020	2030	2040	2050	2060
Able Springs WSC						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$2.14	$38.81
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$2.74	$9.09
Bi-County WSC						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$1.35	$20.64
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$1.47	$4.61
Campbell WSC						
Monetary value of domestic water shortages	$0.14	$1.50	$3.00	$6.29	$14.68	$32.27
Lost income from reduced commercial business activity	$0.00	$0.00	$0.28	$0.59	$1.25	$2.30
Lost jobs due to reduced commercial business activity	0	0	11	24	50	92
Lost state and local taxes from reduced commercial business activity	$0.00	$0.00	$0.04	$0.09	$0.19	$0.36
Lost utility revenues	$0.14	$0.29	$0.51	$0.85	$1.60	$2.78
Canton						
Monetary value of domestic water shortages	$0.00	$0.01	$0.03	$0.35	$6.50	$26.60
Lost income from reduced commercial business activity	$0.00	$0.00	$0.00	$0.00	$1.77	$10.26
Lost jobs due to reduced commercial business activity	0	0	0	0	56	323
Lost state and local taxes from reduced commercial business activity	$0.00	$0.00	$0.00	$0.00	$0.25	$1.46
Lost utility revenues	$0.00	$0.01	$0.05	$0.35	$1.21	$2.63
Cash SUD						
Monetary value of domestic water shortages	$0.01	$0.41	$1.40	$4.82	$10.18	$18.29
Lost utility revenues	$0.02	$0.08	$0.18	$0.35	$0.75	$1.34
Celeste						
Monetary value of domestic water shortages	$0.00	$0.15	$0.48	$2.29	$3.11	$4.15
Lost utility revenues	$0.00	$0.23	$0.53	$0.76	$0.95	$1.15

Municipal cont. ($millions)						
	2010	2020	2030	2040	2050	2060
Central Bowie WSC						
Monetary value of domestic water shortages	$6.69	$6.34	$7.17	$9.90	$10.96	$11.93
Lost income from reduced commercial business activity	$0.00	$1.05	$1.29	$1.52	$1.76	$1.99
Lost jobs due to reduced commercial business activity	0	33	41	48	55	63
Lost state and local taxes from reduced commercial business activity	$0.00	$0.15	$0.18	$0.22	$0.25	$0.28
Lost utility revenues	$0.63	$0.73	$0.83	$0.93	$1.03	$1.14
Clarksville City						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.01	$0.01	$0.61
Lost utility revenues	$0.00	$0.00	$0.00	$0.01	$0.02	$1.05
Combined Consumers WSC						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.08	$0.24	$0.49
Lost utility revenues	$0.00	$0.00	$0.00	$0.17	$0.47	$0.84
County-other (Bowie)						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.12	$0.67
County-other (Harrison)						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.06	$0.28	$0.72
County-other (Hunt)						
Monetary value of domestic water shortages	$0.33	$1.75	$1.94	$2.34	$2.30	$2.24
County-other (Rains)						
Monetary value of domestic water shortages	$0.25	$0.44	$0.58	$0.57	$0.56	$0.56
County-other (Van Zandt)						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.18	$0.46
Crystal Systems, Inc.						
Monetary value of domestic water shortages	$0.35	$0.41	$0.44	$0.48	$0.45	$0.44
Lost utility revenues	$0.38	$0.44	$0.48	$0.52	$0.49	$0.48
Grand Saline						
Monetary value of domestic water shortages	$0.00	$0.00	$0.05	$0.14	$0.31	$2.21
Lost utility revenues	$0.00	$0.00	$0.07	$0.16	$0.27	$0.43

Municipal cont. ($millions)						
	2010	2020	2030	2040	2050	2060
Hickory Creek SUD						
Monetary value of domestic water shortages	$0.08	$0.26	$0.41	$0.43	$0.41	$0.39
Lost utility revenues	$0.12	$0.29	$0.40	$0.42	$0.40	$0.38
Hooks						
Monetary value of domestic water shortages	$4.29	$4.77	$5.29	$5.84	$6.62	$4.21
Lost income from reduced commercial business activity	$0.36	$0.40	$0.45	$0.49	$0.56	$0.65
Lost jobs due to reduced commercial business activity	15	16	18	20	22	26
Lost state and local taxes from reduced commercial business activity	$0.06	$0.06	$0.07	$0.08	$0.09	$0.10
Lost utility revenues	$0.20	$0.23	$0.25	$0.28	$0.32	$0.37
Liberty City WSC						
Monetary value of domestic water shortages	$0.07	$0.15	$0.23	$1.10	$1.41	$1.90
Lost utility revenues	$0.08	$0.15	$0.20	$0.23	$0.28	$0.34
Lindale						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.11	$0.34
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$0.14	$0.33
Lindale Rural WSC						
Monetary value of domestic water shortages	$0.00	$0.04	$0.09	$0.14	$0.22	$0.33
Lost utility revenues	$0.00	$0.07	$0.13	$0.17	$0.24	$0.33
Macedonia-Eylau MUD #1						
Monetary value of domestic water shortages	$0.04	$0.10	$0.14	$0.20	$0.19	$0.19
Lost utility revenues	$0.08	$0.18	$0.24	$0.31	$0.30	$0.30
Mineola						
Monetary value of domestic water shortages	$0.00	$0.00	$0.03	$0.05	$0.11	$0.18
Lost utility revenues	$0.00	$0.00	$0.05	$0.10	$0.18	$0.28
New Boston						
Monetary value of domestic water shortages	$0.13	$0.19	$0.26	$0.31	$0.31	$0.31
Lost utility revenues	$0.14	$0.19	$0.23	$0.27	$0.27	$0.27

Municipal cont. ($millions)						
	2010	2020	2030	2040	2050	2060
North Hunt WSC						
Monetary value of domestic water shortages	$0.00	$0.00	$0.02	$0.05	$0.08	$0.14
Lost utility revenues	$0.00	$0.00	$0.05	$0.11	$0.18	$0.28
R P M WSC						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.10	$1.75
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$0.08	$0.25
Redwater						
Monetary value of domestic water shortages	$0.00	$0.00	$0.02	$0.05	$0.12	$0.94
Lost utility revenues	$0.00	$0.00	$0.04	$0.06	$0.12	$0.20
Van						
Monetary value of domestic water shortages	$0.08	$0.10	$0.11	$0.12	$0.11	$0.10
Lost utility revenues	$0.16	$0.20	$0.22	$0.24	$0.22	$0.20
Wake Village						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.03	$0.10
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$0.04	$0.15
Waskom						
Monetary value of domestic water shortages	$0.00	$0.00	$0.02	$0.04	$0.10	$0.70
Lost utility revenues	$0.00	$0.00	$0.02	$0.05	$0.09	$0.14
West Gregg WSC						
Monetary value of domestic water shortages	$0.00	$0.00	$0.01	$0.02	$0.02	$0.13
Lost utility revenues	$0.00	$0.01	$0.01	$0.02	$0.02	$0.14
Winona						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$0.00	$0.02
Wolfe City						
Monetary value of domestic water shortages	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01
Lost utility revenues	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01

Steam-electric ($millions)						
	2010	**2020**	**2030**	**2040**	**2050**	**2060**
Harrison County						
Reduced income from lost electrical generation	$0.00	$0.00	$0.00	$47.54	$175.50	$331.50
Reduced business taxes from lost electrical generation	$0.00	$0.00	$0.00	$6.82	$25.19	$47.58
Reduced jobs from lost electrical generation	0	0	0	162	597	1,127
Hunt County						
Reduced income from lost electrical generation	$355.79	$509.28	$595.39	$700.37	$828.37	$984.38
Reduced business taxes from lost electrical generation	$51.07	$73.10	$85.46	$100.53	$118.90	$141.29
Reduced jobs from lost electrical generation	1,209	1,731	2,024	2,381	2,816	3,346
Lamar County						
Reduced income from lost electrical generation	$0.00	$0.00	$16.41	$91.55	$163.14	$250.37
Reduced business taxes from lost electrical generation	$0.00	$0.00	$2.36	$13.14	$23.42	$35.94
Reduced jobs from lost electrical generation	0	0	56	311	555	851
Titus County						
Reduced income from lost electrical generation	$0.00	$0.00	$0.00	$15.63	$143.61	$280.96
Reduced business taxes from lost electrical generation	$0.00	$0.00	$0.00	$2.24	$20.61	$40.33
Reduced jobs from lost electrical generation	0	0	0	53	488	955

Appendix Chapter 8

UNIQUE STREAM SEGMENTS/RESERVOIR SITES/LEGISLATIVE RECOMMENDATIONS

DRAFT

Description for Designation of Pecan Bayou as an Ecologically Unique Stream Segment

Pecan Bayou originates two miles south of Woodland in northwestern Red River County, flows generally east forty miles to join the Red River approximately one mile west of the Bowie County line (Texas Historical Association, 2009). The site, including bottomland forest, encompasses approximately 613,462 acres (fig.1). It represents one of the largest undammed watersheds in northeast Texas; and supports multiple large examples of mature bottomland hardwood forest, and rare and endangered species (Zwartjes, et al, 2000).

1) **Biological function**: Extensive bottomland hardwood forest supporting multiple occurrences of rare plant life, including:
   - Arkansas meadowrue (*Thalictrum arkansanum* G2QS1) (Sanders, 1994)
   - Southern lady's slipper orchid (*Cypripedium kentuckiense* G3S1) (Sanders, 1994)
   - Old growth Shortleaf Pine-Oak forest (*Pinus echinata-Quercus sp*. G4S4) (Sanders, 1994)
   - Water oak-Willow oak association (*Quercus nigra-Q. phellos* G4S3) (Sanders, 1994)

2) **Hydrologic function**: Represents one of the largest undammed watersheds in northeast Texas, natural hydrologic regime is assumed intact. Flood attenuation, flow stabilization and impacts on groundwater recharge have not been quantified.
3) **Riparian conservation areas:** No public conservation areas however significant private conservation area[1].
4) **High water quality/exceptional aquatic life**: Insufficient data
5) **Threatened and endangered species**:
   - American Burying Beetle (*Nicrophorus americanus* G2 Federally listed Endangered) (Godwin, 2005)
   - Black Bear (*Ursus americanus* G5 State Threatened, ssp. *luteolus* Federally listed Threatened) (Garner, personal communication, 2007)
   - Timber Rattlesnake (*Crotalus horridus* G4 State Threatened)

[1]The Nature Conservancy, Texas Chapter, owns 1334 acres within a 6,960-acre site protecting examples of the preceding conservation elements although they are extensive within the watershed. The preserve, Lennox Woods, is located approximately 1.5 miles south of the community of Negley. The land protects an approximate 2.6 mile segment of Pecan Bayou.

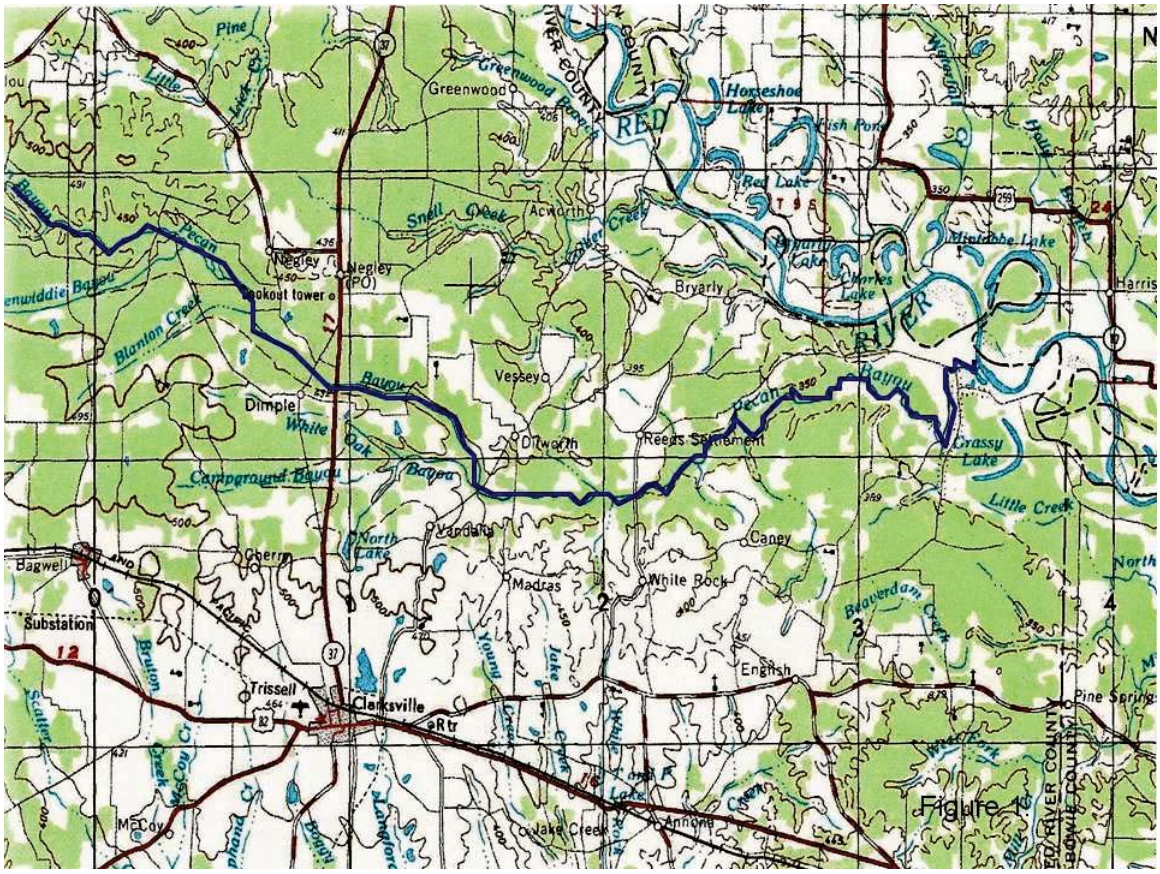
Garner, Nathan. 2007. Personal communication regarding black bear presence within the Pecan Bayou area.

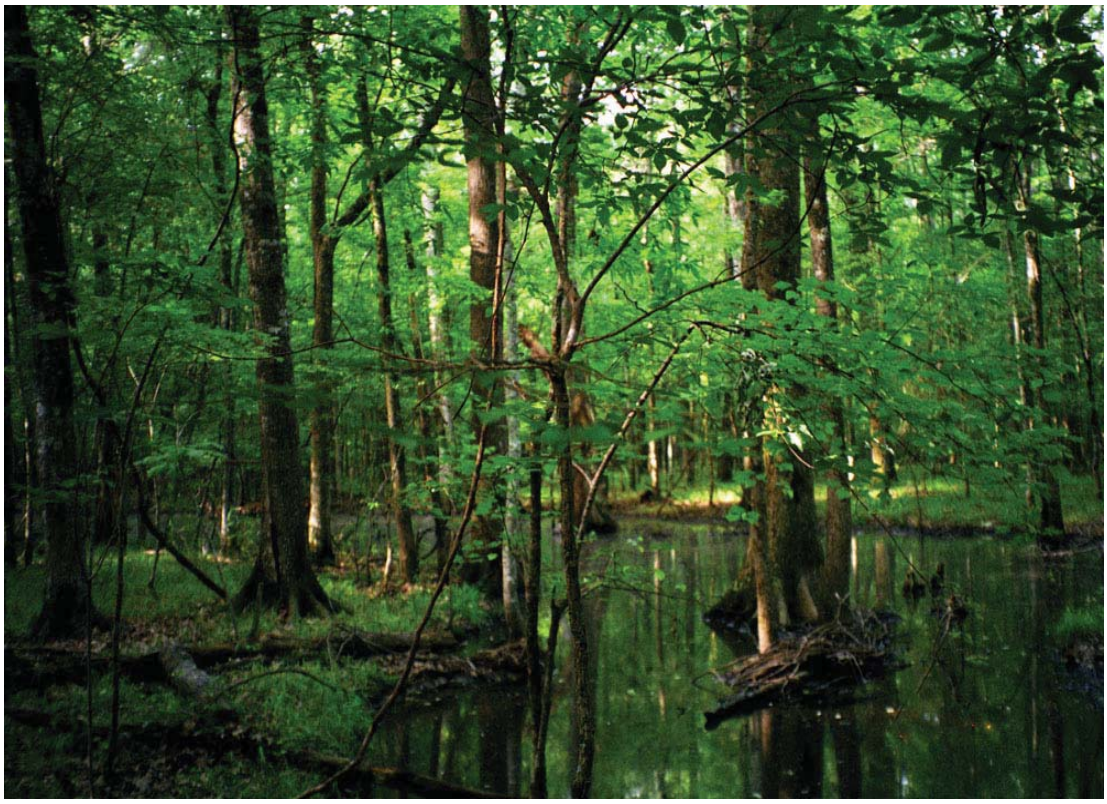
Godwin, Will 2005. Internal report to The Nature Conservancy

Handbook of Texas Online, s.v. "," http://www.tshaonline.org/handbook/online/articles/PP/rhp4.html

Sanders. R.W. 1994. Vegetational Survey: Lennox Woods Preserve, Red River County, Texas. Unpublished report prepared for The Nature Conservancy of Texas. Botanical Research Institute of Texas. Ft. Worth, Texas

Zwartjes, Michelle, Eidson, James and Kristen Terpening, 2000. Conservation Plan for the Pecan Bayou Megasite. Report to The Nature Conservancy, Texas Chapter.





Adapted from USGS Tyler, Texas. Original Scale 1: 250,000.

Figure 6. Map Location of Black Cypress Creek

Figure 7. Black Cypress Creek east of CR 1617

Black Cypress Creek

Black Cypress Creek begins northeast of Daingerfield in eastern Morris County and flows southeasterly about 20 miles where it becomes Black Cypress Bayou east of Avinger in southern Cass County. It has a very favorable hydrologic regime, as there are no reservoirs upstream, thus the creek floods frequently and has numerous tributaries and sloughs. The stream channel meanders extensively over a substrate that is comprised predominately of clay and decaying organic matter (Bayer et al., 1992). The lower portion of the creek is within a 12,800-acre area identified by the USFWS as containing priority bottomland hardwood. This area is very diverse with a mix of high quality water oak, willow oak, overcup oak, and red oak mixed with sweetgum, black gum, river birch, ironwood, and mayhaw, as well as several significant cypress stands (USFWS, 1985). This habitat has high species value to white-tail deer, American alligators, furbearers, squirrels, waterfowl, turkeys, raptors, colonial waterbirds, and other migratory birds (USFWS, 1985). Abundant vegetation also provides instream cover in the form of woody debris and overhanging vegetation that helps the creek support a diverse assemblage of fish and benthic macroinvertebrates. Fish species collected from Black Cypress Creek in August of 1989 include several shiner species, pugnose minnow, bullhead minnow, tadpole madtom, pirate perch, western mosquitofish, flier, largemouth bass, several darter species (slough, cypress, redfin, dusky), and several sunfish species (Bayer et al., 1992). The candidate segment is from the confluence with Black Cypress Bayou east of Avinger in South Cass County upstream to its headwaters located four miles northeast of Daingerfield in eastern Morris County.

(1) Biological Function- priority bottomland hardwood habitat displays significant overall habitat value (USFWS, 1985).
(2) Hydrologic Function- bottomland hardwood forest and associated wetlands perform valuable hydrologic function relating to water quality.
(3) Riparian Conservation Area- none identified.
(4) High Water Quality/Exceptional Aquatic Life/High Aesthetic Value- designated as a South Central Plains Ecoregion Stream by the TPWD River Studies Program due to diversity of benthic macroinvertebrates and fish (Bayer et al., 1992; Linam et al., in review).
(5) Threatened or Endangered Species/Unique Communities- none identified.

Adapted from USGS Tyler, Texas. Original Scale 1: 250,000.

Figure 8. Map Location of Black Cypress Bayou

Figure 9. Black Cypress Bayou south of CC Bridge Road

Black Cypress Bayou

Black Cypress Bayou begins at the confluence with Black Cypress Creek east of Avinger in southern Cass County and flows southeasterly about 20 miles where it empties into Big Cypress Bayou in Marion County. The upper reach of the bayou is within the same 12,800-acre area of priority bottomland hardwoods as Black Cypress Creek, thus it supports the same diverse mix of oak, sweetgum, black gum, river birch, ironwood, mayhaw, and cypress. Also like Black Cypress Creek, the bayou has high species value to white-tail deer, waterfowl, furbearers, American alligators, squirrels, turkeys, raptors, colonial waterbirds, and other migratory birds (USFWS, 1985). This section of the bayou, like much of the Big Cypress Bayou Basin, is within the target recovery area set by the TPWD for the state threatened paddlefish (Pitman, 1992). The candidate segment is from the confluence with Big Cypress Bayou in south central Marion County upstream to the confluence with Black Cypress Creek east of Avinger in south Cass County.

(1) Biological Function- priority bottomland hardwood forest displays significant overall habitat value (USFWS, 1985).
(2) Hydrologic Function- bottomland forest and associated wetlands provide valuable hydrologic function relating to water quality.
(3) Riparian Conservation Area- none identified.
(4) High Water Quality/Exceptional Aquatic Life/High Aesthetic Value- insufficient data to evaluate criteria.
(5) Threatened or Endangered Species/Unique Communities- significant due to presence of state threatened paddlefish (TPWD, 1998b).

ANDREWS KURTH LLP
ATTORNEYS

1717 Main Street, Suite 3700
Dallas, Texas 75201
214.659.4400 Phone
214.659.4401 Fax
andrewskurth.com

Austin
Beijing
Dallas
Houston
London
New York
The Woodlands
Washington, DC

Memorandum

To: Jim Eidson

From: John Dugdale

Date: December 28, 2009

Subject: Legal Aspects of Recommendations by Regional Water Planning Groups to Designate Texas Stream Segment Designations as Having Unique Ecological Values and of Potentially-Associated Impacts of Such Designation

You have posed several questions regarding the impact of a Regional Water Planning Group's recommendation, ultimately to the Texas Water Development Board, to designate, in an adopted regional water plan, river and stream segments as having unique ecological values.

Background:

The statutory authority for the Texas Legislature to designate a river or stream segment of unique ecological value is Texas Water Code, Sections 16.051(e) and (f)[1] (emphasis added - full

[1] Sec. 16.051. STATE WATER PLAN: DROUGHT, CONSERVATION, DEVELOPMENT, AND MANAGEMENT; EFFECT OF PLAN. (a) Not later than January 5, 2002, and before the end of each successive five-year period after that date, the board shall prepare, develop, formulate, and adopt a comprehensive state water plan that incorporates the regional water plans approved under Section 16.053. The state water plan shall provide for the orderly development, management, and conservation of water resources and preparation for and response to drought conditions, in order that sufficient water will be available at a reasonable cost to ensure public health, safety, and welfare; further economic development; and protect the agricultural and natural resources of the entire state.
(b) The state water plan, as formally adopted by the board, shall be a guide to state water policy. The commission shall take the plan into consideration in matters coming before it.
(c) The board by rule shall define and designate river basins and watersheds.
(d) The board, in coordination with the commission, the Department of Agriculture, and the Parks and Wildlife Department, shall adopt by rule guidance principles for the state water plan which reflect the public interest of the entire state. When adopting guidance principles, due consideration shall be given to the construction and improvement of surface water resources and the application of principles that result in voluntary redistribution of water resources. The board shall review and update the guidance principles, with input from the commission, the Department of Agriculture, and the Parks and Wildlife Department, as necessary but at least every five years to coincide with the five-year cycle for adoption of a new water plan as described in Subsection (a).
(e) On adoption the board shall deliver the state water plan to the governor, the lieutenant governor, and the speaker of the house of representatives and present the plan for review to the appropriate legislative committees. The plan shall include legislative recommendations that the board believes are needed and desirable to facilitate more voluntary water transfers. The plan shall identify river and stream segments of unique ecological value and sites of unique value for the construction of reservoirs that the board recommends for protection under this section.
(f) The legislature may designate a river or stream segment of unique ecological value. This 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 by the legislature under this subsection.

text of Section 16.051 included in Footnote 1 for context). The Legislature has delegated the authority for the designation of such stream segments to Regional Water Planning Groups; the regulations that define how a Regional Water Planning Group is to make such a recommendation to the Texas Water Development Board are found at 31 TAC § 357.8, Ecologically Unique River and Stream Segments[2] (emphasis added).

(g) The legislature may designate a site of unique value for the construction of a reservoir. A state agency or political subdivision of the state may not obtain a fee title or an easement that would significantly prevent the construction of a reservoir on a site designated by the legislature under this subsection.
(g-1) Notwithstanding any other provisions of law, a site is considered to be a designated site of unique value for the construction of a reservoir if the site is recommended for designation in the 2007 state water plan adopted by the board and in effect on May 1, 2007. The designation of a unique reservoir site under this subsection terminates on September 1, 2015, unless there is an affirmative vote by a proposed project sponsor to make expenditures necessary in order to construct or file applications for permits required in connection with the construction of the reservoir under federal or state law.
(h) The board, the commission, or the Parks and Wildlife Department or a political subdivision affected by an action taken in violation of Subsection (f) or (g) may bring a cause of action to remedy or prevent the violation. A cause of action brought under this subsection must be filed in a district court in Travis County or in the county in which the action is proposed or occurring.
(i) For purposes of this section, the acquisition of fee title or an easement by a political subdivision for the purpose of providing retail public utility service to property in the reservoir site or allowing an owner of property in the reservoir site to improve or develop the property may not be considered a significant impairment that prevents the construction of a reservoir site under Subsection (g). A fee title or easement acquired under this subsection may not be considered the basis for preventing the future acquisition of land needed to construct a reservoir on a designated site.

[2] 31 TAC § 357.8(a): Regional Water Planning Groups may include in adopted regional water plans recommendations for all or parts of river and stream segments of unique ecological value located within the regional water planning area by preparing a recommendation package consisting of a physical description giving the location of the stream segment, maps, and photographs of the stream segment and a site characterization of the stream segment documented by supporting literature and data. The recommendation package shall address each of the criteria for designation of river and stream segments of ecological value found in subsection (b) of this section. The regional water planning group shall forward the recommendation package to the Texas Parks and Wildlife Department and allow the Texas Parks and Wildlife Department 30 days for its written evaluation of the recommendation. The adopted regional water plan shall include, if available, Texas Parks and Wildlife Department's written evaluation of each river and stream segment recommended as a river or stream segment of unique ecological value.
(b) A regional water planning group may recommend a river or stream segment as being of unique ecological value based upon the following criteria:
(1) biological function--stream segments which display significant overall habitat value including both quantity and quality considering the degree of biodiversity, age, and uniqueness observed and including terrestrial, wetland, aquatic, or estuarine habitats;
(2) hydrologic function--stream segments which are fringed by habitats that perform valuable hydrologic functions relating to water quality, flood attenuation, flow stabilization, or groundwater recharge and discharge;
(3) riparian conservation areas--stream segments which are fringed by significant areas in public ownership including state and federal refuges, wildlife management areas, preserves, parks, mitigation areas, or other areas held by governmental organizations for conservation purposes, or stream segments which are fringed by other areas managed for conservation purposes under a governmentally approved conservation plan;
(4) high water quality/exceptional aquatic life/high aesthetic value--stream segments and spring resources that are significant due to unique or critical habitats and exceptional aquatic life uses dependent on or associated with high water quality; or

The three questions your posed are:

1. What impact may the mere designation as an ecologically unique stream segment pursuant to TX Water Code § 16.051(f) have on the riparian rights of a landowner whose property is adjacent to a stream segment designated as such by the Legislature?

2. Could subsequent legislation that, unlike the current scheme, imposes restrictions on the development and usage rights of such a landowner, retroactively impact a pre-existing ecologically unique stream segment designation?

3. Is there a link between the designation of a stream segment an ecologically unique stream segment and value and the potential designation of that stream segment as a Wild and Scenic River pursuant to the Wild and Scenic Rivers Act (the "Act"), 16 U.S.C. § 1271 *et seq*.

Responses:

1. No impact - please note that this response presupposes only that the State Water Board has adopted the designation in the State Water Plan. *See* TX Water Code § 16.051(b):

   TX Water Code § 16.051(f) unambiguously states:

   > The legislature may designate a river or stream segment of unique ecological value. This 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 by the legislature under this subsection.

   Notwithstanding the response stated *supra*, the legislative history for the companion provision of TX Water Code § 16.051(g), which relates to the designation of a site having unique attributes to the construction of a reservoir, The Bill Analysis of SB 3 indicates that the Legislature considered for the interference with private landowners' property rights in violation of Section 17 of the Texas Constitution:

---

(5) threatened or endangered species/unique communities--sites along streams where water development projects would have significant detrimental effects on state or federally listed threatened and endangered species, and sites along streams significant due to the presence of unique, exemplary, or unusually extensive natural communities.
(c) For every river and stream segment that has been designated as a unique river or stream segment by the legislature, during a session that ends not less than one year before the required date of submittal of an adopted regional water plan to the board, or recommended as a unique river or stream segment in the regional water plan, the regional water planning group shall assess the impact of the regional water plan on these segments. The assessment shall be a quantitative analysis of the impact of the plan on the flows important to the river or stream segment, as determined by the regional water planning group, comparing current conditions to conditions with implementation of all recommended water management strategies. The assessment shall also describe the impact of the plan on the unique features cited in the region's recommendation of that segment.

> A cause of action could be bought under certain circumstances. Before bringing a cause of action against a state agency or other political subdivision that had taken an action preventing the construction of a reservoir on a designated reservoir site, a political subdivision would have to file a letter of intent to construct a reservoir on the site affected by the action and offer to pay each owner of real property in the reservoir site an encumbrance. An owner of real property could reject the encumbrance The payment would have to be paid annually until the property was either acquired for the reservoir or no longer in the reservoir site. The amount would have to be at least 2.5 times the total ad valorem taxes imposed in the preceding year…
>
> Reservoir designation. CSSB 3 needlessly would cloud the title of landowners within a designated reservoir site, because the threat of a future reservoir negatively would affect their property value. Supporters of reservoir designation point out that many of these reservoirs may never be built. However, the cloud would remain on the title to property in a designated site from the moment the bill [for the reservoir designation] was enacted. It would be unfair to make this designation without providing immediate funds to offset the loss in value that landowners would see. Without such compensation, the state in effect would be taking private property rights without compensation.

2. No:

   Pursuant to Article 1, Section 16, of the Texas Constitution, the Texas Legislature may not enact an *ex post facto* or retroactive law.

   In addition, pursuant to Article 1, Section 17, of the Texas Constitution, "no person's property shall be taken, damaged, or destroyed for or applied to public use without adequate compensation being made, unless by the consent of such person…"

   However, there is no constitutional prohibition against a change in law that could void an existing riparian landuse scheme and impose new restrictions (which new restrictions, of course, could be subject to challenge).

3. Possibly.

   Pursuant to Section 2(a)(ii) of the Act, 16 U.S.C. § 1272(a)(ii), a condition precedent for the Secretary of the Interior to designate, through a notice and comment rulemaking, a river or stream as a Wild and Scenic River, the Secretary must receive such a request from the governor of the state or states where the river or stream is located.[3]

---

[3] In pertinent part, Section 2(a)(ii) of the Act states: [The national and scenic rivers system shall comprise rivers]… that are designated as wild, scenic or recreational rivers by or pursuant to an act of the legislature

Among the determinations the Department of Interior ("DOI") must make in that process is whether there are sufficient local, state, and federal mechanisms already in place to protect the river or stream in question, and whether the state in question has the ability to implement those mechanisms.

Thus, the designation by the Texas Legislature, pursuant to TX Water Code TX Water Code § 16.051(e), of a river or stream as an ecologically unique stream segment would be a condition precedent for such a river or stream's candidacy for designation as a Wild and Scenic River. That segment's designation by the Texas Legislation would necessarily follow the recommendation of a regional water planning group in a regional water plan to nominate that segment as a unique river or stream segment. *See* 31 TAC § 357.8.

Finally, we had also discussed potential concerns of individual liability exposure of members of regional planning groups for acts conducted in their capacity as a member of such a group.

TX Water Code § 16.053(m) - (o) provide the following:

(m) A cause of action does not accrue against a regional water planning group, a representative who serves on the regional water planning group, or an employee of a political subdivision that contracts with the regional water planning group under Subsection (l) for an act or omission in the course and scope of the person's work relating to the regional water planning group.

(n) A regional water planning group, a representative who serves on the regional water planning group, or an employee of a political subdivision that contracts with the regional water planning group under Subsection (l) is not liable for damages that may arise from an act or omission in the course and scope of the person's work relating to the regional water planning group.

(o) The attorney general, on request, shall represent a regional water planning group, a representative who serves on the regional water planning group, or an employee of a political subdivision that contracts with the regional water planning group under Subsection (l) in a suit arising from an act or omission relating to the regional water planning group.

Please do not hesitate to call me to discuss this memorandum.

---

of the State or States through which they flow, that are to be permanently administered as weld, scenic, or recreational rivers by an agency or political subdivision of the State or States concerned, that are found by the Secretary of the Interior, upon application of the Governor of the State or the Governors of the States concerned, or a person or persons thereunto duly appointed by him or them, to meet the criteria established in this Act and such critical supplementary thereto as he may prescribe, and that are approved by him for inclusion in the system.

cc: David Bezanson, TNC

Appendix Chapter 9

REPORT TO LEGISLATURE ON WATER INFRASTRUCTURE FUNDING RECOMMENDATIONS

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

Mr. Horton Tayler, Manager
Bi-County Water Supply Corporation
P.O. Box 848
Pittsburg, TX 75686

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mr. Taylor:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that Bi-County Water Supply Corporation would contract for its additional water needs with the Northeast Texas Municipal Water District, and that $51,585 in capital costs would be needed to carry this out.

If Bi-County Water Supply Corporation would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Service Since 1957
TBPE F-000315

Infrastructure Financing Survey Report

251: BI-COUNTY WSC

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

48 - NEW SURFACE WATER CONTRACT **$51,585.04**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:			

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Horton Taylor
2.	Phone Number:	(903) 856-5840
3.	Email:	-
4.	Comments	(1) No TWDB financing projected at this time. Current funding source is R.U.S. Information is based on telephone interview between Mr. Taylor and consultant Reeves Hayter.

3/11/2010 3:34:53 PM

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

Mr. Herbert King, President
Campbell Water Supply Corporation
P.O. Box 94
Campbell, TX 75422

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mr. King:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that Campbell Water Supply Corporation construct two new wells and also enter into a treated water contract with the City of Commerce for its additional water needs, and that $1,740,594 in capital costs would be needed to carry this out.

If Campbell Water Supply Corporation would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Service Since 1957
TBPE F-000315

Infrastructure Financing Survey Report

325: CAMPBELL WSC

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL ~~$1,611,335.54~~ $805,667.77

Planning, design, permitting	Cost:	$50,000.00	Year:	2015
Acquisition and contruction	Cost:	$350,000.00	Year:	2018
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$400,000.00		

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

48 - NEW SURFACE WATER CONTRACT ~~$1,869,852.82~~ $934,926.41

Planning, design, permitting	Cost:	$40,000.00	Year:	2037
Acquisition and contruction	Cost:	~~$900,000.00~~ 894,926.41	Year:	2040
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	~~$940,000.00~~ 934,926.41		

Section 3: Contact Information

1. Name: Carter Ketcham, Manager
2. Phone Number: (903) 862-3760
3. Email: campbell@peoplescom.net
4. Comments: Campbell WSC has recently completed one of the recommended wells. 2nd well and surface water will be constructed as needed. Form completed by consultant Reeves Hayter based on conversation with manager.

3/11/2010 3:34:53 PM

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

The Honorable William R. "Rusty" Wilson, Mayor
City of Canton
P.O. Box 245
Canton, TX 75103-0245

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mayor Wilson:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that the City of Canton construct two additional wells for its additional water needs, and that $939,729 in capital costs would be needed to carry this out. The City of Canton has also indicated that the alternative to meeting future needs is surface water from a proposed reservoir on Grand Saline Creek. The capital cost associated with this strategy is $54,613,652.

If the City of Canton would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Service Since 1957
TBPE F-000315

Infrastructure Financing Survey Report

328: CANTON

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$939,728.71**

Planning, design, permitting	Cost:	0	Year:	
Acquisition and contruction	Cost:	0	Year:	
Excess Capacity	Cost:	0	Year:	
Rural	Cost:	0	Year:	
Disadvantaged	Cost:	0	Year:	
	Total:	0		

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Andy McCuistion, City Manager
2.	Phone Number:	(903) 567-2826
3.	Email:	amccuistion@cantontex.com
4.	Comments	The initial strategy for the City is two new water wells. The first of these is being funded through the local EDC. The second will likely be funded locally also, or through a private placement bond issue. Future strategies include the proposed Grand Saline Reservoir and water reuse which would consider funding from the TWDB State Participation Program.

3/11/2010 3:34:53 PM

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

No response after follow up

March 31, 2010

The Honorable Pat Jones, Mayor
City of Celeste
P.O. Box 399
Celeste, TX 75423

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mayor Jones:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that the City of Celeste would contract for its additional water needs with the City of Greenville, and that $1,741,204 in capital costs would be needed to carry this out.

If the City of Celeste would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Infrastructure Financing Survey Report

337: CELESTE

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

48 - NEW SURFACE WATER CONTRACT **$1,741,203.78**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:			

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1. Name: _____
2. Phone Number: _____
3. Email: _____
4. Comments: No response after followup.

3/11/2010 3:34:53 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465

2126 ALPINE ST. LONGVIEW, TX 75601-3401

V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Larry Allen
City of Clarksville City
P.O. Box 1111
White Oak, TX 75693

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Allen:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

365: CLARKSVILLE CITY

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$1,518,443.12**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Larry Allen
2.	Phone Number:	903-845-2681
3.	Email:	citysecy@suddenlinkmail.com
4.	Comments	Project Completed

3/11/2010 3:34:53 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465
2126 ALPINE ST. LONGVIEW, TX 75601-3401
V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Allen Fair
Crystal Systems Texas, Inc.
P.O. Box 1084
Tyler, TX 75710

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Fair:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

683: CRYSTAL SYSTEMS INC

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.
- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.
- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.
- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.
- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.
- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$992,200.19**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

3/11/2010 3:34:53 PM

WE ARE ALSO LOOKING INTO ADDITIONAL ELEVATED STORAGE WITHIN THE NEXT 5 YEARS, ALONG WITH THIS ADDITIONAL WELL

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Allen Fair
2.	Phone Number:	903-881-8000
3.	Email:	allen.fair@fairinterests.com AWFAIR@ATT.NET
4.	Comments	Private System

3/11/2010 3:34:53 PM

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

The Honorable Sandra Bozeman, Mayor
City of Grand Saline
132 E. Frank Street
Grand Saline, TX 75140-1824

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mayor Bozeman:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that the City of Grand Saline construct two wells for its additional water needs, and that $749,549 in capital costs would be needed to carry this out.

If the City of Grand Saline would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Infrastructure Financing Survey Report

854: GRAND SALINE

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$749,549.04**

Planning, design, permitting	Cost:	$175,000.00	Year:	2012
Acquisition and contruction	Cost:	$574,000.00	Year:	2015
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$749,000.00		

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Stephen Ashley, City Manager
2.	Phone Number:	(903) 962-3122
3.	Email:	
4.	Comments	Probably will need more than $750,000.00 to make all needed improvements.

3/11/2010 3:34:53 PM

No response after follow up

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

MIKE WEMHOENER

Mr. Spence Wilkins, Manager
Hickory Creek Special Utility District
P.O. Box 506
Celeste, TX 75423

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mr. Wilkins:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that Hickory Creek Special Utility District construct six wells for its additional water needs, and that $7,831,144 in capital costs would be needed to carry this out.

If Hickory Creek Special Utility District would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Infrastructure Financing Survey Report

938: HICKORY CREEK SUD

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL ~~$23,493,431.61~~ $7,831,143.87

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:			

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1. Name: _____
2. Phone Number: _____
3. Email: _____
4. Comments NO response after followup

3/11/2010 3:34:53 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465

2126 ALPINE ST. LONGVIEW, TX 75601-3401

V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Max Conlin
Liberty City WSC
6144 Gateway Center, Suite 349
Kilgore, TX 75662

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Conlin:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

1320: LIBERTY CITY WSC

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$1,170,845.42**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Max Conlin
2.	Phone Number:	903-984-9593
3.	Email:	jconlin@suddenlinkmail.com
4.	Comments	4 wells completed in 2009

3/11/2010 3:34:53 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465

2126 ALPINE ST. LONGVIEW, TX 75601-3401

V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Charles Gilmore
City of Lindale
P.O. Box 130
Lindale, TX 75771

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Gilmore:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

1324: LINDALE

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$510,648.07**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:	$510,648.00	Year:	2045
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$510,648.00		

3/11/2010 3:34:53 PM

Infrastructure Financing Survey Report

444 - OVERDRAFT CARRIZO WILCOX AQUIFER				$123,365.00
Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

Section 3: Contact Information

1.	Name:	Charles Gilmore
2.	Phone Number:	903-882-3422
3.	Email:	darcyh@lindaletx.com
4.	Comments	Will need assistance to drill new well

3/11/2010 3:34:53 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465

2126 ALPINE ST. LONGVIEW, TX 75601-3401

V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Rolando Ortega
City of Mineola
P.O. Box 179
Mineola, TX 75773

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Ortega:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

1842: MINEOLA

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$243,333.75**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Rolando Ortega
2.	Phone Number:	903-569-3987
3.	Email:	waterdepartment@mineola.com
4.	Comments	Project under construction now

3/11/2010 3:34:54 PM

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

Elliot Owen
~~Mr. Quentin Turner~~, General Manager
RPM Water Supply Corporation
200 VZ CR 4913
Ben Wheeler, TX 75754

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mr. Turner:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that RPM Water Supply Corporation construct one well for its additional water needs, and that $449,135 in capital costs would be needed to carry this out.

If RPM Water Supply Corporation would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

852-3115

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Infrastructure Financing Survey Report

2244: R P M WSC

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL	NOT INTERESTED		**$449,134.64**
Planning, design, permitting	Cost:		Year:
Acquisition and contruction	Cost:		Year:
Excess Capacity	Cost:		Year:
Rural	Cost:		Year:
Disadvantaged	Cost:		Year:
	Total:		

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Region I Strategy

443 - NEW WELLS - CARRIZO WILCOX AQUIFER				$58,283.00
Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:			

Section 3: Contact Information

1. Name: Elliot Owen, Manager
2. Phone Number: (903) 852-3115
3. Email: -
4. Comments: Currently financing improvements through R.U.S. and would likely continue in that direction because the 40-year financing provides lower payments and because they have qualified for grants.

3/11/2010 3:34:54 PM

No response after followup

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

The Honorable Billy Smith, Mayor
City of Van
P.O. Box 487
Van, TX 75790

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mayor Smith:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that the City of Van construct one well for its additional water needs, and that $562,963 in capital costs would be needed to carry this out.

If the City of Van would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

Infrastructure Financing Survey Report

2561: VAN

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$562,963.15**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:			

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1. Name: _____
2. Phone Number: _____
3. Email: _____
4. Comments No response after followup

3/11/2010 3:34:54 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465

2126 ALPINE ST. LONGVIEW, TX 75601-3401

V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Darrell Robbins
City of Waskom
P.O. Box 237
Waskom, TX 75692

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Robbins:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

2579: WASKOM

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$547,038.90**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Darrell Robins
2.	Phone Number:	903-687-3374
3.	Email:	cityofwaskom@eastex.net
4.	Comments	Project funded by TDRA

3/11/2010 3:34:54 PM

HAYTER
ENGINEERING, INC.

CONSULTANTS PLANNERS ENGINEERS

4445 S.E. LOOP 286
PARIS, TEXAS 75460
(903) 785-0303
FAX (903) 785-0308

March 31, 2010

The Honorable Bryan Creed, Mayor
City of Wolfe City
P.O. Box 106
Wolfe City, TX 75496

Re: North East Texas Regional Water Plan (Region D)
Round III – Infrastructure Financing Survey

Dear Mayor Creed:

The North East Texas Regional Water Planning Group has completed the Initially Prepared Plan (IPP) for the Region D, Round III of planning, and is presently gathering information regarding infrastructure funding for systems that have been projected with water supply shortages occurring within the next 50 years. Please find attached the Infrastructure Financing Survey Report for your water system.

The plan proposes that the City of Wolfe City would contract for its additional water needs with the City of Commerce, and that $2,910,914 in capital costs would be needed to carry this out.

If the City of Wolfe City would be interested in financing through the Texas Water Development Board for this project, please call me to discuss the questionnaire. If not interested, please write "not interested" on the form and return it to my office.

Please fill out the attached survey and return it in the self-addressed envelope by April 12, 2010.

If there are any questions, please contact me or Mr. Moses Ogolla, at 903-785-0303. Thank you for your consideration of this effort.

Sincerely,

HAYTER ENGINEERING, INC.

R. Reeves Hayter, P.E.
President

903- 366 3362

Service Since 1957
TBPE F-000315

Infrastructure Financing Survey Report

2638: WOLFE CITY

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

48 - NEW SURFACE WATER CONTRACT **$2,910,914.16**

Planning, design, permitting	Cost:	$200,000.00	Year:	2025
Acquisition and contruction	Cost:	$2,710,000.00	Year:	2030
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:			

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Mayor Bryan Creed
2.	Phone Number:	(903) 496-2257; cell phone number: (903) 366-3362
3.	Email:	
4.	Comments	Good experience previously with TWDB. Would use again. 2030 is fairly long range - options may change by that time.

3/11/2010 3:34:54 PM

HAYES ENGINEERING, INC.

Texas Registered Engineering Firm F-1465

2126 ALPINE ST. LONGVIEW, TX 75601-3401

V 903.758.2010 F 903.758.2099

April 12, 2010

Mr. Rocky Stegman
West Gregg SUD
P.O. Box 1196
Kilgore, TX 75662

Re: North East Texas Regional Water Plan (Region D)
Water System Infrastructure Financing Survey Report

Dear Mr. Stegman:

The North East Texas Regional Water Planning Group (NETRWPG) is completing its Regional Water Plan and your system has been identified as needing additional supply improvements in the fifty year planning period. Attached you will find a survey form which includes a summary of your water supply funding needs including the expected program fund and the year it is expected to be needed. This information helps the Texas Water Development Board plan for fund availability statewide. Please check the survey for accuracy and verify the assumptions we have made. If your system will not be requesting funding from the TWDB then a zero has been entered for the total at the bottom of page two of the survey.

Please fill out the attached survey and return by facsimile, email, or regular mail. If we do not hear from you by April 16, 2010 we will submit your survey as we have shown.

Thank you,
Hayes Engineering, Inc.

Stanley R. Hayes, P.E.

Infrastructure Financing Survey Report

2595: WEST GREGG WSC

As part of the regional and state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The purpose of this survey is gather information from your organization regarding how you plan to finance water supply projects recommended for the 2012 state water plan, and determine whether you intend to use financial assistance programs offered by the State of Texas and administered by the Texas Water Development Board (TWDB).

The TWDB has several funding programs for water projects identified in the 2012 state water plan. Funds are targeted toward: 1) construction of water supply projects, 2) planning and design and permitting for projects that have long development time frames meaning that construction would require 5-10 years of planning, design and permitting, and 3) projects that would be built with excess capacity intended to meet future water needs. These programs offer various attractive financing options such as subsidized interest rates, deferral of principal and interest during planning, design and permitting phase, partial deferral of interest and principal for those portions of the project which are optimally sized for future needs. Additionally, grant funding is available for those service areas which qualify as rural or economically disadvantaged. More information on these financial assistance programs (i.e., the Water Infrastructure Fund, the State Participation Fund, and the Economically Disadvantaged Areas Program) can be found at the TWDB website at:

http://www.twdb.state.tx.us/assistance/financial/financial_main.asp

Your cooperation and responses to these questions are crucial in helping the state in ensuring that our communities and our citizens have adequate water supplies. If you have any questions related to the financial programs offered by the TWDB or about the survey questions, please contact Jeff Hogan by phone at (972)924-2757 or by email at jhogan@bwrcorp.com. If you have any computer or technology related problems with the survey, please contact Wendy Barron by phone at (512) 936-0886 or by email at wendy.barron@twdb.state.tx.us.

Section 1: Project Financing Information

For project(s) identified in the State Water Plan, the TWDB has funding available for different aspects of a project. The different programs available are:

- WIF-Deferred offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

- WIF-Construction offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

- Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

- Economically Distressed Areas Program (EDAP) offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

- State Participation funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

If you are interested in receiving funds from the above programs, please complete the remainder of the survey.

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Please enter only the amounts you wish to receive from TWDB program in the Project Costs fields and do not enter a specific project cost more than once.

Section 2: Projects

For each of the project(s) listed below, please enter only the amounts you wish to receive from TWDB programs in the 'Cost' field and the earliest date you wish to receive these amounts. In addition, the total amount entered into all five categories cannot exceed the total cost of the project. Each of the five categories corresponds to a funding program available at the TWDB. Each of the funding programs and categories are described below.

•Planning, design, permitting: Enter costs into the 'Planning, design, permitting' category if you want to participate in the WIF-Deferred program. The WIF-Deferred program offers subsidized interest and deferral of principal and interest for up to 10 years for planning, design and permitting costs.

•Acquisition and construction: Enter costs into the 'Acquisition and construction' category if you want to participate in the WIF-Construction program. The WIF-Construction program offers subsidized interest for all construction costs, including planning, acquisition, design, and construction.

•Excess Capacity: Enter costs into the 'Excess capacity' category if you want to participate in the State Participation program. State Participating funding offers partial interest and principal deferral for the incremental cost of project elements which are designed and built to serve needs beyond 10 years.

•Rural: Enter costs into the 'Rural' category if you want to participate in the Rural areas funding program. Rural areas funding offers grants and 0% interest loans for service areas which are not in a Metropolitan Statistical Area (MSA) and in which the population does not exceed 5,000. The service area must also meet the EDAP eligibility criteria.

•Disadvantaged: Enter costs into the 'Disadvantaged' category if you want to participate in the Economically Distressed Areas Program (EDAP). EDAP offers funding through grants and loans for service areas within a project which meet the EDAP eligibility criteria. Eligibility for the TWDB's EDAP requires that the median household income of the area to be served by the proposed project be less than 75 percent of the Texas median household income ($39,927), as shown in the 2000 Census. EDAP eligibility also requires adoption of Model Subdivision rules by the appropriate planning entities.

46 - DRILL NEW WELL **$1,502,847.00**

Planning, design, permitting	Cost:		Year:	
Acquisition and contruction	Cost:		Year:	
Excess Capacity	Cost:		Year:	
Rural	Cost:		Year:	
Disadvantaged	Cost:		Year:	
	Total:	$0.00		

3/11/2010 3:34:54 PM

Infrastructure Financing Survey Report

Section 3: Contact Information

1.	Name:	Rocky Stegman
2.	Phone Number:	903-983-1816
3.	Email:	rocky-westgreggsud@hughes.net
4.	Comments	Local financing

3/11/2010 3:34:54 PM

Appendix Chapter 10

ADOPTION OF PLAN

June 28, 2010

Mr. Richard LeTourneau
Chairman, North East Texas Regional
Water Planning Group
P.O. Box 12071
Longview, TX 75607

Mr. Walt Sears
Northeast Texas Municipal Water District
P.O. Box 955
Hughes Springs, TX 75656

Re: Texas Water Development Board Comments for the North East Texas Regional Water Planning Group (Region D) Initially Prepared Plan, Contract No. 0904830863

Dear Mr. LeTourneau and Mr. Sears:

Texas Water Development Board (TWDB) staff completed a review of the Initially Prepared Plan (IPP) submitted by March 1, 2010 on behalf of the Region D Regional Water Planning Group. The attached comments (Attachments A and B) follow this format:

- Level 1: Comments, questions, and online planning database revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements; and
- Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional plan.

Based on the information provided to date by regional water planning groups, TWDB has identified potential interregional conflicts that are summarized in Attachment C. The TWDB's statutory requirement for review of potential interregional conflicts under Title 31, Texas Administrative Code (TAC) §357.14 will not be completed until submittal and review of adopted regional water plans.

Title 31, TAC §357.11(b) requires the regional water planning group to consider timely agency and public comment. Section 357.10(a)(3) of the TAC requires the final adopted plan include summaries of all timely written and oral comments received, along with a response explaining any resulting revisions or why changes are not warranted.

Copies of TWDB's Level 1 and 2 written comments and the region's responses must be included in the final, adopted regional water plan.

If you have any questions, please do not hesitate to contact Temple McKinnon at (512) 475-2057.

Sincerely,

Carolyn L. Brittin
Deputy Executive Administrator
Water Resources Planning and Information

Attachments (3)

c w/att: Mr. Ray Flemons, BWR Corporation

ATTACHMENT A

TWDB Comments on Initially Prepared 2011 Region D Regional Water Plan

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

General Comment

1. Please indicate whether/how the results of region-specific studies (referred to in Appendices A and B) were used in the development of the plan. *[Contract Exhibit "C" Section 11.1]*

Executive Summary

2. Page ES-4, 5th paragraph: The last sentence discussing regional water demand states that projects developed by 2030 indicate usage will reach 659,871 acre-feet per year (acft/yr). This number differs from the Board-approved 2030 projected total water demand of 653,207 acft/yr by 2030 presented in Table 2.4. Please revise as appropriate throughout the plan.

3. Page ES-8, 3rd paragraph, 2nd sentence: The water need volumes could not be replicated from data presented in Chapter 4 of the plan. Please clarify how, based on the information contained in the plan, the water need of 30,671 acft/yr in 2060 was derived. Please also revise the sentence as it currently indicates that recommended water management strategies are generating water needs in the region.

4. Page ES-8, last paragraph; page 5-7, 1st paragraph: The socioeconomic impact analysis should be updated for the final 2011 Region D Regional Water Plan with the analysis provided by the TWDB as requested by the planning group.

5. Page ES-14, 2nd paragraph: The plan indicates that the potential Pecan Bayou Reservoir is in the Sulphur River Basin. Please revise to indicate that it is located in the Red River Basin.

Chapter 1

6. Page 1-25, Table 1.6: Please clarify the meaning of "Supply" in this table (e.g. firm yield).

7. Page 1-38, Sections 1.5(b) and (c): The summary of local and regional water plans does not indicate if publicly available plans of major agricultural, manufacturing, and commercial water users were used in the development of the plan. Please clarify. *[Title 31 Texas Administrative Code (TAC) §357.5(k)(1)(E)]*

8. Page 1-42, 1st paragraph: Please clarify whether the Groundwater Management Area 8 managed available groundwater volumes were used in the plan. *[Contract Exhibit "C" Section 3.2]*

9. Page 1-42, 1st paragraph; page 8-44: The plan indicates that there are "no GCDs" in Region D. Please identify the Harrison County Groundwater Conservation District as existing in Region D. Please also refer to the updated status of the created but unconfirmed groundwater conservation district in Harrison County. *[31 TAC §357.5(k)(1)(D)]*

Chapter 2

10. Please present wholesale water provider water demands by category of use. *[31 TAC §357.7(a)(2)(B)]*

11. Please present the current contractual obligations of wholesale water providers. *[31 TAC §357.7(a)(2)(B)]*

12. Page 2-1, 2nd paragraph; Page 2-3, 2nd paragraph; Page 2-6, 1st paragraph: The text states that population projections used in the plan are "essentially" the same as the 2006 Region D plan. Please revise to reflect that population and water demand projection values in the 2011 Region D Regional Water Plan are identical to those in the 2006 Region D Regional Water Plan.

Chapter 3

13. Please clarify how source water supply estimates within the region were updated. *[31 TAC §358.3(b)(2)]; Contract Scope of Work Task 3.3]*

14. Please present wholesale water provider water supplies by category of use. *[31 TAC §357.7(a)(3)(G)]*

15. Please present wholesale water provider water supplies by contractual obligation. *[31 TAC §357.7(a)(3)(G)]*

16. The 2006 Region D Regional Water Plan was amended in 2009 to reflect a new source of surface water supply for Bright Star Salem Water Supply Corporation. The supply volumes of this amendment, ranging from 519 acft/yr in 2010 to 671 acft/yr in 2060, are not reflected in the 2011 plan. Please revise as appropriate throughout the plan and, if necessary, in the online planning database.

17. Page 3-1, Table 3.1: The run-of-river supply volumes (including totals) could not be confirmed from the various "Combined Run-of-River" supplies in the online planning database and throughout the plan. Please present in the plan (e.g. in tabular form) run-of-river supplies. *[31 TAC §357.7(a)(3)(B)]*

18. Page 3-1, Table 3.1: The available water amount from reuse is labeled as both direct and indirect, however the reuse availability in the online planning database is only classified as direct. Please revise as appropriate throughout the plan and, if necessary, in the online planning database.

19. Page 3-1, Table 3.1: The available water amounts from reservoirs could not be replicated based on Tables 3.2 through 3.5 in Chapter 3. Please explain how the water supply volumes from reservoirs in Region D were produced.

20. Page 3-1, Table 3.1: The available water amounts for irrigation and livestock local supplies could not be replicated based on Tables 3.11, 3.12, 3.17, and 3.18 in Chapter 3. Please explain how the irrigation and livestock local water supply availabilities were determined.

21. Page 3-5, Table 3.4: The water supply volume presented for Lake Sulphur Springs of 9,800 acft/yr is quoted in the plan on page 4-22, 2nd paragraph as being a safe yield. Please verify the basis of this yield and confirm whether the surface water availabilities for the reservoirs presented in Tables 3.2 through 3.5 are firm yield values as use of safe yield was not approved by TWDB. *[31 TAC §357.7(a)(3)(B)]*

22. Page 3-5, Table 3.4: Please include Turkey Creek Lake in the summary of surface water supplies for the Sulphur Basin. *[31 TAC 357.7(a)(3)(F)]*

23. Page 3-8, 3rd and 6th paragraphs: The plan incorrectly references TWDB planning guidelines as "Exhibit B". The planning guidelines are "Exhibit C" in the contract for the development of the 2011 Regional Water Plan. Please revise accordingly.

24. Page 3-8, 3rd and 6th paragraphs: Please include a statement in the plan regarding the requirement to include managed available groundwater volumes in instances where the associated desired future conditions adopted by groundwater conservation districts were submitted to TWDB by January 1, 2008 (e.g. Groundwater Management Area 8).

Chapter 4

25. The 'small systems' region-specific study referred to in Appendix A of the plan states the need for regionalization in northern Van Zandt County. Please explain in the plan why a regionalization water management strategy for northern Van Zandt County was not included as either a potentially feasible water management strategy that was evaluated or recommended water management strategy in the plan. *[31 TAC §357.5(k)(2)(C); Contract "Exhibit C" Section 11]*

26. There are inconsistent references in the plan text and online planning database (e.g.Cash SUD/Cash WSC, Diana SUD/Diana WSC, MacBee SUD/MacBee WSC, and West Gregg SUD/West Gregg WSC). Please confirm the names of the water user groups and revise names of all water user groups in both the plan and the online planning database as necessary to ensure consistency.

27. Please include a list of all potentially feasible water management strategies that were evaluated and considered by the planning group. *[Contract Exhibit "C" Section 11]*

28. Please include tables listing all recommended and alternative water management strategies including the names, water supply amounts by decade, and capital costs of each. *[Contract Exhibit "C", Sections 4.3, 11]*

29. Please describe how the plan considered emergency transfers of surface water in the planning process. *[31 TAC §357.5(i)]*

30. Please describe how the plan considered drought management measures for each need identified. *[31 TAC §357.7(a)(7)(B)]*

31. Please include a summary of information regarding water loss audits specific to Region D. *[TAC 31§ 357.7 (a)(1)(M)]*

32. Please describe how the plan considered all potentially feasible strategies including, among other projects, reallocation of reservoir storage. Please include a discussion of the ongoing efforts to evaluate reallocation of storage in Lake Wright Patman and any local entities that might be beneficiaries of that project. *[31 TAC §357.7(a)(7)(D)]*

33. Please include environmental analyses for any alternative water management strategies included in the plan. *[31 TAC §358.3(b)(18]*

34. Please describe how the plan considered environmental water needs including instream flows and bay and estuary inflows. *[31 TAC §358.3(b)(19]*

35. Page 4-2, 1st paragraph: The reference to "Table 4.39" is incorrect. Please revise to "Table 4.38".

36. Page 4-4, Section 4.1.5: The plan states that there are no water supply shortages identified in Franklin County. Section 4.3.5 on page 4-14 indicates shortages will occur for Franklin County Water District for all decades in the planning horizon. Please revise the plan as appropriate.

37. Page 4-3, Table 4.1: The 2040 shortage for Central Bowie WSC does not match what is presented in the Chapter 4 Appendix (unnumbered appendix table and page in Bowie County information). Please revise the plan as appropriate.

38. Page 4-3, Table 4.1: The 2030 and 2050 shortages for the City of Redwater do not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Bowie County information). Please revise the plan as appropriate.

39. Page 4-3, Table 4.3: The shortages for Cass County Manufacturing are not presented in the Chapter 4 Appendix and do not have documentation of an evaluated strategy (unnumbered table and page in Cass County information). Please revise the plan as appropriate.

40. Page 4-6, Table 4.8: The 2060 shortage for Campbell WSC does not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Hunt County information). Please revise the plan as appropriate.

41. Page 4-6, Table 4.8: The 2030 through 2060 shortages for Combined Consumers WSC do not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Hunt County information). Please revise the plan as appropriate.

42. Page 4-8, Table 4.12: The 2030 through 2060 shortages for Titus County Steam Electric do not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Titus County information). Please revise the plan as appropriate.

43. Page 4-8, Table 4.13: The 2060 shortage for Corinth WSC, 2010 through 2060 shortages for Edom WSC, 2040 shortage for Fruitvale WSC, and 2020 through 2060 shortages for Little Hope-Moore WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Van Zandt County information). Please revise the plan as appropriate.

44. Page 4-10, 1st paragraph: The statement that steam electric needs start in 2030 in the Cypress Basin does not match what is presented in Table 4.18. Please revise the plan as appropriate.

45. Page 4-14, last paragraph: Please provide information on the evaluation of potentially feasible water management strategies and reasons why no water management strategy is recommended in the plan for Franklin County Water District despite the identified water needs for Franklin County Water District (as a wholesale water provider) presented in the plan. *[31 TAC §357.7(a)(5)(B) and (C)]*

46. Page 4-24, Table 4.37: The values presented as supply for the City of Texarkana (108,661 acft/yr) are not consistent with water supply values developed as part of the study for the Study Commission on Region C Water Supply (Commission). Information presented to the Commission on April 26, 2010 indicates that permitted water rights from Wright Patman for Texarkana are 180,000 acft/yr. Please confirm the supplies for the City of Texarkana and revise as appropriate throughout the plan.

47. Page 4-24, Table 4.37: The last line of table 4.37 is ambiguous (i.e. ":"). Please clarify what the total water need or surplus is in the table. If the value is zero, please consistently represent the value as "0" as presented in other tables in the chapter.

48. Page 4-28: The table has a line entry for "Gregg County cont." with apparent planning decades for volumes. Please revise as appropriate.

49. Page 4-44, 1st paragraph: The flow chart referenced on page 4-44 as Figure 6.2 is actually Figure 6.1. Please revise.

50. Page 4-47, 2nd paragraph: The text states that "the remaining 40 entities were actual projected shortages that require consideration of alternative water management strategies". However, no associated alternative water management strategies were identified in the plan text. Please revise to clarify if the intent was to refer to "recommended water management strategies".

51. Page 4-47, Table 4.40: The water management strategy volumes of 106 acft/yr and 103 acft/yr for the years 2030 and 2060, respectively, for Burns Redbank WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Bowie County information). Please revise the plan as appropriate.

52. Page 4-47, Table 4.40: The 2060 needs and 2030 and 2060 strategy volumes for Cash SUD do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt County information). Please revise the plan as appropriate.

53. Page 4-47, Table 4.40: The 2030 and 2060 needs and 2030 and 2060 strategy volumes for Combined Consumers WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt County information). Please revise the plan as appropriate.

54. Page 4-47, Table 4.40: There is no evaluated water management strategy presented in the Chapter 4 Appendix for Harrison County Steam Electric even though volumes from a surface water strategy are presented in Table 4.40. Please revise the plan as appropriate.

55. Page 4-48, Table 4.40: The 2030 and 2060 needs and 2030 and 2060 strategy volumes for Titus Steam Electric do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Titus County information). Please revise the plan as appropriate.

56. Page 4-48, Table 4.41: There is no evaluated water management strategy in Chapter 4 Appendix for Cass County Manufacturing even though volumes from a surface water strategy are presented in Table 4.41. Please revise the plan as appropriate.

57. Page 4-49, Table 4.41: The 2060 needs for Campbell WSC, 2060 needs for Corinth WSC, and 2030 and 2060 needs for Little Hope-Moore WSC do not match the needs presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt and Van Zandt County information). Please revise the plan as appropriate.

58. Page 4-49, Table 4.41: The 2060 water management strategy volumes (volumes) for Celeste, 2060 volume for Hickory Creek SUD, 2030 and 2060 volumes for Canton, 2030 and 2060 volumes for Grand Saline, 2060 volume for Van, 2030 and 2060 volumes for Edom WSC, and 2060 volume for RPM WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt and Van Zandt County information). Please revise the plan as appropriate.

59. Page 4-49, Table 4.41: There is no summary for Poetry WSC in the Table 4.41. Please revise the plan as appropriate.

60. Page 4-51, 5th paragraph: The strategy "surface water purchase" is presented as "increase existing contract" in the online planning database. Please revise to ensure that water management strategy names are consistent throughout the text and the online planning database.

61. Pages 4-57, 1st paragraph; 4-72, last paragraph; and 4-76, 1st paragraph: Plan references tables that are not referenced and do not immediately follow the text and that apparently are not included in the plan. Please revise the plan as appropriate to clearly reference and include associated tables.

62. Page 4-58: None of the four evaluated alternative water management strategies for Ben Franklin WSC referred to are included in the Chapter 4 Appendix although one of the four is presented as a recommended water management strategy on page 4-58. Please include the technical evaluations of each of the designated 'alternative' water management strategy in the final plan. *[Contract "Exhibit C" Section 4.3]*

63. Sections 4.8.3 through 4.8.19: Water management strategies for County-Other water user groups are not clearly presented. For example, recommended water management strategies for "County-Other"

water user groups are not summarized in Bowie County (pages 4-50 through 4-53) and the strategy volumes for the named entities in Bowie County that are part of the "County-Other" water user group do not sum to the amount in the online planning database, making it unclear how the volume of the "County-Other" recommended water management strategy in the online planning database is allocated. Additionally, County-Other water management strategies are recommended but not summarized for Wood County (page 4-91). Please clarify in Chapter 4 if an entity with a recommended water management strategy is a County-Other water user group and clearly present County-Other water management strategies. Please revise as appropriate throughout the plan and, if necessary, the online planning database.

64. Appendix Chapter 4, Gregg County: The water user group listed in the summary cover sheet is "City of Clarksville". Please revise to "City of Clarksville City".

65. Page 4-60: The 2040 and 2060 needs and 2060 strategy volumes for Liberty City WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Gregg County information). Please revise the plan as appropriate.

66. Page 4-71: The 2050 and 2060 needs for Cash SUD do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt County information). Please revise the plan as appropriate.

67. Page 4-80, 2nd paragraph: Terms "recommended", "alternative", and "feasible" appear to be used interchangeably throughout plan (e.g. page 4-58). Please verify all references to water management strategy types as either "recommended", "alternative" or "potentially feasible". Please revise the plan as appropriate to accurately refer to types of water management strategies.

68. Page 4-81: Red River County is presented as Section 4.8.15.2 and should be Section 4.8.16. Please revise the plan as appropriate.

69. Page 4-84: The 2030 and 2060 needs for Titus County Steam Electric do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Titus County information). Please revise the plan as appropriate.

70. Page 4-90: There is no summary of the evaluated conservation water management strategy for the City of Van in the Chapter 4 Appendix (unnumbered tables and pages in Van Zandt County information). Please revise the plan as appropriate.

Chapter 4 Appendix

71. Please provide a description of how the lump sum amounts for 'Environmental" costs were derived.

72. Please clarify if the evaluated conservation water management strategies have an associated annual cost (i.e. Lindale, Grand Saline). Please revise the plan and as appropriate.

73. The regional plan indicates that water reuse was considered unfeasible in the region when the wastewater source associated with the strategy was not associated with and proximate to the potential

water user. Please consider or describe how water reuse was considered as a potentially feasible water management strategy for steam electric or industrial needs. *[31 TAC §357.7(a)(7)(C)]*

74. The plan uses a debt service period of 30 years. Please revise or justify why a 30-year debt service period rather than the TWDB-recommended 20-year debt service period was used for evaluating water management strategies (other than reservoirs). *[Contract Exhibit "C" Section 4.1.2]*

75. Please confirm that water management strategy cost estimates are based upon September 2008 dollars as required or revise plan as appropriate. *[Contract Exhibit "C" Section 4.1.2]*

76. Please include the cost of purchasing water rights under "Capital Costs" rather than "Total Annualized Costs" per the contract guidance. *[Contract Exhibit "C" Section 4]*

Chapter 5

77. Page 5-6, Section 5.3: The socioeconomic impact analysis should be updated for the final 2011 Region D Regional Water Plan with the analysis provided by the TWDB as requested by the planning group.

Chapter 6

78. Page 6-7, Section 6-3: The text states that model conservation and drought contingency plans are included in the Appendix but they are included in the body of the report. Please revise the plan as appropriate.

Chapter 7

79. Page 1-41: Plan identifies water quantity as being threatened by overuse and specifies that proactive conservation practices can control the threat, yet no conservation is recommended in the plan. Please discuss how each threat to agricultural and natural resources identified will be addressed or affected by the water management strategies evaluated. *[31 TAC §357.7(a)(8)(C) and §358.3(b)(4)]*

Appendix C:

80. Please number tables in Appendix C and include a table of contents for the material in Appendix C.

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

82. *(Attachment C)* Based on the information provided to date by the regional water planning groups, TWDB has also attached a summary, in spreadsheet format, of potential over allocated water sources and potential interregional conflicts that were identified during the review of the online planning database and Initially Prepared Regional Water Plan. *[Additional TWDB comments regarding the*

general conformance of the online planning database (DB12) format and content to the Guidelines for Regional Water Planning Data Deliverables (Contract Exhibit D) are being provided by TWDB staff under separate cover as 'Exception Reports']

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

General Comment

1. Not all tables in the report are numbered for reference (e.g. Appendix C tables). Please number all tables in the report body and appendices.

2. The plan volume II title "Appendix C" is not indicated as a stand-alone volume in the volume I Table of Contents. Appendix A contains a summary of a study that is indicated as included in Appendix A. Appendix B also contains a summary of a study referenced rather than the study itself. Please consider re-labeling and/or modify the references to the Appendices to the report.

Executive Summary

3. Page ES-10, 1st paragraph, 2nd sentence: Please consider revising the sentence "Homes built before 1992 should be equipped with low flow toilets…" to read "Homes built after 1992 should be equipped with low flow toilets…"

Chapter 1

4. Pages 1-19 to 1-22: Please consider including a table similar to Table 1.9 to summarize water quality concerns for each aquifer.

Chapter 3

5. Page 3-7, 1st paragraph: The current discussion implies that all precipitation becomes effective recharge, which is not accurate. Please consider expanding the discussion of recharge to include additional factors that reduce the amount of aquifer recharge.

6. Page 3-10, Section 3.2.3.1: Please consider adding a reference to the GTA Aquifer Assessment 09-05 managed available groundwater, which provided the Blossom Aquifer managed available groundwater estimates currently listed in Table 3.6 in the plan as was similarly done in the Trinity and Woodbine Aquifers sections.

7. Page 3-13, Table 3.6: Wood County, Sabine Basin has increasing groundwater availability across the planning horizon. Please consider revising the asterisked statement located immediately beneath Table 3.6 on p. 3-13.

8. Chapter 3, Section 3.2.3, Page 3-12, Table 3.6: Please consider correcting the county name "Deta" to 'Delta' within the Nacatoch Aquifer section.

9. Page 3-16 and 3-17, Tables 3.7 and 3.8: Please remove the incorrect strike-out values in the table.

10. Page 3-27, Table 3.24: Please remove the strike-out text.

Chapter 4

11. Please consider including totals in all tables in Chapter 4, where appropriate.

12. Chapter 4 Appendix: Please consider adding Capital Costs to the Table entitled "Strategy Recommendations Summary to 2060".

13. Please consider using a consistent format for the tables presented in Chapter 4 (e.g. alignment, tiered levels).

14. Page 4-47 through 4-49, Tables 4.40 and 4.41: Please clarify in the table (e.g. using a footnote) the significance of the selected bolded numbers and bolded entity names in the tables.

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	non-decadal number	IPP document number 2010	2020	2030	2040	2050	2060	non-decadal number	Online Planning Database (DB12) number 2010	2020	2030	2040	2050	2060
D	Groundwater Supply	3-1	3.1		309,876	309,876	309,876	309,876	309,876	309,876		309,774	309,863	309,914	309,924	309,929	310,619
D	Reservoir Supply	3-1	3.1		1,397,444	1,392,758	1,387,473	1,382,188	1,376,902	1,361,619		1,112,486	1,107,200	1,101,895	1,096,610	1,091,324	1,086,041
D	Other Local Supply	3-1	3.1		3,253	3,512	3,653	3,816	3,983	4,144		3,113	3,372	3,533	3,696	3,863	4,024
D	Irrigation Local Supply (RoR irrigation supplies)	3-1	3.1		14,732	14,717	14,704	14,572	14,262	14,249		13,271	13,256	13,243	13,111	12,801	12,788
D	Total Overall Water Supply by Source	3-1	3.1		1,831,192	1,821,498	1,810,468	1,799,610	1,794,948	1,788,517		1,961,320	1,951,025	1,940,046	1,929,198	1,924,541	1,928,800
D	Sabine Basin Surface Water Supplies Loma Lake	3-3	3.2		0							600					
D	Sabine Basin Supplies Combined RoR	3-3	3.2		166,156	166,156	166,156	166,156	166,156	166,156		307,630	307,653	307,678	307,704	307,731	307,756
D	Red Basin Surface Water Supplies Run of River	3-5	3.3		NA	NA	NA	NA	NA	NA		9,661	9,640	9,619	9,478	9,158	9,138
D	Sulphur Basin Supplies River Crest Lake	3-5	3.4		8,635	8,635	8,635	8,635	8,635	8,635		NA	NA	NA	NA	NA	NA
D	Sulphur Basin Supplies Turkey Creek Lake	3-5	3.4		NA	NA	NA	NA	NA	NA		140	140	140	140	140	140
D	Sulphur Basin Supplies Combined RoR	3-5	3.4		10,000	10,000	10,000	10,000	10,000	10,000		10,055	10,055	10,055	10,055	10,055	10,055
D	Carrizo-Wilcox Aquifer Availability Cass Co.	3-12	3.6		3,493	3,493	3,493	3,493	3,493	3,493		3,527	3,527	3,527	3,527	3,527	3,527
D	Carrizo-Wilcox Aquifer Availability Marion Co.	3-12	3.6		2,031	2,031	2,031	2,031	2,031	2,031		2,030	2,030	2,030	2,030	2,030	2,030
D	Carrizo-Wilcox Aquifer Availability Morris Co.	3-12	3.6		2,659	2,659	2,659	2,659	2,659	2,659		2,660	2,660	2,660	2,660	2,660	2,660
D	Carrizo-Wilcox Aquifer Availability Smith Co.	3-12	3.6		13,981	13,981	13,981	13,981	13,981	13,981		14,022	14,022	14,022	14,022	14,022	14,022
D	Carrizo-Wilcox Aquifer Availability Upshur Co.	3-12	3.6		6,954	6,954	6,954	6,954	6,954	6,954		6,959	6,959	6,959	6,959	6,959	6,959
D	Carrizo-Wilcox Aquifer Availability Wood Co.	3-12	3.6		9,852	9,852	9,852	9,852	9,852	9,852		9,685	9,774	9,825	9,835	9,840	9,852
D	Carrizo-Wilcox Aquifer Total Availability	3-12	3.6		115,430	115,430	115,430	115,430	115,430	115,430		115,333	115,422	115,473	115,483	115,488	115,500
D	Queen City Aquifer Availability Wood County	3-12	3.6		21,231	21,231	21,231	21,231	21,231	21,231		21,230	21,230	21,230	21,230	21,230	21,230
D	Queen City Aquifer Total Availability	3-12	3.6		169,510	169,510	169,510	169,510	169,510	169,510		169,509	169,509	169,509	169,509	169,509	169,509
D	Woodbine Aquifer Availability Red River County	3-13	3.6		166	166	166	166	166	166		162	162	162	162	162	162
	Woodbine Aquifer Total Availability	3-13	3.6		6,670	6,670	6,670	6,670	6,670	6,670		6,666	6,666	6,666	6,666	6,666	6,666
	Total Regional Groundwater Availability	3-13	3.6		309,876	309,876	309,876	309,876	309,876	309,876		309,774	309,863	309,914	309,924	309,929	309,941
	Regional Municipal Supply Bowie Co. Red Basin	3-15	3.7		3,207	3,300	3,353	3,402	3,372	3,358		9,115	8,336	7,702	7,091	6,516	5,539
	Municipal Supply Bowie Co. Sulphur Basin	3-15	3.7		14,220	14,602	14,839	15,058	14,969	14,945		59793	52437	46582	40954	35633	26768
	Municipal Supply Bowie Co. Total	3-15	3.7		17,427	17,902	18,191	18,460	18,341	18,303		68908	60773	54284	48045	42149	32307
	Municipal Supply Camp Co. Cypress and Total	3-15	3.7		3,576	3,579	3,583	3,586	3,589	3,591		14,236	14,242	14,248	14,253	14,258	14,263
	Municipal Supply Cass Co. Cypress Basin	3-15	3.7		10,439	10,460	10,504	10,548	10,589	10,589		8,401	8,419	8,460	8,501	8,542	8,542
D	Municipal Supply Cass Co. Total	3-15	3.7		11,877	11,916	12,000	12,085	12,167	12,167		9,839	9,875	9,956	10,038	10,120	10,120
D	Municipal Supply Delta Co. Sulphur and Total	3-15	3.7		2,394	2,384						2,344	2,373				
D	Municipal Supply Franklin Co. Total	3-15	3.7					7,196							7,169		
D	Municipal Supply Gregg Co. Cypress Basin	3-15	3.7		2,227	2,237	2,248	2,261	2,278	2,302		1,712	1,722	1,733	1,746	1,738	1,762
D	Municipal Supply Gregg Co. Sabine Basin	3-15	3.7		61,968	61,775	61,842	61,920	62,025	62,177		69,056	68,996	68,940	68,895	68,877	68,905
D	Municipal Supply Gregg Co. Total	3-15	3.7		64,195	64,012	64,090	64,181	64,303	64,479		70,768	70,718	70,673	70,641	70,615	70,667
D	Municipal Supply Harrison Co. Cypress Basin	3-15	3.7		6,404	6,539	6,634	6,699	6,775	6,886		8,389	8,524	8,619	8,684	8,701	8,812
D	Municipal Supply Harrison Co. Sabine Basin	3-15	3.7		36,842	36,933	36,996	37,010	37,027	37,050		35,696	35,782	35,840	35,848	35,860	35,878
D	Municipal Supply Harrison Co. Total	3-15	3.7		43,246	43,472	43,630	43,709	43,802	43,936		44,085	44,306	44,459	44,532	44,561	44,690
D	Municipal Supply Hopkins Co. Total	3-16	3.7						21,697							21,698	
D	Municipal Supply Hunt Co. Sabine Basin	3-16	3.7		34,639	34,166	33,943	33,918	34,695	36,300		34,867	34,431	34,243	34,239	35,046	36,684
D	Municipal Supply Hunt Co. Sulphur Basin	3-16	3.7		9,477	9,434	9,382	9,368	9,430	9,552		9,563	9,514	9,460	9,446	9,508	9,630
D	Municipal Supply Hunt Co. Trinity Basin	3-16	3.7		65	78	96	124	190	296		110	112	121	136	171	222
D	Municipal Supply Hunt Co. Total	3-16	3.7		44,180	43,677	43,420	43,409	44,314	46,147		44,540	44,057	43,824	43,821	44,725	46,536
D	Municipal Supply Lamar Co. Total	3-16	3.7		37,015	36,162	35,621	35,096	34,589	33,859		43,225	42,922	42,681	42,456	42,249	41,819
D	Municipal Supply Marion Co. Cypress and Total	3-16	3.7		13,511	13,519	13,519	13,519	13,519	13,484		10,783	10,791	10,791	10,791	10,791	10,791
D	Municipal Supply Morris Co. Cypress Basin	3-16	3.7		17,232	17,229	17,226	17,223	17,223	17,223		12,886	12,886	12,886	12,886	12,886	12,886
D	Municipal Supply Morris Co. Total	3-16	3.7		17,736	17,733	17,730	17,727	17,727	17,727		13,390	13,390	13,390	13,390	13,390	13,390
D	Municipal Supply Red River Co. Sulphur Basin	3-16	3.7		3,117	3,113	3,109	3,105	3,105	3,105		3,118	3,114	3,110	3,106	3,106	3,106
D	Municipal Supply Red River Co. Total	3-16	3.7		3,566	3,561	3,557	3,553	3,553	3,553		3,567	3,562	3,558	3,554	3,554	3,554
D	Municipal Supply Smith Co. Sabine and Total	3-16	3.7		9,700	10,031	10,471	10,919	11,717	12,716		9,030	9,461	9,995	10,536	11,499	12,723
D	Municipal Supply Titus Co. Sulphur Basin	3-16	3.7			1,525	1,618	1,673					1,524	1,617	1,672		
D	Municipal Supply Titus Co. Total	3-16	3.7			10,908	10,594	10,263					10,907	10,593	10,262		
D	Municipal Supply Upshur Co. Cypress Basin	3-16	3.7		13,476	13,539	13,579	13,601	13,619	13,644		12,668	12,731	12,771	12,793	12,811	12,836
D	Municipal Supply Upshur Co. Total	3-16	3.7		16,119	16,182	16,222	16,244	16,262	16,287		15,311	15,374	15,414	15,436	15,454	15,479
D	Municipal Supply Van Zandt Co. Neches Basin	3-16	3.7		2,544	2,667						2,545	2,668				
D	Municipal Supply Van Zandt Co. Total	3-16	3.7		12,847	13,086		13,414		13,639		12,848	13,087		13,415		13,640
D	Municipal Supply Wood Co. Sabine Basin	3-16	3.7		9,848	9,921	9,958	9,953	9,945	9,938		9,623	9,696	9,733	9,728	9,720	9,713
D	Municipal Supply Wood Co. Total	3-16	3.7		10,389	10,465	10,504	10,499	10,491	10,848		10,164	10,240	10,279	10,274	10,266	10,259
D	Municipal Supply Regional Total	3-16	3.7		358,256	358,078	358,176	358,311	360,481	361,058		419,509	411,271	404,768	398,552	395,453	386,909
D	Municipal Supply by Basin Cypress	3-17	3.8		81,444	81,249	81,043	80,807	81,510	79,902		83,654	83,462	83,258	83,024	83,645	82,075
D	Municipal Supply by Basin Neches	3-17	3.8		2,544	2,667						2,545	2,668				
D	Municipal Supply by Basin Red	3-17	3.8		18,855	18,828	18,777	18,739	18,624	18,435		24,762	23,864	23,126	22,428	21,767	20,615

C-503

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	non-decadal number	IPP document number 2010	2020	2030	2040	2050	2060	non-decadal number	Online Planning Database (DB12) number 2010	2020	2030	2040	2050	2060
D	Municipal Supply by Basin Sabine	3-17	3.8		166,718	166,703	167,197	16,763	169,416	172,127		171,993	172,243	172,738	173,290	175,009	177,849
D	Municipal Supply by Basin Sulphur	3-17	3.8		85,481	85,373	85,102	84,839	84,598	84,031		131,092	123,278	116,924	110,813	105,341	95,934
D	Municipal Supply by Basin Trinity	3-17	3.8		3,213	3,256	3,293	3,328	3,411	3,540		3,259	3,291	3,319	3,341	3,393	3,467
D	Municipal Supply by Basin Total	3-17	3.8		358,256	358,078	358,176	358,377	360,481	361,058		419,509	411,271	404,768	398,552	395,453	386,909
D	Mfg Supply Gregg Co. Sabine and Total	3-17	3.9		2,423	2,753	3,052	3,345	3,597	3,904		7,754	7,754	7,754	7,754	7,754	7,754
D	Mfg Supply Harrison County Sabine Basin	3-17	3.9		140,024	140,024	140,024	140,024	140,024	140,024		163,869	163,869	163,869	163,869	163,869	163,869
D	Mfg Supply Harrison County Total	3-17	3.9		140,035	140,036	140,037	140,038	140,039	140,041		163,880	163,881	163,882	163,883	163,884	163,886
D	Mfg Supply Regional Total	3-18	3.9		395,408	399,479	401,656	403,643	411,223	431,026		424,584	428,325	430,203	431,897	439,225	458,721
D	Mfg Supply by Basin Sabine	3-19	3.10		143,902	144,460	144,983	145,510	145,979	146,480		173,078	173,306	173,530	173,764	173,981	174,175
D	Mfg Supply by Basin Regional Total	3-19	3.10		395,408	399,479	401,656	403,643	411,223	431,026		424,584	428,325	430,203	431,897	439,225	458,721
D	S. E. Supply Marion Co. Cypress and Total	3-21	3.13		8,453	8,453	8,453	8,453	8,453	8,453		6,900	6,900	6,900	6,900	6,900	5,286
D	S. E. Supply Titus Co. Cypress and Total	3-21	3.13		60,337	60,337	60,337	60,337	60,337	60,337		70,113	70,535	70,554	70,483	70,454	72,342
D	Steam Electric Supply Regional Total	3-21	3.13		106,616	106,491	106,574	106,675	106,798	106,948		114,839	115,136	115,238	115,268	115,362	115,786
D	Steam Electric Supply Cypress Basin	3-22	3.14		69,610	69,610	69,610	69,610	69,610	69,610		77,833	78,255	78,274	78,203	78,174	78,448
D	Steam Electric Supply by Basin Regional Total	3-22	3.14		106,616	106,491	106,574	106,675	106,798	106,948		114,839	115,136	115,238	115,268	115,362	115,786
D	WWP Supply Cash SUD (Cash WSC in IPP text) Sabine	3-27	3.19		5,806	5,806	5,806	5,806	5,806	5,806		5,734	5,733	5,723	5,704	5,674	5,644
D	WWP Supply Cash SUD (Cash WSC in IPP text) Trinity	3-27	3.19		NA	NA	NA	NA	NA	NA		1,255	971	831	733	666	608
D	WWP Supply Cash SUD (Cash WSC in IPP text) Total	3-27	3.19		5,806	5,806	5,806	5,806	5,806	5,806		6,989	6,704	6,554	6,437	6,340	6,252
D	WWP Supply Cherokee Water Company	3-27	3.19		18,000	18,000	18,000	18,000	18,000	18,000		26,180	25,945	25,710	25,475	25,240	25,005
D	WWP Supply Commerce WD Sabine Basin	3-27	3.19		8,095	8,034	7,975	7,914	7,853	7,794		7,750	7,615	7,457	7,246	6,804	6,148
D	WWP Supply Commerce WD Sulphur Basin	3-27	3.19		371	0	0	0	0	0		315	315	295	295	295	295
D	WWP Supply Commerce WD Total	3-27	3.19		NA	NA	NA	NA	NA	NA		8,065	7,930	7,752	7,541	7,099	6,443
D	WWP Supply City of Emory Sabine Basin	3-27	3.19		1,900	1,886	1,872	1,858	1,844	1,931		1,901	1,887	1,873	1,859	1,845	1,832
D	WWP Supply City of Longview Cypress Basin	3-27	3.19		21,031	21,031	21,031	21,031	21,031	21,031		20,000	20,000	20,000	20,000	20,000	20,000
D	WWP Supply City of Longview Sabine Basin	3-27	3.19		42,698	42,698	42,698	42,698	42,698	42,698		59,710	59,710	59,710	59,710	59,710	59,710
D	WWP Supply City of Longview Total	3-27	3.19		NA	NA	NA	NA	NA	NA		79,710	79,710	79,710	79,710	79,710	79,710
D	WWP Supply City of Marshall Cypress Basin	3-27	3.19		25,000	25,000	25,000	25,000	25,000	25,000		16,000	16,000	16,000	16,000	16,000	16,000
D	WWP Supply NETMWD Cypress Basin	3-27	3.19		163,093	163,093	163,093	163,093	163,093	163,093		160,311	160,311	160,311	160,311	160,311	160,311
D	WWP Supply SRA Cypress Basin	3-27	3.19		229	266	297	321	351	384		NA	NA	NA	NA	NA	NA
D	WWP Supply SRA Sabine Basin	3-27	3.19		395,772	392,968	390,154	387,316	384,468	381,617		NA	NA	NA	NA	NA	NA
D	WWP Supply SRA Total	3-27	3.19		NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA
D	WWP Supply City of Texarkana Sulphur Basin	3-28	3.19		108,659	108,659	108,659	108,659	108,659	108,659		179,997	179,998	179,998	179,998	179,998	179,997
D	WWP Supply Regional Total	3-28	3.19		1,032,034	1,027,894	1,024,093	1,020,219	1,016,264	1,012,125		720,533	718,938	717,415	715,854	714,004	711,762
D	Bowie County Texarkana supply Red Basin	App. Ch. 3	Mun WUG Supply		675	706	725	743	738	738		6,583	5,742	5,074	4,432	3,882	2,919
D	Bowie County Texarkana supply Sulphur Basin	App. Ch. 3	Mun WUG Supply		5,797	6,061	6,227	6,381	6,337	6,337		56,534	49,311	43,572	38,060	33,337	25,067
D	Bowie Co. C-O supply Sulphur Caney/Elliot Creek Lake	App. Ch. 3	Mun WUG Supply		2,960	2,960	2,960	2,960	2,960	2,960		NA	NA	NA	NA	NA	NA
D	Bowie County Total supply	App. Ch. 3	Mun WUG Supply		17,427	17,902	18,191	18,460	18,341	18,303		71,112	63,228	56,925	50,868	45,525	36,254
D	Camp County Pittsburg supply Bob Sandlin Lake	App. Ch. 3	Mun WUG Supply		1,928	1,925	1,923	1,921	1,919	1,916		1,970	1,970	1,970	1,970	1,970	1,970
D	Camp County Pittsburg supply Lake O' the Pines	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		10,618	10,618	10,618	10,618	10,618	10,618
D	Camp County Total supply	App. Ch. 3	Mun WUG Supply		3,576	3,579	3,583	3,586	3,589	3,591		14,236	14,242	14,248	14,253	14,258	14,263
D	Cass County Hughes Springs supply Lake O' the Pines	App. Ch. 3	Mun WUG Supply		4,526	4,526	4,526	4,526	4,526	4,526		2,993	2,993	2,993	2,993	2,993	2,993
D	Cass County Total supply	App. Ch. 3	Mun WUG Supply		11,877	11,916	12,000	12,085	12,167	12,167		9,839	9,875	9,956	10,038	10,120	10,120
D	Delta County County-Other supply Trinity Aquifer	App. Ch. 3	Mun WUG Supply		133	133	48	48	48	48		83	132	48	48	48	48
D	Delta County Total supply	App. Ch. 3	Mun WUG Supply		2,394	2,384	2,289	2,281	2,257	2,225		2,344	2,383	2,289	2,281	2,257	2,225
D	Gregg Co. C-O supply Cypress Basin Lake O' the Pines	App. Ch. 3	Mun WUG Supply		38	38	38	38	38	38		25	25	25	25	0	0
D	Gregg Co. Tryon Road WSC supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		1,709	1,709	1,709	1,709	1,709	1,709		1,177	1,177	1,177	1,177	1,177	1,177
D	Gregg Co. Tryon Road WSC supply Cypress Cherokee	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		30	30	30	30	30	30
D	Gregg Co. Clarksville City supply Sabine Gladewater Lake	App. Ch. 3	Mun WUG Supply		257	0	0	0	0	0		NA	NA	NA	NA	NA	NA
D	Gregg Co. Longview supply Sabine Lake O' the Pines	App. Ch. 3	Mun WUG Supply		15,000	15,000	15,000	15,000	15,000	15,000		19,200	19,200	19,200	19,200	19,200	19,200
D	Gregg Co. Longview supply Sabine Basin Sabine RoR	App. Ch. 3	Mun WUG Supply		14,502	14,502	14,502	14,502	14,502	14,502		17,588	17,464	17,341	17,218	17,095	16,971

REGION D

Non-matching numbers

Region RPP	Item	IPP document reference: Page number	Table number	IPP document number: non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number: non-decadal number	2010	2020	2030	2040	2050	2060
D	Gregg Co.Tryon Road WSC supply Sabine L O' Pines	App. Ch. 3	Mun WUG Supply		941	941	941	941	941	941		950	950	950	950	950	950
D	Gregg County Total supply	App. Ch. 3	Mun WUG Supply		64,195	64,012	64,090	64,181	64,303	64,479		70,768	70,718	70,673	70,641	70,615	70,667
D	Harrison Co. Diana SUD supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		52	52	52	52	52	52		59	59	59	59	0	0
D	Harrison Co. Gum Springs WSC supply Cypress Carrizo	App. Ch. 3	Mun WUG Supply		22	22	22	22	22	22		41	41	41	41	41	41
D	Harrison Co. Tryon Road WSC supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		147	147	147	147	147	147		136	136	136	136	136	136
D	Harrison Co. Tryon Road WSC supply Cypress Cherokee	App. Ch. 3	Mun WUG Supply		67	67	67	67	67	67		37	37	37	37	37	37
D	Harrison Co. Marshall supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		2,000	2,000	2,000	2,000	2,000	2,000
D	Harrison Co. Longview supply Sabine L O' Pines	App. Ch. 3	Mun WUG Supply		5,000	5,000	5,000	5,000	5,000	5,000		800	800	800	800	800	800
D	Harrison Co. Longview supply Sabine Basin Sabine RoR	App. Ch. 3	Mun WUG Supply		4,834	4,834	4,834	4,834	4,834	4,834		733	728	723	717	712	707
D	Harrison Co. Marshall supply Sabine L O' Pines	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		7,000	7,000	7,000	7,000	7,000	7,000
D	Harrison Co. County-Other supply Sabine Carrizo	App. Ch. 3	Mun WUG Supply		656	712	753	783	819	871		669	725	766	796	832	884
D	Harrison Co. Gum Springs WSC supply Sabine Carrizo	App. Ch. 3	Mun WUG Supply		160	160	160	160	160	160		302	302	302	302	302	302
D	Harrison County Total supply	App. Ch. 3	Mun WUG Supply		43,246	43,472	43,630	43,709	43,802	43,936		44,085	44,306	44,459	44,532	44,561	44,690
D	Hunt Co. Cash SUD supply Sabine Lake Fork	App. Ch. 3	Mun WUG Supply				3,946							3,949			
D	Hunt Co. Cash SUD supply Sabine Lake Fork	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		2,240	2,240	2,240	2,240	2,240	2,240
D	Hunt Co. Cash SUD supply Sabine Lake Tawakoni	App. Ch. 3	Mun WUG Supply		2,011	1,974	1,943	1,919	1,889	1,856		NA	NA	NA	NA	NA	NA
	Hunt Co. County-Other supply Sulphur Lake Tawakoni	App. Ch. 4	Mun WUG Supply					390	771	1,369					439	955	1,885
	Hunt Co. County-Other supply Sulphur Woodbine	App. Ch. 3	Mun WUG Supply					265	442	717					216	258	201
	Hunt Co. North Hunt WSC supply Sulphur Woodbine	App. Ch. 3	Mun WUG Supply		56	57	58	59	60	61		142	137	136	137	138	139
	Hunt Co. Wolfe City supply Sulphur Turkey Creek Lake	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		140	140	120	120	120	120
D	Hunt Co. Wolfe City supply Sulphur Other Local Supply	App. Ch. 3	Mun WUG Supply		140	140	120	120	120	120		NA	NA	NA	NA	NA	NA
D	Hunt Co. Hickory Creek SUD supply Trinity Woodbine	App. Ch. 3	Mun WUG Supply		31	38	48	64	101	160		74	72	73	76	82	86
D	Hunt Co. County-Other supply Trinity Woodbine	App. Ch. 3	Mun WUG Supply		28	33	39	48	69	104		30	33	39	41	32	25
D	Hunt Co. County-Other supply Trinity Basin Trinity Aq.	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		0	0	0	7	37	79
D	Hunt County Total supply	App. Ch. 3	Mun WUG Supply		44,180	43,677	43,420	43,409	44,314	46,147		44,540	44,057	43,824	43,821	44,725	46,536
D	Marion Co. County-Other supply Carrizo	App. Ch. 3	Mun WUG Supply							1,553							1,588
D	Marion Co. Jefferson supply Lake O'the Pines	App. Ch. 3	Mun WUG Supply		9,760	9,760	9,760	9,760	9,760	9,760		7,031	7,031	7,031	7,031	7,031	7,031
D	Marion Co. Diana SUD supply Lake O'the Pines	App. Ch. 3	Mun WUG Supply		29	29	29	29	29	29		30	30	30	30	30	30
D	Marion County Total supply	App. Ch. 3	Mun WUG Supply		13,511	13,519	13,519	13,519	13,519	13,484		10,783	10,791	10,791	10,791	10,791	10,791
D	Morris Co. County-Other supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		1,309	1,306	1,303	1,300	1,300	1,300		1,242	1,242	1,242	1,242	1,242	1,242
D	Morris Co. Daingerfield supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		10,332	10,332	10,332	10,332	10,332	10,332		7,375	7,375	7,375	7,375	7,375	7,375
D	Morris Co. Hughes Springs supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		28	28	28	28	28	28		65	65	65	65	65	65
D	Morris Co. Lone Star supply Cypress Lake O'the Pines	App. Ch. 3	Mun WUG Supply		4,841	4,841	4,841	4,841	4,841	4,841		3,482	3,482	3,482	3,482	3,482	3,482
D	Morris County Total supply	App. Ch. 3	Mun WUG Supply		17,736	17,733	17,730	17,727	17,727	17,727		13,390	13,390	13,390	13,390	13,390	13,390
D	Rains Co. Point supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply		261	258	255	252	249	246		50	48	47	45	44	42
D	Rains Co. Point supply Lake Fork	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		211	210	208	207	205	204
D	Red River Co. Total supply	App. Ch. 3	Mun WUG Supply		3,566	3,561	3,557	3,553	3,553	3,553		3,567	3,562	3,558	3,554	3,554	3,554
D	Smith Co. Tyler supply Lake Tyler	App. Ch. 3	Mun WUG Supply		1,000	1,000	1,000	1,000	1,000	1,000		358	464	567	668	844	1,081
D	Smith Co. County-Other supply Lake Tyler	App. Ch. 3	Mun WUG Supply		28	34	43	51	62	74		NA	NA	NA	NA	NA	NA
D	Smith County Total supply	App. Ch. 3	Mun WUG Supply		9,700	100,031	10,471	10,919	11,717	12,716		9,030	9,461	9,995	10,536	11,499	12,723
D	Titus County Total supply	App. Ch. 3	Mun WUG Supply			10,908	10,594	10,263					10,907	10,593	10,262		
D	Upshur Co. County-Other supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		381	381	381	381	381	381		394	394	394	394	394	394
D	Upshur Co. Diana SUD supply Cypress L O'Pines	App. Ch. 3	Mun WUG Supply		658	658	658	658	658	658		650	650	650	650	650	650
D	Upshur Co. Ore City SUD supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply		2,682	2,682	2,682	2,682	2,682	2,682		1,869	1,869	1,869	1,869	1,869	1,869
D	Upshur Co. C-O supply Sabine Big Sandy Creek Lake	App. Ch. 3	Mun WUG Supply		190	190	190	190	190	190		40	40	40	40	40	40

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number non-decadal number	2010	2020	2030	2040	2050	2060
D	Upshur Co. County-Other supply Sabine Loma Lake	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		150	150	150	150	150	150
D	Upshur County Total supply	App. Ch. 3	Mun WUG Supply		16,119	16,182	16,222	16,244	16,262	16,287		15,311	15,374	15,414	15,436	15,454	15,479
D	Van Zandt Co. Comb. Cons. WSC supply Lake Fork	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		229	266	297	321	351	384
D	Van Zandt Co. Comb. Cons. WSC supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply		229	266	297	321	351	384		NA	NA	NA	NA	NA	NA
D	Van Zandt Co. Edgewood supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply		793	787	781	776	770	764		NA	NA	NA	NA	NA	NA
D	Van Zandt Co. Edgewood supply Lake Fork	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		793	787	781	776	770	764
D	Van Zandt Co. S. Tawakoni WSC supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply		1,056	1,048	1,041	1,033	1,025	1,018		NA	NA	NA	NA	NA	NA
D	Van Zandt Co. S. Tawakoni WSC supply Lake Fork	App. Ch. 3	Mun WUG Supply		NA	NA	NA	NA	NA	NA		1,056	1,048	1,041	1,033	1,025	1,018
D	Van Zandt County Total supply	App. Ch. 3	Mun WUG Supply		12,847	13,086		13,414		13,639		12,848	13,087		13,415		13,640
D	Wood Co. Bright Star WSC supply Sabine Lake Fork	App. Ch. 3	Mun WUG Supply		225	225	225	225	225	225		NA	NA	NA	NA	NA	NA
D	Wood County Total supply	App. Ch. 3	Mun WUG Supply		10,389	10,465	10,504	10,499	10,491	10,484		10,164	10,240	10,279	10,274	10,266	10,259
D	Regional Total supply	App. Ch. 3	Mun WUG Supply		358,255	358,076	358,174	358,310	360,480	361,057		419,509	411,271	404,768	398,552	395,453	386,909
D	Needs Bowie Co. (Central Bowie WSC)	4-3	4.1					363							-369		
D	Needs Bowie Co. (Redwater)	4-3	4.1		145	159	166	178	173	171		0	-4	-7	-14	-14	-14
D	Needs Bowie Co. (RRRA) County-Other	4-3	4.1					21	567	1,114		-85	-109	-120	-131	-118	-111
D	Needs Bowie Co. (Burns Redbank WSC) C-O	4-3	4.1		80	89	94	99	95	92		NA	NA	NA	NA	NA	NA
D	Needs Bowie Co. (Oak Grove WSC)	4-3	4.1		44	48	50	52	50	49		0	0	0	0	0	0
D	Needs Camp Co. (Woodland Harbor) C-O	4-3	4.2		61	60	60	60	60	60		0	0	0	0	0	0
D	Needs Cass Co. (Manufactoring)	4-3	4.3		14,731	23,093	29,686	36,013	41,237	50,471		0	0	0	0	0	0
D	Needs Delta Co. (Ben Franklin WSC) C-O	4-4	4.4				33	36	36	36				0	0	0	0
D	Needs Gregg Co. (Clarksville City)	4-4	4.5		120	134	148	164	186	217		-116	-129	-143	-158	-179	-209
D	Needs in Gregg Co. (Liberty City WSC)	4-4	4.5					53	177	353					-58	-180	-354
D	Needs Gregg Co. (West Gregg SUD/WSC?)	4-4	4.5				56	119	208	333				-41	-89	-153	-245
D	Needs Gregg Co. (Liberty-Danville FWSD 2) C-O	4-4	4.5					1	17	40					0	0	0
D	Needs Gregg Co. (Starrville-Friendship WSC) C-O	4-4	4.5					19	54	101					0	0	0
D	Needs Harrison County (Waskom)	4-5	4.6		55	101	134	159	188	231		-47	-85	-112	-133	-157	-192
D	Needs Harrison Co. (Blocker-Crossroads)C-O	4-5	4.6		78	91	100	107	116	128				-29	-60	-96	-149
D	Needs Harrison County (Caddo Lake WSC) C-O	4-5	4.6		10	6	19	27	37	52		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co.(Leigh WSC)C-O	4-5	4.6							1		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co. (Scottsville) C-O	4-5	4.6							7		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co. (Talley WSC) C-O	4-5	4.6		59	81	97	109	122	142		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co. (Waskom Rural WSC #1) County-	4-5	4.6							5		NA	NA	NA	NA	NA	NA
D	Needs Hopkins Co. (Miller Grove WSC) C-O	4-5	4.7				24	30	17	6				-14	-26	0	0
D	Needs Hunt Co. (Combined Consumers WSC)	4-6	4.8				159	705	1,885	3,715				0	0	-832	-2,617
D	Needs Hunt Co. (Hickory Creek SUD)	4-6	4.8					198	670	1,418			-6	-27	-198	-689	-1,492
D	Needs Hunt Co. (North Hunt WSC)	4-6	4.8		164	247	366	560	988	1,659		-78	-167	-288	-482	-910	-1,581
D	Needs Hunt Co. (Jacobia WSC) C-O	4-6	4.8						84	328				-1	-5	-12	-595
D	Needs Hunt Co. (Little Creek Acres) C-O	4-6	4.8		20	27	37	54	93	153		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co. (Maloy WSC) C-O	4-6	4.8		26	39	57	84	154	263		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co.(Poetry WSC) C-O	4-6	4.8					1	14	46		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co. (Shady Grove WSC) C-O	4-6	4.8							280		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co.(West Leonard WSC)C-O	4-6	4.8				1	5	12	24		NA	NA	NA	NA	NA	NA
D	Needs Lamar Co.(Petty WSC)C-O	4-6	4.9		1	2	20	21	20	20		0	0	0	0	0	0
D	Needs Rains Co.(South Rains WSC) C-O	4-7	4.10		160	239	284	295	287	277		-68	-167	-227	-240	-229	-217
D	Needs Smith Co. (Crystal Systems Inc.)	4-7	4.11					45	209	425					0	-127	-328
D	Needs Smith Co.(Star Mountain WSC)C-O	4-7	4.11					1	36	83					0	0	0
D	Needs Titus County - (Steam Electric)	4-8	4.12				951	11,759	24,933	40,992				0	-1,613	-14,816	-28,987
D	Needs Van Zandt Co. (Grand Saline)	4-8	4.13					107							-99		
D	Needs Van Zandt Co. (Corinth WSC) C-O	4-8	4.13						6	22		0	0	0	-98	-265	-477
D	Needs Van Zandt Co. (Crooked Creek WSC)C-O	4-8	4.13			8	21	30	42	56		NA	NA	NA	NA	NA	NA
D	Needs Van Zandt Co.(Edom WSC)C-O	4-8	4.13		31	53	72	86	104	124		NA	NA	NA	NA	NA	NA
D	Needs Van Zandt Co.(Fruitville WSC) C-O	4-8	4.13			64	119	160	211	269		NA	NA	NA	NA	NA	NA
D	Needs Van Zandt Co.(Little Hope-Moore WSC)C-O	4-8	4.13		13	49	79	102	130	162		NA	NA	NA	NA	NA	NA
D	Needs Wood County - (Mineola)	4-8	4.14		203	318	374	367	360	360		-198	-307	-360	-354	-347	-347
D	Needs Contracts RRBasin(Burns Redbank WSC)C-O	4-9	4.15		80	89	94	99	95	92		-58	-70	-75	-81	-75	-71

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	IPP document reference: Table number	IPP document number: non-decadal number	IPP document number: 2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number: non-decadal number	2010	2020	2030	2040	2050	2060
D	Needs Contracts RRBasin (Oak Grove WSC)	4-9	4.15		21	23	24	25	24	24		NA	NA	NA	NA	NA	NA
D	Needs Contracts Sulphur Basin (Redwater)	4-9	4.16		146	159	167	178	174	171		0	-4	-7	-14	-14	-14
D	Needs Contracts Sulphur Basin (North Hunt WSC)	4-9	4.16		164	247	366	560	988	1,659		-78	-167	-288	-482	-910	-1,581
D	Needs Contracts Sulphur Basin (Maloy WSC)C-O	4-9	4.16		26	39	57	84	154	263		-27	-39	-59	-76	-43	-40
D	Needs Contracts Sulphur Basin (Oak Grove)C-O	4-9	4.16		23	25	26	27	26	25		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (Ben Franklin WSC)C-O	4-10	4.17				33	36	36	36		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (Miller Grove)C-O	4-10	4.17				24	30	17	6		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin(Petty WSC) C-O	4-10	4.17		1	2	20	21	20	20		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (RRRA) C-O	4-10	4.17					21	567	1,114		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (West Delta WSC)C-O	4-10	4.17		19	27	36	48	48	48		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (manufacturing)	4-10	4.17		14,731	23,093	29,686	36,013	41,237	50,471		0	0	0	0	0	0
D	Needs Cypress Basin (Steam Electric)	4-10	4.18					9,154	22,328	38,387					-1,613	-14,816	-28,987
D	Needs Cypress Basin (City of Linden)	4-10	4.18		92	98	101	106	104	104		0	0	0	0	0	0
D	Needs Cypress Basin (City of Waskom)	4-10	4.18			28	55	76	100	135		-47	-85	-112	-133	-157	-192
D	Needs Cypress Basin (Pritchett WSC)	4-10	4.18					3	9	18					0	0	0
D	Needs Cypress Basin (Woodland Harbor)C-O	4-10	4.18		61	60	60	60	60	60		0	0	0	0	0	0
D	Needs Cypress Basin (City of Scotsville)C-O	4-10	4.18							7		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin (Caddo Lake WSC)C-O	4-10	4.18		10	6	19	27	37	52		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin (Leigh WSC)C-O	4-10	4.18							1		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin (Talley WSC) C-O	4-10	4.18		11	15	17	20	22	26		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin(Waskom Rural WSC 1)C-O	4-10	4.18							5							NA
C-507	Needs Contracts Sabine (Combined Consumers WSC)	4-11	4.19				159	705	1,885	3,715					0	0	-832	-2,617
	Needs Contracts Sabine (Jacobia WSC)C-O	4-11	4.19						84	328		-68	-167	-256	-398	-551	-1,305
	Needs Contracts Sabine(Poetry WSC)C-O	4-11	4.19		6	14	25	40	71	126		NA	NA	NA	NA	NA	NA
	Needs Contracts Sabine(Shady Grove WSC)C-O	4-11	4.19							280		NA	NA	NA	NA	NA	NA
	Needs Contracts Sabine(South Rains WSC)C-O	4-11	4.19		160	239	284	295	287	277		NA	NA	NA	NA	NA	NA
	Needs Sabine(Blocker-Crossroads WSC)C-O	4-11	4.20		78	91	100	107	116	128		NA	NA	NA	NA	NA	NA
D	Needs Sabine (Star Mountain WSC)C-O	4-11	4.20					1	36	83		NA	NA	NA	NA	NA	NA
D	Needs Sabine (Starrville-Friendship WSC)C-O	4-11	4.20					19	54	101		NA	NA	NA	NA	NA	NA
D	Needs Sabine (Talley WSC)C-O	4-11	4.20		48	66	80	89	22	116		NA	NA	NA	NA	NA	NA
D	Needs Sabine (City of Grand Saline)	4-11	4.20		65	109	142	169	207	255		0	-39	-73	-99	-137	-185
D	Needs Sabine (City of Clarksville City)	4-11	4.20		120	134	148	164	186	217		-116	-129	-143	-158	-179	-209
D	Needs Sabine (City of Mineola)	4-11	4.20		203	318	374	367	360	360		-198	-307	-360	-354	-347	-347
D	Needs Sabine (Crystal Systems Inc.)	4-11	4.20					45	209	425					0	-127	-328
D	Needs Sabine (Liberty City WSC)	4-11	4.20					53	177	353					-58	-180	-354
D	Needs Sabine (Steam Electric)	4-11	4.20		873	5,751	11,362	18,203	26,542	36,706		-8,639	-12,366	-14,457	-18,858	-26,951	-36,816
D	Needs Sabine Basin (West Gregg SUD)	4-11	4.20				56	119	208	333				-55	-116	-202	-323
D	Supplies and Demands Cash SUD Total	4-12	4.21						-1,015	-4,546						-652	-4,152
D	Supplies and Demands for FCWD Total	4-15	4.25		-595	-835	-1,075	-1,315	-1,555	-1,795		0	0	0	0	0	0
D	Water Supplies and Demands for SRA Total	4-17	4.28		0	0	0	0	0	0		-12,648	-13,528	-14,415	-15,310	-16,220	-17,132
D	Bowie Co. Redwater WMS Volume	4-47	4-40				166			171				61			65
D	Bowie C-O (Burns Redbank, Oak Grove WSC) WMS	4-47	4-40				156			152				250			1,361
D	Bowie C-O (RRRA) WMS	4-48	4-41				0			1,114							NA
D	Harrison C-O increase existing contract WMS	4-47	4-40		NA	NA	NA	NA	NA	NA		84	120	146	166	189	222
D	Hunt Co Cash SUD WMS	4-47	4-40				0							910			3,865
D	Hunt Co Combined Consumers WSC WMS	4-47	4-40				159			3,715				0			2,617
D	Hunt C-O(Jocobia, Maloy, &Shady Grove WSC)WMS	4-47	4-40				57			871				37			807
D	Titus Co Steam Electric WMS	4-47	4-40				951			40,992				0			29,350
D	Cass Co Manufacturing WMS	4-48	4-41				29,686			50,471		NA	NA	NA	NA	NA	NA
D	Gregg Co West Gregg SUD WMS	4-49	4-41				70			350				53			263
D	Harrison C-O Drill New Well WMS	4-49	4-41				290			543				305			531
D	Hunt Co Celeste - New Surface Water WMS	4-49	4-41							108							63
D	Hunt Co Hicory Creek SUD Drill New Well WMS	4-49	4-41				0			1,418				297			1,667
D	Smith Co West Gregg SUD - new well WMS	4-49	4-41				NA			NA		0	0	17	35	52	87
D	Smith C-O (Star Mountain WSC)- new well WMS	4-49	4-41				0			108		108	108	108	324	324	324
D	Van Zandt Co - Canton - New Well WMS	4-49	4-41				29			161				97			194
D	Van Zandt Co - Grand Saline - New Well WMS	4-49	4-41				73			185				161			323
D	Van Zandt Co - R P M WSC - New Well WMS	4-49	4-41							10							65

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	IPP document reference: Table number	IPP document number: non-decadal number	IPP document number: 2010	IPP document number: 2020	IPP document number: 2030	IPP document number: 2040	IPP document number: 2050	IPP document number: 2060	Online Planning Database (DB12) number: non-decadal number	Online Planning Database (DB12) number: 2010	Online Planning Database (DB12) number: 2020	Online Planning Database (DB12) number: 2030	Online Planning Database (DB12) number: 2040	Online Planning Database (DB12) number: 2050	Online Planning Database (DB12) number: 2060
D	Van Zandt Co - VAN - New Well WMS	4-49	4-41							83							134
D	Van Zandt C-O (Corinth,Crooked Creek,Edom,Fruitavle,Little Hope-Moore WSCs) - New Well WMS	4-49	4-41				397			699				344			661
D	Wood C-O New Well WMS	4-50	4-41				NA			NA		38	38	38	38	38	38
D	Wood Co Bright Star Salem WSC WMS	4-50	4-41		NA	NA	NA	NA	NA	NA		255	255	255	255	255	255
D	GW Strategy Total	4-50	4-41				2,016			6,500				2,336			7,065
D	SW Strategy Total	4-50	4-41				44,552			77,236				18,555			88,094
D	Gregg Co West Gregg SUD WMS	4-61	3rd paragraph							350							268
D	Harrison Co-Waskom	4-63	last paragraph		55							92					
D	Bowie Co RedWater WMS	App. Ch. 4	WMS Summary		0	4	7	14	14	14		53	58	61	66	65	65
D	Bowie C-O (Redwater) should be listed as a WUG not C-O	App. Ch. 4	WMS Summary		146	159	-167	178	174	171		NA	NA	NA	NA	NA	NA
D	Bowie C-O WMS (Burns-Redbank WSC+Oak Grove+Red River Redevelopment)	App. Ch. 4	WMS Summary		124	137	144	172	712	1,255		217	238	250	284	821	1,361
D	Delta C-O (Ben Franklin WSC) WMS	App. Ch. 4	WMS Summary				36							33			
D	Gregg Co-West Gregg SUD WMS	App. Ch. 4	WMS Summary				70	140	210	350				53	105	158	263
D	Harrison C-O Increase existing contract WMS	App. Ch. 4	WMS Summary		NA	NA	NA	NA	NA	NA		84	120	146	166	189	222
D	Harrison C-O New Well WMS	App. Ch. 4	WMS Summary		189	247	290	349	349	543		145	255	305	305	415	531
D	Hunt Co Cash SUD-New Surface Water Contract	App. Ch. 4	WMS Summary						0	3,121						449	3,865
D	Hunt Co Cash SUD-Purchase from Provider	App. Ch. 4	WMS Summary		537	821	961	1,059	1,126	1,184		530	796	910	1,003	1,037	1,057
D	Hunt Co-Hickory Creek SUD-New Wells WMS	App. Ch. 4	WMS Summary		0	0	0	269	807	1,613		121	188	297	486	932	1,667
D	Hunt C-O (West Leonard WSC)-New Well WMS	App. Ch. 4	WMS Summary				81	81	81				3	5	9	16	
D	Hunt C-O (Little Creek Acres) New SW Contract	App. Ch. 4	WMS Summary		43	43	43	108	108	172		20	27	37	54	93	153
D	Hunt C-O (Jacobia WSC+Maloy WSC+PoetryWSC+Shady GroveWSC)-Increase Existing Contract WMS	App. Ch. 4	WMS Summary		26	39	57	85	252	971		0	0	0	1	98	654
D	Lamar C-O (Patty WSC) WMS	App. Ch. 4	WMS Summary		20	20		20				1	2		21		
D	Smith C-O (Star Mountain WSC) WMS	App. Ch. 4	WMS Summary					108	108	108		108	108	108	324	324	324
D	Titus Co Steam Electric WMS	App. Ch. 4	WMS Summary					11,759	24,933						1,613	14,816	
D	Van Zandt Co - Grand Saline WMS	App. Ch. 4	WMS Summary		0							161					
D	Van Zandt C-O WMS (Corinth WSC+Crooked Creek WSC+Edom WSC+Fruitvale WSC+Little Hope-Moore)	App. Ch. 4	WMS Summary			236	335	392	518				263	344	430	538	
D	Wood C-O new Well WMS	App. Ch. 4	WMS Summary		NA	NA	NA	NA	NA	NA		38	38	38	38	38	38
D	Wood Co Bright Star Salem WSC WMS	App. Ch. 4	WMS Summary		NA	NA	NA	NA	NA	NA		255	255	255	255	255	255
D	Bowie Co.- Redwater WMS	App. Ch. 4	Eval. by County		146	159	167	178	174	171		53	58	61	66	65	65
D	Bowie C-O(Burns-RedbkWSC+Oak Grove+RRRA)	App. Ch. 4	Eval. by County		124	137	144	172	712	1,255		217	238	250	284	821	1,361
D	Gregg Co-West Gregg SUD WMS	App. Ch. 4	Eval. by County				70	140	210	350				53	105	158	263
D	Harrison C-O Increased existing contract	App. Ch. 4	Eval. by County		NA	NA	NA	NA	NA	NA		84	120	146	166	189	222
D	Harrison C-O New Well WMS	App. Ch. 4	Eval. by County		189	247	290	349	349	543		145	255	305	305	415	531
D	Hunt Co Cash SUD-New SW Contract	App. Ch. 4	Eval. by County						0	3,121						449	3,865
D	Hunt Co Cash SUD-Purchase from Provider	App. Ch. 4	Eval. by County		537	821	961	1,059	1,126	1,184		530	796	910	1,003	1,037	1,057
D	Hunt Co-Hickory Creek SUD-New Wells WMS	App. Ch. 4	Eval. by County		0	0	0	269	807	1,613		121	188	297	486	932	1,667
D	Hunt C-O (West Leonard WSC)-New Well WMS	App. Ch. 4	Eval. by County				81	81	81				3	5	9	16	
D	Hunt C-O (Jacobia WSC+Maloy WSC+PoetryWSC+Shady GroveWSC)-Increase Existing Contract WMS	App. Ch. 4	Eval. by County		26	39	57	85	252	971		0	0	0	1	98	654
D	Smith C-O (Star Mountain WSC) WMS	App. Ch. 4	Eval. by County					108	108	108		108	108	108	324	324	324
D	Titus Co Steam Electric WMS	App. Ch. 4	Eval. by County					11,759	24,933						1,613	14,816	
D	Camp Co Bi-County WSC Capital Cost	App. Ch. 4	Eval. by County	$44,169							$51,585						
D	Gregg Co Clarksville City Capital Cost	App. Ch. 4	Eval. by County	$1,686,493							$1,518,443						
D	Gregg Co Liberty City WSC Capital Cost	App. Ch. 4	Eval. by County	$1,535,841							$1,170,845						
D	Gregg Co West Gregg SUD Capital Cost	App. Ch. 4	Eval. by County	$1,973,197							$1,502,847						
D	Harrison Co Waskom Capital Cost	App. Ch. 4	Eval. by County	$718,665							$547,039						
D	Harrison Co County-Other Capital Cost	App. Ch. 4	Eval. by County	$2,451,846							$1,779,126						
D	Smith Co Crystal Systems Capital Cost	App. Ch. 4	Eval. by County	$1,383,789							$992,200						
D	Smith Co. Lindale Rural WSC Capital Cost	App. Ch. 4	Eval. by County	$413,194							$316,158						
D	Smith Co. Lindale Capital Cost	App. Ch. 4	Eval. by County	$669,409							$510,648						
D	Smith Co. County-Other Capital Cost	App. Ch. 4	Eval. by County	$413,194							$316,158						
D	Wood Co.Mineola Capital Cost	App. Ch. 4	Eval. by County	$313,957							$243,334						

REGION D

Region IPP	Item	IPP document reference: Page number	IPP document reference: Table number	*Non-matching numbers* — IPP document number: non-decadal number	IPP document number: 2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number: non-decadal number	Online Planning Database (DB12) number: 2010	2020	2030	2040	2050	2060
D	Wood Co. County-Other Capital Cost	App. Ch. 4	Eval. by County	NA							$227,734						
D	Alternative WMS - Ben Franklin WSC Purchase Water from Lamar Co. WCD WMS volume or cost	App. Ch. 4	Eval. by County	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D	Alternative WMS - Canton Grand Saline Creek Reservoir WMS volume or cost	App. Ch. 4	Eval. by County	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D	Alternative WMS - Little Hope-Moore WSC Purchase from Edgewood WMS volume or cost	App. Ch. 5	Eval. by County	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

C-509

REGION D

POTENTIALLY OVER ALLOCATED SOURCES

Source Name	Source Region	Source County	Source Basin	Comments	Over allocated by WUG or WWP?	Interregional?
TAWAKONI LAKE/RESERVOIR	D	RESERVOIR	SABINE	To be confirmed	WUG	Yes - C/D

Response to comments for inclusion in Region D 2010 Water Plan:

TWDB Comments on Initially Prepared 2011 Region D Regional Water Plan

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

General Comment

1. Please indicate whether/how the results of region-specific studies (referred to in Appendices A and B) were used in the development of the plan. *[Contract Exhibit "C" Section 11.1]*

   Response: The Sub-Regional Water Supply Master Plan determined that there are several clusters of public water supply systems that are good candidates for regionalization. The study increased awareness of the benefits of regionalization and/or consolidation. During the study process there were 49 systems which merged or were dissolved in Region D. However, while logistically feasible the conclusion of the study is that the larger WUGs prefer to remain autonomous and were not immediately interested in regionalization. Regionalization/merger of existing WUG's was explored on a case by case basis in the individual strategy evaluations. An alternative strategy for a reservoir on Grand Saline Creek was presented for the City of Canton. While this is currently presented as a City strategy, it is likely to become a regional alternative in future rounds of planning.This would resolve one of the clustered areas presented in the Sub- Regional Plan.

   The Brackish Groundwater Study produced scenarios were us of saline water would be feasible. However, at this time, due to the availability of groundwater and surface water, brackish water remains to be a more expensive option. While there are a few communities that have expressed interest in use of brackish groundwater, there currently are no WUGs with this strategy.

Executive Summary

2. Page ES-4, 5th paragraph: The last sentence discussing regional water demand states that projects developed by 2030 indicate usage will reach 659,871 acre-feet per year (acft/yr). This number differs from the Board-approved 2030 projected total water demand of 653,207 acft/yr by 2030 presented in Table 2.4. Please revise as appropriate throughout the plan.

   Response: 2030 projected water demand has been revised as appropriate throughout the plan.

3. Page ES-8, 3rd paragraph, 2nd sentence: The water need volumes could not be replicated from data presented in Chapter 4 of the plan. Please clarify how, based on the information contained in the plan, the water need of 30,671 acft/yr in 2060 was derived. Please also revise the sentence as it currently indicates that recommended water management strategies are generating water needs in the region.

   Response: Water need volumes have been reconciled with Table 4.8, Page 4 – 6; subject sentence has been revised.

4. Page ES-8, last paragraph; page 5-7, 1st paragraph: The socioeconomic impact analysis should be updated for the final 2011 Region D Regional Water Plan with the analysis provided by the TWDB as requested by the planning group.

   Response: Socioeconomic impact analysis has been updated and included in the Appendix C, under Chapter 5.

5. Page ES-14, 2nd paragraph: The plan indicates that the potential Pecan Bayou Reservoir is in the Sulphur River Basin. Please revise to indicate that it is located in the Red River Basin.

   Response: Revised.

Chapter 1

6. Page 1-25, Table 1.6: Please clarify the meaning of "Supply" in this table (e.g. firm yield).

   Response: Revised to read "firm yield."

7. Page 1-38, Sections 1.5(b) and (c): The summary of local and regional water plans does not indicate if publicly available plans of major agricultural, manufacturing, and commercial water users were used in the development of the plan. Please clarify. *[Title 31 Texas Administrative Code (TAC) §357.5(k)(1)(E)]*

   Response: The following comment has been added to section 1.5 (c) - Major steam electric users were involved in the development of the steam electric projections. The planning group is not aware of any other agricultural, manufacturing, or commercial water users in the North East Texas Region with publicly available plans of a magnitude sufficient to impact the Regional Plan.

8. Page 1-42, 1st paragraph: Please clarify whether the Groundwater Management Area 8 managed available groundwater volumes were used in the plan. *[Contract Exhibit "C" Section 3.2]*

   Response: Groundwater Management Areas (GMAs) in the Region include GMA 8, which encompasses the northern half of the Region, and GMA 11, which includes the southern half of the Region (See Figures 1.21 and 1.22). These GMAs contain Groundwater Conservation Districts (GCDs), which work together to manage and protect local groundwater resources. The GCDs in GMA 8 approved "desired future conditions" for the Woodbine aquifer in 2007, the Trinity aquifer in 2008, and the Blossom and Nacatoch aquifers in 2009. These DFCs were then used by the TWDB to estimate the amount of managed available groundwater (MAG) for GMA 8. These MAG volumes (ac-ft/year) were used as the groundwater availability in the plan. TWDB GAM-Runs that were used include GAM Run 08-14mag and GAM Run 08-84mag. GMA 11 has not approved desired future conditions as of 2009. Therefore, MAG estimates for the Carrizo-Wilcox and other aquifers in GMA-11 were not changed from the previous Region D water plan.

9. Page 1-42, 1st paragraph; page 8-44: The plan indicates that there are "no GCDs" in Region D. Please identify the Harrison County Groundwater Conservation District as existing in Region D. Please also refer to the updated status of the created but unconfirmed groundwater conservation district in Harrison County. *[31 TAC §357.5(k)(1)(D)]*

   Response: Text added in Section 1.6 (c)

Chapter 2

10. Please present wholesale water provider water demands by category of use. *[31 TAC §357.7(a)(2)(B)]*

    Response: Wholesale water provider water demands by category of use have been included in Appendix C.

11. Please present the current contractual obligations of wholesale water providers. *[31 TAC §357.7(a)(2)(B)]*

    Response: Current contractual obligations of wholesale water providers are included in Appendix C.

12. Page 2-1, 2nd paragraph; Page 2-3, 2nd paragraph; Page 2-6, 1st paragraph: The text states that population projections used in the plan are "essentially" the same as the 2006 Region D plan. Please revise to reflect that population and water demand projection values in the 2011 Region D Regional Water Plan are identical to those in the 2006 Region D Regional Water Plan.

    Response: Section revised.

Chapter 3

13. Please clarify how source water supply estimates within the region were updated. *[31 TAC §358.3(b)(2)]; Contract Scope of Work Task 3.3]*

    Response: Page 1 of Chapter 3 has been revised as follows:

    As part of the evaluation of current water supplies in the Region, the planning group was charged with updating the water supply availability numbers from the 2006 plan. Water supply estimates were updated using a variety of methods:

    - For groundwater, estimates were updated incorporating data from the TCEQ groundwater availability models for the Queen City, Sparta, and Nacatoch aquifers.
    - In the Red River Basin, Lamar County reservoir yields were updated based upon a modification of the WAM for the Red River Basin, as developed for the City of Paris by HDR Engineers and approved by the TWDB.
    - A survey form was distributed to all municipal WUGs to identify any changes in supply sources or amounts since the 2006 plan – for example, new wells, purchase contract renewals, new contracts, mergers, or new reuse supplies.

- In the Sulphur and Cypress Basins, the yield of various stream electric water supplies have been updated using TCEQ supplied WAM data.

Surface water supply's for which a consensus was reached in the 2006 plan, and which were not subject to further questions were left unchanged.

14. Please present wholesale water provider water supplies by category of use. *[31 TAC §357.7(a)(3)(G)]*

    Response: Wholesale water providers' water supplies by category of use have been included in Appendix C.

15. Please present wholesale water provider water supplies by contractual obligation. *[31 TAC §357.7(a)(3)(G)]*

    Response: Wholesale water providers' water supplies by contractual obligations are included in Appendix C.

16. The 2006 Region D Regional Water Plan was amended in 2009 to reflect a new source of surface water supply for Bright Star Salem Water Supply Corporation. The supply volumes of this amendment, ranging from 519 acft/yr in 2010 to 671 acft/yr in 2060, are not reflected in the 2011 plan. Please revise as appropriate throughout the plan and, if necessary, in the online planning database.

    Response: Supplies for Bright Star WSC from Sabine River Authority have been added to the plan, and the online planning database updated.

17. Page 3-1, Table 3.1: The run-of-river supply volumes (including totals) could not be confirmed from the various "Combined Run-of-River" supplies in the online planning database and throughout the plan. Please present in the plan (e.g. in tabular form) run-of-river supplies. *[31 TAC §357.7(a)(3)(B)]*

    Response: Table C3.1 has been revised to match DB12. Surface water totals in Table C3.1 include Combined Run-of-River supplies shown in Table C3.2, C3.4, and C3.5.

18. Page 3-1, Table 3.1: The available water amount from reuse is labeled as both direct and indirect, however the reuse availability in the online planning database is only classified as direct. Please revise as appropriate throughout the plan and, if necessary, in the online planning database.

    Response: Revised to state "Direct Reuse" in Table C3.1.

19. Page 3-1, Table 3.1: The available water amounts from reservoirs could not be replicated based on Tables 3.2 through 3.5 in Chapter 3. Please explain how the water supply volumes from reservoirs in Region D were produced.

    Response: Table C3.1 and Tables C.3.2 through C3.5 have been revised. Surface water totals in Table C3.1 do not include Direct Reuse. See response to TWDB comment #13 for clarification on how source water supply estimates within the region were updated.

20. Page 3-1, Table 3.1: The available water amounts for irrigation and livestock local supplies could not be replicated based on Tables 3.11, 3.12, 3.17, and 3.18 in Chapter 3. Please explain how the irrigation and livestock local water supply availabilities were determined.

    Response: Table C3.1 shows supplies from local sources such as ponds, while tables C3.11, C3.12, C3.17, and C3.18 show supplies from combination of sources such as local ponds, run-of-river, groundwater etc.

21. Page 3-5, Table 3.4: The water supply volume presented for Lake Sulphur Springs of 9,800 acft/yr is quoted in the plan on page 4-22, 2nd paragraph as being a safe yield. Please verify the basis of this yield and confirm whether the surface water availabilities for the reservoirs presented in Tables 3.2 through 3.5 are firm yield values as use of safe yield was not approved by TWDB. *[31 TAC §357.7(a)(3)(B)]*

    Response: "Safe yield" has been revised to read "firm yield." Surface water availabilities in Tables C3.2 through C3.5 are firm yield values.

22. Page 3-5, Table 3.4: Please include Turkey Creek Lake in the summary of surface water supplies for the Sulphur Basin. *[31 TAC 357.7(a)(3)(F)]*

    Response: Turkey Creek Lake supplies have been added to Table C3.4.

23. Page 3-8, 3rd and 6th paragraphs: The plan incorrectly references TWDB planning guidelines as "Exhibit B". The planning guidelines are "Exhibit C" in the contract for the development of the 2011 Regional Water Plan. Please revise accordingly.

    Response: "Exhibit B" revised to read "Exhibit C."

24. Page 3-8, 3rd and 6th paragraphs: Please include a statement in the plan regarding the requirement to include managed available groundwater volumes in instances where the associated desired future conditions adopted by groundwater conservation districts were submitted to TWDB by January 1, 2008 (e.g. Groundwater Management Area 8).

    Response: Statement added to the end of the 5th paragraph that reads: "If these conditions, referred to as Desired Future Conditions (DFCs), are adopted by a Groundwater Conservation District (GCD), its Groundwater Management Area (GMA) is required to use these adopted conditions to calculate its Managed Available Groundwater (MAG) estimates which are then submitted to the TWDB for water planning."

Chapter 4

25. The 'small systems' region-specific study referred to in Appendix A of the plan states the need for regionalization in northern Van Zandt County. Please explain in the plan why a regionalization water management strategy for northern Van Zandt County was not included as either a potentially feasible water management strategy that was evaluated or recommended water management strategy in the plan. *[31 TAC §357.5(k)(2)(C); Contract "Exhibit C" Section 11]*

Response: A regionalization water management strategy for Van Zandt County is included in the plan under the City of Canton WUG.

26. There are inconsistent references in the plan text and online planning database (e.g. Cash SUD/Cash WSC, Diana SUD/Diana WSC, MacBee SUD/MacBee WSC, and West Gregg SUD/West Gregg WSC). Please confirm the names of the water user groups and revise names of all water user groups in both the plan and the online planning database as necessary to ensure consistency.

    Response: The names have been revised.

27. Please include a list of all potentially feasible water management strategies that were evaluated and considered by the planning group. *[Contract Exhibit "C" Section 11]*

    Response: The list is included in section 4.7.4 on Page 4-44 of the IPP.

28. Please include tables listing all recommended and alternative water management strategies including the names, water supply amounts by decade, and capital costs of each. *[Contract Exhibit "C", Sections 4.3, 11]*

    Response: Table 4.42 has been added.

29. Please describe how the plan considered emergency transfers of surface water in the planning process. *[31 TAC §357.5(i)]*

    Response: The North East Texas Region is primarily rural in nature and the infrastructure for emergency transfers is non-existent and would be cost prohibitive to develop. Typically the smaller entities are on groundwater and the larger entities are on surface water. Where smaller entities are adjacent to large ones, many of the smaller entities have an interconnection with the larger entity but only use the interconnection on an as needed basis. Several of the water management strategies evaluated included consideration of supply from an adjacent system where practical.

30. Please describe how the plan considered drought management measures for each need identified. *[31 TAC §357.7(a)(7)(B)]*

    Response: Drought management measures were considered when identifying which water management strategies would be evaluated for each WUG with a need. The needs identified were primarily smaller WUGs with groundwater as a source. Drought management measures were not considered a feasible alternative for these entities.

31. Please include a summary of information regarding water loss audits specific to Region D. *[TAC 31§ 357.7 (a)(1)(M)]*

    Response: The following paragraph is added to Chapter 6:
    The 78th Texas Legislature in the 2003 Regular Session passed House Bill 3338 which requires water utilities to perform a water audit every five years in an attempt to reduce water loss in Texas. The TWDB has developed a manual with worksheets to standardize the water audits and to provide a

guide for performing the water audits. By standardizing the water audit process, the utilities can measure their performance over time and create a more sustainable supply. A review of the 2007 TWDB reported data by all Regions indicates that Region D is about average to just below average in all comparisons that are presented. The TWDB data includes comparisons for several factors including water loss per mile of main, water loss per connection, and value of water loss per mile.

32. Please describe how the plan considered all potentially feasible strategies including, among other projects, reallocation of reservoir storage. Please include a discussion of the ongoing efforts to evaluate reallocation of storage in Lake Wright Patman and any local entities that might be beneficiaries of that project. *[31 TAC §357.7(a)(7)(D)]*

    Response: Comments on reallocation of storage in Lake Wright Patman have been included in Chapter 6 and Chapter 8. There were no actual shortages identified in Bowie and Cass Counties near Lake Wright Patman.

33. Please include environmental analyses for any alternative water management strategies included in the plan. *[31 TAC §358.3(b)(18]*

    Response: The only alternative strategy in the plan is for the City of Canton. The City of Canton requested two alternate strategies including reuse and reservoir development. These alternates have been added to Table 7.2 Summary of Environmental Assessments.

34. Please describe how the plan considered environmental water needs including instream flows and bay and estuary inflows. *[31 TAC §358.3(b)(19]*

    Response: Environmental water needs were considered in the environmental assessment and is included in Table 7.2 Summary of Environmental Assessments.

35. Page 4-2, 1st paragraph: The reference to "Table 4.39" is incorrect. Please revise to "Table 4.38".

    Response: Revised.

36. Page 4-4, Section 4.1.5: The plan states that there are no water supply shortages identified in Franklin County. Section 4.3.5 on page 4-14 indicates shortages will occur for Franklin County Water District for all decades in the planning horizon. Please revise the plan as appropriate.

    Response: Section 4.1.5 has been revised. Also, please see response to comment 4.5.

37. Page 4-3, Table 4.1: The 2040 shortage for Central Bowie WSC does not match what is presented in the Chapter 4 Appendix (unnumbered appendix table and page in Bowie County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.1 revised.

38. Page 4-3, Table 4.1: The 2030 and 2050 shortages for the City of Redwater do not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Bowie County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.1 revised.

39. Page 4-3, Table 4.3: The shortages for Cass County Manufacturing are not presented in the Chapter 4 Appendix and do not have documentation of an evaluated strategy (unnumbered table and page in Cass County information). Please revise the plan as appropriate.

    Response: Table 4.3 does not reflect the 2007 Water Use Survey. In Table 2.9 the demand does reflect the 2007 values for Water Use. Table 3.9 indicates that the manufacturing Water Supply for Cass Co. is adequate. Table 4.3 and paragraph 4.1.3 have been revised as appropriate.

40. Page 4-6, Table 4.8: The 2060 shortage for Campbell WSC does not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Hunt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.8 revised.

41. Page 4-6, Table 4.8: The 2030 through 2060 shortages for Combined Consumers WSC do not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Hunt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.8 revised.

42. Page 4-8, Table 4.12: The 2030 through 2060 shortages for Titus County Steam Electric do not match what is presented in the Chapter 4 Appendix (unnumbered table and page in Titus County information). Please revise the plan as appropriate.

    Response: Table 4.12 2030 through 2060 revised as per Table 4.12 and calculations revised as appropriate.

43. Page 4-8, Table 4.13: The 2060 shortage for Corinth WSC, 2010 through 2060 shortages for Edom WSC, 2040 shortage for Fruitvale WSC, and 2020 through 2060 shortages for Little Hope-Moore WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Van Zandt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.13 revised.

44. Page 4-10, 1st paragraph: The statement that steam electric needs start in 2030 in the Cypress Basin does not match what is presented in Table 4.18. Please revise the plan as appropriate.

Response: The statement that Steam Electric shortage begins in 2030 is correct. The Table 4.18 has been revised.

45. Page 4-14, last paragraph: Please provide information on the evaluation of potentially feasible water management strategies and reasons why no water management strategy is recommended in the plan for Franklin County Water District despite the identified water needs for Franklin County Water District (as a wholesale water provider) presented in the plan. *[31 TAC §357.7(a)(5)(B) and (C)]*

    Response: Table 4.2.5 has been revised to remove supply deficit. Franklin County Water District has not requested any water management strategy to meet obligations to its customers, but has requested additional analysis to determine if the current data accurately reflects the capacity of the reservoir. Consequently, water available to customers has been reduced to remove the deficit beginning in 2010. Also, Section 4.3.5 has been revised.

46. Page 4-24, Table 4.37: The values presented as supply for the City of Texarkana (108,661 acft/yr) are not consistent with water supply values developed as part of the study for the Study Commission on Region C Water Supply (Commission). Information presented to the Commission on April 26, 2010 indicates that permitted water rights from Wright Patman for Texarkana are 180,000 acft/yr. Please confirm the supplies for the City of Texarkana and revise as appropriate throughout the plan.

    Response: Supplies for Texarkana have been revised in the plan to show the 180,000 ac-ft/yr permitted by TCEQ.

47. Page 4-24, Table 4.37: The last line of table 4.37 is ambiguous (i.e. ":"). Please clarify what the total water need or surplus is in the table. If the value is zero, please consistently represent the value as "0" as presented in other tables in the chapter.

    Response: Table revised.

48. Page 4-28: The table has a line entry for "Gregg County cont." with apparent planning decades for volumes. Please revise as appropriate.

    Response: Table revised.

49. Page 4-44, 1st paragraph: The flow chart referenced on page 4-44 as Figure 6.2 is actually Figure 6.1. Please revise.

    Response: Reference revised.

50. Page 4-47, 2nd paragraph: The text states that "the remaining 40 entities were actual projected shortages that require consideration of alternative water management strategies". However, no associated alternative water management strategies were identified in the plan text. Please revise to clarify if the intent was to refer to "recommended water management strategies".

    Response: Statement revised.

51. Page 4-47, Table 4.40: The water management strategy volumes of 106 acft/yr and 103 acft/yr for the years 2030 and 2060, respectively, for Burns Redbank WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Bowie County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.40 revised.

52. Page 4-47, Table 4.40: The 2060 needs and 2030 and 2060 strategy volumes for Cash SUD do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.40 revised.

53. Page 4-47, Table 4.40: The 2030 and 2060 needs and 2030 and 2060 strategy volumes for Combined Consumers WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.40 revised.

54. Page 4-47, Table 4.40: There is no evaluated water management strategy presented in the Chapter 4 Appendix for Harrison County Steam Electric even though volumes from a surface water strategy are presented in Table 4.40. Please revise the plan as appropriate.

    Response: An evaluated water management strategy Harrison County Steam Electric has been added in Chapter 4 Appendix C.

55. Page 4-48, Table 4.40: The 2030 and 2060 needs and 2030 and 2060 strategy volumes for Titus Steam Electric do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Titus County information). Please revise the plan as appropriate.

    Response: Appendix table in Chapter 4 has been updated.

56. Page 4-48, Table 4.41: There is no evaluated water management strategy in Chapter 4 Appendix for Cass County Manufacturing even though volumes from a surface water strategy are presented in Table 4.41. Please revise the plan as appropriate.

    Response: There is no shortage in Cass Co. Manufacturing. Table 4.3 was in error and it has been corrected. Table 4.41 has been revised as appropriate.

57. Page 4-49, Table 4.41: The 2060 needs for Campbell WSC, 2060 needs for Corinth WSC, and 2030 and 2060 needs for Little Hope-Moore WSC do not match the needs presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt and Van Zandt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.41 revised.

58. Page 4-49, Table 4.41: The 2060 water management strategy volumes (volumes) for Celeste, 2060 volume for Hickory Creek SUD, 2030 and 2060 volumes for Canton, 2030 and 2060 volumes for Grand Saline, 2060 volume for Van, 2030 and 2060 volumes for Edom WSC, and 2060 volume for RPM WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt and Van Zandt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix is correct, Table 4.41 revised.

59. Page 4-49, Table 4.41: There is no summary for Poetry WSC in the Table 4.41. Please revise the plan as appropriate.

    Response: Table 4.41 revised.

60. Page 4-51, 5th paragraph: The strategy "surface water purchase" is presented as "increase existing contract" in the online planning database. Please revise to ensure that water management strategy names are consistent throughout the text and the online planning database.

    Response: Statement revised.

61. Pages 4-57, 1st paragraph; 4-72, last paragraph; and 4-76, 1st paragraph: Plan references tables that are not referenced and do not immediately follow the text and that apparently are not included in the plan. Please revise the plan as appropriate to clearly reference and include associated tables.

    Response: Statement revised.

62. Page 4-58: None of the four evaluated alternative water management strategies for Ben Franklin WSC referred to are included in the Chapter 4 Appendix although one of the four is presented as a recommended water management strategy on page 4-58. Please include the technical evaluations of each of the designated 'alternative' water management strategy in the final plan. *[Contract "Exhibit C" Section 4.3]*

    Response: Strategy worksheets are included in Chapter 4 Appendix.

63. Sections 4.8.3 through 4.8.19: Water management strategies for County-Other water user groups are not clearly presented. For example, recommended water management strategies for "County-Other" water user groups are not summarized in Bowie County (pages 4-50 through 4-53) and the strategy volumes for the named entities in Bowie County that are part of the "County-Other" water user group do not sum to the amount in the online planning database, making it unclear how the volume of the "County-Other" recommended water management strategy in the online planning database is allocated. Additionally, County-Other water management strategies are recommended but not summarized for Wood County (page 4-91). Please clarify in Chapter 4 if an entity with a recommended water management strategy is a County-Other water user group and clearly present County-Other water management strategies. Please revise as appropriate throughout the plan and, if necessary, the online planning database.

Response: Water management strategies for County-Other water user groups have been included. In Round 1 of the planning process, the NETRWPG recognized that a large number of entities in the Region would not be given consideration because they were below the threshold for a WUG. The consultant team was requested to include all public water systems in the supply/demand analysis and include worksheets in the appendix to clearly identify how the county-other WUG was broken down. This additional work effort was compensated. In Round 2, DB07 was created and the decision was made by all parties to include the County-Other data since it was available from Round 1. The threshold for a WUG was changed in Round 2. In Round 3, the TWDB has began performing data queries which create conflicts given the complexity of having the County-Other data included in the queries. An example would be Harrison County with a county-other WUG that contains 28 component pieces. This complex problem has caused undue stress and tremendous additional work task on the consultant team and staff.

The County-Other WUGs have been clarified in the titles in Chapter 4. There are no County-Other WUG shortages in Wood County.

64. Appendix Chapter 4, Gregg County: The water user group listed in the summary cover sheet is "City of Clarksville". Please revise to "City of Clarksville City".

    Response: Revised.

65. Page 4-60: The 2040 and 2060 needs and 2060 strategy volumes for Liberty City WSC do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Gregg County information). Please revise the plan as appropriate.

    Response: Revised.

66. Page 4-71: The 2050 and 2060 needs for Cash SUD do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Hunt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix and plan revised.

67. Page 4-80, 2nd paragraph: Terms "recommended", "alternative", and "feasible" appear to be used interchangeably throughout plan (e.g. page 4-58). Please verify all references to water management strategy types as either "recommended", "alternative" or "potentially feasible". Please revise the plan as appropriate to accurately refer to types of water management strategies.

    Response: Revised.

68. Page 4-81: Red River County is presented as Section 4.8.15.2 and should be Section 4.8.16. Please revise the plan as appropriate.

    Response: Revised.

69. Page 4-84: The 2030 and 2060 needs for Titus County Steam Electric do not match what is presented in the Chapter 4 Appendix (unnumbered tables and pages in Titus County information). Please revise the plan as appropriate.

    Response: Calculations revised as appropriate.

70. Page 4-90: There is no summary of the evaluated conservation water management strategy for the City of Van in the Chapter 4 Appendix (unnumbered tables and pages in Van Zandt County information). Please revise the plan as appropriate.

    Response: Chapter 4 Appendix revised.

Chapter 4 Appendix

71. Please provide a description of how the lump sum amounts for 'Environmental" costs were derived.

    Response: The Lump Sum amounts for environmental cost for each project were determined based upon real world experience in this region. Members of the consultant team work daily in this region and have knowledge of average cost associated with given types of projects.

72. Please clarify if the evaluated conservation water management strategies have an associated annual cost (i.e. Lindale, Grand Saline). Please revise the plan and as appropriate.

    Response: The North East Texas Region in general is rural and has very low water usage rates to begin with and water conservation is not aggressively pursued. The evaluated conservation water management strategies have an annual cost but there is insufficient data available in the North East Texas Region to document these costs.

73. The regional plan indicates that water reuse was considered unfeasible in the region when the wastewater source associated with the strategy was not associated with and proximate to the potential water user. Please consider or describe how water reuse was considered as a potentially feasible water management strategy for steam electric or industrial needs. *[31 TAC §357.7(a)(7)(C)]*

    Response: The steam electric does reuse water from the lakes in cooling mode. However, there is evaporation that occurs and supply must be replenished. During the study of the Brackish Groundwater (Appendix B) a survey was conducted to determine if non-treated water could be reused for manufacturing of steam industries. The conclusion was the non-treated water was not of high enough quality to keep from damaging equipment and products when placed in the manufacturing systems.

74. The plan uses a debt service period of 30 years. Please revise or justify why a 30-year debt service period rather than the TWDB-recommended 20-year debt service period was used for evaluating water management strategies (other than reservoirs). *[Contract Exhibit "C" Section 4.1.2]*

Response: A majority of the entities in Region D utilize USDA Rural Development (terms 40 yrs) or the TWDB (terms 20 yrs). We felt like the average of these two funding sources would be appropriate.

75. Please confirm that water management strategy cost estimates are based upon September 2008 dollars as required or revise plan as appropriate. *[Contract Exhibit "C" Section 4.1.2]*

    Response: The cost estimates were based on September, 2008 dollars.

76. Please include the cost of purchasing water rights under "Capital Costs" rather than "Total Annualized Costs" per the contract guidance. *[Contract Exhibit "C" Section 4]*

    Response: We could not find any water rights purchases in the plan. There are contracts recommended to purchase water under existing water rights.

Chapter 5

77. Page 5-6, Section 5.3: The socioeconomic impact analysis should be updated for the final 2011 Region D Regional Water Plan with the analysis provided by the TWDB as requested by the planning group.

    Response: Final 2011 socioeconomic impact analysis is now in the appendix.

Chapter 6

78. Page 6-7, Section 6-3: The text states that model conservation and drought contingency plans are included in the Appendix but they are included in the body of the report. Please revise the plan as appropriate.

    Response: Section 6.3 revised.

Chapter 7

79. Page 1-41: Plan identifies water quantity as being threatened by overuse and specifies that proactive conservation practices can control the threat, yet no conservation is recommended in the plan. Please discuss how each threat to agricultural and natural resources identified will be addressed or affected by the water management strategies evaluated. *[31 TAC §357.7(a)(8)(C) and §358.3(b)(4)]*

    Response: The threat to agricultural and natural resources in Region D is from strategies evaluated in other regions.

Appendix C:

80. Please number tables in Appendix C and include a table of contents for the material in Appendix C.

Response: Tables in Appendix C have been numbered and table of contents provided for the material in Appendix C.

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

    Response: Please see the attached table with comments inserted.

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

    Response: The North East Texas Regional Water Planning Group through their Consultant Team has responded to exception reports provided by the TWDB staff and will continue to respond and coordinate with other regions to resolve any over allocations and interregional conflicts.

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

General Comment

1. Not all tables in the report are numbered for reference (e.g. Appendix C tables). Please number all tables in the report body and appendices.

2. The plan volume II title "Appendix C" is not indicated as a stand-alone volume in the volume I Table of Contents. Appendix A contains a summary of a study that is indicated as included in Appendix A. Appendix B also contains a summary of a study referenced rather than the study itself. Please consider re-labeling and/or modify the references to the Appendices to the report.

Executive Summary

3. Page ES-10, 1st paragraph, 2nd sentence: Please consider revising the sentence "Homes built before 1992 should be equipped with low flow toilets…" to read "Homes built after 1992 should be equipped with low flow toilets…"

Chapter 1

4. Pages 1-19 to 1-22: Please consider including a table similar to Table 1.9 to summarize water quality concerns for each aquifer.

Response: An investigation of similar water quality data was performed. The consultant team could not find this data readily available. Therefore, no such table has been included in the plan.

Chapter 3

5. Page 3-7, 1st paragraph: The current discussion implies that all precipitation becomes effective recharge, which is not accurate. Please consider expanding the discussion of recharge to include additional factors that reduce the amount of aquifer recharge.

   Previous estimates of groundwater availability for the North East Texas Region were developed by the TWDB and were based on numerous local and regional aquifer studies that employed various methods for estimating water supply availability. Under one common approach, which will be referred to as the recharge method, groundwater availability is assumed equal to the long term average annual recharge to the aquifer. Recharge refers to the total of all sources by which an aquifer can be replenished with water, including a percentage of precipitation, infiltration from streams, lateral or vertical inflow from other subsurface formations, and irrigation return flow. Factors that affect the amount to recharge an aquifer receives include topography, soil type, hydrogeology, evaporation, and transpiration by vegetation.

6. Page 3-10, Section 3.2.3.1: Please consider adding a reference to the GTA Aquifer Assessment 09-05 managed available groundwater, which provided the Blossom Aquifer managed available groundwater estimates currently listed in Table 3.6 in the plan as was similarly done in the Trinity and Woodbine Aquifers sections.

   Response: Reference corrected to point to GTA Aquifer Assessment 09-05.

7. Page 3-13, Table 3.6: Wood County, Sabine Basin has increasing groundwater availability across the planning horizon. Please consider revising the asterisked statement located immediately beneath Table 3.6 on p. 3-13.

   Response: Text clarifying the use of model run pumpage as availability because no MAG exists for the Carrizo-Wilcox aquifer in GMA-8 is added on page 3-10

8. Chapter 3, Section 3.2.3, Page 3-12, Table 3.6: Please consider correcting the county name “Deta” to ‘Delta’ within the Nacatoch Aquifer section.

   Response: Spelling corrected.

9. Page 3-16 and 3-17, Tables 3.7 and 3.8: Please remove the incorrect strike-out values in the table.

   Response: Strike-out values removed.

10. Page 3-27, Table 3.24: Please remove the strike-out text.

    Response: Strike-out text removed.

Chapter 4

11. Please consider including totals in all tables in Chapter 4, where appropriate.

    Response: Totals have been added.

12. Chapter 4 Appendix: Please consider adding Capital Costs to the Table entitled "Strategy Recommendations Summary to 2060".

    Response: Information has been included in Table 4.42 for WUGs.

13. Please consider using a consistent format for the tables presented in Chapter 4 (e.g. alignment, tiered levels).

    Response: Tables have been revised.

14. Page 4-47 through 4-49, Tables 4.40 and 4.41: Please clarify in the table (e.g. using a footnote) the significance of the selected bolded numbers and bolded entity names in the tables.

    Response: Tables have been revised.

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number: non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number: non-decadal number	2010	2020	2030	2040	2050	2060
D	Groundwater Supply	3-1	3.1	IPP revised to 309,951	309,876	309,876	309,876	309,876	309,876	309,876		309,774	309,863	309,914	309,924	309,929	310,619
D	Reservoir Supply	3-1	3.1	IPP revised to "surface water", reservoir volumes shown in Tables 3.2 to 3.5.	1,397,444	1,392,758	1,387,473	1,382,188	1,376,902	1,361,619		1,112,486	1,107,200	1,101,895	1,096,610	1,091,324	1,086,041
D	Other Local Supply	3-1	3.1	IPP revised	3,253	3,512	3,653	3,816	3,983	4,144		3,113	3,372	3,533	3,696	3,863	4,024
D	Irrigation Local Supply (RoR irrigation supplies)	3-1	3.1	IPP revised	14,732	14,717	14,704	14,572	14,262	14,249		13,271	13,256	13,243	13,111	12,801	12,788
D	Total Overall Water Supply by Source	3-1	3.1	IPP revised	1,831,192	1,821,498	1,810,468	1,799,610	1,794,948	1,788,517		1,961,320	1,951,025	1,940,046	1,929,198	1,924,541	1,928,800
D	Sabine Basin Surface Water Supplies Loma Lake	3-3	3.2		0							600					
D	Sabine Basin Supplies Combined RoR	3-3	3.2	IPP revised	166,156	166,156	166,156	166,156	166,156	166,156		307,630	307,653	307,678	307,704	307,731	307,756
D	Red Basin Surface Water Supplies Run of River	3-5	3.3	IPP correct	NA	NA	NA	NA	NA	NA		9,661	9,640	9,619	9,478	9,158	9,138
D	Sulphur Basin Supplies River Crest Lake	3-5	3.4	IPP revised	8,635	8,635	8,635	8,635	8,635	8,635		NA	NA	NA	NA	NA	NA
D	Sulphur Basin Supplies Turkey Creek Lake	3-5	3.4	IPP revised	NA	NA	NA	NA	NA	NA		140	140	140	140	140	140
D	Sulphur Basin Supplies Combined RoR	3-5	3.4	IPP revised	10,000	10,000	10,000	10,000	10,000	10,000		10,055	10,055	10,055	10,055	10,055	10,055
D	Carrizo-Wilcox Aquifer Availability Cass Co.	3-12	3.6	Change IPP	3,493	3,493	3,493	3,493	3,493	3,493		3,527	3,527	3,527	3,527	3,527	3,527
D	Carrizo-Wilcox Aquifer Availability Marion Co.	3-12	3.6	Rounding	2,031	2,031	2,031	2,031	2,031	2,031		2,030	2,030	2,030	2,030	2,030	2,030
D	Carrizo-Wilcox Aquifer Availability Morris Co.	3-12	3.6	Rounding	2,659	2,659	2,659	2,659	2,659	2,659		2,660	2,660	2,660	2,660	2,660	2,660
D	Carrizo-Wilcox Aquifer Availability Smith Co.	3-12	3.6	Change IPP	13,981	13,981	13,981	13,981	13,981	13,981		14,022	14,022	14,022	14,022	14,022	14,022
D	Carrizo-Wilcox Aquifer Availability Upshur Co.	3-12	3.6	Already correct	6,954	6,954	6,954	6,954	6,954	6,954		6,959	6,959	6,959	6,959	6,959	6,959
D	Carrizo-Wilcox Aquifer Availability Wood Co.	3-12	3.6	Set to Demands 2060	9,852	9,852	9,852	9,852	9,852	9,852		9,685	9,774	9,825	9,835	9,840	9,852
D	Carrizo-Wilcox Aquifer Total Availability	3-12	3.6	New Sum	115,430	115,430	115,430	115,430	115,430	115,430		115,333	115,422	115,473	115,483	115,488	115,500
D	Queen City Aquifer Availability Wood County	3-12	3.6	Rounding	21,231	21,231	21,231	21,231	21,231	21,231		21,230	21,230	21,230	21,230	21,230	21,230
D	Queen City Aquifer Total Availability	3-12	3.6	Rounding	169,510	169,510	169,510	169,510	169,510	169,510		169,509	169,509	169,509	169,509	169,509	169,509
D	Woodbine Aquifer Availability Red River County	3-13	3.6	IPP correct - could not updated DB12	166	166	166	166	166	166		162	162	162	162	162	162
D	Woodbine Aquifer Total Availabillity	3-13	3.6	IPP correct	6,670	6,670	6,670	6,670	6,670	6,670		6,666	6,666	6,666	6,666	6,666	6,666
D	Total Regional Groundwater Availability	3-13	3.6	IPP revised	309,876	309,876	309,876	309,876	309,876	309,876		309,774	309,863	309,914	309,924	309,929	309,941
D	Regional Municipal Supply Bowie Co. Red Basin	3-15	3.7	IPP revised	3,207	3,300	3,353	3,402	3,372	3,358		9,115	8,336	7,702	7,091	6,516	5,539
D	Municipal Supply Bowie Co. Sulphur Basin	3-15	3.7	IPP revised	14,220	14,602	14,839	15,058	14,969	14,945		59793	52437	46582	40954	35633	26768
D	Municipal Supply Bowie Co. Total	3-15	3.7	IPP revised	17,427	17,902	18,191	18,460	18,341	18,303		68908	60773	54284	48045	42149	32307
D	Municipal Supply Camp Co. Cypress and Total	3-15	3.7	IPP revised	3,576	3,579	3,583	3,586	3,589	3,591		14,236	14,242	14,248	14,253	14,258	14,263
D	Municipal Supply Cass Co. Cypress Basin	3-15	3.7	Change IPP	10,439	10,460	10,504	10,548	10,589	10,589		8,401	8,419	8,460	8,501	8,542	8,542
D	Municipal Supply Cass Co. Total	3-15	3.7	Change IPP	11,877	11,916	12,000	12,085	12,167	12,167		9,839	9,875	9,956	10,038	10,120	10,120
D	Municipal Supply Delta Co. Sulphur and Total	3-15	3.7	IPP revised	2,394	2,384						2,344	2,373				
D	Municipal Supply Franklin Co. Total	3-15	3.7	IPP revised				7,196							7,169		
D	Municipal Supply Gregg Co. Cypress Basin	3-15	3.7	Change IPP	2,227	2,237	2,248	2,261	2,278	2,302		1,712	1,722	1,733	1,746	1,738	1,762
D	Municipal Supply Gregg Co. Sabine Basin	3-15	3.7	Change IPP	61,968	61,775	61,842	61,920	62,025	62,177		69,056	68,996	68,940	68,895	68,877	68,905
D	Municipal Supply Gregg Co. Total	3-15	3.7	Change IPP	64,195	64,012	64,090	64,181	64,303	64,479		70,768	70,718	70,673	70,641	70,615	70,667
D	Municipal Supply Harrison Co. Cypress Basin	3-15	3.7	Change IPP	6,404	6,539	6,634	6,699	6,775	6,886		8,389	8,524	8,619	8,684	8,701	8,812
D	Municipal Supply Harrison Co. Sabine Basin	3-15	3.7	Change IPP	36,842	36,933	36,996	37,010	37,027	37,050		35,696	35,782	35,840	35,848	35,860	35,878
D	Municipal Supply Harrison Co. Total	3-15	3.7	Change IPP	43,246	43,472	43,630	43,709	43,802	43,936		44,085	44,306	44,459	44,532	44,561	44,690
D	Municipal Supply Hopkins Co. Total	3-16	3.7	IPP revised					21,697							21,698	
D	Municipal Supply Hunt Co. Sabine Basin	3-16	3.7	IPP revised	34,639	34,166	33,943	33,918	34,695	36,300		34,867	34,431	34,243	34,239	35,046	36,684
D	Municipal Supply Hunt Co. Sulphur Basin	3-16	3.7	IPP revised	9,477	9,434	9,382	9,368	9,430	9,552		9,563	9,514	9,460	9,446	9,508	9,630
D	Municipal Supply Hunt Co. Trinity Basin	3-16	3.7	IPP revised	65	78	96	124	190	296		110	112	121	136	171	222
D	Municipal Supply Hunt Co. Total	3-16	3.7	IPP revised	44,180	43,677	43,420	43,409	44,314	46,147		44,540	44,057	43,824	43,821	44,725	46,536
D	Municipal Supply Lamar Co. Total	3-16	3.7	IPP revised	37,015	36,162	35,621	35,096	34,589	33,859		43,225	42,922	42,681	42,456	42,249	41,819
D	Municipal Supply Marion Co. Cypress and Total	3-16	3.7	Change IPP	13,511	13,519	13,519	13,519	13,519	13,484		10,783	10,791	10,791	10,791	10,791	10,791
D	Municipal Supply Morris Co. Cypress Basin	3-16	3.7	IPP revised	17,232	17,229	17,226	17,223	17,223	17,223		12,886	12,886	12,886	12,886	12,886	12,886
D	Municipal Supply Morris Co. Total	3-16	3.7	IPP revised	17,736	17,733	17,730	17,727	17,727	17,727		13,390	13,390	13,390	13,390	13,390	13,390
D	Municipal Supply Red River Co. Sulphur Basin	3-16	3.7	IPP revised	3,117	3,113	3,109	3,105	3,105	3,105		3,118	3,114	3,110	3,106	3,106	3,106
D	Municipal Supply Red River Co. Total	3-16	3.7	IPP revised	3,566	3,561	3,557	3,553	3,553	3,553		3,567	3,562	3,558	3,554	3,554	3,554
D	Municipal Supply Smith Co. Sabine and Total	3-16	3.7	Change IPP	9,700	10,031	10,471	10,919	11,717	12,716		9,030	9,461	9,995	10,536	11,499	12,723
D	Municipal Supply Titus Co. Sulphur Basin	3-16	3.7	IPP revised		1,525	1,618	1,673					1,524	1,617	1,672		
D	Municipal Supply Titus Co. Total	3-16	3.7	IPP revised		10,908	10,594	10,263					10,907	10,593	10,262		
D	Municipal Supply Upshur Co. Cypress Basin	3-16	3.7	Change IPP	13,476	13,539	13,579	13,601	13,619	13,644		12,668	12,731	12,771	12,793	12,811	12,836
D	Municipal Supply Upshur Co. Total	3-16	3.7	Change IPP	16,119	16,182	16,222	16,244	16,262	16,287		15,311	15,374	15,414	15,436	15,454	15,479
D	Municipal Supply Van Zandt Co. Neches Basin	3-16	3.7	IPP revised	2,544	2,667						2,545	2,668				
D	Municipal Supply Van Zandt Co. Total	3-16	3.7	IPP revised	12,847	13,086		13,414		13,639		12,848	13,087		13,415		13,640
D	Municipal Supply Wood Co. Sabine Basin	3-16	3.7	Change IPP	9,848	9,921	9,958	9,953	9,945	9,938		9,623	9,696	9,733	9,728	9,720	9,713
D	Municipal Supply Wood Co. Total	3-16	3.7	Change IPP	10,389	10,465	10,504	10,499	10,491	10,848		10,164	10,240	10,279	10,274	10,266	10,259
D	Municipal Supply Regional Total	3-16	3.7	IPP revised	358,256	358,078	358,176	358,311	360,481	361,058		419,509	411,271	404,768	398,552	395,453	386,909

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number non-decadal number	2010	2020	2030	2040	2050	2060
D	Municipal Supply by Basin Cypress	3-17	3.8	IPP revised	81,444	81,249	81,043	80,807	81,510	79,902		83,654	83,462	83,258	83,024	83,645	82,075
D	Municipal Supply by Basin Neches	3-17	3.8	IPP revised	2,544	2,667						2,545	2,668				
D	Municipal Supply by Basin Red	3-17	3.8	IPP revised	18,855	18,828	18,777	18,739	18,624	18,435		24,762	23,864	23,126	22,428	21,767	20,615
D	Municipal Supply by Basin Sabine	3-17	3.8	IPP revised	166,718	166,703	167,197	16,763	169,416	172,127		171,993	172,243	172,738	173,290	175,009	177,849
D	Municipal Supply by Basin Sulphur	3-17	3.8	IPP revised	85,481	85,373	85,102	84,839	84,598	84,031		131,092	123,278	116,924	110,813	105,341	95,934
D	Municipal Supply by Basin Trinity	3-17	3.8	IPP revised	3,213	3,256	3,293	3,328	3,411	3,540		3,259	3,291	3,319	3,341	3,393	3,467
D	Municipal Supply by Basin Total	3-17	3.8	IPP revised	358,256	358,078	358,176	358,377	360,481	361,058		419,509	411,271	404,768	398,552	395,453	386,909
D	Mfg Supply Gregg Co. Sabine and Total	3-17	3.9	IPP revised	2,423	2,753	3,052	3,345	3,597	3,904		7,754	7,754	7,754	7,754	7,754	7,754
D	Mfg Supply Harrison County Sabine Basin	3-17	3.9	IPP revised	140,024	140,024	140,024	140,024	140,024	140,024		163,869	163,869	163,869	163,869	163,869	163,869
D	Mfg Supply Harrison County Total	3-17	3.9	IPP revised	140,035	140,036	140,037	140,038	140,039	140,041		163,880	163,881	163,882	163,883	163,884	163,886
D	Mfg Supply Regional Total	3-18	3.9	IPP revised	395,408	399,479	401,656	403,643	411,223	431,026		424,584	428,325	430,203	431,897	439,225	458,721
D	Mfg Supply by Basin Sabine	3-19	3.10	IPP revised	143,902	144,460	144,983	145,510	145,979	146,480		173,078	173,306	173,530	173,764	173,981	174,175
D	Mfg Supply by Basin Regional Total	3-19	3.10	IPP revised	395,408	399,479	401,656	403,643	411,223	431,026		424,584	428,325	430,203	431,897	439,225	458,721
D	S. E. Supply Marion Co. Cypress and Total	3-21	3.13	IPP revised	8,453	8,453	8,453	8,453	8,453	8,453		6,900	6,900	6,900	6,900	6,900	5,286
D	S. E. Supply Titus Co. Cypress and Total	3-21	3.13	IPP revised	60,337	60,337	60,337	60,337	60,337	60,337		70,113	70,535	70,554	70,483	70,454	72,342
D	Steam Electric Supply Regional Total	3-21	3.13	IPP revised	106,616	106,491	106,574	106,675	106,798	106,948		114,839	115,136	115,238	115,268	115,362	115,786
D	Steam Electric Supply Cypress Basin	3-22	3.14	IPP revised	69,610	69,610	69,610	69,610	69,610	69,610		77,833	78,255	78,274	78,203	78,174	78,448
D	Steam Electric Supply by Basin Regional Total	3-22	3.14	IPP revised	106,616	106,491	106,574	106,675	106,798	106,948		114,839	115,136	115,238	115,268	115,362	115,786
D	WWP Supply Cash SUD (Cash WSC in IPP text) Sabine	3-27	3.19	IPP revised	5,806	5,806	5,806	5,806	5,806	5,806		5,734	5,733	5,723	5,704	5,674	5,644
D	WWP Supply Cash SUD (Cash WSC in IPP text) Trinity	3-27	3.19	IPP revised	NA	NA	NA	NA	NA	NA		1,255	971	831	733	666	608
D	WWP Supply Cash SUD (Cash WSC in IPP text) Total	3-27	3.19	IPP revised	5,806	5,806	5,806	5,806	5,806	5,806		6,989	6,704	6,554	6,437	6,340	6,252
D	WWP Supply Cherokee Water Company	3-27	3.19	18,000 is Region D portion	18,000	18,000	18,000	18,000	18,000	18,000		26,180	25,945	25,710	25,475	25,240	25,005
D	WWP Supply Commerce WD Sabine Basin	3-27	3.19	IPP revised	8,095	8,034	7,975	7,914	7,853	7,794		7,750	7,615	7,457	7,246	6,804	6,148
D	WWP Supply Commerce WD Sulphur Basin	3-27	3.19	IPP revised	371	0	0	0	0	0		315	315	295	295	295	295
D	WWP Supply Commerce WD Total	3-27	3.19	IPP revised	NA	NA	NA	NA	NA	NA		8,065	7,930	7,752	7,541	7,099	6,443
D	WWP Supply City of Emory Sabine Basin	3-27	3.19	IPP revised	1,900	1,886	1,872	1,858	1,844	1,931		1,901	1,887	1,873	1,859	1,845	1,832
D	WWP Supply City of Longview Cypress Basin	3-27	3.19	Change IPP	21,031	21,031	21,031	21,031	21,031	21,031		20,000	20,000	20,000	20,000	20,000	20,000
D	WWP Supply City of Longview Sabine Basin	3-27	3.19	Change IPP	42,698	42,698	42,698	42,698	42,698	42,698		59,710	59,710	59,710	59,710	59,710	59,710
D	WWP Supply City of Longview Total	3-27	3.19	Change IPP	NA	NA	NA	NA	NA	NA		79,710	79,710	79,710	79,710	79,710	79,710
D	WWP Supply City of Marshall Cypress Basin	3-27	3.19	NETMWD 9,000	25,000	25,000	25,000	25,000	25,000	25,000		16,000	16,000	16,000	16,000	16,000	16,000
D	WWP Supply NETMWD Cypress Basin	3-27	3.19	Change IPP	163,093	163,093	163,093	163,093	163,093	163,093		160,311	160,311	160,311	160,311	160,311	160,311
D	WWP Supply SRA Cypress Basin	3-27	3.19	IPP revised	229	266	297	321	351	384		NA	NA	NA	NA	NA	NA
D	WWP Supply SRA Sabine Basin	3-27	3.19	IPP revised - SRA sabine basin supply exists	395,772	392,968	390,154	387,316	384,468	381,617		NA	NA	NA	NA	NA	NA
D	WWP Supply SRA Total	3-27	3.19	Sabine basin supply revised and are included in Table 3.19	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA
D	WWP Supply City of Texarkana Sulphur Basin	3-28	3.19	IPP revised to 180,000 ac-ft/yr TCEQ permitted supply	108,659	108,659	108,659	108,659	108,659	108,659		179,997	179,998	179,998	179,998	179,998	179,997
D	WWP Supply Regional Total	3-28	3.19	IPP revised	1,032,034	1,027,894	1,024,093	1,020,219	1,016,264	1,012,125		720,533	718,938	717,415	715,854	714,004	711,762
D	Bowie County Texarkana supply Red Basin	App. Ch. 3	Mun WUG Supply	IPP revised	675	706	725	743	738	738		6,583	5,742	5,074	4,432	3,882	2,919
D	Bowie County Texarkana supply Sulphur Basin	App. Ch. 3	Mun WUG Supply	IPP revised	5,797	6,061	6,227	6,381	6,337	6,337		56,534	49,311	43,572	38,060	33,337	25,067
D	Bowie Co. C-O supply Sulphur Caney/Elliot Creek Lake	App. Ch. 3	Mun WUG Supply	Caney and Elliot Creek Lake added to DB12	2,960	2,960	2,960	2,960	2,960	2,960		NA	NA	NA	NA	NA	NA
D	Bowie County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	17,427	17,902	18,191	18,460	18,341	18,303		71,112	63,228	56,925	50,868	45,525	36,254
D	Camp County Pittsburg supply Bob Sandlin Lake	App. Ch. 3	Mun WUG Supply	IPP revised	1,928	1,925	1,923	1,921	1,919	1,916		1,970	1,970	1,970	1,970	1,970	1,970
D	Camp County Pittsburg supply Lake O' the Pines	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		10,618	10,618	10,618	10,618	10,618	10,618
D	Camp County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	3,576	3,579	3,583	3,586	3,589	3,591		14,236	14,242	14,248	14,253	14,258	14,263
D	Cass County Hughes Springs supply Lake O' the Pines	App. Ch. 3	Mun WUG Supply	Split entity	4,526	4,526	4,526	4,526	4,526	4,526		2,993	2,993	2,993	2,993	2,993	2,993
D	Cass County Total supply	App. Ch. 3	Mun WUG Supply	Split entity	11,877	11,916	12,000	12,085	12,167	12,167		9,839	9,875	9,956	10,038	10,120	10,120
D	Delta County County-Other supply Trinity Aquifer	App. Ch. 3	Mun WUG Supply	IPP revised	133	133	48	48	48	48		83	132	48	48	48	48
D	Delta County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	2,394	2,384	2,289	2,281	2,257	2,225		2,344	2,383	2,289	2,281	2,257	2,225
D	Gregg Co. C-O supply Cypress Basin Lake O' the Pines	App. Ch. 3	Mun WUG Supply	Split entity	38	38	38	38	38	38		25	25	25	25	0	0
D	Gregg Co. Tryon Road WSC supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	1,709	1,709	1,709	1,709	1,709	1,709		1,177	1,177	1,177	1,177	1,177	1,177

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number non-decadal number	2010	2020	2030	2040	2050	2060
D	Gregg Co. Tryon Road WSC supply Cypress Cherokee	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		30	30	30	30	30	30
D	Gregg Co. Clarksville City supply Sabine Gladewater Lake	App. Ch. 3	Mun WUG Supply	IPP revised	257	0	0	0	0	0		NA	NA	NA	NA	NA	NA
D	Gregg Co. Longview supply Sabine Lake O' the Pines	App. Ch. 3	Mun WUG Supply	IPP revised	15,000	15,000	15,000	15,000	15,000	15,000		19,200	19,200	19,200	19,200	19,200	19,200
D	Gregg Co. Longview supply Sabine Basin Sabine RoR	App. Ch. 3	Mun WUG Supply	IPP revised	14,502	14,502	14,502	14,502	14,502	14,502		17,588	17,464	17,341	17,218	17,095	16,971
D	Gregg Co.Tryon Road WSC supply Sabine L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	941	941	941	941	941	941		950	950	950	950	950	950
D	Gregg County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	64,195	64,012	64,090	64,181	64,303	64,479		70,768	70,718	70,673	70,641	70,615	70,667
D	Harrison Co. Diana SUD supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	52	52	52	52	52	52		59	59	59	59	0	0
D	Harrison Co. Gum Springs WSC supply Cypress Carrizo	App. Ch. 3	Mun WUG Supply	IPP revised	22	22	22	22	22	22		41	41	41	41	41	41
D	Harrison Co. Tryon Road WSC supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	147	147	147	147	147	147		136	136	136	136	136	136
D	Harrison Co. Tryon Road WSC supply Cypress Cherokee	App. Ch. 3	Mun WUG Supply	IPP revised	67	67	67	67	67	67		37	37	37	37	37	37
D	Harrison Co. Marshall supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		2,000	2,000	2,000	2,000	2,000	2,000
D	Harrison Co. Longview supply Sabine L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	5,000	5,000	5,000	5,000	5,000	5,000		800	800	800	800	800	800
D	Harrison Co. Longview supply Sabine Basin Sabine RoR	App. Ch. 3	Mun WUG Supply	IPP revised	4,834	4,834	4,834	4,834	4,834	4,834		733	728	723	717	712	707
D	Harrison Co. Marshall supply Sabine L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		7,000	7,000	7,000	7,000	7,000	7,000
D	Harrison Co. County-Other supply Sabine Carrizo	App. Ch. 3	Mun WUG Supply	IPP revised	656	712	753	783	819	871		669	725	766	796	832	884
D	Harrison Co. Gum Springs WSC supply Sabine Carrizo	App. Ch. 3	Mun WUG Supply	IPP revised	160	160	160	160	160	160		302	302	302	302	302	302
D	Harrison County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	43,246	43,472	43,630	43,709	43,802	43,936		44,085	44,306	44,459	44,532	44,561	44,690
D	Hunt Co. Cash SUD supply Sabine Lake Fork	App. Ch. 3	Mun WUG Supply	IPP revised			3,946							3,949			
D	Hunt Co. Cash SUD supply Sabine Lake Fork	App. Ch. 3	Mun WUG Supply	IPP correct	NA	NA	NA	NA	NA	NA		2,240	2,240	2,240	2,240	2,240	2,240
D	Hunt Co. Cash SUD supply Sabine Lake Tawakoni	App. Ch. 3	Mun WUG Supply	IPP correct, numbers entered by TWDB on this sheet are for Combined Consumers WSC	2,011	1,974	1,943	1,919	1,889	1,856		NA	NA	NA	NA	NA	NA
D	Hunt Co. County-Other supply Sulphur Lake Tawakoni	App. Ch. 4	Mun WUG Supply	IPP revised				390	771	1,369					439	955	1,885
D	Hunt Co. County-Other supply Sulphur Woodbine	App. Ch. 3	Mun WUG Supply	IPP revised				265	442	717					216	258	201
D	Hunt Co. North Hunt WSC supply Sulphur Woodbine	App. Ch. 3	Mun WUG Supply	IPP revised	56	57	58	59	60	61		142	137	136	137	138	139
D	Hunt Co. Wolfe City supply Sulphur Turkey Creek Lake	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		140	140	120	120	120	120
D	Hunt Co. Wolfe City supply Sulphur Other Local Supply	App. Ch. 3	Mun WUG Supply	IPP revised	140	140	120	120	120	120		NA	NA	NA	NA	NA	NA
D	Hunt Co. Hickory Creek SUD supply Trinity Woodbine	App. Ch. 3	Mun WUG Supply	IPP revised	31	38	48	64	101	160		74	72	73	76	82	86
D	Hunt Co. County-Other supply Trinity Woodbine	App. Ch. 3	Mun WUG Supply	IPP revised	28	33	39	48	69	104		30	33	39	41	32	25
D	Hunt Co. County-Other supply Trinity Basin Trinity Aq.	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		0	0	0	7	37	79
D	Hunt County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	44,180	43,677	43,420	43,409	44,314	46,147		44,540	44,057	43,824	43,821	44,725	46,536
D	Marion Co. County-Other supply Carrizo	App. Ch. 3	Mun WUG Supply	IPP revised						1,553							1,588
D	Marion Co. Jefferson supply Lake O'the Pines	App. Ch. 3	Mun WUG Supply	IPP revised	9,760	9,760	9,760	9,760	9,760	9,760		7,031	7,031	7,031	7,031	7,031	7,031
D	Marion Co. Diana SUD supply Lake O'the Pines	App. Ch. 3	Mun WUG Supply	IPP revised	29	29	29	29	29	29		30	30	30	30	30	30
D	Marion County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	13,511	13,519	13,519	13,519	13,519	13,484		10,783	10,791	10,791	10,791	10,791	10,791
D	Morris Co. County-Other supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	1,309	1,306	1,303	1,300	1,300	1,300		1,242	1,242	1,242	1,242	1,242	1,242
D	Morris Co. Daingerfield supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	10,332	10,332	10,332	10,332	10,332	10,332		7,375	7,375	7,375	7,375	7,375	7,375
D	Morris Co. Hughes Springs supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	28	28	28	28	28	28		65	65	65	65	65	65
D	Morris Co. Lone Star supply Cypress Lake O'the Pines	App. Ch. 3	Mun WUG Supply	IPP revised	4,841	4,841	4,841	4,841	4,841	4,841		3,482	3,482	3,482	3,482	3,482	3,482
D	Morris County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	17,736	17,733	17,730	17,727	17,727	17,727		13,390	13,390	13,390	13,390	13,390	13,390
D	Rains Co. Point supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply	IPP revised	261	258	255	252	249	246		50	48	47	45	44	42
D	Rains Co. Point supply Lake Fork	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		211	210	208	207	205	204
D	Red River Co. Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	3,566	3,561	3,557	3,553	3,553	3,553		3,567	3,562	3,558	3,554	3,554	3,554
D	Smith Co. Tyler supply Lake Tyler	App. Ch. 3	Mun WUG Supply	IPP revised	1,000	1,000	1,000	1,000	1,000	1,000		358	464	567	668	844	1,081
D	Smith Co. County-Other supply Lake Tyler	App. Ch. 3	Mun WUG Supply	IPP revised	28	34	43	51	62	74		NA	NA	NA	NA	NA	NA

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number non-decadal number	2010	2020	2030	2040	2050	2060
D	Smith County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	9,700	100,031	10,471	10,919	11,717	12,716		9,030	9,461	9,995	10,536	11,499	12,723
D	Titus County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised		10,908	10,594	10,263					10,907	10,593	10,262		
D	Upshur Co. County-Other supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	381	381	381	381	381	381		394	394	394	394	394	394
D	Upshur Co. Diana SUD supply Cypress L O'Pines	App. Ch. 3	Mun WUG Supply	IPP revised	658	658	658	658	658	658		650	650	650	650	650	650
D	Upshur Co. Ore City SUD supply Cypress L O' Pines	App. Ch. 3	Mun WUG Supply	IPP revised	2,682	2,682	2,682	2,682	2,682	2,682		1,869	1,869	1,869	1,869	1,869	1,869
D	Upshur Co. C-O supply Sabine Big Sandy Creek Lake	App. Ch. 3	Mun WUG Supply	IPP revised	190	190	190	190	190	190		40	40	40	40	40	40
D	Upshur Co. County-Other supply Sabine Loma Lake	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		150	150	150	150	150	150
D	Upshur County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	16,119	16,182	16,222	16,244	16,262	16,287		15,311	15,374	15,414	15,436	15,454	15,479
D	Van Zandt Co. Comb. Cons. WSC supply Lake Fork	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		229	266	297	321	351	384
D	Van Zandt Co. Comb. Cons. WSC supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply	IPP revised	229	266	297	321	351	384		NA	NA	NA	NA	NA	NA
D	Van Zandt Co. Edgewood supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply	IPP revised	793	787	781	776	770	764		NA	NA	NA	NA	NA	NA
D	Van Zandt Co. Edgewood supply Lake Fork	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		793	787	781	776	770	764
D	Van Zandt Co. S. Tawakoni WSC supply Lake Tawakoni	App. Ch. 3	Mun WUG Supply	IPP revised	1,056	1,048	1,041	1,033	1,025	1,018		NA	NA	NA	NA	NA	NA
D	Van Zandt Co. S. Tawakoni WSC supply Lake Fork	App. Ch. 3	Mun WUG Supply	IPP revised	NA	NA	NA	NA	NA	NA		1,056	1,048	1,041	1,033	1,025	1,018
D	Van Zandt County Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	12,847	13,086		13,414		13,639		12,848	13,087		13,415		13,640
D	Wood Co. Bright Star WSC supply Sabine Lake Fork	App. Ch. 3	Mun WUG Supply		225	225	225	225	225	225		NA	NA	NA	NA	NA	NA
D	Wood County Total supply	App. Ch. 3	Mun WUG Supply		10,389	10,465	10,504	10,499	10,491	10,484		10,164	10,240	10,279	10,274	10,266	10,259
D	Regional Total supply	App. Ch. 3	Mun WUG Supply	IPP revised	358,255	358,076	358,174	358,310	360,480	361,057		419,509	411,271	404,768	398,552	395,453	386,909
D	Needs Bowie Co. (Central Bowie WSC)	4-3	4.1	Changed IPP				363							-369		
D	Needs Bowie Co. (Redwater)	4-3	4.1	IPP correct - Redwater has county-other portion	145	159	166	178	173	171		0	-4	-7	-14	-14	-14
D	Needs Bowie Co. (RRRA) County-Other	4-3	4.1	CO				21	567	1,114		-85	-109	-120	-131	-118	-111
D	Needs Bowie Co. (Burns Redbank WSC) C-O	4-3	4.1	CO	80	89	94	99	95	92		NA	NA	NA	NA	NA	NA
D	Needs Bowie Co. (Oak Grove WSC)	4-3	4.1	CO	44	48	50	52	50	49		0	0	0	0	0	0
D	Needs Camp Co. (Woodland Harbor) C-O	4-3	4.2	CO	61	60	60	60	60	60		0	0	0	0	0	0
D	Needs Cass Co. (Manufactoring)	4-3	4.3	IPP revised	14,731	23,093	29,686	36,013	41,237	50,471		0	0	0	0	0	0
D	Needs Delta Co. (Ben Franklin WSC) C-O	4-4	4.4	CO			33	36	36	36				0	0	0	0
D	Needs Gregg Co. (Clarksville City)	4-4	4.5	Split entity	120	134	148	164	186	217		-116	-129	-143	-158	-179	-209
D	Needs in Gregg Co. (Liberty City WSC)	4-4	4.5	Split entity				53	177	353					-58	-180	-354
D	Needs Gregg Co. (West Gregg SUD/WSC?)	4-4	4.5	Split entity			56	119	208	333				-41	-89	-153	-245
D	Needs Gregg Co. (Liberty-Danville FWSD 2) C-O	4-4	4.5	CO				1	17	40					0	0	0
D	Needs Gregg Co. (Starrville-Friendship WSC) C-O	4-4	4.5	CO				19	54	101					0	0	0
D	Needs Harrison County (Waskom)	4-5	4.6	Split entity	55	101	134	159	188	231		-47	-85	-112	-133	-157	-192
D	Needs Harrison Co. (Blocker-Crossroads)C-O	4-5	4.6	CO	78	91	100	107	116	128				-29	-60	-96	-149
D	Needs Harrison County (Caddo Lake WSC) C-O	4-5	4.6	CO	10	6	19	27	37	52		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co.(Leigh WSC)C-O	4-5	4.6	CO						1		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co. (Scottsville) C-O	4-5	4.6	CO						7		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co. (Talley WSC) C-O	4-5	4.6	CO	59	81	97	109	122	142		NA	NA	NA	NA	NA	NA
D	Needs Harrison Co. (Waskom Rural WSC #1) County-(	4-5	4.6	CO						5		NA	NA	NA	NA	NA	NA
D	Needs Hopkins Co. (Miller Grove WSC) C-O	4-5	4.7	CO			24	30	17	6				-14	-26	0	0
D	Needs Hunt Co. (Combined Consumers WSC)	4-6	4.8	IPP revised			159	705	1,885	3,715				0	0	-832	-2,617
D	Needs Hunt Co. (Hickory Creek SUD)	4-6	4.8	IPP correct				198	670	1,418			-6	-27	-198	-689	-1,492
D	Needs Hunt Co. (North Hunt WSC)	4-6	4.8	IPP revised	164	247	366	560	988	1,659		-78	-167	-288	-482	-910	-1,581
D	Needs Hunt Co. (Jacobia WSC) C-O	4-6	4.8	CO					84	328				-1	-5	-12	-595
D	Needs Hunt Co. (Little Creek Acres) C-O	4-6	4.8	CO	20	27	37	54	93	153		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co. (Maloy WSC) C-O	4-6	4.8	CO	26	39	57	84	154	263		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co.(Poetry WSC) C-O	4-6	4.8	CO				1	14	46		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co. (Shady Grove WSC) C-O	4-6	4.8	CO						280		NA	NA	NA	NA	NA	NA
D	Needs Hunt Co.(West Leonard WSC)C-O	4-6	4.8	CO			1	5	12	24		NA	NA	NA	NA	NA	NA
D	Needs Lamar Co.(Petty WSC)C-O	4-6	4.9	CO	1	2	20	21	20	20		0	0	0	0	0	0
D	Needs Rains Co.(South Rains WSC) C-O	4-7	4.10	CO	160	239	284	295	287	277		-68	-167	-227	-240	-229	-217
D	Needs Smith Co. (Crystal Systems Inc.)	4-7	4.11	IPP revised				45	209	425					0	-127	-328
D	Needs Smith Co.(Star Mountain WSC)C-O	4-7	4.11	CO				1	36	83					0	0	0
D	Needs Titus County - (Steam Electric)	4-8	4.12	IPP revised			951	11,759	24,933	40,992				0	-1,613	-14,816	-28,987
D	Needs Van Zandt Co. (Grand Saline)	4-8	4.13	IPP revised				107							-99		
D	Needs Van Zandt Co. (Corinth WSC) C-O	4-8	4.13	CO					6	22		0	0	0	-98	-265	-477
D	Needs Van Zandt Co. (Crooked Creek WSC)C-O	4-8	4.13	CO		8	21	30	42	56		NA	NA	NA	NA	NA	NA
D	Needs Van Zandt Co.(Edom WSC)C-O	4-8	4.13	CO	31	53	72	86	104	124		NA	NA	NA	NA	NA	NA

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number non-decadal number	2010	2020	2030	2040	2050	2060
D	Needs Van Zandt Co.(Fruitville WSC) C-O	4-8	4.13	CO		64	119	160	211	269		NA	NA	NA	NA	NA	NA
D	Needs Van Zandt Co.(Little Hope-Moore WSC)C-O	4-8	4.13	CO	13	49	79	102	130	162		NA	NA	NA	NA	NA	NA
D	Needs Wood County - (Mineola)	4-8	4.14	IPP revised	203	318	374	367	360	360		-198	-307	-360	-354	-347	-347
D	Needs Contracts RRBasin(Burns Redbank WSC)C-O	4-9	4.15	CO	80	89	94	99	95	92		-58	-70	-75	-81	-75	-71
D	Needs Contracts RRBasin (Oak Grove WSC)	4-9	4.15	CO	21	23	24	25	24	24		NA	NA	NA	NA	NA	NA
D	Needs Contracts Sulphur Basin (Redwater)	4-9	4.16	CO	146	159	167	178	174	171		0	-4	-7	-14	-14	-14
D	Needs Contracts Sulphur Basin (North Hunt WSC)	4-9	4.16	IPP revised	164	247	366	560	988	1,659		-78	-167	-288	-482	-910	-1,581
D	Needs Contracts Sulphur Basin (Maloy WSC)C-O	4-9	4.16	CO	26	39	57	84	154	263		-27	-39	-59	-76	-43	-40
D	Needs Contracts Sulphur Basin (Oak Grove)C-O	4-9	4.16	CO	23	25	26	27	26	25		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (Ben Franklin WSC)C-O	4-10	4.17	CO			33	36	36	36		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (Miller Grove)C-O	4-10	4.17	CO			24	30	17	6		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin(Petty WSC) C-O	4-10	4.17	CO	1	2	20	21	20	20		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (RRRA) C-O	4-10	4.17	CO				21	567	1,114		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (West Delta WSC)C-O	4-10	4.17	CO	19	27	36	48	48	48		NA	NA	NA	NA	NA	NA
D	Needs Sulphur Basin (manufacturing)	4-10	4.17	IPP revised	14,731	23,093	29,686	36,013	41,237	50,471		0	0	0	0	0	0
D	Needs Cypress Basin (Steam Electric)	4-10	4.18	IPP revised				9,154	22,328	38,387					-1,613	-14,816	-28,987
D	Needs Cypress Basin (City of Linden)	4-10	4.18	IPP revised	92	98	101	106	104	104		0	0	0	0	0	0
D	Needs Cypress Basin (City of Waskom)	4-10	4.18	IPP revised		28	55	76	100	135		-47	-85	-112	-133	-157	-192
D	Needs Cypress Basin (Pritchett WSC)	4-10	4.18	IPP revised				3	9	18					0	0	0
D	Needs Cypress Basin (Woodland Harbor)C-O	4-10	4.18	CO	61	60	60	60	60	60		0	0	0	0	0	0
D	Needs Cypress Basin (City of Scotsville)C-O	4-10	4.18	CO						7		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin (Caddo Lake WSC)C-O	4-10	4.18	CO	10	6	19	27	37	52		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin (Leigh WSC)C-O	4-10	4.18	CO						1		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin (Talley WSC) C-O	4-10	4.18	CO	11	15	17	20	22	26		NA	NA	NA	NA	NA	NA
D	Needs Cypress Basin(Waskom Rural WSC 1)C-O	4-10	4.18	CO						5							NA
D	Needs Contracts Sabine (Combined Consumers WSC)	4-11	4.19	IPP revised			159	705	1,885	3,715				0	0	-832	-2,617
D	Needs Contracts Sabine (Jacobia WSC)C-O	4-11	4.19	CO					84	328		-68	-167	-256	-398	-551	-1,305
D	Needs Contracts Sabine(Poetry WSC)C-O	4-11	4.19	CO	6	14	25	40	71	126		NA	NA	NA	NA	NA	NA
D	Needs Contracts Sabine(Shady Grove WSC)C-O	4-11	4.19	CO						280		NA	NA	NA	NA	NA	NA
D	Needs Contracts Sabine(South Rains WSC)C-O	4-11	4.19	CO	160	239	284	295	287	277		NA	NA	NA	NA	NA	NA
D	Needs Sabine(Blocker-Crossroads WSC)C-O	4-11	4.20	CO	78	91	100	107	116	128		NA	NA	NA	NA	NA	NA
D	Needs Sabine (Star Mountain WSC)C-O	4-11	4.20	CO				1	36	83		NA	NA	NA	NA	NA	NA
D	Needs Sabine (Starrville-Friendship WSC)C-O	4-11	4.20	CO				19	54	101		NA	NA	NA	NA	NA	NA
D	Needs Sabine (Talley WSC)C-O	4-11	4.20	CO	48	66	80	89	22	116		NA	NA	NA	NA	NA	NA
D	Needs Sabine (City of Grand Saline)	4-11	4.20	IPP revised	65	109	142	169	207	255		0	-39	-73	-99	-137	-185
D	Needs Sabine (City of Clarksville City)	4-11	4.20	IPP revised	120	134	148	164	186	217		-116	-129	-143	-158	-179	-209
D	Needs Sabine (City of Mineola)	4-11	4.20	IPP revised	203	318	374	367	360	360		-198	-307	-360	-354	-347	-347
D	Needs Sabine (Crystal Systems Inc.)	4-11	4.20	IPP revised				45	209	425					0	-127	-328
D	Needs Sabine (Liberty City WSC)	4-11	4.20	IPP revised				53	177	353					-58	-180	-354
D	Needs Sabine (Steam Electric)	4-11	4.20	IPP revised	873	5,751	11,362	18,203	26,542	36,706		-8,639	-12,366	-14,457	-18,858	-26,951	-36,816
D	Needs Sabine Basin (West Gregg SUD)	4-11	4.20	IPP revised			56	119	208	333				-55	-116	-202	-323
D	Supplies and Demands Cash SUD Total	4-12	4.21	IPP correct					-1,015	-4,546						-652	-4,152
D	Supplies and Demands for FCWD Total	4-15	4.25	IPP revised	-595	-835	-1,075	-1,315	-1,555	-1,795		0	0	0	0	0	0
D	Water Supplies and Demands for SRA Total	4-17	4.28	Coordinate with Region C	0	0	0	0	0	0		-12,648	-13,528	-14,415	-15,310	-16,220	-17,132
D	Bowie Co. Redwater WMS Volume	4-47	4-40	CO			166			171				61			65
D	Bowie C-O (Burns Redbank, Oak Grove WSC) WMS	4-47	4-40	CO			156			152				250			1,361
D	Bowie C-O (RRRA) WMS	4-48	4-41	CO			0			1,114							NA
D	Harrison C-O Increase existing contract WMS	4-47	4-40	CO	NA	NA	NA	NA	NA	NA		84	120	146	166	189	222
D	Hunt Co Cash SUD WMS	4-47	4-40	IPP correct			0							910			3,865
D	Hunt Co Combined Consumers WSC WMS	4-47	4-40	IPP revised			159			3,715				0			2,617
D	Hunt C-O(Jocobia, Maloy, &Shady Grove WSC)WMS	4-47	4-40	CO			57			871				37			807
D	Titus Co Steam Electric WMS	4-47	4-40	IPP revised			951			40,992				0			29,350
D	Cass Co Manufacturing WMS	4-48	4-41	IPP revised			29,686			50,471		NA	NA	NA	NA	NA	NA
D	Gregg Co West Gregg SUD WMS	4-49	4-41	Split entity			70			350				53			263
D	Harrison C-O Drill New Well WMS	4-49	4-41	CO			290			543				305			531
D	Hunt Co Celeste - New Surface Water WMS	4-49	4-41	IPP revised						108							63
D	Hunt Co Hicory Creek SUD Drill New Well WMS	4-49	4-41	IPP revised			0			1,418				297			1,667
D	Smith Co West Gregg SUD - new well WMS	4-49	4-41	Split entity			NA			NA		0	0	17	35	52	87
D	Smith C-O (Star Mountain WSC)- new well WMS	4-49	4-41	WMS revised			0			108		108	108	108	324	324	324
D	Van Zandt Co - Canton - New Well WMS	4-49	4-41	IPP revised			29			161				97			194
D	Van Zandt Co - Grand Saline - New Well WMS	4-49	4-41	IPP revised			73			185				161			323
D	Van Zandt Co - R P M WSC - New Well WMS	4-49	4-41	IPP revised						10							65
D	Van Zandt Co - VAN - New Well WMS	4-49	4-41	IPP revised						83							134

REGION D

Non-matching numbers

Region IPP	Item	IPP document reference: Page number	Table number	IPP document number non-decadal number	2010	2020	2030	2040	2050	2060	Online Planning Database (DB12) number non-decadal number	2010	2020	2030	2040	2050	2060
D	Van Zandt C-O (Corinth,Crooked Creek,Edom,Fruitavle,Little Hope-Moore WSCs) - New Well WMS	4-49	4-41	IPP revised			397			699				344			661
D	Wood C-O New Well WMS	4-50	4-41	Yantis deleted wms			NA			NA		38	38	38	38	38	38
D	Wood Co Bright Star Salem WSC WMS	4-50	4-41	No Shortage	NA	NA	NA	NA	NA	NA		255	255	255	255	255	255
D	GW Strategy Total	4-50	4-41	IPP revised			2,016			6,500				2,336			7,065
D	SW Strategy Total	4-50	4-41	IPP revised			44,552			77,236				18,555			88,094
D	Gregg Co West Gregg SUD WMS	4-61	3rd paragraph	Split entity						350							268
D	Harrison Co-Waskom	4-63	last paragraph	IPP revised	55							92					
D	Bowie Co RedWater WMS	App. Ch. 4	WMS Summary	Revised DB12	0	4	7	14	14	14		53	58	61	66	65	65
D	Bowie C-O (Redwater) should be listed as a WUG not C-O	App. Ch. 4	WMS Summary	CO	146	159	-167	178	174	171		NA	NA	NA	NA	NA	NA
D	Bowie C-O WMS (Burns-Redbank WSC+Oak Grove+Red River Redevelopment)	App. Ch. 4	WMS Summary	CO	124	137	144	172	712	1,255		217	238	250	284	821	1,361
D	Delta C-O (Ben Franklin WSC) WMS	App. Ch. 4	WMS Summary	IPP revised			36							33			
D	Gregg Co-West Gregg SUD WMS	App. Ch. 4	WMS Summary	IPP revised			70	140	210	350				53	105	158	263
D	Harrison C-O Increase existing contract WMS	App. Ch. 4	WMS Summary	CO	NA	NA	NA	NA	NA	NA		84	120	146	166	189	222
D	Harrison C-O New Well WMS	App. Ch. 4	WMS Summary	CO	189	247	290	349	349	543		145	255	305	305	415	531
D	Hunt Co Cash SUD-New Surface Water Contract	App. Ch. 4	WMS Summary	IPP revised					0	3,121						449	3,865
D	Hunt Co Cash SUD-Purchase from Provider	App. Ch. 4	WMS Summary	IPP revised	537	821	961	1,059	1,126	1,184		530	796	910	1,003	1,037	1,057
D	Hunt Co-Hickory Creek SUD-New Wells WMS	App. Ch. 4	WMS Summary	IPP correct	0	0	0	269	807	1,613		121	188	297	486	932	1,667
D	Hunt C-O (West Leonard WSC)-New Well WMS	App. Ch. 4	WMS Summary	CO			81	81	81					3	5	9	16	
D	Hunt C-O (Little Creek Acres) New SW Contract	App. Ch. 4	WMS Summary	CO	43	43	43	108	108	172		20	27	37	54	93	153
D	Hunt C-O (Jacobia WSC+Maloy WSC+PoetryWSC+Shady GroveWSC)-Increase Existing Contract WMS	App. Ch. 4	WMS Summary	CO	26	39	57	85	252	971		0	0	0	1	98	654
D	Lamar C-O (Patty WSC) WMS	App. Ch. 4	WMS Summary	IPP revised	20	20		20				1	2		21		
D	Smith C-O (Star Mountain WSC) WMS	App. Ch. 4	WMS Summary					108	108	108		108	108	108	324	324	324
D	Titus Co Steam Electric WMS	App. Ch. 4	WMS Summary	IPP revised				11,759	24,933						1,613	14,816	
D	Van Zandt Co - Grand Saline WMS	App. Ch. 4	WMS Summary	IPP revised	0							161					
D	Van Zandt C-O WMS (Corinth WSC+Crooked Creek WSC+Edom WSC+Fruitvale WSC+Little Hope-Moore)	App. Ch. 4	WMS Summary	IPP revised		236	335	392	518				263	344	430	538	
D	Wood C-O new Well WMS	App. Ch. 4	WMS Summary	CO	NA	NA	NA	NA	NA	NA		38	38	38	38	38	38
D	Wood Co Bright Star Salem WSC WMS	App. Ch. 4	WMS Summary	IPP revised	NA	NA	NA	NA	NA	NA		255	255	255	255	255	255
D	Bowie Co.- Redwater WMS	App. Ch. 4	Eval. by County	CO - revised IPP and DB12	146	159	167	178	174	171		53	58	61	66	65	65
D	Bowie C-O(Burns-RedbkWSC+Oak Grove+RRRA)	App. Ch. 4	Eval. by County	CO	124	137	144	172	712	1,255		217	238	250	284	821	1,361
D	Gregg Co-West Gregg SUD WMS	App. Ch. 4	Eval. by County	IPP revised			70	140	210	350				53	105	158	263
D	Harrison C-O Increased existing contract	App. Ch. 4	Eval. by County	IPP revised	NA	NA	NA	NA	NA	NA		84	120	146	166	189	222
D	Harrison C-O New Well WMS	App. Ch. 4	Eval. by County	IPP revised	189	247	290	349	349	543		145	255	305	305	415	531
D	Hunt Co Cash SUD-New SW Contract	App. Ch. 4	Eval. by County	IPP revised					0	3,121						449	3,865
D	Hunt Co Cash SUD-Purchase from Provider	App. Ch. 4	Eval. by County	Region C strategy for CASH	537	821	961	1,059	1,126	1,184		530	796	910	1,003	1,037	1,057
D	Hunt Co-Hickory Creek SUD-New Wells WMS	App. Ch. 4	Eval. by County	IPP correct	0	0	0	269	807	1,613		121	188	297	486	932	1,667
D	Hunt C-O (West Leonard WSC)-New Well WMS	App. Ch. 4	Eval. by County	IPP revised			81	81	81					3	5	9	16	
D	Hunt C-O (Jacobia WSC+Maloy WSC+PoetryWSC+Shady GroveWSC)-Increase Existing Contract WMS	App. Ch. 4	Eval. by County	DB12 revised	26	39	57	85	252	971		0	0	0	1	98	654
D	Smith C-O (Star Mountain WSC) WMS	App. Ch. 4	Eval. by County					108	108	108		108	108	108	324	324	324
D	Titus Co Steam Electric WMS	App. Ch. 4	Eval. by County	IPP revised				11,759	24,933						1,613	14,816	
D	Camp Co Bi-County WSC Capital Cost	App. Ch. 4	Eval. by County	IPP revised							$51,585						
D	Gregg Co Clarksville City Capital Cost	App. Ch. 4	Eval. by County	$1,686,493							$1,518,443						
D	Gregg Co Liberty City WSC Capital Cost	App. Ch. 4	Eval. by County	$1,535,841							$1,170,845						
D	Gregg Co West Gregg SUD Capital Cost	App. Ch. 4	Eval. by County	$1,973,197							$1,502,847						
D	Harrison Co Waskom Capital Cost	App. Ch. 4	Eval. by County	$718,665							$547,039						
D	Harrison Co County-Other Capital Cost	App. Ch. 4	Eval. by County	$2,451,846							$1,779,126						
D	Smith Co Crystal Systems Capital Cost	App. Ch. 4	Eval. by County	$1,383,789							$992,200						
D	Smith Co. Lindale Rural WSC Capital Cost	App. Ch. 4	Eval. by County	$413,194							$316,158						
D	Smith Co. Lindale Capital Cost	App. Ch. 4	Eval. by County	$669,409							$510,648						
D	Smith Co. County-Other Capital Cost	App. Ch. 4	Eval. by County	$413,194							$316,158						
D	Wood Co.Mineola Capital Cost	App. Ch. 4	Eval. by County	$313,957							$243,334						
D	Wood Co. County-Other Capital Cost	App. Ch. 4	Eval. by County	Yantis							$227,734						

REGION D

		IPP document reference:		*Non-matching numbers* IPP document number							*Non-matching numbers* Online Planning Database (DB12) number						
Region IPP	Item	Page number	Table number	non-decadal number	2010	2020	2030	2040	2050	2060	non-decadal number	2010	2020	2030	2040	2050	2060
D	Alternative WMS - Ben Franklin WSC Purchase Water from Lamar Co. WCD WMS volume or cost	App. Ch. 4	Eval. by County	IPP revised	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D	Alternative WMS - Canton Grand Saline Creek Reservoir WMS volume or cost	App. Ch. 4	Eval. by County	IPP revised	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D	Alternative WMS - Little Hope-Moore WSC Purchase from Edgewood WMS volume or cost	App. Ch. 5	Eval. by County	IPP correct	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Response to Comments to the Initially Prepared Plan for Region D

The Northeast Texas Regional Water Planning Group (NETRWPG) (Region D) received thirty-six written comments and 20 oral comments to the Initially Prepared Plan (IPP). The comments were posted and made available to the public for review. All comments, both verbal and written, must be addressed specifically. This instrument is intended to provide the necessary documentation to reflect how the comments have been addressed by the NETRWPG. The consultant team has categorized the written comments into three distinct groups as follows:

Group 1 – Comments which reflect the opinion of the commenter but that do not specifically request any changes in the Initially Prepared Plan (IPP). These comments are typically thought of as being more generic in nature. All oral comments were included in this group.

Group 2 – Comments which represent facts which are incorrectly stated or need additional clarity to improve the quality of the Initially Prepared Plan (IPP). These comments require changes in the document but are consistent with the intent of the IPP. These items will be presented to the voting members of the NETRWPG for concurrence.

Group 3 – Comments which recommend or request changes in the IPP which require more direction. These comments will typically require more discussion and decision making by the voting members of the NETRWPG. These comments are being presented in more detail with suggested language either developed by the commenter or consultant team for adoption or rejection by the NETRWPG.

Group 1 – Comments which reflect the opinion of the commenter.

1. Coy and Patsy Johnson, Johnson Law Firm
2. Deloris McCright, Texarkana College
3. Jack Willett, Self
4. Bobby Arey, B & L Ranch
5. Mary Arey, B & L Ranch
6. Steve Arey, B & L Ranch
7. Jana Arey, B & L Ranch
8. James Presley, FUSE, Inc.
9. Brenda Stevenson, Mothers Air Watch
10. WR Ward, Ward Timber, LTD.
11. Mary Farmer, Self
12. Texas Conservation Alliance
13. Vencene Reed, International Paper
14. Laura Huffman, The Nature Conservatory
15. Scot Moorhead, International Paper, Submitted After May 31, 2010

ACTION: June 23, 2010—Accepted Items 1-15

Group 2 – Comments which represent facts or clarifications.

16. Mr. Hudson, Edom WSC (Telephone Call to NETMWD)
17. Luminant, See attached information
18. Richard Zachary, Cypress Springs SUD
    Chapter 4, Pg. 4-14, 4-15, 4-27, 4-30, 4-36
    Change: Cypress Springs WSC has been changed to Cypress Springs SUD.
19. Edom WSC
    Chapter 4, Pg. 4-87, last paragraph.
    Add: In 2010, the WSC served a total of 486 connections.
20. Greg Carter
    Requested information and clarification. Telephone call conducted with no specific changes requested.
21. Ross Melinchuk, TPWD,
    Chapter 1, Pg. 1-10, first paragraph.
    Change: There are six wildlife management areas in Region D.
    Add: Old Sabine Bottom (5,727 acres), Caddo Lake (7,805 acres).
    Chapter 1, Pg. 1-14, Table 1.3.
    Add: Hunt and Van Zandt, Lake Tawakoni State Park
    Chapter 1, Pg. 1-26, first paragraph.
    Add: Tawakoni State Park
    Chapter 1, Pg. 1-41, first paragraph.

Add: There are also several other species of concern which could be a detriment to the natural resources of the Region including water hyacinth, hydrilla, zebra mussels and other exotic species.

22. Kim Mireles, See attached information.

23. Senator Florence Shapiro
Comment:
Senator Shapiro, Co-Chairman of the Study Commission on Region C Water Supply, submitted an op-ed, March 2010, calling for uniform water conservation standards for all of Texas. Senator Shapiro stated that currently there is no standard measurement for determining GPCD. For a true comparison of water use, including our projected needs, the methods of calculation need to be uniform.

ACTION: June 23, 2010—Approved Items 19-23 with an exception for Greg Carter to make additional comments on Item 20

24. Richard LeTourneau
Chapter 8, Section 8.8.1 last paragraph, Pg. 8-16.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Little Cypress reservoir site as a unique reservoir site.
Chapter 8, Section 8.9.1 last paragraph, Pg. 8-17.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Barkman reservoir site as a unique reservoir site.
Chapter 8, Section 8.9.2 last paragraph, Pg. 8-18.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Liberty Hill reservoir site as a unique reservoir site.
Chapter 8, Section 8.9.3 last paragraph, Pg. 8-18.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Big Pine reservoir site as a unique reservoir site.
Chapter 8, Section 8.9.4 next to last paragraph, Pg. 8-19.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Pecan Bayou reservoir site as a unique reservoir site.
Chapter 8, Section 8.10.1 last paragraph, Pg. 8-20.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Big Sandy reservoir site as a unique reservoir site.
Chapter 8, Section 8.10.2 last paragraph, Pg. 8-21.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Carl Estes reservoir site as a unique reservoir site.

Chapter 8, Section 8.10.3 last paragraph, Pg. 8-22.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Carthage reservoir site as a unique reservoir site.
Chapter 8, Section 8.10.4 last paragraph, Pg. 8-22.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Kilgore II reservoir site as a unique reservoir site.
Chapter 8, Section 8.10.5 last paragraph, Pg. 8-23.
Change: The North East Texas Regional Water Planning Group supports the proposal of the Sabine River Authority to build Prairie Creek Reservoir, if used in conjunction with a pipeline from Toledo Bend, to supply water to both Region D and Region C.
Chapter 8, Section 8.10.6 next to last paragraph, Pg. 8-24.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Waters Bluff reservoir site as a unique reservoir site.
Chapter 8, Section 8.11.1 last paragraph, Pg. 8-27.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Marvin Nichols I or Marvin Nichols IA reservoir site as a unique reservoir site.
Chapter 8, Section 8.11.2 last paragraph, Pg. 8-27.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential Marvin Nichols II reservoir site as a unique reservoir site.
Chapter 8, Section 8.11.3 last paragraph, Pg. 8-28.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential George Parkhouse I reservoir site as a unique reservoir site.
Chapter 8, Section 8.11.4 next to last paragraph, Pg. 8-29.
Change: The North East Texas Regional Water Planning Group does not recommend the designation of the potential George Parkhouse II reservoir site as a unique reservoir site.
Chapter 8, Section 8.12.1 second paragraph, Pg. 8-30.
Change: It is the position of the North East Texas Regional Water Planning Group that there will be unavoidable impacts on agricultural resources should there be further development of new reservoirs in the Sulphur River Basin within the North East Texas Region.
Chapter 8, Section 8.12.1 third paragraph, Pg. 8-30.
Change: Therefore, the North East Texas Regional Water Planning Group recognizes that there may be the possibility of recommendations from other planning groups that included further development of additional reservoirs in the Sulphur River Basin as a recommended water management strategy or as an alternative strategy. Further, it is the position of the North East Texas Regional Water Planning Group that the development of such reservoirs is in direct conflict

with the stated TAC Rule and thereby impacts negatively the agricultural and environmental resources within the North East Texas Region. Furthermore, due to these foreseeable detrimental impacts, the North East Texas Regional Water Planning Group asserts strongly that the option of pursuing any new reservoir in the Sulphur River Basin as a water management strategy or an alternative strategy should be viewed as directly inconsistent with the protection of natural resources within the region under that rule.

ACTION: June 23, 2010—Approved Item 24

Group 3 – Comments which require decisions.

25. Walt Sears, NETMWD
26. Andy McCuistion, City of Canton
27. Jerry Boatner, City of Mt. Pleasant
28. Ty Abston, NET Water Coalition
29. Mary Ann Rushing, City of Clarksville
30. WF Higgins, Red River County Chamber of Commerce
31. Mary Ann Rushing, City of Clarksville
32. Hazel Kelty, PRIDE Organization
33. Scott Lindeman, Red River County WCID
34. Wayne Dial, Clarksville Economic Development Corporation
35. Rick Lowerre, Caddo Lake Institute
36. Shirley Shumake, Self

Topics List

A. Ecologically Unique Streams
B. Unique Reservoir Sites
C. Environmental Flows
D. Small Lake Projects
E. Canton Strategy
F. Mitigation
G. Water Usage and Conservation
H. Basin Studies
I. Planning
J. Haynesville Shale
K. Feral Hogs

Group 3 comments are addressed by subject matter as follows:

A. Topic: Ecologically Unique Streams
Commenters: City of Clarksville, Scott Lindeman

Chapter 8, Section 8.6, Page 8-7

ADD: "the Big Pine" as follows:
…elected to recommend to the Legislature that the Pecan Bayou "and the Big Pine" stream segments in the Red River Basin…as Ecologically Unique Stream Segments.

ACTION: June 23, 2010—Recommend the topic of ecologically unique stream designation for the Big Pine area be tabled and that it be studied in Round 4 of the Regional Plan

B. Topic: Unique Reservoir Sites
Commenters: Jerry Boatner, City of Clarksville, W.F. Higgins, Hazel Kelty Wayne Dial

Chapters 7 and 8
ADD: The Plan should include the proposed Marvin Nichols Reservoir as a recommended strategy.

ACTION: June 23, 2010—No Action on Group 3 Item B

C. Topic: Environmental Flows
Commenters: NETMWD, Caddo Lake Institute, Shirley Shumake

Chapter 1, Section 1.4(a) second paragraph, Pg. 1-33.
ADD: In addition to these uses, which are mostly consumptive uses, there are non-consumptive uses such as flows in rivers, streams, and lakes that have been relied upon to maintain healthy ecological conditions, navigation, recreation and other conditions or activities that bring benefit to the Region. These historic non-consumptive uses and future needs have not yet been the subject of detailed consideration in the State's Senate Bill 3 planning process, but are discussed in *Section 2.3.7 Regional Environmental Flow Demand Projections* and will be addressed in more detail in Round 4 of the planning process.

Chapter 2, Section 2.3.7, Pg. 2-18.
ADD: Section 2.3.7 Regional Environmental Flow Demand Projections
An additional demand for water in the Region is water needed as "environmental flows", as that term is defined in Senate Bill 3 from the 2007 Regular Session (SB 3). While no volumes or rates have been projected in this plan, NETRWPG projects a significant amount of water will be needed in the Region's rivers, streams, and lakes to fill the need.

As discussed in *Section 3.5 Impact of Environmental Flow Policies on Water Rights, Water Availability, and Water Planning*, SB-3 establishes a process to determine the environmental flow needs for each river basin. The Texas Water Development Board is apparently seeking funds for the process for basins in

Region D. Moreover, a voluntary process authorized by SB-3 is ongoing for the Cypress Basin. Thus, the NETRWPG recognizes that environmental flow needs will likely be defined during Round 4 of the planning process and can in that process be incorporated more specifically in that regional plan.

Chapter 3, Section 3.5, Pg. 3-29.
ADD: **Section 3.5 Impact of Environmental Flow Policies on Water Rights, Water Availability, and Water Planning**

The objective of this section of the 2011 Plan is to provide an evaluation of the effect of environmental flow policies on water rights, water availability, and water planning in the NETRWPG area and within Region I to the extent that it affects Region D. Much has occurred in the area of environmental flow recommendations since the 2006 Plan was adopted, including the development of new recommendations for the Sabine and Neches watersheds. However, it is not clear how much effect these recommendations will have in the short-term.

The Legislature passed Senate Bill 3 (SB-3) in the 2007 80th Regular Session. SB-3 is the third in a series of three omnibus water bills related to the State of Texas' meeting the future needs for water. SB-3 created a basin-by-basin process for developing recommendations to meet the instream flow needs of rivers as well as freshwater inflow needs of affected bays and estuaries and required TCEQ to adopt the recommendations in the form of environmental flow standards. Such standards will be utilized in the decision-making process for new water right applications and in establishing an amount of unappropriated water to be set aside for the environment.

Prior to SB3, Texas law recognized the importance of balancing the biological soundness of the state's rivers, lakes, bays, and estuaries with the public's economic health and general well-being. The Texas Water Code (TWC) requires the TCEQ, while balancing all other interests, to consider and provide for the freshwater inflows necessary to maintain the viability of Texas' bay and estuary systems in TCEQ's regular granting of permits for the use of state water. Balancing the effect of authorizing a new use of water with the need for that water to maintain a sound ecological system was done on a case-by-case basis as part of the water rights permitting process.

SB3 called for the appointment of stakeholder committees for the various watersheds feeding bays and estuaries for the Texas coast. For that portion within Region D and I, the primary basins of interest were the Sabine and Neches Rivers, and part of the Neches-Trinity Coastal basin. These basins feed fresh water to Sabine Lake and the upper Texas coast. Since a portion of the Trinity River basin is in Region D and I and the Trinity River forms a portion of the western boundary of Region I, another stakeholder group for the Trinity-San Jacinto-Galveston Bay area is also of potential interest. Stakeholder committees for both areas were

appointed in 2008. Each stakeholder committee then appointed a "Bay and Basin Expert Science Team" (BBEST) in the fall of 2008 to address the development of environmental flow recommendations in accordance with SB3.

BBESTs met individually over the course of 12 months to develop environmental flow recommendations for their respective areas. The recommendations and the Sabine and Neches Executive Summary (ES) are accessible from other sources. It is suggested that this information be reviewed by all interested persons. The ES describes, generally, the process undertaken and the recommendations made by the BBEST.

The recommendations prepared by the BBEST, at this time, have been considered by the stakeholder committee but were not adopted. Over the next few months, analysis of the potential effects of these new recommendations will be undertaken.

Environmental flow recommendations will impact the procurement of water rights in the future by creating a comprehensive process of evaluating environmental flow needs whenever a new water right application is processed. The process of approving water rights is likely to become more complex under the new environmental flow policies that will be implemented by the TCEQ. However, it should result in more clarity in how diversions can be made and better ensure that sufficient water is available in the streams of the Sabine and Neches basins.

As a result of the implementation of new environmental flow recommendations, the operation of reservoirs will become more dependent on the development of an "accounting plan", which is a feature that the TCEQ is already implementing within the State. Whether such accounting plans will have a significant impact on the availability of water is not known at this time.

The implementation of environmental flow recommendations will result in a need to more carefully consider environmental flow needs during the process of water planning in Region D as well as other areas. In future planning cycles, the NETRWPG will need to analyze new water rights in light of these recommendations to determine how the new environmental flow requirements are consistent with the long-term protection of the region's water resources.

Chapter 4, Page 4-1
(Also shown in Small Lakes)
ADD: The North East Texas Regional Water Planning Group (Region D) has considered the variety of actions and permit applications that may come before the TCEQ and the TWDB and does not want to unduly constrain projects or applications for small amounts of water that may not be specifically included in the adopted regional water plan. "Small amounts of water" is defined as involving no more than 1,000 acre feet per year, regardless of whether the action is for a temporary or long term action. The North East Texas Regional Water Planning

Group provides direction to TCEQ and TWDB regarding appropriations, permit amendments, and projects involving small amounts of water that will not have a significant impact on the region's water supply, such projects are consistent with the regional water plan, even though not specifically recommended in the plan.

Chapter 8, Section 8.8, Pg. 8-14.

ADD: It is the position of the North East Texas Water Planning Group that there will be unavoidable negative impacts to the integrity of the ecological environment of the water bodies of the Cypress River Basin and especially Caddo Lake, should there be development of new reservoirs in the Cypress River Basin or transfer of water out of the basin, unless such new reservoirs or transfers do not conflict with the environmental flow needs for the water in the North East Texas Region. Those flow needs are defined as the low, pulse and flood flows needed for a sound ecological environment in Senate Bill 3, 2007 Regular Session of the Texas Legislature (SB-3).

Those flow needs have been identified initially by the process of obtaining recommendations from scientists and stakeholders for the flow regimes for the Cypress Basin through a process initiated in 2004 and summarized in the draft Report on Environmental Flows for the Cypress Basin, updated May 2010 and provided as Appendix to the May 31, 2010 Comments of the Caddo Groups to the Region D IPP and referred to as the *Cypress Basin Flow Project Report*.

The North East Texas Regional Water Planning Group recognizes that other regional water planning groups may include recommendations for new reservoirs in the Sulphur River Basin or for the transfer of water out of the Sulphur River Basin to basins in other regions, as part of their recommended water management strategies or as alternate strategies.

It is the position of the North East Texas Regional Water Planning Group that unless such proposed reservoirs or transfers include explicit recognition that the needs for environmental flows in the North East Texas Region must be satisfied first consistent with Senate Bill 3, that these strategies create direct conflicts between the plans of such other group(s) and the plan of the North East Texas Regional Water Planning Group.

The Cypress Basin lies entirely in the North East Texas Region (Region D). The amount of needs in the Cypress Basin for environmental flows is not fully or finally determined. Once the State has set aside water for such needs, the State will have made its determination on such needs. There is, however, sufficient unappropriated water in the Cypress Basin to meet the environmental flow needs and unused or unsold water from Lake O' the Pines is one potential source for the additional needs, should appropriate strategies be developed to protect the interests of the NETMWD member cities and others in the Basin that will need such water.

Proposals for new reservoirs or interbasin transfers can be made consistent with the environmental flow needs in the Cypress Basin only after final decisions have been made to determine those needs and sources to fill them. Until then, however, no water should be proposed for a new reservoir or for uses in other regions unless the proposals in other regional plans explicitly recognize the environmental flow needs for Region D and that the amount, timing, diversion rate and other characteristics must be consistent with the needs

Chapter 8, Section 8.12.4, Pg. 8-33.
ADD: Section 8.12.4 Environmental Flows
It is the position of the North East Texas Regional Water Planning Group that there be no development of new reservoirs in the Sulphur River Basin within Region D nor transfer of water out of the basin for that part that is within Region D until the flow needs for a sound ecological environment are defined for the Sulphur River Basin through the process established in Senate Bill 3, 2007 Regular Session of the Texas Legislature. Those flow needs are defined as the low, pulse, and flood flows.

The flow needs assessment for the Sulphur River has not yet begun. No development should take place until the State has identified the flow needs for the Sulphur River and established a demand for the environmental flows for the basin.

The North East Texas Regional Water Planning Group recognizes that other regional water planning groups may include recommendations for new reservoirs in the Sulphur River Basin or for the transfer of water out of the Sulphur River Basin to basins in other regions, as part of their recommended water management strategies or as alternate strategies. It is the position of the North East Texas Regional Water Planning Group that unless such proposed reservoirs or transfers include explicit recognition that the needs for environmental flows in the North East Texas Water Planning Region must be satisfied first consistent with Senate Bill 3, that these strategies create direct conflicts between the plans of such other group(s) and the plan of the North East Texas Regional Water Planning Group.

Development of new reservoirs prior to determination of the water demands required for environmental flows in the Sulphur River Basin would be premature. Once the State has set aside water for such needs, the State will have made its determinations on such needs. Proposals for new reservoirs or interbasin transfers can then be made consistent with the environmental flow needs in the basin.

ACTION: June 23, 2010—Approved Section C as revised.

D. Topic: Small Lake Projects
Commenters: NETMWD

In the First section of Chapter 4 of the IPP, beginning on page 4-1
ADD: The North East Texas Regional Water Planning Group (Region D) has considered the variety of actions and permit applications that may come before the TCEQ and the TWDB and does not want to unduly constrain projects or applications for small amounts of water that may not be specifically included in the adopted regional water plan. "Small amounts of water" is defined as involving no more than 1,000 acre feet per year, regardless of whether the action is for a temporary or long term action. The North East Texas Regional Water Planning Group provides direction to TCEQ and TWDB regarding appropriations, permit amendments, and projects involving small amounts of water that will not have a significant impact on the region's water supply, as follows: such projects are consistent with the regional water plan, even though not specifically recommended in the plan.

ACTION: June 23, 2010—Approved Section D

E. Canton Strategy
Section 4.8.18.1 City of Canton
Modify the subsections "Evaluated Strategies" and "Recommendations" as follows:

Evaluated Strategies

Advanced conservation was considered because the 238 gallons per capita per day use was above the 140 gpcpd threshold set by the water planning group. However, the projected savings is minimal in comparison to the predicted shortage and the cost of conservation is higher than that of groundwater. Water reuse, including both direct and indirect reuse, was evaluated as a feasible water conservation and supply strategy. Groundwater and surface water alternatives were also considered because the City is currently using well water and also looking at the feasibility of constructing another lake.

Recommendations

One recommended strategy for the City of Canton to meet their projected water deficit of 29 ac-ft/yr in 2030 and 161 ac-ft/yr in 2060 would be to construct 2 additional wells. These would be similar to their existing wells with a capacity of 180 gpm each, for a total of 194 ac-ft/yr. The recommended wells would be in the Carrizo-Wilcox aquifer in Van Zandt County. A second recommended water conservation strategy and water supply option is the utilization of both direct and indirect water reuse. The City of Canton has submitted an application to the TCEQ to secure a water right for indirect reuse and may also seek to secure an authorization for direct reuse. These recommendations are based upon current NETRWPG population projections for the City of Canton. Because of substantial

disagreement over future population and water demands, the City has requested the following alternate strategy:

The strategy to meet future needs "is with surface water from a proposed reservoir on Grand Saline Creek. The City of Canton has provided to NETRWPG resolutions from three other cities in Van Zandt County supporting the reservoir project. This show of support indicates that a regional surface water reservoir could possibly replace the ground water strategies for other Van Zandt County public water suppliers with projected deficits. However, due to the time typically required to obtain the necessary permits to impound surface water, the City plans to construct one or two additional wells, or implement a reuse option, to meet increasing demands due to population growth and the First Monday influence." This alternate wording should be considered consistent with this regional plan in the event that population growth in the potential service area significantly exceeds current NETRWPG projections.

ACTION: June 23, 2010—Approved Section E

F. Topic: Mitigation
Commenters: NETMWD, Wayne Dial

ADD

8.13.5 Recommendation: Concerning Mitigation

The North East Texas Regional Water Planning Group (Region D) recommends that any planning group or entity proposing a new reservoir or any other water management strategy should address the subject of mitigation in conjunction with any and all feasibility studies. A study on possible mitigation effects should be undertaken and completed in conjunction with any and all feasibility studies. Information should include estimates of mitigation, predication ratios, and other information useful to landowners potentially affected by mitigation requirements. Also, any new reservoir proposed by a planning group must be accompanied by a map of the proposed reservoir and a map of the land proposed to be mitigated including proposed acreage.

The North East Texas Regional Water Planning Group recognizes that the rules concerning mitigation and the method of accomplishing mitigation have changed since the previous plan was prepared. Some suggested references to update for mitigation rules and information are the *National Wetlands Mitigation Action Plan* (www.mitigationactionplan.gov), the EPA *Mitigation Banking Factsheet* (www.epa.gov/owow/wetlands/facts/fact16.html), the EPA *Wetlands Compensatory Mitigation Rule* (www.epa.gov/wetlandmitigation) and the *Corps Regulatory Program* (www.usace.army.mil/inet/functions/cw/cecwo/reg). The following information was derived in part from these references.

The preference for Mitigation Banking was first conceived in 1983 when the U. S. Fish and Wildlife Service supported their establishment. This program was well positioned to provide easier monitoring, long-term stewardship, and unambiguous transfer of liability for success from the permittee to the banker. The EPA in the *Mitigation Banking Factsheet* has stated that the advantages of the mitigation-banking program are to:

- Reduce uncertainty over whether the compensatory mitigation will be successful in offsetting project impacts;
- Assemble and apply extensive financial resources, planning and scientific expertise not always available to many permittee responsible compensatory mitigation proposals;
- Reduce processing times and provide more cost effective compensatory mitigation opportunities; and
- Enable the efficient use of limited agency resources in the review and compliance monitoring of compensatory mitigation projects because of consolidation.

The EPA and the USACE announced in March of 2008 new standards to promote the "no net loss of wetlands" by improving wetland restoration and protection policies, increasing the effective use of wetland mitigation banks and strengthening the requirements for the use of in-lieu fee mitigation. These standards clearly affirm the requirement to adhere to the "mitigation sequence" of "avoid, minimize and compensate". The permittee must first avoid and minimize the impact on the wetland and then compensate for unavoidable impacts. The term here "to compensate" is specifically directed at the wetland or other aquatic feature being impacted.

A mitigation bank may be created when a government agency, private corporation, non-profit organization, or other entity undertakes the prescribed activities required under a formal agreement with a regulatory agency. The value assigned to a mitigation bank is through "compensatory mitigation credits". The bank's instrument identifies the number of credits available for sale and requires the use of ecological assessment techniques to certify that those credits provide the required ecological functions. The Compensatory Mitigation Rule identifies and clarifies the consideration of watershed scale factors in the selection of appropriate mitigation sites. Mitigation credits utilized by "banks" now allow for a more varied use of options. Mitigation proposals may use on-site (i.e., located close to the impact) and in-kind (i.e., replacement of the same ecological type as the impacted resource). In addition the rule clarifies the consideration of watershed-scale factors in the selection of appropriate mitigation sites. This clarification may increase the practical viability of mitigation proposals involving off-site or out-of-kind replacement with the regard to use of "compensatory mitigation credits". These replacement processes will still provide appropriate resource replacement in ways that are beneficial to the watershed. The USACE is the final decision maker

regarding whether a proposed compensatory mitigation option provides appropriate compensation to receive a permit.

The USACE has been recommended to adopt a "watershed-based approach" (although a consensus definition has yet to be established) to compensatory mitigation as stated in the *New Wetlands Mitigation Rules* (www.epa.gov/fedrgstr/EPA-WATER/2006/March/Day-28/w1969.htm). The watershed approach is based on a formal watershed plan being developed jointly by Federal, State and/or local environmental managers in consultation with the affected stakeholders. The affected stakeholders include the local sponsors and landowners of the proposed project and the proposed mitigation sites. Project sponsors are tasked with making a reasonable effort, commensurate with the scope and scale of the project and impacts, to obtain as much information as possible prior to the design of the compensatory mitigation project.

The design of compensatory mitigation projects does involve a case-by-case decision making process. This is due to the variables that are encountered on the different projects. While decision-making relies on the scientific expertise of wetlands program staff and broad based stakeholder participation, project sponsors may propose compensatory mitigation based on the watershed approach using information from other sources. Such information includes: current trends in habitat loss or conversion, cumulative impacts of past development activities, current development trends, the presence and needs of sensitive species, site conditions that favor or hinder the success of mitigation projects, chronic environmental problems such as flooding or poor water quality, and local watershed goals and priorities.

ACTION: June 23, 2010—Approved Section F

G. Topic: Water Usage and Conservation
Commenters: NETMWD
ADD

8.13.16 Recommendation: Standardize Statistics Used For Conservation Assessments

The North East Texas Regional Water Planning Group (Region D) recommends that the Texas Legislature standardize the method used to derive the statistic known as "gpcpd" (gallons per capita per day) and also known as "municipal per capita usage". The justification for this recommendation is demonstrated by the need to have a successful conservation program in areas that are projected to need water management strategies. NETMWD supports conservation as a water management strategy for any entity that has a gpcpd ratio greater than the goal of 140 gpcpd. Assessing the progress of communities engaged in conservation will be more reliable with a standardized method for comparison.

Senator Florence Shapiro, in March 2010 op-ed piece, called for uniform conservation standards for all of Texas. Senator Shapiro stated "…that despite Texas being a state with only one natural body of water, over the years we've been able to meet our wide-ranging water needs through a number of man-made reservoirs.

"Today, the most widely used measurement of water usage is gallons per capita per day. Used as a planning tool gpcd may be used to project the future water needs of each municipality. Currently, the measurements being used to determine gpcpd are not standardized. However, in order for a true comparison of water use and to measure our projected needs, these methods of calculation must be uniform.

"…there is certainly no reason for us to strand ourselves with a short-sighted water plan. As we work to address Texas' demands, it is essential that we create a new system for water conservation."

Chapter 3, Section 3.1 on Page 3-2
ADD: A properly issued water right is no guarantee of access to water. It is possible that a water right can be held in which there is no water during some time of the year. For example, a holder of a water right that is run-of-the-river may have no access to water when there is no flow in the river. For example, a holder of a water right that is a right to store and divert at a later date may have only limited access to water during a drought. It should be acknowledged that water rights have been issued in circumstances where the water is estimated to be available less than 100% of the time. For entities that place all of the water potentially available under a water right in a water supply contract, it is essential that buyers understand the limitations and qualifications of the water right that supports the water supply contract. It is not uncommon for Wholesale Water Providers to have water rights for a volume greater than what can be delivered during the worst drought of record. It is not uncommon for water rights to be issued in an amount greater than the dependable yield of a reservoir.

Chapter, 4 Page 4-1 as the last paragraph
Add Comment: The IPP shows that there are no significant shortages through the year 2060.

ACTION: June 23, 2010—Approved Section G

H. Topic: Basin Studies
Commenters: NETMWD, Northeast Texas Water Coalition, City of Clarksville, W.F. Higgins, Hazel Kelty, Scott Lindeman, Wayne Dial, Shirley Shumake

ADD **8.13.14** The NETRWPG would recommend that a Sulphur River Basin Study be completed to include the raising of the level of Wright Patman. The

NETRWPG supports the efforts to complete the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study".

ADD The following is to be added in Chapter 6, page 6-2 after the second paragraph:

Chapter 6 Page 6-2

Study Commission on Region C Water Supply

During the 80th Legislature session, SB-3 was approved and the Study Commission on Region C Water Supply was created. The purpose of the Study Commission was to carry out the related responsibilities described by SB-3, Section 4.04. As prescribed in SB-3, Section 4 (a) the members were appointed as follows:

1. Three members appointed by Region C Regional Water Planning Group; and
2. Three members appointed by Region D Regional Water Planning Group.

The appointments were made as follows:

Region C Members	**Region D Members**
Senator Florence Shapiro	Representative Stephen Frost
Representative Jodie Laubenberg	Thomas F. Duckert
James (Jim) M. Parks	Richard LeTourneau

The related responsibilities as placed on the Study Commission by SB-3, Section 4.04 are as follows:

- Review the water supply alternatives available to the Region C Regional Water Planning Area;
- Analyze the socioeconomic effect on the area where the water supply is located that would result from the use of the water to meet the water needs of the Region C Regional Water Planning Area;
- Determine whether water demand in the Region C Regional Water Planning Area may be reduced through additional conservation and reuse measures;
- Evaluate measures that would need to be taken to comply with the mitigation requirements of the United States Army Corps of Engineers in connection with any proposed new reservoirs;
- Consider whether the mitigation burden may be shared by the Regions C and D Regional Water Planning Areas in proportion to the allocation to each region of water in any proposed reservoir;
- Review innovative methods of compensation to affected property owners;

- Evaluate the minimum number of surface acres required for the construction of proposed reservoirs; and
- Identify the locations of proposed reservoir sites and proposed mitigation sites, as applicable, as selected in accordance with existing state and federal law, in the Regions C and D Regional Water Planning Areas.

The Study Commission then hired a consultant, Espy Consultants, Inc., to provide the necessary water planning services for the group. The scope of work described as the primary work of the Region C Study Commission consultant initially was to demonstrate viable water supply alternatives available to Region C. These alternatives had been identified as Lake Texoma, Toledo Bend Reservoir, Lake Wright Patman, Lake O' the Pines, other existing supplies such as groundwater, or proposed reservoirs. An initial objective of the consultant was to compile, organize, and summarize existing studies and analysis that have evaluated Region C water supply alternatives. The work was separated into two tasks: 1) Water Supply Alternatives, 2) Project Approach: Socioeconomic Impacts. Special consideration was given to Lake Wright Patman and Lake O' the Pines by adding an addendum to the original contract. Phase II has been prepared in draft form and presented to the Study Commission.

NOTE: The following comment was withdrawn prior to the meeting June 23, 2010

Chapter 8, Section 8.13.15

ADD: **Support for a comprehensive study of the Sulphur River Basin**

The North East Texas Regional Water Planning Group (NETRWPG) encourages support for a comprehensive study of the water resources within the Sulphur River Basin. NETRWPG believes that the completion of a comprehensive study would be an advancement in analyzing the possible strategies. NETRWPG acknowledges that there are many diverse opinions on the future development within the Sulphur River Basin. The comprehensive study should analyze all reasonably-possible options. NETRWPG believes the successful completion of the comprehensive study will require the evaluation of all possible strategies and therefore, many sources of information will need to be considered. NETRWPG does not have confidence that the comprehensive study can be competently undertaken and successfully completed if only one entity substantially participates in the process on a local level. NETRWPG acknowledges that the Texas Legislature created a Special Study Commission in Senate Bill 3 to consider possible options involving the Sulphur River together with additional tasks. NETRWPG believes that the Study Commission is an example of a group with diverse interests addressing complex water options. NETRWPG believes that the participation in a comprehensive study for the Sulphur River on a local level should not be reserved

or allocated to a single entity but rather to an entity or entities that can incorporate participation from a variety of sources much as the regional water planning process contemplates multi-party participation. It is noted that NETRWPG has received substantial participation from several distinct interest groups when considering possible options for a future supply. It is noted that the Texas Water Development Board has actively assisted both the NETRWPG process and the Special Study Commission created in Senate Bill 3. While the NETRWPG does not express an opinion in this recommendation for who should be the entity or entities for the local portion of the comprehensive study, the NETRWPG does express the opinion that the Sulphur River Basin Authority (SRBA) does not presently possess the financial capability to be the sole entity in charge of the local portion of the comprehensive study.

Chapter 8, Section 8.13.4, Page 8-33 (also shown under Topic G)
ADD:
It is the position of the North East Texas Regional Water Planning Group that there be no development of new reservoirs in the Sulphur River basin nor transfer of water out of the basin until the flow needs for a sound ecological environment are defined for the Sulphur through the process established in Senate Bill 3, 2007 Regular Session of the Texas Legislature. Those flow needs are defined as the low, pulse, and flood flows.

The flow needs assessment for the Sulphur River has not yet begun. No development should take place until the State has identified the Sulphur and set aside water for the environmental flows for the basin.

The North East Texas Regional Water Planning Group recognizes that other regional planning groups may include recommendations for the new reservoirs in the Sulphur River Basin or for the transfer of water out of the Sulphur Basin to basins in other regions, as part of their recommended water management strategies or as alternative strategies. It is the position of the North East Texas Regional Water Planning Group that unless such proposed reservoirs or transfers include an explicit recognition that the needs for environmental flows in the North East Texas Region must be satisfied first with SB-3, that these strategies create direct conflict between the plans of such other groups(s) and the plan of the North East Texas Regional Water Planning Group.

Development of new reservoirs prior to determination of the needs for environmental flows in the Sulphur Basin would be premature. Once the State has set aside water for such needs, the state will have made its determinations on such needs. Proposals for new reservoirs or interbasin transfers can then be made consistent with the environmental flow needs in the basin.

ACTION: June 23, 2010—No Action on Section H. It was acknowledged that the Special Studies Commission for a Region C Water Supply is working on the topic

described in Section H. It was suggested that deference be extended to that process by NETRWPG at this time.

I. Topic: Planning
Commenters: NETMWD, Northeast Texas Water Coalition, Wayne Dial

Add the following language to the end of the second paragraph of page 2-1:
Analysis of this new decennial data will require a substantial increase in man hours and financial resources for Round 4 of regional water planning. The overall data will require assessment to develop new regional trends. As noted, population estimates were generally not updated in Round 3 because of the small overall discrepancy between the planning group regional total and that of the Texas State Data Center. In Round 4, each individual municipal WUG will require a fresh analysis. Municipal annexations, WUG mergers, new WUG's and other territorial changes will affect population distribution, county-other totals, and the various summaries required for each county and river basin.

Add the following language to the end of the second paragraph of page ES-5:
ADD: Analysis of this new decennial data will require a substantial increase in man hours and financial resources for Round 4 of regional water planning.

Chapter 8, Section 8.7, Page 8-14
ADD: The North East Texas Regional Water Planning Group acknowledges the economic impact to a region suffering from drought conditions and water shortages and the impact to a region economically when there is not sufficient water to entice industry.

Chapter 8, Section 8.7, Page 8-14
ADD: The North East Texas Regional Water Planning Group acknowledges that reservoir development in Northeast Texas has historically driven population up and provided water for development. NETRWPG further acknowledges the need for water in excess to compensate for times of drought.

Chapter 8
ADD: Region C is acknowledged for their efforts toward water conservation in their planning efforts and regional Plan preparation.

ACTION: June 23, 2010—Section I Not Approved

J. Topic: Haynesville Shale
Commenters: NETMWD
Chapter 1, Section 1.1 (e), fifth paragraph, Pg. 1-10.
ADD: The Haynesville Shale formation is currently being developed in western Louisiana and eastern Texas. The area being developed overlaps with the

Region D water planning area primarily in Harrison and Marion Counties (Figure 1.7A). The Haynesville Shale is considered a tight formation which requires that a technique called fracing be utilized to open up the shale and allow easier capture of the oil/gas. The water demand necessary to complete and frac a well is reported to be of the magnitude of seven million gallons of water per well. This equates to approximately 21 acre-feet per well. The fracing operation typically is completed in a matter of days. Historically the oil and gas industry has used groundwater for drilling operations because local water wells could be drilled on each site and provide the necessary water for drilling. The Haynesville Shale wells will require a significantly larger volume of water in a shorter time period leading to the necessity of additional supply. The development of the Haynesville Shale in Louisiana is ahead of Texas and it has been reported that the majority of water being supplied for Haynesville Shale wells in Louisiana is coming from surface water sources. It is estimated that as many as 1,000 Haynesville Shale wells could potentially be drilled in Region D over the next few decades. This number of wells would equate to 20,000 acre-feet of water demand.

There have been concerns raised within the region concerning the possibility of groundwater contamination associated with oil/gas drilling activities. The fracing process consists of injecting water and solid materials at an extremely high pressure to force open and hold open cracks in the shale to allow the desired product to flow more freely and be captured. The concern is that the frac fluid and product would flow up into the water bearing strata. While industry professionals indicate that this is not likely to occur, most agree that it is possible and additional study is necessary.

ACTION: June 23, 2010—Approved Section J

K. Topic: Feral Hogs
Commenter: NETMWD
Chapter 1, Section 1.3 (c), Page 1-28.
ADD The additional language is suggested as follows:

The population of feral hogs has increased substantially in the northeast Texas region over the last decade. As feral hogs congregate around water sources to drink and wallow, this concentration of high numbers in small riparian areas poses a threat to water quality. Fecal matter deposited directly in streams by feral hogs contributes bacteria and nutrients, polluting water belonging to the State. In addition, extensive rooting activities of groups of feral hogs can cause extreme erosion and soil loss. The destructive habits of feral hogs cause an estimated $52 million worth of damage each year in Texas alone. Landowners are encouraged to seek assistance and information on feral hog biology, behavior, and management options for the proper control of feral hogs. It is recommended that landowners should take actions to reduce the population, limit the spread of these animals, and minimize their effects on water quality and the surrounding environment. State agencies together with local and regional entities are monitoring water quality

which should lead to a more informed assessment of the effects that the feral hogs are having on the environment. In the event that the adverse effects of the feral hog population cannot be adequately minimized with existing laws and control mechanisms, additional measures to limit the problems being created by the feral hog population may deserve consideration.

ACTION: June 23, 2010—Approved Section K

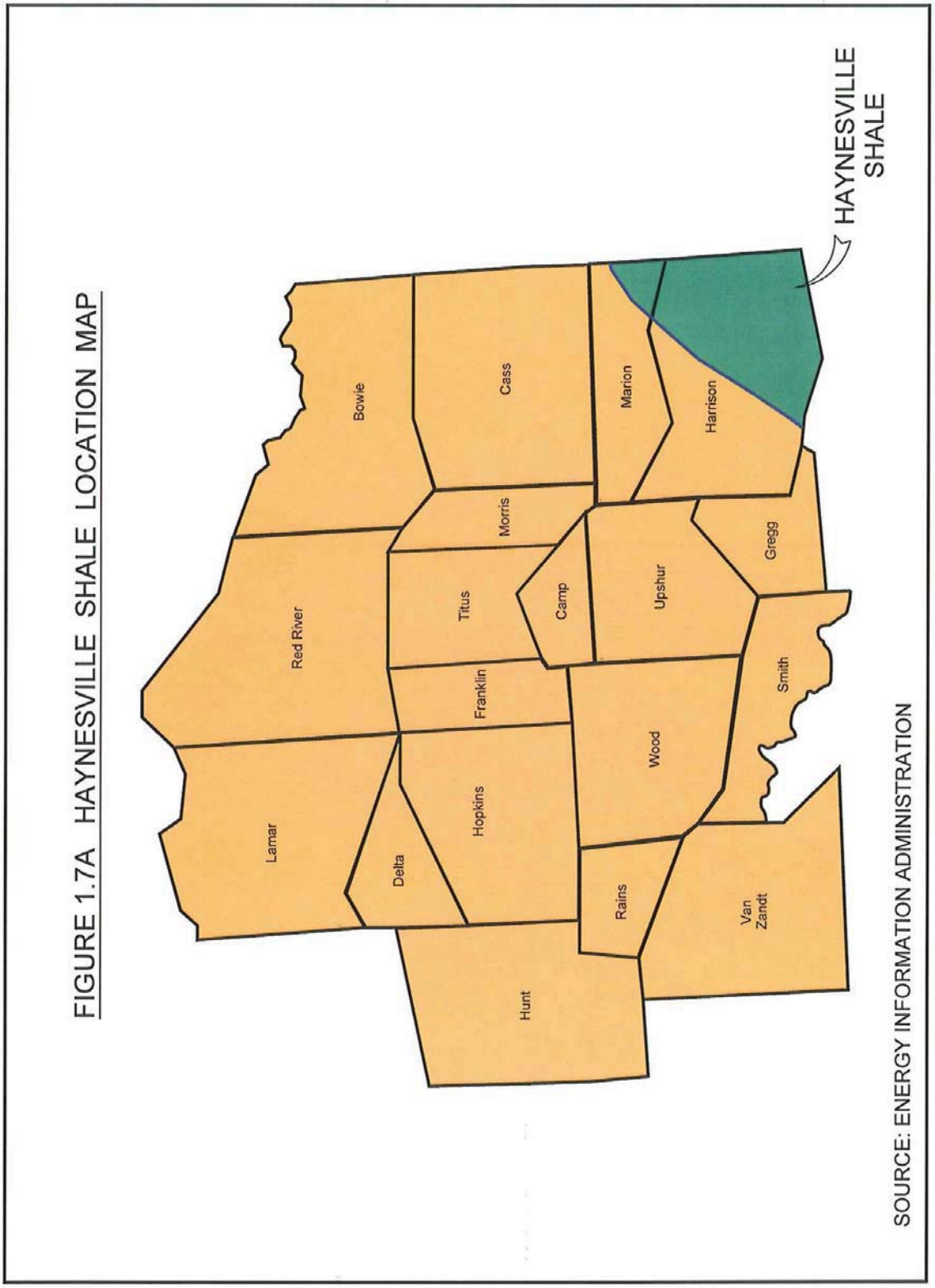


FIGURE 1.7A HAYNESVILLE SHALE LOCATION MAP
HAYNESVILLE SHALE
Bowie
Cass
Marion
Harrison
Morris
Red River
Titus
Camp
Upshur
Gregg
Franklin
Smith
Wood
Lamar
Delta
Hopkins
Rains
Van Zandt
Hunt
SOURCE: ENERGY INFORMATION ADMINISTRATION

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: William Chapman
Address: Chapman Ranch, Red River Co
Nature of Comments:
landowner

(did not speak)

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Scott Chapman
Address: Chapman Ranch, Red River Co
Nature of Comments:
landowner

(did not speak)

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Bobby Arey
Address: 1301 King's bridge Garland Tex 75040
Nature of Comments:
Property Owner Pecan Bayou
FAvor Ecological Dessignation of P. Bayou
Native Trees
Rare Plants
Wildlife

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Steve Arey (B&L Ranch 380) - Red River County
Address: 2300 Woodrow Way Rowlett Tx 75088
Nature of Comments:
Landowner with northern boundary of my property being Pecan Bayou and I would like to see Pecan Bayou is being designated as a Ecologically Unique Stream Segment
In favor of designation
I will provide written comments at a later date.

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Jerry Bortner, Mayor
Address: Mount Pleasant, TX
Nature of Comments:

Comment on feasibility studies in Region D

Supports Sulphur River Basin study as an untapped resource in the 50-year plan. The Sulphur River has many possibilities and none should be excluded from the long-range usage and planning studies. JR

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Ann Rushing - Mayor of Marshall
Address: P.O. Box 3/8 Marshall
Nature of Comments: Put an option back in the plan & recognize positive aspects of studies completed to date, move forward with feasibility "Basin Wide Study"

(Ms Rushing used information from the following letter dated 3/31/10 by Ken Bishop. JR

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Max Shumaky
Address: 157 CR 4241 DeKalb, Tx. 75559
Nature of Comments: I support the region D plan as written
1. IT protects the interest of this Region by preserving our water
2. The plan also offers ways to help our neighbors to the west, while protecting our own economy.
3. IT reflects the wishes of the majority of our residents.
4. I do not support the building of Marvin Nichols Lake or any other needless Lake.

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: WAYNE DIAC
Address: 800 W. MAIN ST. CLARKSVILLE, TX
Nature of Comments:

PUT ALL OPTIONS BACK IN IPP

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Libby Trussell
Address: 985 W. 12th St Clarksville, TX
Nature of Comments: I feel that Dallas take no Appreciation of the Value of water by not Pushing any major Conservation management among the population. There should be a major effort on Dallas to preserve water. They want to make major changes in the lives of the people in Red River County, having to give up their homes and livelihood for their unlimited use of our water. I say NO they ~~no~~ need to take responsibility for their actions. When they do their damage here they will move on to the next place.

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Nina Galt
Address: 365 CR 4615 Bogata, TX 75417
Nature of Comments: Region D water plan

Thanks to Region D Planning Group for listening and treating the residents of Cuthand respectfully. Land has been in their family and they want to keep it in their family. JG

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: John Dupuy

Address: 2100 Ross Ave, Ste. 2800 Dallas, TX 75201

Nature of Comments:

As the author of the memo, dated 12/28/09 to Jim Eidson of TIVC, I support the EI designation as ecologically significant.

Please see memo described above

(wrote memo submitted by Jim Eidson that is already included in the public comments) JD

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: JOHN JARVIS

Address: BOB B OLIVE TEXARKANA TX

Nature of Comments: ADDRESSING POPULATION PROJECTION FOR REGION D (BOWIE COUNTY)

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: JEFF SANDFORD

Address: 819 State Line, Texarkana, TX 75501

Nature of Comments:

Growth in N.E. Texas

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: James Henry Russell
Address: 4241 Summerhill Rd Txk TX 75503
Nature of Comments:
Growth in NE TX

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Chris Watson
Address: 1244 Oscar Ragon RD
Nature of Comments:

How is the proposed plan, going to affect privately held diversion permits

(did not speak)

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Jim Elson

Address: 6210 CR 1140

Nature of Comments:

Opportunity regarding Ecotourism / EVSO Relationship

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Michael Russell, president SRBA
Address: 533 Hidden Lake Dr Pewsley TX 75473
Nature of Comments:
Sulphur River Basin Authority comments regarding the Region D TPP - board approved (remarks attached

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: Roberta Smith
Address: 1675 FM 1159 Clarksville, TX 75426
Nature of Comments: Additional info.

Ms. Smith supports not developing a reservoir. She thinks the future of Red River County lies in the natural resources and natural beauty of the county. JR

North East Texas Regional Water Planning Group Public Hearing
03/31/2010

Name: SHERI NEW
Address: 9978 FM Rd 3129 Queen City TX 75572
Nature of Comments: Comment on Plan

International Paper - environmental leader

IP still opposes Marvin Nichols, believes protecting jobs in Northeast Texas should be a priority. JR

March 31, 2010

Region D Water Planning Group
C/o Mr. Walt Sears
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

Reference : Public comment/written comment on Region D Initially Prepared Plan

Dear Mr. Sears and Region D Planning Group:

I would like to take this opportunity to voice my disapproval of the IPP for Region D. I am Ken Bishop, a resident of Clarksville/ Red River County. I am a property owner in both the city and county and have served on the Clarksville City Council and the Red River County Water Control & Improvement District, No.1, Langford Creek (WCID) for the past 25 years. I do have knowledge pertaining to water issues and water needs for our city and county and assisted with drought plans during the period of time that the City of Clarksville was running out of water. The time I am referring to is the drought year of 2005-2006 at which time this board was presented a CD of photos taken of the lake level as well as newspaper clippings coupled with a request for help. If the WCID had not had the foresight to raise the level of the lake the preceding year, Clarksville would have run out of water. The WCID has 12 flood control lakes that protect Clarksville and empty into the Sulphur River. Site #1, Langford Lake, provides water for the city coupled with well water which is considered too

salty.
I quote you from the Comprehensive Plan for the City of Clarksville, Texas.

D. Availability of Water
Clarksville is supplied water from groundwater provided by two (2) wells, (now three due to the urgent need for water in 2005-2006) and the surface water from Langford Lake. The ability of the aquifer and lake to meet the current and future demand is also in doubt. Local utility districts and communities have switched to being supplied by surface water in lieu of groundwater because of the inability of the aquifer to meet demand along with the expense of operating the wells and the increasing difficulty of meeting the Safe Drinking Water Act standards for groundwater. **Langford Lake's silting rate will limit its usefulness.**

As the aquifer drops and Lake Langford is choked by sedimentation, Clarksville will have to use alternate sources of water. Possible alternative water sources include a new reservoir on the Sulphur River, a new smaller municipal water reservoir or extensions of adjacent water systems from Annona or Detroit. Treated water from other sources could be supplied through a pipeline and discharged into existing ground storage tanks. New lakes requiring new water treatment plants may be located near the lake site with the finished water pumped to Clarksville or Annona and connected to the member cities line. Careful study beyond this plan is required for the consideration of alternative water sources.
Note: Water lines from Wright Patman have proven to be too expensive.
Quote: Water Supply and Distribution- City plan
Red River County has historically used groundwater as the major source of water supply. The aquifers used to supply the groundwater are the Woodbine Group, the Nacatoch Sand, the Paluxy formation of the Trinity Group, the Blossom Sand of the Austin Group and recent Alluvium. Many of these aquifers have

experienced a constant decline in water level due to overdraw. An example is the Blossom Sand aquifer which has declined at an approximate average rate of 8.1 feet per year over the past two decades.

Note: Aquifers are unpredictable because of no accurate records or studies conducted. This is why so many water suppliers have abandoned wells for surface water.

Up until a few years ago, I was a landowner with 6400 acres in the Marvin Nichols foot print . We owned this property for thirteen years. I lived at White Rock for fourteen years a mile or so from Pecan Bayou . I am not personally familiar with Pine Creek but the city has a copy of the Corps of Engineer Study for Pine Creek. As it stands now your plan (Region D) has no surface water for Clarksville or Red River County whether it be for agriculture, municipal or industrial use.

I am requesting that the Pecan Bayou be included in the IPP for Region D as a possible water source for the city and county and the State Water Plan as well. It is not rational to state or assume that there will be no need in the future for additional reservoirs to be built. The water is needed now in our city / county and would be a wonderful resource to not only meet our needs but others in the region as well. We have repeatedly requested surface water sources be considered for Clarksville/Red River County to no avail. As stated in your IPP under description, discussion of needs, evaluated strategies and recommendations **NO entities with actual shortages in Red River County.**

There is no way to predict what the future may bring. **The Pecan Bayou, Big Pine and Marvin Nichols** all need to be included in Region D's plan as well as the State Water Plan for future use and studies. The location of Big Pine & Pecan Bayou are ideal for bringing water out of Oklahoma from Pine Creek at Wright City and Broken Bow.

I went to the first water meeting on a cold rainy night in Mount Pleasant, Texas, and have followed the events that have transpired since that time. It appears your plan now is to take out all surface water and your purpose to start with was to find available surface water for use for our region as well as a willingness at one time to work with our neighboring Region, Region C with any surplus.

Thank you for your consideration.

Sincerely,

Ken Bishop

Ken Bishop
601 9th Street
Clarksville, Texas

C: Region C- Jim Parks
TWDB- Kevin Ward
Honorable Congressman Ralph Hall
Honorable Senator Kevin Eltife
Honorable Rep. Mark Homer
Honorable Governor Rick Perry
SRBA- Mike Russell
Honorable Senator Florence Shapiro
Red River County Judge- Morris Harville

Testimony for Region D Water Plan

03/31/10

From: John Jarvis/Executive Director of Riverbend Water Resources District

We want to thank Chairman Le Tourneau, Region D Study Group, Staff, Engineers and TWDB for all your hard work in putting this plan together. We are thankful for your stewardship in this process concerning our precious resources. Only a few in this state understand the arduous task you take on for our residents and industries. Since 1997 and Senate Bill 1, our state has become the poster child in the nation for water planning. This Group is one of the 16 reasons why.

Because Bowie County didn't have Riverbend Water Resources District until now, the TWDB had to rely on information submitted to the state as their source. The Bowie County population forecast for the next 50 years was taken from trends only and not additional input from our fastest growing area. We apologize for not being aware of the great need for our input to more accurately make a population forecast. We know what we say today will not affect the body of the plan, but we want to be on the record for the state and future reference.

After the 2010 Census is completed and our current momentum in Economic Development is understood by the state, our growth over the next 50yrs should reflect a 70% to 90% growth instead of a 27% growth.

Sincerely

John Jarvis

Texarkana USA
CHAMBER OF COMMERCE

March 31, 2010

Region D Planning Group

To all it may concern,

The Texarkana USA Chamber of Commerce represents a business community comprising NE Texas and SW Arkansas, with a reach into southern Oklahoma and northern Louisiana. Per Texas Workforce Statistics, our actual metropolitan statistical area encompasses in excess of 55,000 jobs, although our reach as explained above is significantly higher. In fact, our trade area encompasses almost a half million people.

As one makes predictions for the future growth of our area – specifically Bowie County – it is easy to take the past growth of said area and extrapolate the numbers to a degree that shows consistency in our area's growth patterns. Unfortunately, this methodology fails to account for a number of significant changes in our area conducive to a faster rate of growth.

Specifically, I submit the following:

1) *The downward expansion of Texas A&M University – Texarkana.* A brand new campus is being constructed which will support in excess of 10,000 students on a new 375 acre campus at a university whose roots date back to the 1970's. This dramatic change (from a 2-year campus to a complete 4-year institution) will also change the status of the school from one that services primarily local students to a destination campus serving a larger geographic area. Accompanying the student growth will be the ancillary businesses which expand available resources, and subsequently, available job opportunities. Additionally, there will be the added growth in post-graduation opportunities created by the expanded educational reach of the university.

2) *The expanded transportation arteries.* Easier access within the Texarkana city limits, coupled with the work already completed to bring I-69 through Bowie County, will enhance the area's status as a logistics center as well as a primary economic development hub. Additionally, this effort, along with the ever-improving I-49 and I-30 corridors already completed or in advanced stages of completion, showcases the significant growth opportunities already attributing to business relocation and expansion. There has been little to indicate that this will do anything but improve over the next several decades.

3) *The growth of the area in terms of business productivity.* This measurement has become even more important as the effects of a national recession impact the rest of the country. While the Bowie County economy has slowed over the last year, it has already yielded a significant boost in terms of diversity, less leakage and a more educated workforce. These three areas will contribute significantly to an advanced growth pattern for the area and are a dramatic change from the elements which defined our area in the past. In fact, the diversity of the job market has been a major contributor to the stabilization of the economy in recent years and the shift in economic approach continues with new alliances throughout the county dedicated to regionalism for all facets of growth.

4) *The largest industrial park in the state.* Perhaps the most significant change for Bowie County is the addition of several thousand acres of land newly dedicated to the expansion of economic development. Formerly an ammunition plant, this land – once transferred to the community – will provide a backdrop for business expansion and recruitment which has never before been possible in this region. Over the next 25 years, as business once again looks to Texas for growth opportunities, this park will deliver resources which have previously not been available, once again allowing for significant additions in terms of jobs, school and community growth, and overall diversity in Bowie County's economic diversity – and prosperity.

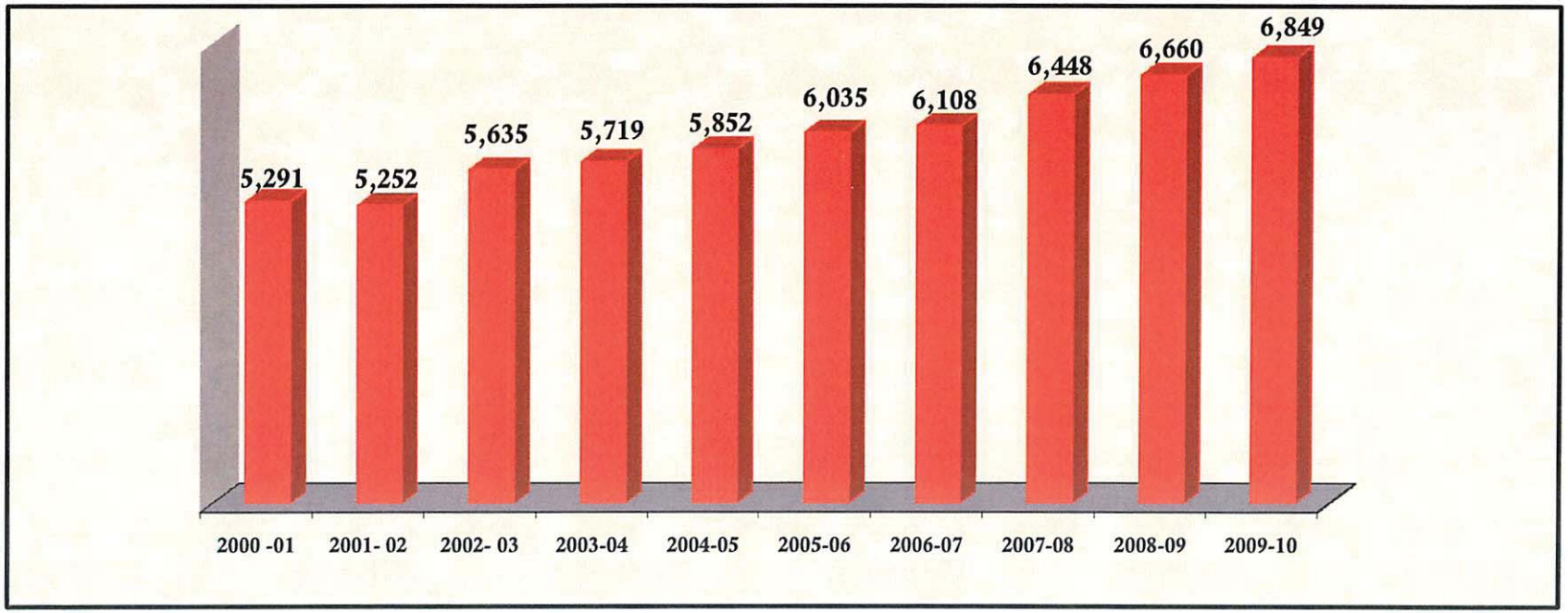
In conclusion, Bowie County is poised for positive change, and that change includes perhaps the largest anticipated growth period in our region's history. All aspects of our economy will be vastly affected by this growth, as leaders are moving forward in educational opportunity growth, medical industry growth, economic growth and population growth. It is the hope of the business community that the State of Texas – along with everyone using state numbers – will account for this growth and adequately adjust the future population figures to reflect a more aggressive pattern. While projections are often based on past indicators, it is clear that current actions and future plans must be considered as they will vastly affect the needs of this area for generations to come.

Sincerely,

Jeff K. Sandford, IOM
President & CEO

Texarkana Independent School District

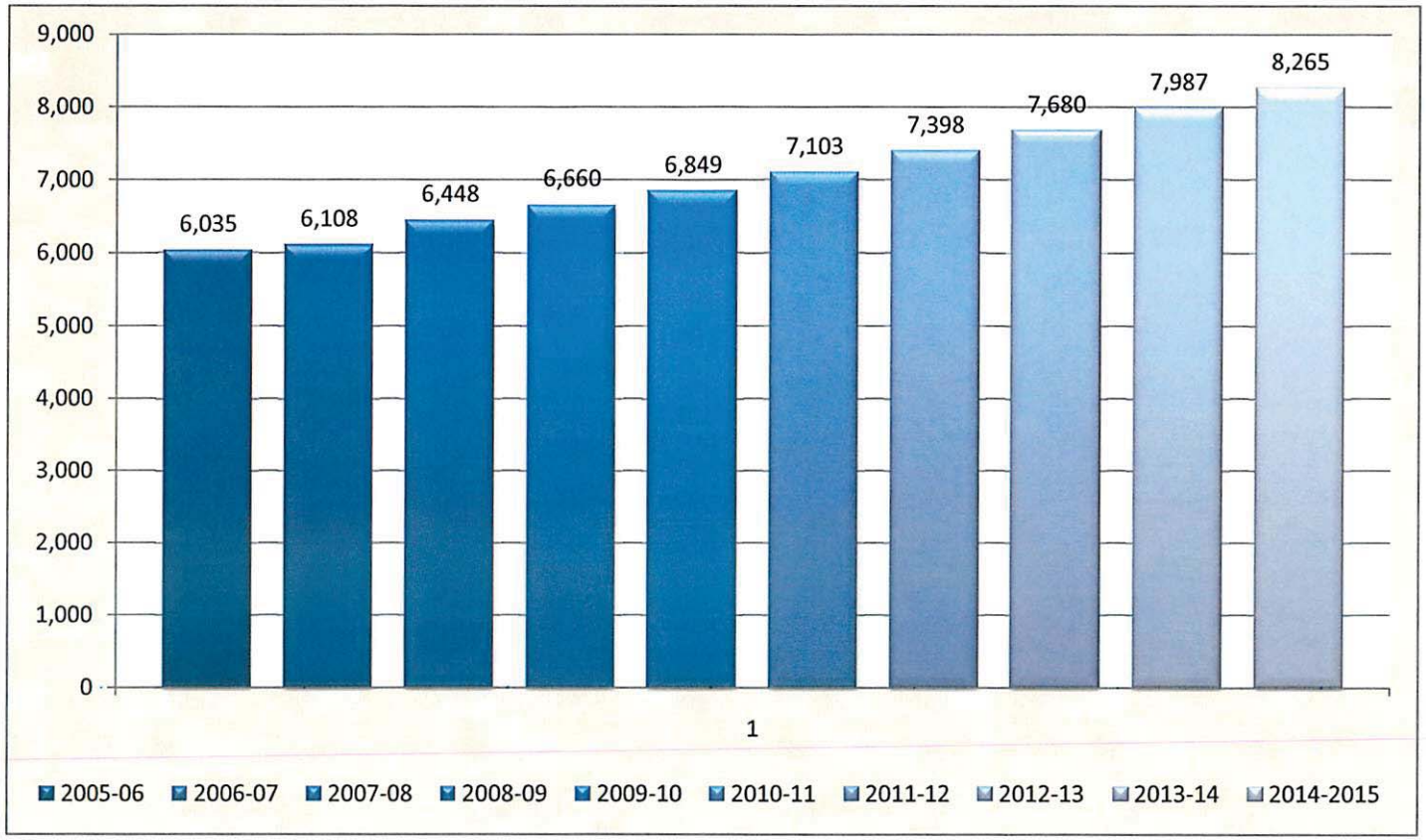
Ten Year Enrollment History
2000-2001 through 2009-10



District Enrollment by Year

Enrollment for Texarkana ISD for the school year 2009-10 is 6,849. This is an increase of 29% over the past 10 years and 17% over the past five years. Official annual enrollment is measured as of the fall snapshot date as set by the State of Texas.

Texarkana ISD Enrollment Projection



District Actual Enrollment and Projected Enrollment

Texarkana ISD actual enrollment for the past five years (2005-06 - 2009-2010) is shown with a projection of the next five years (2010-11) through 2014 - 2015). The district is projected to grow 20% in the next five years, which is an approximate rate of 4% per year.

ECONOMIC DEVELOPMENT COUNCIL

March 31, 2010

To: Region D Planning Group
From: Economic Development Council - Texarkana

Population and growth projections for a community and region are often based on historical projections. Unfortunately, this approach doesn't recognize or account for the impact that changing dynamics within a community play on the actual growth rate a city or region experiences. Simply based on historical trends, the growth rate in the Texarkana area would be relatively small.

Fortunately however, there are significant changes occurring presently that will significantly alter those previous trends. In order to accurately reflect the realities of those actions and their influence on area growth, their impact should be factored into population projects. There are several projects underway that will significantly alter the historical growth pattern in our area.

First, major infrastructure and transportation enhancements are currently underway which will vastly enhance the growth potential of the region. Two major Interstates converge in Texarkana with a third to be built in the near future, making our area one of only a handful in the entire country with as many arteries intersecting in as close a proximity as this. This transportation network will connect the region with the Port of New Orleans, the Port of Houston and link into the traditional NAFTA trade route that runs directly through Texarkana. These enhancements also work to strengthen the current systems that are in place such as the existing rail network.

The decision to build the Red River Army Depot was a transformational event for this region in the early 40s and has resulted in 6,000 jobs currently. Equally transformational, will be the transfer of approximately 20,000 acres of land and several million square feet of building space to the Red River Commerce Park. This will immediately position it as one of the largest

industrial parks in the country. With the transfer also comes readily marketable property and warehousing in the size currently unavailable in the area.

The impact of a four year university on the growth and vitality of a community cannot be overemphasized. Although Texas A&M – Texarkana has been a valued member of the community for almost 40 years, 2010 will mark the first freshman class in the history of the school. With the building of a new campus underway, the University has a goal of 10,000 students when all phases of construction are complete.

These are only a few of numerous factors that could have been mentioned that point to significantly higher growth rates than previously projected. They also point to the need to view currently available historical trend projections with a degree of caution when making critical decisions requiring this sort of data for this region.

Thank you for your consideration of this issue.

Charles Nickerson
Vice President , Economic Development

Texarkana USA
CHAMBER OF COMMERCE

Adopted 3/30/10

Draft Region D IPP Response

The Sulphur River Basin Authority (SRBA) appreciates the many hours of work put into the development of the 2011 NETWP which is now being considered for public comment. We applaud the planning group members for their service to both the region and the people of Texas. Water issues are very complex and most of us agree that water rights and needs will be a central issue in the continued development of Texas.

Northeast Texas is in a unique position in our state due to the abundance of both surface and ground water. We enjoy significant annual rainfall and runoff. The Sulphur River Basin is also the only basin in the state with large quantities of undeveloped and unpermitted surface water.

It is very important to include the needs and desires of all people of our region in planning for future water use. To that point, the SRBA offers these comments regarding the IPP for Region D.

The SRBA encourages you to support our efforts to move forward with a basin-wide study to take a fresh look at the resources in the basin. We have sought funding for a basin-wide study and plan to renew that request. The U.S. Army Corps of Engineers will perform the study and SRBA is the designated local sponsor.

With the goal of providing the water needed by Texas while minimizing impacts on the region, the study would provide a fresh look at the available resources including existing lakes and leave all options open. It would also allow our region to retain control over what is done to meet water needs in the future.

The C-D Study Group is developing their recommendations to be completed later this year. Although the Group has not completed their deliberations at this time, we expect them to recommend this type of study, with objectives to include reducing flood hazards; restoring and preserving habitat within the Sulphur River watershed and identification of water resources available to meet water needs as identified in the 2002 Texas State Water Plan.

Generally, the Region D plan excludes the potential needs of other regions (Region C) and seeks to eliminate from the Texas Water Plan any references to potential reservoir sites and other water supplies. The IPP is recommending exclusions of previously identified/accepted unique reservoir sites from all regional plans and the 2012 State Water Plan as a water management strategy. SRBA disagrees with this approach. We believe an alternative to this line of thinking is to first accomplish the basin wide study before any sites are eliminated.

We believe the final NETWP should include a balance of information to encourage a reasonable decision making process. Again, without presuming that any potential water resource is the best way to provide for identified water needs, the basin-wide study would provide a fresh look at available resources.

We believe the IPP should also make note of the draw for new industry in this region that the availability of additional local water resources would certainly have. Note also that in most cases the largest user of

water in any area is industry – without water, industry does not come. The IPP summarizes possible impacts of reservoirs on agriculture and the timber industry using only part of the Weinstein & Clower Study of Economic Impact (March 2003). The parts used delve only on the potential negative and totally ignore the significant positive impacts described in that report. Specifically, the IPP disregards Weinstein's refutation of the Forest Service report regarding potential negative consequences of a large reservoir in the basin. Weinstein states that the Forest Service estimates are overstated. The IPP also disregards Weinstein's estimate of the potential positive impact of about $1,000,000 per day (adjusted for inflation) to the local area. This impact, if accurate, would totally revitalize the Northeast Texas area. Especially noted would be the impact on Red River and Titus counties with the most direct contact with such a lake.

It is also important to note that the Weinstein report was reviewed by the Perryman Group who agree with Weinstein's conclusions.

SRBA wants to go on record that we adamantly oppose construction of new large reservoirs in the area that would destroy local communities such as the Cuthand community or other rural unincorporated towns. We also support the voluntary acquisition of mitigation lands without the use of imminent domain and for transfer of much of the burden of mitigation to areas receiving water from our area. This issue is included in the current legislation which established the Region C-D Study Group.

SRBA supports progress – not exploitation of our resources at any cost. We support an improved economy and hope for our local area. We support the establishment of jobs for Northeast Texas so that our children and grandchildren do not have to leave this area to find work. SRBA encourages a reasonable consideration of all the facts and of the needs of all Texans. We support the proposed basin-wide study and ask you to join us in that effort to take a fresh look at the resources of our basin.

Mat Russell president
SRBA

2 of 2

March, 2010

Region D Regional Water Planning Group:

I am Delores McCright, Professor of Biology at a local college in East Texas.
I would like to express my concerns about the proposals by our state's water planning groups for collecting and sending the water from East Texas to the north central part of our state. I realize that the center of our state is more populated and needs more water; however, taking large quantities of water from the most tree-populated portion of our state will devastate that crop and destroy any industry needing trees. According to Texas Cable News our state is about 10% trees, the major portion being in East Texas. These trees need water continually for a process called transpiration. During this plant process, water is continually drained from the soil and transported up plant tissue called xylem. It is taken to the leaves and parts of the plant where photosynthesis occurs. There is a continual need for water by plants, especially tall plants like trees. Transpiration occurs all the time, and water is needed in huge quantities. Photosynthesis cannot occur without water and carbon dioxide. It rains more here and because of this, we have more trees here. Trees hold moisture. If trees are totally taken away, then we become semi-arid, not able to sustain trees. A well known example of this type of action-reaction event is the cutting down of the rainforests near the Equator. Where the trees are clear cut, those areas are now desert and not able to sustain plants.
I do not agree with flooding the Sulphur River basin areas and killing all of those hardwoods. We need those trees. The whole state does. They are needed to build houses, furniture, make paper, etc. We cannot kill them or harvest them all at one time. That would devastate our climate.. The center of the state does not need as much water as they are demanding.
I propose that every citizen that is on a public water supply system in this state take at least a 1 hour free course teaching water conservation. It can be taught at city hall, local public schools, colleges, or churches. TCEQ and EPA have wonderful online resources and media presentations that can be presented to the general public. I propose that businesses such as golf courses and water bottling industries be severely cut back on their water usage. East Texas cannot afford to provide water to industries that suck us dry, when there are dams already in place and conservation measures that could be taken.
I propose that a dam the size of Marvin Nichols should not be built.
We need our water in East Texas. We may be rural and not have as many people, but we need water for our trees and to maintain our climate.
Thank you for your consideration.

Delores McCright

Delores McCright
Biology Professor
mdmccright@aol.com

DRAFT Luminant Power Comments on:
"Initially Prepared Plan - Region D"

Page 1-25, Table 1.6
For "Lake/Reservoir" Rivercrest , the "Supply" is listed as 8,635 ac-ft.

Comment: From the Certificate of Adjudication 03-4804, the "Owner is authorized to divert and use not to exceed 10,000 acre-feet of water per annum from the Sulphur River for industrial (cooling and condensing) purposes." Please consider changing 8,635 ac-ft to 10,000 ac-ft.

Page 1-34, Table 1.11
For "Titus" County, the water use for Power is listed as 34,406 ac-ft for 1990, 51,186 ac-ft for 2000 and 15,026 ac-ft for 2004.

Comment: Luminant's 2004 Annual Water Use Report to TCEQ for Monticello Steam Electric Station in Titus County indicates that a total of 14,574.6 ac-ft was consumed. Please indicate what individual water uses in Titus County are summed to result in only 15,026 ac-ft for 2004.

Page 3-6, Table 3.5
For "Monticello Lake Reservoir", the surface water supply is listed as 6,098 ac-ft. For "Blundell Creek Run-of-the River", the surface water supply is listed as 16,300 ac-ft.

Comment: Monticello Lake is formed by a dam across Blundell Creek near the junction of the mouth of Blundell Creek and Cypress Creek. Thus, Monticello Lake captures almost all of the water of Blundell Creek. We think that the listed surface water supply for Blundell Creek (16,300 ac-ft) is way over-estimated in the report or that there is a double count between Blundell Creek and Monticello Lake. Also, the 16,300 ac-ft. of water listed for Blundell Creek happens to be the same number as the maximum permitted amount of water consumed from Lake Monticello. The 16,300 ac-ft. of water permitted is comprised of a variable amount of water that is stored in Lake Monticello due to run-off into the lake and some variable amount of make-up water contracted and pumped from Lake Bob Sandlin. We think that some of the water included in the 16,300 ac-ft. number in the report is a double count of the amount of water that available from Lake Bob Sandlin. Please review this data again.

JOHNSON LAW FIRM, P.C.

Attorneys at Law

609 GILMER STREET
SULPHUR SPRINGS, TEXAS 75482-4121
TELEPHONE: (903) 885-8866
FACSIMILE: (903) 885-1313
johnsonlawfirm@verizon.net

COY JOHNSON CLAY JOHNSON

February 23, 2010

NETMWD
P.O. Box 955
4180 Highway 250
Hughes Springs, Texas 75656

Re: Public Notice of the Initially Prepared Plan (IPP) of the Regional water Plan of the North East Texas Regional Water Planning Group

To Whom It May Concern:

In response to the Public Notice previously sent to all interested parties, we are in favor of the adopted IPP and development of a regional water plan by the North East Texas Regional Water Planning Group (NETRWPG).

If you have any questions, please contact me at your earliest convenience.

Sincerely,

Coy and Patsy Johnson

CJ/jds

City of Canton

290 E. Tyler
P.O. Box 245
Canton, Texas 75103
City Hall - 903-567-2826
First Monday - 903-6556

February 24, 2010

Mr. Walt Sears
NETRWPG
P.O. Box 955
Hughes Springs, Texas 75656

RE: Public comments to the North East Texas Regional Water Planning Group 2010 Initially Prepared Plan

Dear Mr. Sears:

The City of Canton (the "City") appreciates the efforts of the North East Texas Regional Water Planning Group ("NETRWPG") in drafting the 2010 Initially Prepared Plan ("IPP") and further appreciates the opportunity to provide comments to the IPP. As you know, on February 11, 2010, the City and its consultants met with you and Mr. Richard LeTourneau, and the engineering consultants drafting the 2010 North East Texas Regional Water Plan (the "2010 Plan") to discuss including the City's application for indirect reuse of its return flows as a water management strategy for the City of Canton in the IPP. By this letter, the City formally respectfully requests that NETRWPG include the City's indirect reuse application in the 2010 Plan as a water management strategy for the City of Canton and looks forward to working with you to accomplish this goal before the final plan is adopted in August 2010.

The City appreciates the NETRWPG consideration of this comment and looks forward to working with the NETRWPG to include indirect reuse as a water management strategy for the City of Canton in the adopted 2010 North East Texas Regional Water Plan. If you have any questions regarding this comment, do not hesitate to contact me at your earliest convenience.

Sincerely,

Andy McCuistion
City Manager

CC: Gary L. Burton, III, P.E. – GBEI-Tyler

Senator Shapiro calls for uniform water conservation standards for all of Texas

An op-ed respectfully submitted by
State Senator Florence Shapiro

"Water, water, every where,
Nor any drop to drink."

While this quote from Samuel Taylor Coleridge's legendary *The Rime of the Ancient Mariner* is delivered from the perspective of a sailor surrounded by salt water he cannot drink, and the work of Samuel Taylor Coleridge may appear to have nothing in common with the water situation in Texas, I am here to suggest otherwise. The fact is, despite Texas being a state with only one natural body of water, over the years, we've been able to meet our wide-ranging water needs through a number of manmade reservoirs. While this has worked reasonably well for decades, our booming population is revealing just how overburdened our water resources are becoming. In order to effectively meet our growing water needs, the creation of new reservoirs across the state must be developed in concert with a new system of conservation.

Texas is quickly entering an era where it should not be assumed that there will always be an endless supply of clean drinking water. What Texas needs is a new set of uniform conservation standards from Houston to El Paso, Dallas to San Antonio, and everywhere in between. Essentially, in order to meet all our water needs, we must develop an effective conservation model that sets forth specific, consistent, and standardized methodologies statewide.

Today, the most widely used measurement of water usage is gallons per capita per day. GPCD is a planning tool used to project the future water needs of each municipality. Currently, the measurements being used to determine GPCD are not standardized. However, in order for a true comparison of water use, and to measure our projected needs, these methods of calculation must be uniform.

Authorized by the Legislature in the 80th Session, the Study Commission on Region C Water Supply--which I co-chair with Representative Stephen Frost (District 1)--recently met to discuss this very issue of water use and conservation. Dallas is traditionally portrayed as an over-user of water because its total residential and commercial GPCD is one of the highest in the state. San Antonio, on the other hand, is considered the most efficient water user. When we break down the GPCD, the numbers are much closer. The residential water use of the two cities is very similar: 92 gallons per person per day in Dallas and 86 gallons per person per day in San Antonio (1997 data, Texas Water Development Board).

The difference is in commercial water use, and there is a wide contrast in commercial development between Dallas and San Antonio. For example, Dallas has many more people working in the city, using water all day, and living in suburbs outside the city than does San Antonio. When calculating the total residential and commercial GPCD in Dallas, all of this water use is included. This use is divided by the number of residents, resulting in a higher per-resident use rate than is seen in San Antonio. This confusion over actual water use is precisely the reason GPCD needs to be standardized.

Right now, there is a different standard for every region of the state. There is no true apples to apples comparison. This creates misleading information about water usage in certain parts of the state and allows for a faulty measuring system to misrepresent our conservation needs statewide. Going forward, the Legislature must consider the recommendations made by the Texas Water Conservation Advisory Council in their 2008 report to the Legislature. These recommendations included developing

Senator Shapiro calls for uniform water conservation standards for all of Texas

An op-ed respectfully submitted by
State Senator Florence Shapiro

methodology, metrics, and standards for water conservation implementation statewide, as well as specific guidelines for how GPCD is calculated. We must make this a priority in the next legislative session.

While we may never end up like that sailor in Coleridge's classic poem, there is certainly no reason for us to strand ourselves with a short-sighted water use plan. As we work to address Texas' varied water demands, it is essential that we create a new system for water conservation. Our future depends on it.

Since 1993, Senator Florence Shapiro has represented District 8, consisting of Collin and Dallas Counties. She chairs the Senate Committee on Education and also serves on the Senate Committees on Finance, Transportation and Homeland Security, and Administration.

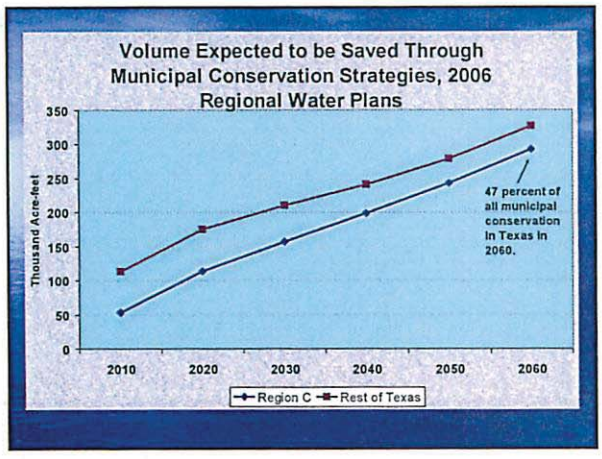
Impacts of Municipal Conservation and Reuse Strategies in Region C

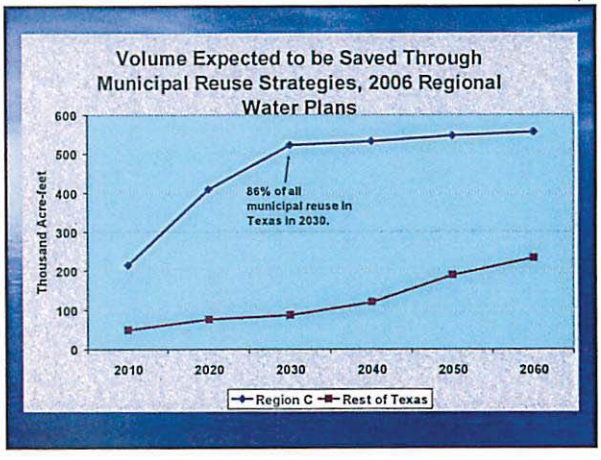
Dan Hardin
Director, Water Resource Planning
Texas Water Development Board

Senate Bill 3

"The Study Commission shall:"

(3) determine whether water demand in the Region C Regional Water Planning Area may be reduced through additional conservation and reuse measures so as to postpone the need for additional water supplies





By 2030, Region C expects to meet 33% of its municipal demand through conservation and reuse strategies.

Gallons per capita per day

- Measure of municipal water use, defined as the average daily total of residential *plus* commercial *plus* institutional water use, divided by total resident population.
- Water is used at home *and* at place of work.
- In 2007:

	Dallas	San Antonio
Total GPCD	240	150
Residential GPCD	92	86

Influences on Gallons per capita per day

- All other things equal, GPCD will be higher in regions/cities where the daytime population is augmented by commuters who live in a different region/city.
  - Dallas adds 290,000 net commuters on a daily basis (23% of the population), San Antonio adds less than 50,000 (3.8% of the population)
  - In the western counties of Region D (Delta, Hopkins, Hunt, Lamar, Rains, Van Zandt, Wood), 22% of the total workforce commuted to a job in Region C (2006 data).

Planning Regions ranked by Municipal GPCD, 2000

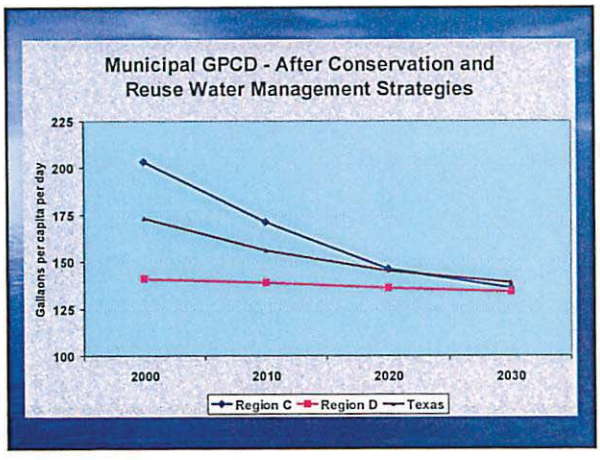
- P 133
- **D 141**
- L 149
- H 157
- I 160
- M 164
- B 165
- N 165
- K 168
- O 172
- G 174
- E 176
- F 198
- **C 203**
- J 205
- A 214

Current Progress Toward GPCD Goals

	Region C	Region D
Estimated GPCD, 2000	203	141
Projected GPCD, 2010 (after conservation & reuse)	171	139
Actual GPCD, 2007	172	150

Planning Regions ranked by Municipal GPCD, 2030 (after savings from conservation and reuse strategies)

- P 123
- L 127
- E 128
- K 129
- **D 134**
- **C 136**
- H 137
- M 142
- I 146
- G 154
- N 155
- O 156
- B 157
- A 169
- F 171
- J 176



Is More Conservation Enough?

- Would additional conservation by Region C be sufficient to eliminate all municipal needs?
- *Needs – Projected water demands in excess of existing supplies that would be physically and legally available during a repeat of the drought of record.*

Contribution of Conservation and Reuse to Region C Municipal Needs

	Municipal Needs	Conservation and Reuse	Remaining Needs
2010	291,008	268,264	22,744
2020	578,142	522,919	55,223
2030	829,235	678,715	150,520
2040	1,082,239	730,054	352,185
2050	1,380,144	788,689	591,455
2060	1,737,037	848,379	888,658

Further Savings if Region C GPCD Equal to Region D

	Remaining Needs	Additional Savings, "Equal" GPCD	Still Remaining Needs
2010	22,744	237,481	
2020	55,223	89,235	
2030	150,520	20,373	130,147
2040	352,185	34,434	317,751
2050	591,455	77,693	513,762
2060	888,658	146,603	742,055

What Part of Remaining Needs Could be Met if Region C GPCD was Equal to Region D GPCD?

- 2030 – 13.5%
- 2040 – 9.8%
- 2050 – 13.1%
- 2060 – 16.5%

Even if Region C's GPCD were reduced to the same level as Region D, there would be remaining unmet municipal needs in Region C of nearly 750,000 acre-feet in 2060.

If you would like to view Dan Hardin's power point presentation or print out larger copies of these slides, you can access it on the internet @ http://www.twdb.state.tx.us/wrpi/rwp/committee/rgc/docu/Presentations/TWDBConservationPresentation.ppt

To: N.E. Texas Regional Planning Group

Cc:

Bcc:

Subject: Water for Dallas

I was pleased to here that the panel said no to the reservoir that is under discussion in our area. Dallas needs to downsize so other cities in Texas can return to there much needed industrial growth. Places like Lone Star, TX . At one time there was a rather nice size steel plant down there. There are cities like Texarkana, Sulphur Springs,Greenville and even some more ,other than Dallas. Let Dallas downsize should be our battle-cry. I happen to live in Texarkana,Texas, and I really see no reason at all for Dallas to keep growing at our expense. Please let us help in any way feasible. Jack Willett- #9 Clay Av. Texarkana, Texas. Dallas is not-not-not the promised land, all of Texas is the -the -the PROMISED-LAND. Have a good one!!

Jack Willett

4-1-10

This is NOT an April Fool's Joke!!

Forget Dallas - (another battle cry) Dal. & Houston are giants only because our political "Leaders" allow same,

4/1/2010

April 5, 2010

NETRWPG (c/o NETMWD)
P.O. Box 955
4180 Highway 250
Hughes Springs, Texas 75656

RE: Region D - North East Texas Regional Water Planning Group Initially Prepared Plan

I would like to commend and recommend for adoption the Region D - North East Texas Regional Water Planning Group [NETRWPG] Initially Prepared Plan [IPP] which was developed to meet the region's future water needs and conserve water supplies while formulating strategies to address any future drought that may occur within the planning area. The IPP addresses the region's future growth and water demand projections through proactive water management strategies while protecting the area's economic, agricultural, cultural, and natural resources.

In particular, I support the NETRWPG's recommendation as outlined in the IPP that Pecan Bayou (being one of the largest undammed watersheds in northeast Texas) be designated in the 2011 State Water Plan as a *River and Stream Segment of Unique Ecological Value* in accordance to provisions contained in Texas Water Code §16.051(f). I own several hundred acres of property in Red River County, within the Pecan Bayou watershed, of which approximately 0.7 miles of Pecan Bayou serves as the property boundary and approximately 90 acres is riparian habitat adjacent to the bayou. This area adjacent to the bayou has been well documented for its unique ecological diversity and value by the Texas Parks and Wildlife Department [TPWD], U.S. Fish and Wildlife Service [USFWS], U.S Forest Service, Baylor University and others.

My property contains multiple examples of mature hardwood and herbaceous plant communities (which have been verified and recorded within the NatureServe database and TPWD's Texas Natural Diversity Database) some of which are considered by the resources agencies mentioned above as being unique and rare (with no other examples documented in the state). These community types include old growth Shortleaf Pine-Oak forest association (G4S4), Water Oak-Willow Oak forest association (G4S3), Shortleaf Pine-Loblolly Pine-(White Oak, Southern Red Oak, Post Oak) forest association (G2S2), and a Shumard Oak-Nutmeg Hickory-(Chinquapin Oak)/Sedge – Arkansas Trillium forest association (G1S1 and a newly discovered plant community association). The Shumard Oak-Nutmeg Hickory-(Chinquapin Oak)/Sedge – Arkansas Trillium forest association is occupied by a large population of Arkansas meadow-rue (G2S1), a rare plant species of concern in Texas, and Arkansas trillium (G2S1), another rare plant species of concern in Texas and the largest population of this plant species ever documented in Northeast Texas (TPWD – Singhurst, J., 2008). The USFWS considers some of the above listed plant communities as a Resource Category 2 – which is habitat of high quality and is

relatively scarce or becoming relatively scarce on a national basis or in the ecoregion.

Several rare or state/federally listed species have been documented on or may be utilizing my property adjacent to Pecan Bayou. This includes the timber rattlesnake (state threatened), black bear spp. *luteolus* (state threatened; federally threatened), and American burying beetle (federally endangered). Various age classes of timber rattlesnakes can commonly be found along the bayou and at least two hibernaculums are believed to occur on the property. Additionally, my property is located in an area identified as a focal area for habitat restoration/conservation for the black bear in East Texas. The restoration of the black bear in East Texas is a joint effort between TPWD, Black Bear Conservation Committee's East Texas Black Bear Task Force, USFWS, Texas Forest Service, etc., and supported by various private landowners. According to TPWD biologists, the majority of my property contains high quality black bear habitat. Several Category I (sighting with physical evidence) bear sightings have occurred within a few miles of my property along the bayou and scat was recently found (and awaiting positive confirmation) on my property that is believed to be from a black bear. Finally, the property appears to contain habitat suitable for the federally listed American burying beetle (which was found along Pecan Bayou on The Nature Conservancy's Lennox Woods Preserve). A voluntary and cooperative study is to be initiated in the near future with the USFWS to determine the presence or absence of the American burying beetle on my property.

The designation of Pecan Bayou as a *River and Stream Segment of Unique Ecological Value* will not only protect the beauty and the unique biodiversity of our natural resources on the bayou, but also broaden and boost economic opportunities for all of Red River County. Such a designation will provide additional opportunities for landowners throughout the county to work cooperatively with natural resource agencies and will provide an opportunities to acquire funding for sustainable job development to boost the local economy by marketing ecotourism, bird watching, hunting, bed and breakfasts, and other economically driven outdoor or tourism associated activities.

Again, I recommend the adoption of the NETRWPG-IPP and the designation of Pecan Bayou as being a *River and Stream Segment of Unique Ecological Value*. Thank you for the opportunity to provide public comments.

Sincerely,

Bobby Arey, Owner
B & L 380 Ranch
262 County Road 3220
Clarksville, Texas 75426

April 5, 2010

NETRWPG (c/o NETMWD)
P.O. Box 955
4180 Highway 250
Hughes Springs, Texas 75656

RE: Region D - North East Texas Regional Water Planning Group Initially Prepared Plan

I would like to commend and recommend for adoption the Region D - North East Texas Regional Water Planning Group [NETRWPG] Initially Prepared Plan [IPP] which was developed to meet the region's future water needs and conserve water supplies while formulating strategies to address any future drought that may occur within the planning area. The IPP addresses the region's future growth and water demand projections through proactive water management strategies while protecting the area's economic, agricultural, cultural, and natural resources.

In particular, I support the NETRWPG's recommendation as outlined in the IPP that Pecan Bayou (being one of the largest undammed watersheds in northeast Texas) be designated in the 2011 State Water Plan as a *River and Stream Segment of Unique Ecological Value* in accordance to provisions contained in Texas Water Code §16.051(f). I own several hundred acres of property in Red River County, within the Pecan Bayou watershed, of which approximately 0.7 miles of Pecan Bayou serves as the property boundary and approximately 90 acres is riparian habitat adjacent to the bayou. This area adjacent to the bayou has been well documented for its unique ecological diversity and value by the Texas Parks and Wildlife Department [TPWD], U.S. Fish and Wildlife Service [USFWS], U.S Forest Service, Baylor University and others.

My property contains multiple examples of mature hardwood and herbaceous plant communities (which have been verified and recorded within the NatureServe database and TPWD's Texas Natural Diversity Database) some of which are considered by the resources agencies mentioned above as being unique and rare (with no other examples documented in the state). These community types include old growth Shortleaf Pine-Oak forest association (G4S4), Water Oak-Willow Oak forest association (G4S3), Shortleaf Pine-Loblolly Pine-(White Oak, Southern Red Oak, Post Oak) forest association (G2S2), and a Shumard Oak-Nutmeg Hickory-(Chinquapin Oak)/Sedge – Arkansas Trillium forest association (G1S1 and a newly discovered plant community association). The Shumard Oak-Nutmeg Hickory-(Chinquapin Oak)/Sedge – Arkansas Trillium forest association is occupied by a large population of Arkansas meadow-rue (G2S1), a rare plant species of concern in Texas, and Arkansas trillium (G2S1), another rare plant species of concern in Texas and the largest population of this plant species ever documented in Northeast Texas (TPWD – Singhurst, J., 2008). The USFWS considers some of the above listed plant communities as a Resource Category 2 – which is habitat of high quality and is

relatively scarce or becoming relatively scarce on a national basis or in the ecoregion.

Several rare or state/federally listed species have been documented on or may be utilizing my property adjacent to Pecan Bayou. This includes the timber rattlesnake (state threatened), black bear spp. *luteolus* (state threatened; federally threatened), and American burying beetle (federally endangered). Various age classes of timber rattlesnakes can commonly be found along the bayou and at least two hibernaculums are believed to occur on the property. Additionally, my property is located in an area identified as a focal area for habitat restoration/conservation for the black bear in East Texas. The restoration of the black bear in East Texas is a joint effort between TPWD, Black Bear Conservation Committee's East Texas Black Bear Task Force, USFWS, Texas Forest Service, etc., and supported by various private landowners. According to TPWD biologists, the majority of my property contains high quality black bear habitat. Several Category I (sighting with physical evidence) bear sightings have occurred within a few miles of my property along the bayou and scat was recently found (and awaiting positive confirmation) on my property that is believed to be from a black bear. Finally, the property appears to contain habitat suitable for the federally listed American burying beetle (which was found along Pecan Bayou on The Nature Conservancy's Lennox Woods Preserve). A voluntary and cooperative study is to be initiated in the near future with the USFWS to determine the presence or absence of the American burying beetle on my property.

The designation of Pecan Bayou as a *River and Stream Segment of Unique Ecological Value* will not only protect the beauty and the unique biodiversity of our natural resources on the bayou, but also broaden and boost economic opportunities for all of Red River County. Such a designation will provide additional opportunities for landowners throughout the county to work cooperatively with natural resource agencies and will provide an opportunities to acquire funding for sustainable job development to boost the local economy by marketing ecotourism, bird watching, hunting, bed and breakfasts, and other economically driven outdoor or tourism associated activities.

Again, I recommend the adoption of the NETRWPG-IPP and the designation of Pecan Bayou as being a *River and Stream Segment of Unique Ecological Value*. Thank you for the opportunity to provide public comments.

Sincerely,

Mary Arey, Owner
B & L 380 Ranch
262 County Road 3220
Clarksville, Texas 75426

Mothers Air Watch

262 PR 1018
Texarkana, Ar-Tx 71854
Protecting Our Children and Their Future

May 27, 2010

Northeast Texas Regional Water
Planning Group
P.O. Box 955
Hughes Springs, Texas 75656

Dear Members:

Mothers Air Watch (MAW), like other organizations based in Texarkana, has members in both Texas and Arkansas. We are committed to looking toward the future, when our children and grandchildren will be standing where we stand now. Though we first organized to combat air pollution in the Texarkana region, we are also concerned with other issues that may impact the future, as well as the present, quality of life.

Because of our concerns we have been closely following the "water wars" in our region. Particularly we registered with great distaste the moves to control the water in our area, especially the proposal to build the so-called Marvin Nichols reservoir, take residents' land and uproot entire communities, and send the water to Dallas and Fort Worth. We have rarely heard of anything so outrageous, and we stand with other people and organizations in opposition to such a taking.

Therefore, we wish to go on record as supporting the Region D Initially Prepared Plan for Northeast Texas's water needs and use. We especially appreciate leaving Marvin Nichols off the plan, which is as it should have been in the beginning.

Please be assured of our support for the IPP and may you continue to pursue a fair and reasonable path to the future.

For our future,

Brenda Stevenson

BRENDA STEVENSON
Chair, Mothers Air Watch

NETRWPGI (Region 6)
P O Box 955
Hughes Springs, TX 75656

May 27, 2010

Ref: Prepared Plan Region D

Dear Group:

I am writing for many when I express my opinion on this upcoming Plan Decision.

Simply put, we do not need another reservoir. It is illogical to expend money and time to build one for DFW when they do not take care of the water that they have now and have had access to for many, many years.

According to The Dallas Morning News of as far back as Aug. 16, 2006, (see "HP Goes After Liquid Assets") the folks in the elite Highland Park area of Dallas consider water just another available product they can purchase as easily as a soft drink at the local corner market, rather than the public *necessity* that it is.

The article goes on to explain that Mr. Harlan Crow, prominent real estate investor uses 1.8 million gallons of water a month for his 7.7 acre spread off Preston Road. This is enough "liquid assets" to almost fill three (3) Olympic size swimming pools at a cost of $5,859.00 ! Also, on the list of steady users is his father, Trammell Crow, who uses 1.1 million gal. a month, Dallas Country Club, which uses 913,000 gal. a month. Rounding out the top five users is Oilman Edwin Cox, and Cowboys owner, Jerry Jones, with the latter sprinkling 512,000 gal. a month. Harlan Crow's usage alone is enough to equal the total amount of water usage of 217 homes in Dallas based on an average consumption of 8,300 gal. per month! This, remember, was approx. 4 years ago!!

And now they come to us to tap and give up our own "liquid assets" after we have been much more frugal with our own needs; while through those same years we looked ahead and continued to preserve this precious environmental necessity!

We wholeheartedly support the Initially Prepared Plan for Region D or Northeast Texas Texas Regional Water Planning Group and especially applaud the deletion of the proposed Marvin Nichols reservoir from the region's water plan.

Sincerely Yours,

Vencene Glorioso Reed

Vencene Glorioso Reed
P O Box 3932
Texarkana, TX 75501

Luminant

Kimberly D. Mireles
Director, Environmental Generation
Environmental Services
kimberly.mireles@luminant.com

Luminant Power
500 N. Akard Street
Dallas, TX 75201

T 214.875.8382
C 214.354.5419
F 214.875.8333

(via PDF)

May 27, 2010

Mr. Ray Flemons
BWR
2620 County Road 1106
Anna, TX 75409-5817

Re: Comments on
Draft Initially Prepared Plan for Region D

Dear Mr. Flemons:

Luminant Power has reviewed the draft Initially Prepared Plan for Region D. The Plan reflects the significant amount of work and incorporation of data required to produce the document.

The principal business of Luminant Power is the production of electric energy in Texas. Luminant Power has over 17,500 megawatts of generation capacity. We generate electricity from diversified fuel sources including natural gas, lignite/coal and nuclear.

Luminant Power hereby submits the comments outlined below for consideration.

Page 1-25, Table 1.6
For "Lake/Reservoir" River Crest, the "Supply" is listed as 8,635 ac-ft.

Comment: We do not believe that 8,635 ac-ft is the correct number. We understand that the "supply" for a reservoir is mainly based on the drought condition flows (firm yield) that enter the lake from the surrounding watershed. River Crest Reservoir is an off-channel reservoir which is almost completely enclosed by a dike. Due to the very small water shed, there is a limited amount of water that enters the reservoir by surface flow.

From Certificate of Adjudication 03-4804 (see attached), the "Owner is authorized to divert and use not to exceed 10,000 acre-feet of water per annum from the Sulphur River for industrial (cooling and condensing) purposes." ... "Owner is authorized to store water diverted from the Sulphur River [in River Crest Reservoir] for subsequent diversion and use..." So, if the supply is based on the flows that enter the lake from the surrounding watershed during drought conditions, then the 8,635 ac-ft should be revised to a much smaller number. However, in some way such as describing it as a "run of the river" diversion and use, the report should account for the permitted diversion and use of a maximum of 10,000 acre-feet of water per annum from the Sulphur River into River Crest Reservoir. The "target diversion" listed on the WAM output received from Ms. Kathy Alexander of TCEQ indicates 10,000 AF (see attached).

Page 1-34, Table 1.11
For "Titus" County, the water use for Power is listed as 34,406 ac-ft for 1990, 51,186 ac-ft for 2000 and 15,026 ac-ft for 2004.

> Comment: We do not believe that 15,026 ac-ft for year 2004 is the correct number. By itself, Luminant's 2004 Annual Water Use Report to TCEQ for Monticello Steam Electric Station in Titus County indicates that a total of 14,574.6 ac-ft was consumed. We do not believe that the trend is to use significantly less water in Titus County as suggested by the drop from 51,186 ac-ft for 2000 to 15,026 ac-ft for 2004. We suggest that other Power water users in Titus County should be contacted to determine their correct water use for 2004.

Page 3-6, Table 3.5
For "Monticello Lake Reservoir", the surface water supply is listed as 6,098 ac-ft. For "Blundell Creek Run-of-the River", the surface water supply is listed as 16,300 ac-ft.

> Comment: Monticello Reservoir is formed by a dam across Blundell Creek near the junction of the mouth of Blundell Creek and Cypress Creek. Thus, Monticello Reservoir captures almost all of the water of Blundell Creek. We think that the listed surface water supply for Blundell Creek "Run-of-the-River" (16,300 ac-ft) is over-estimated in the report or that there is a double count between Blundell Creek and Monticello Reservoir. Also, the 16,300 ac-ft. of water listed for Blundell Creek happens to be the same number as the maximum permitted amount of water consumed from Monticello Reservoir (See attached Certificate of Adjudication 04-4563A). Please review this data again.

If you have questions or require additional information, please call Gary Spicer at (214) 875-8299.

Sincerely,

Kim Mireles

Kim Mireles

JS
Enclosure

cc: via PDF
Walt Sears - Northeast Texas Municipal Water District

CERTIFICATE OF ADJUDICATION 71604

CERTIFICATE OF ADJUDICATION: 03-4804

OWNER: Texas Utilities Electric Company
Attn: Environmental Services
400 North Olive
Lock Box 81
Dallas, Texas 75201

COUNTY: Red River

PRIORITY DATE: March 5, 1952

WATERCOURSE: Sulphur River

BASIN: Sulphur River

WHEREAS, by final decree of the 202nd Judicial District Court of Bowie County, in Cause No. 86-C1702-202 In Re: The Adjudication of Water Rights in the Sulphur River Basin dated December 17, 1986 a right was recognized under Permit 1617 authorizing the Texas Utilities Electric Company to appropriate waters of the State of Texas as set forth below;

NOW, THEREFORE, this certificate of adjudication to appropriate waters of the State of Texas in the Sulphur River Basin is issued to the Texas Utilities Electric Company, subject to the following terms and conditions:

1. IMPOUNDMENT

Owner is authorized to maintain an existing 7100 acre-foot capacity off-channel reservoir and impound therein not to exceed 7100 acre-feet of water. The reservoir is located in the Preston Bland Survey, Abstract 32; the James W. Belue Survey, Abstract 125; the John Courley Survey, Abstract 204; the Randolph Creek Survey, Abstract 218; the Pleasant McMicken Survey, Abstract 581; the L. L. Bigham Survey, Abstract 1057; he John Duval Survey, Abstract 1102, the T. E. Wilson Survey, Abstract 1282 and the T.P.& L. Company Survey, Abstract 1735, Red River County, Texas.

2. USE

Owner is authorized to divert and use not to exceed 10,000 acre-feet of water per annum from the Sulphur River for industrial (cooling and condensing) purposes.

3. DIVERSION

A. Location:
At a point on the Sulphur River in the Preston Bland Survey, Abstract 32, Red River County, Texas.

B. Maximum rate: 75.00 cfs (33,750 gpm).

4. PRIORITY

The time priority of owner's right is March 5, 1952.

5. SPECIAL CONDITIONS

A. The measurement of the water herein authorized to be used is to be made at the point of diversion herein described by means of a measuring device approved by the Texas Water Commission. Owner will also make daily determinations of water surface elevations in the reservoir by means of a gage set to U.S. Geological Survey or U.S. Coast and Geodetic Survey datum. The Commission will be furnished complete records of such determinations.

B. Any surplus water will be returned to the Sulphur River at a point which bears S 03°30'W, 2020 feet from the northeast corner of the T.E. Wilson, Abstract 1282, Red River County.

C. Owner shall maintain a sluiceway or gate in the dam forming the aforesaid off-channel reservoir at such point and of such size as the Commission may require and approve in order to release impounded waters to which other appropriators have prior rights.

D. Owner is authorized to store water diverted from the Sulphur River in the aforesaid off-channel reservoir for subsequent diversion and use to the extent authorized herein.

The locations of pertinent features related to this certificate are shown on Page 5 of the Sulphur River Basin Certificates of Adjudication Maps, copies of which are located in the office of the Texas Water Commission, Austin, Texas.

This certificate of adjudication is issued subject to all terms, conditions and provisions in the final decree of the 202nd Judicial District Court of Bowie County, Texas, in Cause No. 86-C1702-202 In Re: The Adjudication of Water Rights in the Sulphur River Basin dated December 17, 1986 and supersedes all rights of the owner asserted in that cause.

This certificate of adjudication is issued subject to senior and superior water rights in the Sulphur River Basin.

This certificate of adjudication is issued subject to the obligations of the State of Texas pursuant to the terms of the Red River Compact.

This certificate of adjudication is issued subject to the Rules of the Texas Water Commission and its continuing right of supervision of State water resources consistent with the public policy of the State as set forth in the Texas Water Code.

TEXAS WATER COMMISSION

Paul Hopkins

Paul Hopkins, Chairman

DATE ISSUED:

MAR 31 1987

ATTEST:

Mary Ann Hefner

Mary Ann Hefner, Chief Clerk

TCEQ Water Availability Model Output
Predicted Diversion Table
Water Right 4804 Luminant

	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
1940	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1941	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1942	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1943	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1944	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1945	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1946	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1947	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1948	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1949	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1950	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1951	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1952	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1953	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1954	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1955	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1956	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	287.8	0.1	500.0	1000.0	8787.9
1957	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1958	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1959	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1960	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1961	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1962	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1963	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1964	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1965	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1966	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1967	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1968	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1969	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	799.1	9799.1
1970	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	570.7	9570.7
1971	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	309.1	9309.1
1972	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	67.4	9067.4
1973	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1974	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1975	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1976	368.6	155.1	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	8523.7
1977	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1978	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	420.8	0.0	8920.8
1979	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1980	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	68.0	9068.0
1981	719.2	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	965.8	9684.8
1982	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1983	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	420.2	9420.2
1984	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	488.1	9488.1
1985	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	751.8	9751.8
1986	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	635.0	9635.0
1987	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	869.4	9869.4
1988	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	411.3	9411.3
1989	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1990	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1991	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1992	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
1993	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	788.3	9788.3
1994	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	661.9	9661.9
1995	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	437.6	9437.6
1996	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	843.7	9843.7
MEAN	984.0	985.2	1000.0	500.0	500.0	1000.0	1000.0	1000.0	987.5	491.2	498.6	861.2	9807.7
Maximum	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0
Minimum	368.6	155.1	1000.0	500.0	500.0	1000.0	1000.0	1000.0	287.8	0.1	420.8	0.0	8523.7
Target Diversion	1000.0	1000.0	1000.0	500.0	500.0	1000.0	1000.0	1000.0	1000.0	500.0	500.0	1000.0	10000.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

THE STATE OF TEXAS
COUNTY OF TRAVIS
I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on
APR 28 20
LaDonna Castanuela, Chief Clerk
Texas Commission on Environmental Quality

AMENDMENT TO A CERTIFICATE OF ADJUDICATION

Application No. 04-4563A Certificate of Adjudication No. 04-4563A Type: 11.122

Permittee:	TXU Generation Company LP	Address:	C/O Water Permitting Coordinator Environmental Services Energy Plaza, 1601 Bryan Street Dallas, Texas 75201-3411
Filed:	March 9, 2004	Granted:	APR 13 2004
Purpose:	Industrial, Mining, and Domestic and Livestock	County:	Titus
Watercourse:	Blundell Creek, Tributary of Cypress Creek (Lake Monticello)	Watershed:	Cypress Basin

WHEREAS, Certificate of Adjudication No. 04-4563 authorizes the Owner, with a time priority of April 6, 1970, to maintain an existing reservoir, Lake Monticello, on Blundell Creek, tributary of Cypress Creek, Cypress Basin, and to impound therein not to exceed 40,100 acre-feet of water; and

WHEREAS, Owner is also authorized to divert and use, at a maximum diversion rate of 2,680 cfs (1,206,000 gpm) from two points on the reservoir, not to exceed 15,300 acre-feet of water per annum for industrial uses (development of thermal electrical power) and not to exceed 1,000 acre-feet of water per annum for industrial purposes (dust prevention, fire protection and incidental plant use) in the Monticello Mining area in Titus County; and

WHEREAS, the time priority for the diversion of the 15,300 acre-feet per annum for industrial uses is April 6, 1970, and the time priority for the diversion and use of the 1,000 acre-feet of water per annum for industrial purposes is June 4, 1973; and

WHEREAS, the Owner is also authorized to store not to exceed 18,000 acre-feet of water per annum diverted from Cypress Creek in the Monticello Reservoir for subsequent diversion and use to the extent authorized; and

WHEREAS, Applicant seeks to amend Certificate of Adjudication No. 04-4563 to add mining (dust suppression, equipment washdown, and miscellaneous uses) and domestic and livestock use to the previously authorized 1,000 acre-feet of water per annum for industrial purposes; and

WHEREAS, Applicant also seeks to add a third diversion point on the perimeter of Lake Monticello to be located at Latitude 33.119° N and Longitude 95.098° W, also bearing South 59° West 3,775 feet from the southeast corner of the Solomon Blundell Original Survey, Abstract No. 11, in Titus County; and

WHEREAS, no change in the amount of water diverted or the combined maximum rate of diversion is being requested; and

WHEREAS the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, no person protested the granting of this application; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit; and

NOW, THEREFORE, this amendment to Certificate of Adjudication No. 04-4563, designated Certificate of Adjudication No. 04-4563A, is issued to TXU Generation Company LP subject to the following terms and conditions:

1. USE

In lieu of the previous authorization to divert and use not to exceed 15,300 acre-feet or water per annum from the perimeter of Lake Monticello for industrial (development of thermal electric power) purposes and not to exceed 1,000 acre-feet of water per annum for industrial (dust prevention, fire protection and incidental plant use) purposes, the Owner may now divert and use not to exceed 15,300 acre-feet of water per annum from the perimeter of Lake Monticello for industrial (development of thermal electric power) purposes and not to exceed 1,000 acre-feet of water per annum for industrial (fire protection and incidental power plant use), mining (dust suppression, equipment washdown, and miscellaneous uses), and domestic and livestock purposes.

2. DIVERSION

A. Diversion Points

1. At 2 existing points on the perimeter of Lake Monticello in the Joseph Muchin Survey, Abstract 356 and the John Greenwood Survey, Abstract, Titus County:

a. Point 1 - N 75.400° E, 7,350 feet from the NW corner of the George Coots Survey, Abstract No. 118, also located at Latitude 33.086° N and Longitude 95.038° W.

b. Point 2 - N 21.383° E, 14,450 feet from the NW corner of the George Coots Survey, Abstract No. 118, also located at Latitude 33.119° N and Longitude 95.078° W.

2. At one additional point on the perimeter of Lake Monticello at a point S 59° W, 3,775 feet from the southeast corner of the Solomon Blundell Original Survey, Abstract No. 11, also located at Latitude 33.119° N and Longitude 95.098° W.

B. Diversion Rate

The combined maximum diversion rate shall not exceed 2,680 cfs (1,206,000 gpm).

3. CONSERVATION

Owner shall implement water conservation plans that provide for the utilization of those practices, techniques, and technologies that reduce or maintain the consumption of water, prevent or reduce the loss or waste of water, maintain or improve the efficiency in the use of water, increase the recycling and reuse of water, or prevent the pollution of water, so that a water supply is made available for future or alternative uses.

This amendment is issued subject to all superior and senior water rights in the Cypress Basin.

Owner agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this amendment.

All other matters requested in the application which are not specifically granted by this amendment are denied.

This amendment to Certification of Adjudication No. 04-4563 is issued subject to the obligations of the State of Texas pursuant to the terms of the Red River Compact.

This amendment is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Margaret Hoffman

For the Commission

ISSUED: APR 13 2004

Draft Revisions to Chapter 8 of the IPP
Submitted by Richard LeTourneau, Chairman

Section 8.8.1 at bottom of Page 8-16:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Little Cypress reservoir site **as a unique reservoir site.**

Section 8.9.1, Page 8-17:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Barkman reservoir site **as a unique reservoir site.**

Section 8.9.2, near top of Page 8-18:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the **potential** Liberty Hill ~~possible~~ reservoir site **as a unique reservoir site.**

Section 8.9.3, near bottom of Page 8-18:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Big Pine reservoir site **as a unique reservoir site.**

Section 8.9.4, middle of Page 8-19:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Pecan Bayou reservoir site **as a unique reservoir site.**

Section 8.10.1, middle of Page 8-20:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Big Sandy reservoir site **as a unique reservoir site.**

Section 8.10.2, middle of Page 8-21:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Carl Estes reservoir site **as a unique reservoir site.**

Section 8.10.3, near top of Page 8-22:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Carthage reservoir site **as a unique reservoir site.**

Section 8.10.4, middle of Page 8-22:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Kilgore II reservoir site **as a unique reservoir site.**

Section 8.10.5, near bottom of Page 8-23 (substitute language):

The North East Texas Regional Water Planning Group supports the proposal of the Sabine River Authority to build Prairie Creek Reservoir, if used in conjunction with a pipeline from Toledo Bend to supply water to both Region D and Region C.

Section 8.10.6, Page 8-24:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Waters Bluff reservoir site **as a unique reservoir site.**

Section 8.11.1, Page 8.27:

The North East Texas Regional Water Planning Group **reiterates its opposition to the Marvin Nichols I or IA Reservoir and** does not recommend **designation of** ~~protection for~~ the potential Marvin Nichols I nor the Marvin Nichols IA **as a unique reservoir site.**

Section 8.11.2, Page 8-27:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential Marvin Nichols II reservoir site **as a unique reservoir site.**

Section 8.11.3, near bottom of Page 8-28:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential George Parkhouse I reservoir site **as a unique reservoir site.**

Section 8.11.4, Page 8-29:

The North East Texas Regional Water Planning Group does not recommend the **designation of** ~~protection for~~ the potential George Parkhouse II reservoir site **as a unique reservoir site.**

Section 8.12.1, second paragraph, Page 8-30:

> **It is the position of the** ~~The~~ North East Texas **Regional** Water Planning Group ~~would also assert~~ that there will be unavoidable impacts on agricultural resources should there be further development of new reservoirs in the Sulphur River Basin within the North East Texas Region.

Section 8.12.1, third paragraph, Page 8-30:

> Therefore, the North East Texas Regional **Water** Planning Group recognizes that there may be the possibility of recommendations from other planning groups that included further development of additional reservoirs in the Sulphur River Basin as a recommended water management strategy or as an alternative strategy. Further, **it is the position of** the North East Texas Regional **Water** Planning Group ~~believes~~ that the development of such reservoirs is in direct conflict with the stated TAC Rule and thereby impacts negatively the agricultural and environmental resources within the North East Texas Region. Further more, due to these foreseeable detrimental impacts, the North East Texas Regional **Water** Planning Group asserts strongly that the option of pursuing any new reservoir in the Sulphur River Basin as a water management strategy or an alternative strategy should be viewed as directly inconsistent with the protection of natural resources within the region under that rule.

Proposed Addition to Chapter 8 of the IPP (Section 8.12.4, Page 8-33)

Submitted by Shirley Shumake, Member, North East Texas Regional Water Planning Group, with the request that it be incorporated into the IPP

It is the position of the North East Texas Regional Water Planning Group that there be no development of new reservoirs in the Sulphur River basin nor transfer of water out of the Basin until the flow needs for a sound ecological environment are defined for the Sulphur through the process established in Senate Bill 3, 2007 Regular Session of the Texas Legislature. Those flow needs are defined as the low, pulse and flood flows.

The flow needs assessment for the Sulphur River has not yet begun. No development should take place until the State has identified the flow needs for the Sulphur and set aside water for the environmental flows for the basin.

The North East Texas Regional Water Planning Group recognizes that other regional planning groups may include recommendations for new reservoirs in the Sulphur River Basin or for the transfer of water out of the Sulphur Basin to basins in other regions, as part of their recommended water management strategies or as alternative strategies. It is the position of the North East Texas Regional Water Planning Group that unless such proposed reservoirs or transfers include an explicit recognition that the needs for environmental flows in the North East Texas Region must be satisfied first consistent with SB 3, that these strategies create direct conflicts between the plans of such other group(s) and the plan of the North East Texas Regional Water Planning Group.

Development of new reservoirs prior to determination of the needs for environmental flows in the Sulphur Basin would be premature. Once the State has set aside water for such needs, the state will have made its determinations on such needs. Proposals for new reservoirs or interbasin transfers can then be made consistent with the environmental flow needs in the Basin.

CADDO LAKE INSTITUTE
Physical Address
Caddo Lake National Wildlife Refuge
Karnack, Texas

Web Addresses
www.caddolakeinstitute.us
www.caddolakedata.us

Comments to the 2010 Initially Prepared Plan for Region D

May 31, 2010

These comments are filed on behalf the following, which will be referred to jointly below as the Caddo Organizations:

The City of Uncertain, Texas,
Caddo Lake Area Chamber of Commerce & Tourism
The Greater Caddo Lake Association of Texas,
The Louisiana Greater Caddo Lake Association,
The Friends of the Caddo Lake Nat. Wildlife Refuge, and
The Caddo Lake Institute.

Summary:

The Caddo Organizations appreciate the hard work by members of the North East Texas Regional Water Planning Group. The 2010 Initially Prepared Plan (IPP) goes a long way at assuring adequate water for the region, protection of the economic base of the region and consideration of the natural resources that form a significant base for the economic health of North East Texas.

The Caddo Organizations agree with comments filed by the Northeast Texas Municipal Water District ("NETMUD") with respect to instream flows, and would respectfully urge additional language to support those comments and provide additional protection to the Cypress River Basin and Caddo Lake.

In brief, the Caddo Organizations request language in Chapters 1, 2, 3 and 8 of the IPP to make it clear that there is a need for additional water to assure adequate instream flows in the rivers, streams and lakes of the Cypress Basin. The specific language proposed is provided below.

Comments:

The Caddo Organizations specifically support comments 5 and 13 filed by the NETMWD which provide in part:

> 5. <u>The IPP should describe possible effects of environmental flows planning on future planning cycles.</u> … NETMWD understands that the volume needed for environmental flows is still being discussed in basins within Region D. … While this task is capable of being more complete in Round 4 of regional water planning, the more that can be provided in Round 3 will be helpful. For purposes of Round 3, as contained in the IPP, it

appears that 100% of the safe yield of existing reservoirs has been assumed to be available to meet future municipal and industrial needs. It is possible that an effect of environmental flows planning will be to obligate some portion of the safe yield to assuring environmental needs thereby making less than 100% of the safe yield available for future municipal and industrial demands. ... Some narrative should be included in the IPP on this topic. NETMWD suggests that the IPP contain a Section 2.3.7 that would specifically list environmental flows as part of the water demand to be projected for the region.

13. The IPP should contain an additional section in Chapter 3 about the impact of environmental flow policies on water rights, water availability and water planning. The NETMWD suggests that the IPP contain a section labeled as 3.5 and that the content of such section be substantially similar to the language set out in Section 3.1 of the IPP of Region I ...

The Caddo Organizations also support new language in Section 8 of the IPP to recognize the significant work already performed in the Cypress River Basin in a unique collaboration by the Northeast Texas Municipal, Water District, the U.S. Corps of Engineers, the Nature Conservancy, the Caddo Lake Institute and many other organizations and individuals. A draft summary of that work, entitled Report on the Environmental Flows For the Cypress River Basin, is provided as Appendix 1 to these Comments..

In brief, the Cypress Basin Flows Project, from which this report was developed, was initiated in 2004 after the State made the decision that no new water rights would be granted for protection of flows in rivers, lakes and bays. Instead, the state proposed, and has now enacted, a law (Senate Bill 3) to provide a process for setting aside water for environmental flows in Texas.

The project seeks to assure adequate flows to sustain the ecological, recreational and economic values of Cypress River Basin. To reach its goal, the Project has these objectives:

1. A reservation by the state of sufficient water to reach the goal, based on a consensus among the scientists and stakeholders.

2. A new release pattern for the dam at Lake O' the Pines, based on the best scientific evaluation of options for the operations of Lake O' the Pines by the Corps of Engineers and the Northeast Texas Municipal Water District to maximize the opportunities to obtain the environmental flows in Big Cypress while assuring flood control, water supply, and the other purposes of the reservoir.

3. Flows to protect water quality by coordination with the state sponsored Watershed Protection Plan to address water quality issues in the watershed.

4. Adaptive management for the long term, with an ongoing effort to obtain new information and refine environmental flow regimes based on experimentation, research and input from a wide range of scientists and stakeholders.

Based on a series of meetings with natural resource experts from Texas, Louisiana and elsewhere and with the stakeholders in the watershed, the Project has resulted in recommendations for "Building Blocks" or environmental flow regimes that propose variations in annual and seasonal flows that will best protect fish and wildlife that are dependent upon a healthy ecosystem. Those regimes have also been used to develop recommended flow standards and strategies to achieve the flow needs with due consideration of the economic and other interests of the participating stakeholders.

Thus, the Cypress Basin Flows Project provides insight to what may become the set aside under Senate Bill 3 for environmental flows in the Cypress River Basin. The amount of water needed will likely be significant, but the decision on the set aside or reservation of water for such flows has not been made. The decision will be made by the Texas Commission on Environmental Quality through a rulemaking process where input from all interests must be considered.

Moreover, it is clear that cities and others outside of Region D have expressed interest in taking some of the same water that has been shown to be needed in the Cypress Basin, including water from Lake O' the Pines. NETMWD has provided a process whereby individuals, organizations and local governments can express interests in obtaining water from Lake O' the Pines. Use of the water has been proposed inside and outside of Region D. Region C, for example, has identified water in the Cypress basin as available to fill needs within those regions. The other regional plans do not, however, recognize, explicitly or implicitly, the conflict that thereby arises with the needs in Region D.

The work on the Cypress basin has made it clear that there is not sufficient unappropriated water in rivers such as Big Cypress to meet the recommendations for flow regimes, standards and set aside. Thus, strategies have been proposed and others will be needed to use water in Lake O' the Pines that the Region C plan and others propose to use to fill out of region needs.

Therefore, the Caddo Organizations propose language below for Section 8 to recognize the work in the Cypress Basin, and highlight the conflict in the proposals to fill the needs identified in the Region D and Region C plans.

Conclusion

The Caddo Organizations request changes to Sections 2, 3 and 8 of the IPP to reflect the needs in the Region for environmental flows in its rivers, streams and lakes, to explain the steps that has been taken to date to address those needs, to recognize that additional work is in the regional planning process, and to highlight the conflict that exists with the regional planning process and IPP of Region C because of that Region's failure to recognize and accept that the needs of Region D, including the needs for environmental flows which must be met with water from the Region, before any water can be relied upon in other regional plans.

Proposed Language for Region D IPP:

I. Revise the language of Section 1.4(a) with the addition of the underlined third paragraph:

1.4 (a) Historical and Current Water Use

Historical and current uses in the North East Texas Region include municipal, manufacturing, recreation, irrigation, mining, power generation and livestock. According to Figure 1.20, manufacturing is the predominant use category. Mining and irrigation are relatively insignificant water uses in the Region; however, Table 1.11 indicates that mining use has increased by 34% since 1990.

The North East Texas Region utilizes both ground and surface water supplies. Figure 1.19 shows a total percent water usage in 2000 and a projected usage in 2030.

In addition to these uses, which are mostly consumptive uses, there are non-consumptive uses, such as flows in rivers, streams and lakes that have been relied upon to maintain healthy ecological conditions, navigation, recreation and other conditions or activities that bring benefit the Region. Those historic non-consumptive uses and future needs have not yet been the subject of detailed consideration in the states formal Senate Bill 3 planning process, but are discussed briefly below and will be addressed in more detail in Round 4 of the planning process.

II. Add the following Section 2.3.7

Section 2.3.7 Regional Environmental Flow Demand Projections:

An additional demand for water in the Region is that water needed as "environmental flows," as that term is defined in Senate Bill 3 from the 2007 Regular Legislative Session (SB 3). While no volumes or rates have been projected in this plan, NETRWPG projects a significant amount of water will be needed in the Region's rivers, streams, and lakes to fill the need.

As discussed below in Section 3.5, SB 3 establishes a process to determine the environmental flow needs for each River Basin The Texas Water Development Board is apparently seeking funds for the process for basins in Region D. Moreover, a voluntary process authorized by SB 3 is ongoing for the Cypress Basin. Thus, Region D recognizes that environmental flow needs will likely be defined during Round 4 of the planning process and can in that process be incorporated more specifically in that regional plan.

III. Add language as Section 3.5 as proposed in the "Comments by the Northeast Texas Municipal Water District To Improve the Initially Prepared Plan for Region D"

IV. Add new language to the end of Section 8.8 to read as follows:

It is the position of the North East Texas Regional Water Planning Group that there will be unavoidable negative impacts to the integrity of the ecological environment of the water bodies of the Cypress River Basin and, especially Caddo Lake, should there be development of new reservoirs in the Cypress River Basin or transfer of water out of the basin, unless such new reservoirs or transfers do not conflict with the environmental flows needs for the water in the North East Texas Region. Those flow needs are

defined as the low, pulse and flood flows needed for a sound ecological environmental in Senate Bill 3, 2007 Regular Session of the Texas Legislature (SB 3).

Those flow needs have been identified initially by a process of obtaining recommendations from scientists and stakeholders for the flow regimes for the Cypress Basin through a process initiated in 2004 and summarized in the draft Report on the Environmental Flows for the Cypress Basin, updated May 2010 and provided as Appendix to the May 31, 2010 Comments of the Caddo Groups to the Region D IPP and referred as the Cypress Basin Flow Project Report. The flow regimes and recommendations should be used to define the needs until the State has completed a process under or similar to that in SB 3 and set aside water for the environmental flows for this basin.

The North East Texas Regional Water Planning Group recognizes that other regional planning groups may include recommendations for new reservoirs in the Cypress River Basin or the transfer of water out of the Cypress Basin to basins in other regions as part of their recommended water management strategies or as alternative strategies.

It is the position of the North East Texas Regional Water Planning Group that unless such proposed reservoirs or transfers in such strategies include an explicit recognition that the need for environmental flows in the North East Texas Region must be satisfied first consistent with SB 3, these strategies create direct conflicts between the plans of such other group(s) and the plan of the North East Texas Regional Water Planning Group.

The Cypress Basin lies entirely in Region D. The amount of needs in the Cypress Basin for environmental flows is not fully or finally determined but is reasonably projected by the flow regimes and stakeholders recommendations of the Cypress Basin Flows Project Report discussed above. Once the State has set aside water for such needs, the state will have made its determination on such needs. There is, however, not sufficient unappropriated water in the Cypress Basin to meet the environmental flow needs and unused or unsold water from Lake O the Pines is one potential source for the additional needs, should appropriate strategies be developed to protect the interests of NETMWD member cities and others in the Basin that will need such water.

Proposals for new reservoirs or interbasin transfers can be made consistent with the environmental flow needs in the Cypress Basin only after final decisions have been made to determine those needs and sources to fill them. Until then, however, no water should be proposed for a new reservoir or for uses in other regions unless the proposals in other regional plans explicitly recognizes the environmental flow needs in Region D and that the amount, timing, diversion rate and other characteristics must be consistent with the needs, which, until final decisions are made, should be set as the flow regimes and stakeholder recommendations from the Cypress Basin Flow Project Report.

REPORT ON THE ENVIRONMENTAL FLOWS FOR THE CYPRESS RIVER BASIN

A Report of the

The Flow-Ecology Project
Sponsored by the Nature Conservancy–U.S. Corp of Engineers Sustainable Rivers Program and the Caddo Lake Institute
&
The Hydrology Workgroup
of the Watershed Protection Plan for the Caddo Lake Watershed
Coordinated by the North East Texas Municipal Water District

Interim: November 2008
Draft Final February 2009, updated May 2010

The Sponsors acknowledge and thank all those who have participated in the Project and especially those whose funding has helped pay for the work, including, the Coypu Foundation, Magnolia Charitable Trust, the Meadows Foundation, American Electric Power, the North East Texas Municipal Water District, Texas Commission on Environmental Quality, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the Fish and Wildlife Service Program on Wildlife Without Borders—Mexico, Latin America and the Caribbean, and the U.S. Geological Survey.

TABLE OF CONTENTS

Attachments:

SUMMARY

The Cypress Basin Flows Project was initiated in 2004 after the State made the decision that no new water rights would be granted for protection of flows in rivers, lakes and bays. Instead, the state leaders proposed and enacted in 2007 a law (now "Senate Bill 3") to provide a process for setting aside water for environmental flows in Texas.

Goal: The Project seeks to assure adequate environmental flows to sustain the ecological, recreational and economic values of rivers streams and Lakes in the Cypress Basin watershed with special emphasis on Caddo Lake and Big Cypress Bayou. During the first phase of the Project there were four major objectives:

1. An SB 3 Flow Reservation or Set Aside: Develop recommendations for SB 3-type"environmental flow standards" for a state reservation of water in the basin based on a consensus of scientists and stakeholders.

2. A New Release Rule for Lake O' the Pines: Develop recommendations for changes in the operations of the dam at Lake O' the Pines by the Corps of Engineers and NETMWD to provide a more natural pattern of releases, while assuring flood control, water supply and the other purposes of the reservoir.

3. Flow Needs for Watershed Protection Plan: Serve as the Hydrology Work Group for the state-sponsored Watershed Protection Plan to evaluate and recommend flows, lake level management, etc. to assist with protection of water quality and management of invasive aquatic species.

4. Long-term Adaptive Management: Establish a long-term effort, with the continuation of field work, other research, and consensus decision-making to refine environmental flow recommendations over time.

The Process: Based on a consensus of the scientists and stakeholders who attended the orientation meeting in December 2004, the Project has pursued its objectives based on the recommendations for a methodology developed by the National Academy of Sciences for the State of Texas. The Project has relied heavily upon the approach used by the TNC-Corps of Engineers Sustainable Rivers Program at other rivers and the experience gained in those efforts. The work of the Project has been adjusted with the assistance of the state agencies to be consistent with the goals and intent of both Senate Bills 2 and 3.

Progress to Date: Based on a series of meetings with natural resource experts from Texas and elsewhere and with stakeholders from the Cypress Basin, the Project established in initial set of "building blocks" and SB 3 type "environmental flow regimes." An adaptive management approach was then initiated, where some the flows in the building blocks were tested in the field. Some of the initial numbers in the building blocks were then changed as a better understanding of the system developed. In December 2008, a consensus was reached on recommendations for flow regimes, flow standards and strategies to present to the Texas Commission on Environmental Quality for a SB3-type set aside.

The Details: This report is an effort to provide an overview of the work. The details, including the studies used and work summaries, are available at www.caddolakeinstitute.us.

A SCIENCE AND STAKEHOLDER BASED PROCESS

The Initial Consensus to Pursue the Project

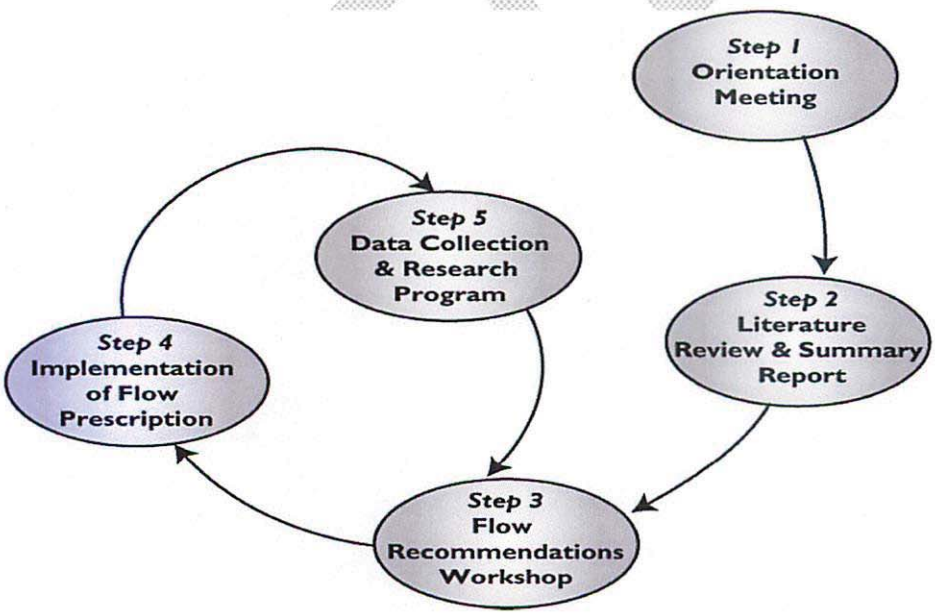
In December 2004, CLI and TNC jointly hosted a two-day meeting to discuss the possibilities of a project to develop and pursue sustainable flows regimes for the Cypress basin. Approximately 60 scientists and stakeholders participated.

The participants considered the need and options for the work. A consensus developed that there were or could be found adequate resources for an approach that relied heavily on volunteers working at meetings to develop recommendations based on existing data. With available resources, the testing of the building blocks and other research would also be pursued.

It was also agreed that the process would involve scientists and stakeholders meeting together, but that the process would first develop building blocks for flows based on the ecological needs, without consideration of the practical limitations or other needs for the water. Thus, the building blocks would not be constrained by such physical or legal limitations or broader goals of stakeholders. Implementation issues as well as the interests of stakeholders would then be used with the building blocks to develop recommendations for environmental flows, what are now called "environmental flow standards" in SB 3. (A summary of SB 3 definitions, goals and process is provided in Attachment 7.) Summaries of work at the orientation meeting can be reviewed at http://www.caddolakeinstitute.us/dec04.html.

The basic process for developing building blocks is shown in Figure 1.

Figure 1. Process for Developing Building Blocks



Identifying Scientists and Stakeholders

One of the first steps, initiated even before the orientation meeting, was identifying scientists and stakeholders. The areas of desired scientific expertise that were identified included:

Hydrology and Hydraulics
Biology
Water Quality
Connectivity
Fluvial Geomorphology

Finding the scientists to participate was a three step process. The first step was to identify institutions or individuals with a history of working in the watershed. This included people who have studied the ecology of the system and those who had conducted studies to support water development projects. Next, other institutions that were likely to have an interest in this process were identified. This included local, state and federal agencies, university researchers and private consultants. Finally, those experts identified were asked to identify others who might be needed or otherwise should be invited to participate.

The Cypress Basin had attracted scientific studies for many years. Given that Caddo Lake is Texas' only naturally formed large lake, there have been strong interests in the Cypress Basin. Thus, for example, an expert at the National Wetland Resource Center in Lafayette, Louisiana had worked on regeneration of cypress trees in the basin for a number of years. There were also a number of studies associated with the water projects in the basin. These include studies for existing projects such as Lake O' the Pines and Bob Sandlin Lake and for projects that were not completed, such as the proposal for a reservoir on Little Cypress Creek and a proposal for a barge canal across Caddo Lake. A few of these studies included instream flow studies for parts of the basin. The studies, and importantly, many of the scientists who participated in them were available to assist with the Project.

Finally, a number of stakeholders who live, work or otherwise enjoyed Caddo Lake and the larger watershed brought to the process their practical experience and observations and their goals.

Stakeholders were identified in a similar way. The process began with those known to be interested, and with the obvious governmental and non-governmental organizations in the watershed. That was followed up by requests that stakeholders help identify others.

Literature Review and Summary Report

The second major step required significant funding, in the order of $75,000. A team of professors from Texas A&M University was engaged to prepare a report summarizing existing research and studies. The decision was made, for resource and timing reasons, to focus on the Big Cypress River between Lake O' the Pines and Caddo Lake, a 34 mile segment that could be used to test some of the proposed flows in the initial building blocks, with experimental releases from the dam at Lake O' the Pines.

The A&M team was headed by Professor Kirk Winemiller, and included, Professors Anne Chin, Daniel Roelke, Stephen David, Luz Romero, and Bradford Wilcox. Their report,

appendices and annotated bibliography were made available to the participants prior to the first workshop in May of 2005. The documents can be reviewed at http://www.caddolakeinstitute.us/background.html

Following the first workshop, a supplemental report was prepared by Joe Trungale to focus on other tributaries in the watershed and to provide summaries of studies that were identified after the Texas A&M report, many of which were identified by participants in the first workshop. See: http://www.caddolakeinstitute.us/Docs/2006_CypressHydrology.pdf.

First Flow Workshop – Mary 2005

Because of the Nature Conservancy's experience at other rivers where it had started to work on developing environmental flow proposals, TNC has taken the lead managing the orientation meeting and all workshops to date.

Figure 2. TNC-Corp of Engineers Sustainable Rivers Project

Attendance at the first workshop included about 90 scientists and stakeholders. The workshop began with a presentation by Brian Richter with TNC and covered the goals and objectives of the workshop and expected products as developed in the orientation meeting. This opening talk was followed by five presentations by Texas A&M professors, who highlighted key sections of their Summary Report: hydrology (Brad Wilcox), fluvial geomorphology (Anne Chin), nutrients, productivity & aquatic plants (Dan Roelke), riparian and floodplain vegetation (Steve Davis), and aquatic and terrestrial fauna (Kirk Winemiller).

Following lunch, the workshop participants were divided into two break-out groups for the purpose of developing "building blocks" based on the expected ecological responses or conditions associated with specific river flows or lake level changes. One break-out group focused on Big Cypress Bayou, and the other group discussed Caddo Lake. After reporting their findings, the groups were re-assembled into two new break-out groups, one focusing on low flows and the other on high-flow pulses and floods.

On the second morning, participants discussed data collection and research needs, resulting in a list of priorities for improving their understanding of the role of flows or lake levels on ecological conditions in Big Cypress Bayou or Caddo Lake. Following lunch, the Corps of

Engineers provided an overview of the operations of Lake O' the Pines and its role in flood management and water supply.

For the full report on the first workshop, together with a list of participants see, http://www.caddolakeinstitute.us/may05.html.

Building Blocks for Big Cypress Bayou: The building blocks for Big Cypress Bayou are presented in Figure 3. Each of the flows portrayed in this figure includes an ecological outcome that would be expected if the flow condition is attained. The majority of flows denoted in Figure 3 would have to be generated by water releases from Lake O' the Pines. As was noted above, the process did not, at that time, try to adjust for limitations, such as flooding, restrictions on operations of the dam, etc. Thus, while the flood flows suggested in Figure 3 cannot be attained unless structural modifications are made to the dam and to downstream levees, these flows were still included in the building blocks.

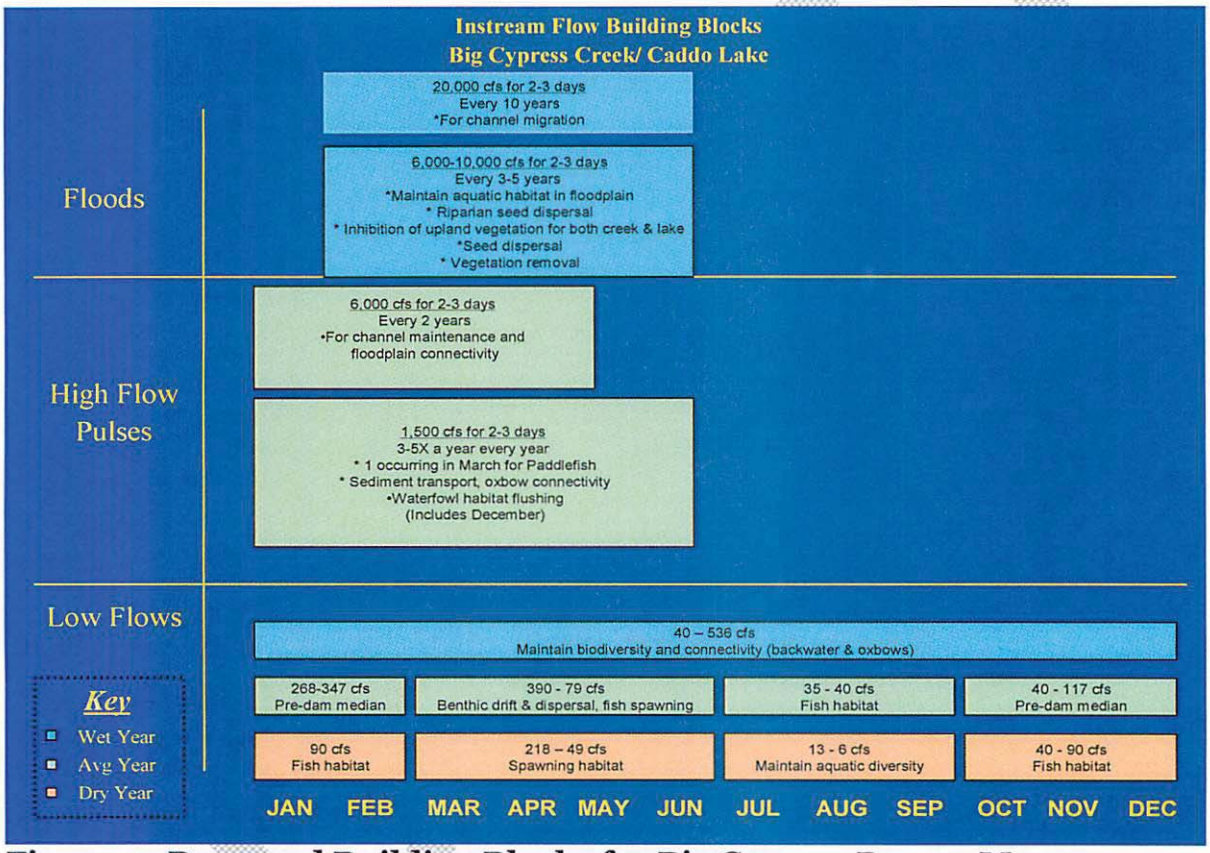


Figure 3. Proposed Building Blocks for Big Cypress Bayou, May 2005

The development of building blocks is just one step in the process. Once they are refined, the limits on implementation and the interests of the stakeholders must be considered. That process occurred in 2008 and resulted in recommendations for environmental flow standards" for the rivers, streams and lakes in the basin. During that process, a determination of whether there is sufficient unappropriated water, not already locked up in water rights, for the flows was made and, pursuant to the Senate Bill 3 approach, recommendations were developed for strategies to propose how for additional water might be made available over time.

The low-flow targets in Figure 3 are based upon a variety of ecological objectives. The fish habitat objectives are based upon habitat simulation modeling performed by the U.S. Fish &

Wildlife Service. Other targets were based upon the habitat modeling results, as well as a review of the pre-dam low-flow conditions for each month, as derived from the "Indicators of Hydrologic Alteration" (IHA) software. For instance, the 25th percentiles of the pre-dam flows were used as a basis for the July-September flows in dry years, medians were used for setting the October-February average flows, and the 75th percentiles were used as a reference in setting wet year flows.

The high-pulse flows in December-June were based upon pre-dam flow records, ecological information provided in the Summary Report, and professional judgment. One of the flood building blocks calls for a flow of 6,000 cfs for the purpose of channel maintenance. This target level is based upon the assumption that the pre-dam 2-year flood magnitude approximates the bankfull discharge level. A review of the bankfull discharge was, however, identified as a top-priority research need. (Attachment 5 provides a map of the segment under consideration, with pre-dam and post-dam flows.)

Building Blocks for Caddo Lake: Caddo Lake received special attention because of its location at the bottom of the Cypress Basin. It also has been designated as a Wetland on International Importance" under the Ramsar Convention, now signed by over 160 nations. (See http://www.caddolakeinstitute.us/ramsar.html)

One outcome of the first workshop was an initial conclusion that management of flows in Big Cypress Bayou may not need to be adjusted to benefit Caddo Lake. This was based largely upon the fact that Big Cypress contributes about one-third of the total inflow to Caddo Lake. The other two-thirds entering Caddo Lake comes from other tributaries that are currently largely unaffected by dams or diversions. These relatively natural inflows from other tributaries result in a considerable rise in lake levels during floods and can provide flows to Caddo sufficient to inundate most of the wetlands around the lake.

The outlet weir on Caddo Lake is fixed at an elevation of 168.5 NGVD. (Attachment 7 provides the basic facts on the Lake and dam.) Under present conditions, the lake level will drop below that elevation during low flows, but these reduced levels of the lake do not often exceed 2 feet. The workshop participants recommended an evaluation of the option of the installation of an outlet that would allow lowering lake levels for a number of purposes, including nutrient management, cypress regeneration, and invasive species control. (In 2010, the U.S. Army Corps of Engineers announced a plan to begin a study that would include the feasibility of replacing the wier with a dam with an outlet for lowering lake levels.

The consensus was also that nutrient levels in Caddo Lake are contributing to the undesirable abundance of aquatic plants, phytoplankton blooms and conditions of low dissolved oxygen. The participants concluded that lake flushing could more efficiently be accomplished by drawing down the lake and that any such nutrient removal effort should be carried out adaptively, using monitoring to inform decisions about the necessary design and duration of the Project.

Another potential benefit of lake lowering could be cypress regeneration in areas that presently do not dry sufficiently to allow seed germination and seedling recruitment. It was suggested that the drawdown might, however, need to occur in at least two consecutive growing seasons for this goal.

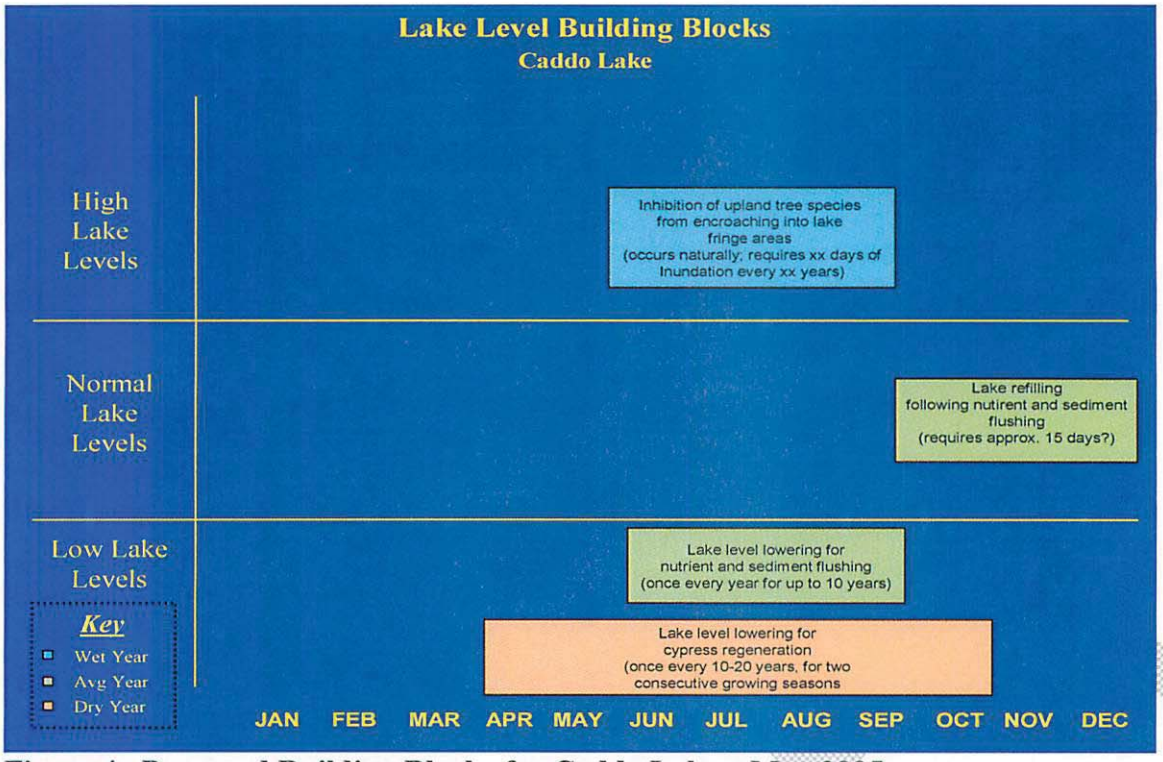


Figure 4. Proposed Building Blocks for Caddo Lake – May 2005.

Initial Testing of Recommended Flows & Additional Research: Due to dry conditions, the plan to begin testing some of the flow in the building blocks with releases from Lake O' the Pines was not possible initially. Cypress Basin experienced only low flows in its rivers until the winter of 2007. A number of steps were, however, taken to add to the understanding of the flows in the basin, including:

- Completion of a museum study of historical fish data.
- Work on levels of nutrients in sediments and water in the watershed.
- Characterizing segment and reach-scale channel geomorphologic features.
- Baseline collections of the fish assemblage.
- Establishment of instrumented (pressure transducers) cross-sections at non-gauged locations.
- Identifying habitat requirements of target organisms.

Watershed Protection Plan

While the objectives of the Project always included developing building blocks and other recommendations for all major water bodies, not just Big Cypress Bayou and Caddo Lake, TCEQ's offer to sponsor a process to develop a Watershed Protection Plan (WPP) in late 2005 provided a boost to the effort. It also provided an increased opportunity to focus on water quality issues and a process to expand stakeholder outreach.

Moreover, with the discovery of Giant Salvinia in Caddo Lake in the summer of 2006 and the recognition of the risks this new invasive aquatic species could bring to the entire watershed, the WPP process provided a better forum for cooperative efforts on management of invasive aquatic plants. It also highlighted the need for cooperation from both sides of the Texas – Louisiana border to protect Caddo Lake and its tributaries.

Funding from TCEQ and EPA made it possible for USGS to purchase a new gage for the Big Cypress Bayou, downstream of the dam at Lake O' the Pines and the existing gage near the dam. City members of the NETMWD and the City of Marshall agreed to fund maintenance of the gage.

The work of the WPP has been divided into three workgroups, one specifically focused on the current impairments to water quality in the basin, mainly problems caused by nutrients and bacteria. The second workgroup focuses on invasive species and problems with many septic systems. The third workgroup focuses on hydrology and was combined with the work of this environmental flows Project.

Second Flow Workshop & First Hydrology Workgroup Meeting – October 2006

About 80 scientists and stakeholders participated in this three day meeting. The meeting focused on developing the flow regime building blocks for Black and Little Cypress, as well as refining the building blocks for Big Cypress and Caddo Lake. The meeting also provided an opportunity to compare the work of the Project with the State agencies plans for implementation of Senate Bill 2, the law that directed the state to prepare detail studies on environmental flows in Texas river basins and bay systems. As a result of the advice from the staff of the State agencies, adjustments in the Project were made to shift some of the research and analysis. Consideration was, for example, given to the State approach to assure subsistence flows.

Building Blocks for Little and Black Cypress Bayou: There was a consensus that the building blocks for Black and Little Cypress could be developed by using the approach used for the building blocks for Big Cypress Bayou. Breakout groups were again relied upon to facilitate discussions.

One breakout group proposed that Black Cypress Bayou be designated an "untouchable," essentially setting a narrative flow regime on top of the building blocks that would assure adequate pulse and flood flows for the Bayou and to help protect Caddo Lake. The spirit of the recommendation was that there should be no major water projects on Black Cypress. The group felt that Black Cypress Bayou should remain in the most pristine state possible to serve as: (1) a source of unregulated flows to Caddo Lake; (2) a reference state for other creeks; and (3) a refuge for biota. (In 2010, The North East Texas Regional Water Planning Group recommended that Black Cypress Bayou also be designated an Ecologically Unique Stream Segment.)

This breakout group also proposed that historically large flood events should still be allowed to occur on Little Cypress. The group did not, however, recommend that all large floods be maintained. Instead it was agreed that some large floods could be captured, provided that the conditions maintained by large floods were within an appropriate range.

There was consensus on the use of the IHA-EFC 25th, 50th and 75th monthly low flow percentile values as reasonable starting values for the base flows. There was some discussion of augmenting the IHA-derived monthly percentiles with values developed in a PHABSIM study for Black Cypress. Use of a similar approach was adopted for Little Cypress. The recommended flow from PHABSIM for Black Cypress in September was 75 cfs while the monthly median flow was 3 cfs, and for Little Cypress the breakout group recommended September flow was 75 cfs with the median flow of 11 cfs.

It was recognized that the very low flows, specifically the 25th percentile flows for August-October, might result in a series of disconnected pools. In order to maintain the connectivity between pools, it was proposed that the absolute minimum flows for Little and Black Cypress should not be less than 5 and 4 cfs, respectively.

While there was a consensus to follow the Big Cypress approach for the high-flow pulse target at the 2-year flood, there was again considerable discussion about what this flow represents, e.g. whether it reflected the bankfull flow or the effective discharge. Based on the USGS's preliminary analysis on Big Cypress, it was felt that the 2-year flood may over estimate the physical bankfull flow. Therefore, the lower bound on the 95th percentile confidence interval of the 1.5-year flood was selected as a lower range and an upper range, to ensure that the water will get up steep banks in some areas, based on professional judgment.

There was also consensus on using building blocks for large floods in a similar manner as the building block for Big Cypress. For Big Cypress, a building block for a large flood stipulated that a flood of 20,000 cfs (approximately 10-year recurrence interval) should occur once every ten years on average. Thus, for Little and Black Cypress, floods of approximately 13,000 and 8,000 cfs for 2-3 days every ten years were proposed for in the late winter or spring.

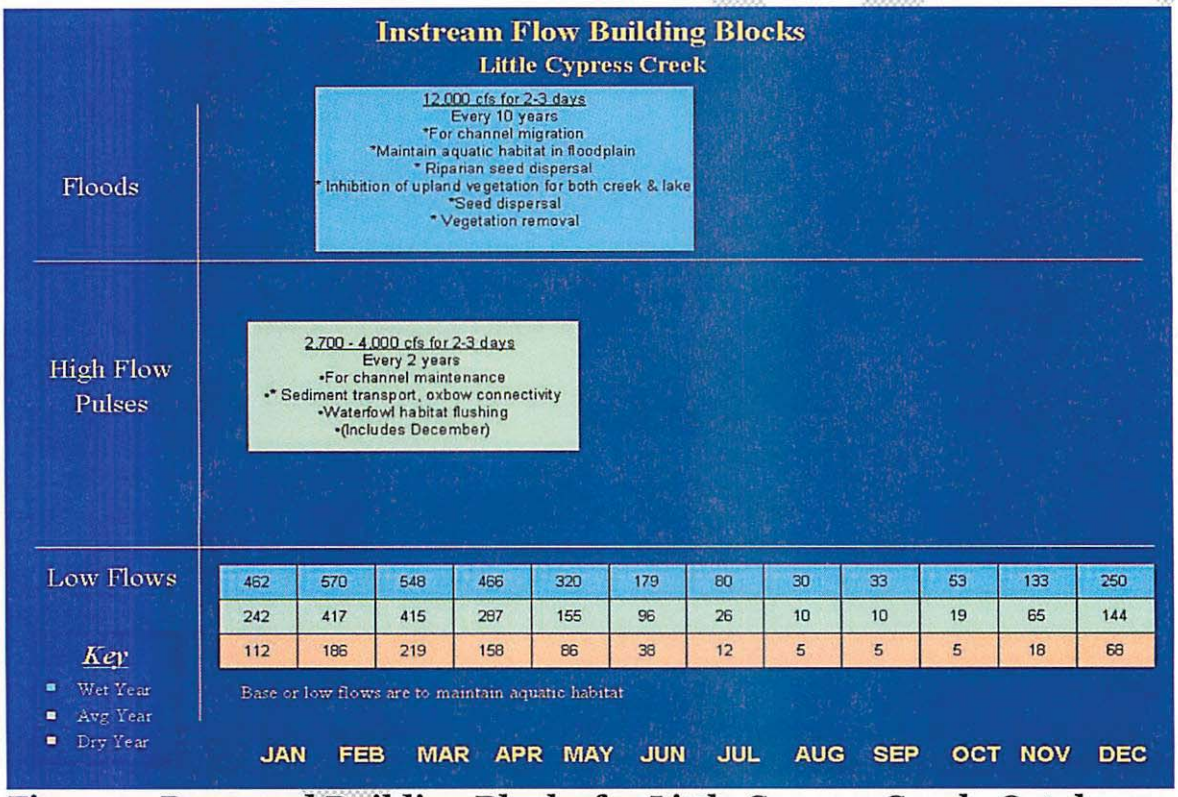


Figure 5. Proposed Building Blocks for Little Cypress Creek, October 2006

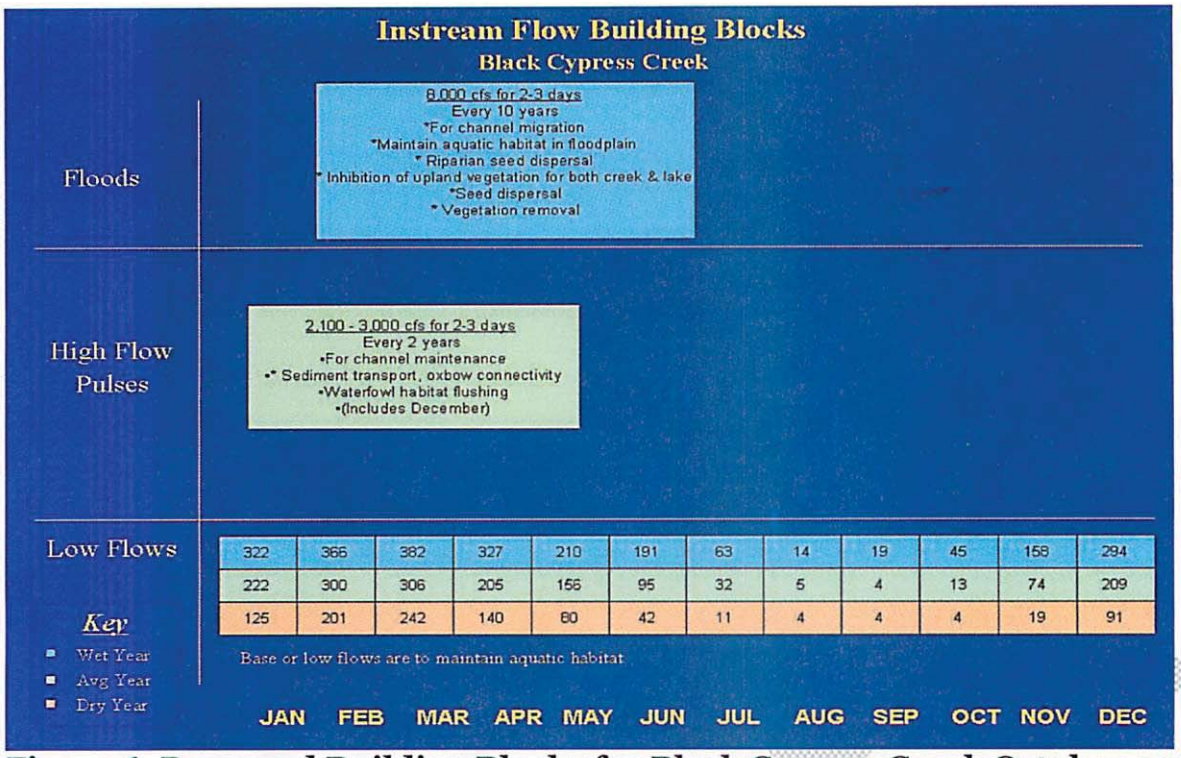


Figure 6. Proposed Building Blocks for Black Cypress Creek October 2006

Further Testing of Recommended Flows & Additional Research: With the large rain event in the winter of 2007, the Corps of Engineers and NETMWD were able to provide controlled high flow releases to Big Cypress. USGS had installed a dozen pressure transducers, and USGS, with the assistance of local residents, monitored and retrieved the data from the transducers. This flow data was then correlated with amounts of releases from Lake O' the Pines as those releases were increased and decreased over several days. The results provide a basis to reconsider pulse and flood flows in the building blocks, as there appear to be significant differences between the segments of Big Cypress upstream and downstream of Jefferson.

In addition, a number of other steps were taken prior to the December 2008 flows meeting, including:

- Cross section surveys on Big Cypress to support HEC-RAS model development by the Army Corps of Engineers.
- A meeting on existing studies of aquatic biology in the basin and potential models for habitat.
- Modeling for flow-habitat response curves & habitat time series,
- Measurements to quantify overbank discharge and locations.
- Flow-inundation mapping.

The work done since the second flows workshop was summarized for presentation at the third workshop See, http://www.caddolakeinstitute.us/decflowsmeeting08.html.

.

Third Flow Workshop & Second Hydrology Workgroup Meeting and Beyond - December 2008

Approximately 75 scientist and stakeholders participated in this multiday workshop. The workshop began, as the others had, with field trips to Caddo Lake and to Big Cypress Bayou. Formal meetings were held on the following two days. The objectives of the meeting included:

1. Refinement of the building blocks and environmental flow regimes;

2. Recommendations for Environmental Flow Standards and Strategies for the basin;

3. A recommendation on the review period, after which the regimes and strategies would be reevaluated;

4. Identification of data gaps and next steps needed to develop recommendations for changes in the operations of the dam at Lake O' the Pines;

5. The development of a plan for additional research needed to develop recommendations for lake level management options to assist the implementation of the Watershed Protection Plan; and

6. Propose methods to continue the work for adaptive management.

Role of Senate Bill 3: While the work prior to December 2008 had anticipated the passage of a new law in Texas to protect environmental flows, the details of that process were not known until May 2007. The Texas Legislature enacted Senate Bill 3 to create goals and a process for reserving water for environmental flows similar to the process that was being used by this Project.

Thus, some time was spent discussion Senate Bill 3 and how the Project could work within the framework of Senate Bill 3. Key provisions of that law are shown in Attachment 6.

In brief, the law now provides a state policy of protecting environmental flows, a process for developing flow recommendations for each river basin and a framework for final decisions by the Texas Commission on Environmental Quality for a set aside of unappropriated water in each basin. While not exactly the process that had been developed for the Cypress Basin, the Cypress Basin work is consistent with the goals and many of the procedures of SB 3. For example, SB 3 defines "environmental flow regimes" in terms similar to what this Project refers to as "building blocks."

> "**Environmental flow regime"** means a schedule of flow quantities that reflects seasonal and yearly fluctuations that typically would vary geographically, by specific location in a watershed, and that are shown to be adequate to support a sound ecological environment and to maintain the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies. *Section 11.002, Texas Water Code (TWC).*

One difference in the methodologies of SB 3 and the Project result from the decision to use combined meetings for scientists and stakeholder for the Cypress Basin Project, while SB 3 provides for separate meetings. Thus, under SB 3 the environmental flow regimes are set by scientists and cannot be changed by the stakeholders, whereas in the Cypress Basin, the regimes

were developed in joint meetings with a consensus of both scientists and stakeholders. The Project regimes are science based and not limited by existing dams, water rights or future water demands. They did benefit from the input of stakeholders with real world experience and observations on the functioning of the rivers streams and lakes.

In fact, it is difficult to see how the SB 3 process will not need to provide some of the integration that the Cypress Basin process involves, even if it is only stakeholders sitting in on the discussions of the scientists to understand that process and some of the scientists participating in the SB 3 stakeholder discussions to provide information and address questions.

The process that was developed for the Cypress Basin Flow Project was not revised to fit all of the specifics of the SB 3 process because it appeared that the Project could develop the flow regimes, standards and strategies called for by SB 3. Both processes focus on the same goals, i.e., a sound scientific basis for the flow recommendations, due consideration of stakeholder's concern and consensus from the process.

Moreover, SB 3 anticipates that some basins may develop their only process and provides:

> "...in a river basin and bay system for which the [state environmental flows] advisory group has not yet established a schedule for the development of environmental flow regime recommendations and the adoption of environmental flow standards, an effort to develop information on environmental flow needs and ways in which those needs can be met by a voluntary consensus-building process." *Sec. 11.02362(e), TWC, emphasis added.*

As discussed below, a significant part of the time at the December 2008 meetings was spent developing a consensus for the environmental flow regimes, standards and related recommendations.

Refinement of Building Blocks and Flow Regimes: The work shop began with a review of the building blocks and environmental flow regimes, followed by development of the recommendations for environmental flow standards and strategies

For both discussions, the process included a series of presentations on the issues, followed by breakout sessions where the participants developed recommendations for the full meeting of the participants. Scientists and stakeholders participated in all of the breakout sessions.

A. Review and Revision of the Building Blocks: The initial discussions focused on whether and how the building blocks, which were developed in prior workshops, should be revised based on field work and other technical work completed since the October 2006 workshop. The discussion was divided into two areas of work, 1) base flows and 2) pulse and flood flows, as were the breakout sessions that followed.

1. Base Flows: The work done since the flows meeting in October 2006 included an analysis of historic trends in fish assemblages and development hydrodynamic-habitat models. Existing synoptic surveys suitable to characterize aquatic communities in the river are sparse; however, findings based on the analysis of the available data are consistent with conclusions of pervious research. Thus, surveys showed that, in Big Cypress Bayou below Lake O' the Pines (LOP), the community has experienced a shift in relative abundances from obligate riverine species such as darters and minnows that broadcast-spawn buoyant eggs within current to more habitat

generalist species, including Centrarchidae, which spawn elliptical egg envelopes over rock or gravel nests.

To evaluate the hypothesis that this shift is related to changes in instream habitat conditions, one-dimensional hydrodynamic models were created based on historical cross section surveys in the Bayou. Habitat suitability criteria, developed from site specific collections, for dominate species within habitat-spawning guild matrices, were applied to the hydrodynamic model to predict instream habitat conditions as a function of stream flow. Quantities and distributions of available instream habitat types predicted by the models at the building blocks recommended flows were reviewed.

The following questions were posed to the breakout session on low flows:

Does the change in habitat based on pre vs. post LOP conditions suggest a refinement?
Re-evaluate adjustments from IHA outputs?
Refinements for declining guilds?
Do we need all three levels (wet/average/dry)?
Are the base flows upstream and downstream of Jefferson the same?
Does anything jump out as a concern?

In the break out session that followed, the discussion first focused on if and how this analysis could be used to validate and or refine the preliminary flow recommendations. Generally, the analysis showed that the building blocks provide variability in stream habitat conditions. Although the area of some habitat types would be relatively lower than others, this was assumed to be reflective of the natural habitat conditions of the stream which the recommendations are intended to protect. One clear conclusion from the analysis was that habitat in the lower reach of Big Cypress Bayou is less sensitive to changes in flow than in the upper reach.

The participants agreed that this type of evaluation is useful in providing insight into what the base flows recommendations would produce in terms of instream habitat, given the lack of any outstanding concerns arising from this analysis, as well as the uncertainty associated with the scarcity of biological data and the hydrodynamic model itself. Yet, they then found that the results of this evaluation supported the basic approach taken for low flows in the building blocks for the three rivers and that the results did not suggest any revisions to the approach or prior recommendations for those flows.

The breakout group then focused on an issue raised due to low flows for dry conditions in Big Cypress Bayou during July through September to assure adequate flows to protect water quality. The state water quality standards and permitting system use a 7Q2 flow of 8.4 cfs[1] for this segment of Big Cypress Bayou that is higher than the low flow proposed in the building block of 6 cfs. That discussion resulted in a recommendation from the breakout session to revise the building block accordingly and use the 7Q2 flow as a conservative measure until additional data or analysis indicates another value should be used.

2. Pulse and High Flows: Pulse and high flow conditions were then addressed. Field and other work was done by USGS to evaluate these building blocks for Big Cypress Bayou. In late 2006, USGS instrumented 9 sites with pressure transducers from just below Lake O' the Pines to

[1] 7q2 reference: http://info.sos.state.tx.us/fids/30_0307_0010-7.html

about 2 miles downstream of the confluence of Big Cypress and Black Cypress Bayous to monitor releases from Lake O' The Pines. Releases from Lake O' the Pines were monitored over a range of flows from about 50 to 3000 cfs. Data recorded by the pressure transducers was converted to actual elevations, and low-flow to over-bank flow prescriptions were evaluated for connectivity of hydromorphic unit such as riffles, runs and pools; inundation of woody structure, bankfull height, and over-bank inundation of floodplain wetlands.

Based on this work, USGS recommended changes to pulse flows for Big Cypress Bayou. In summary, the field work indicated that bankfull flows occurred below 3000 cfs. The flows needed for bankfull conditions also changed from the upper reach (generally above Jefferson) to the lower reach (below Jefferson). The high flow pulse for channel maintenance in the building block for Big Cypress Bayou could be lowered. The lower flood flows building block was also discussed given that at 3000 cfs there were significant connections to oxbows and other off-channel wetlands.

In the breakout session on high flow, a consensus was reached that the building blocks for Big Cypress should be changed. The exact number to be used for high pulses was left to a discussion with the larger group. No recommendation was made for changes to pulse or high flows for Black and Little Cypress Bayous.

3. Recommendations for Building Blocks: The breakout sessions then reported to the full group to seek consensus on the building blocks and the environmental flow regimes. The recommendations from the first breakout session on low flows for Big Cypress Bayou to protect water quality were accepted. The discussion then turned to a change to the 6000 cfs pulse flow for Big Cypress Bayou. The discussion led to a consensus for a 2500 cfs flow, which appeared to provide a good approximation of bankfull flow. The lower flood flow was then changed to a range from 3000 cfs to 10,000 from the prior range of 6000 to 10,000 to reflect that there was good connectivity accruing at flows as low as 3000 cfs.

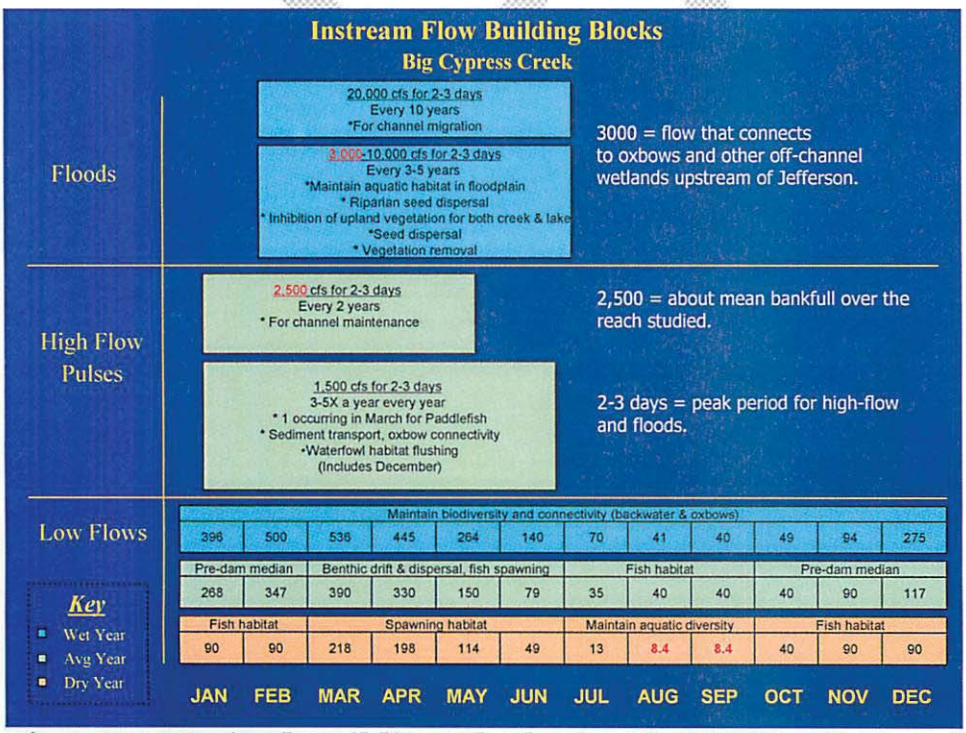


Figure 7. Revised Building Blocks for Big Cypress Bayou, Dec. 2008

The workshop then focused on the concerns raised in the prior workshop that the pulse and flood flows in Black and Little Cypress Bayous were needed for Caddo Lake and wetland inundation. The confluences of Little and Black Cypress Bayou with Big Cypress Bayou are just upstream of Caddo Lake and high flows in Black and Little Cypress can provide relatively high flows to the wetlands and lake, even with the reduced flows form Big Cypress due to the existence of Lake O' the Pines. Thus, the narrative regime approach for pulse and flood flows in Little and Black Cypress discussed in the second workshop were revisited and adopted.

During these discussions, concern was also raised about the lack of building blocks for James Bayou and a number of small streams in the basin. Because these streams do not have gages, it was agreed that the IHA approach used for Big, Little and Black Cypress Bayous could not be applied. Instead, the group agreed that the flow regimes should be based on the building blocks for Black Cypress Bayou with a proportional adjustment for the different size of the watersheds.

The participants also agreed the building blocks should be reconsidered in three years, by which time they should have the additional information from:

1) water quality work for the Watershed Protection Plan,

2) the additional experimental releases from Lake O' the Pines, and

3) new projections on water needs in the region by the Region D Water Planning Group.

Development of Recommendations for Environmental Flow Standards and Strategies: The second area of work proceeded with presentations for developing recommendations for environmental flow standards based on the building blocks, flow regimes, stakeholders issues, physical limitations on flows, and other such issues.

One key issue was the extent to which there is unappropriated water and/or unused appropriated water available to satisfy the building blocks and flow regimes. TCEQ's water availability model predicted sufficient water most of the time to meet the flows proposed for Little and Black Cypress Bayous and other parts of the basin, with the exception of Big Cypress Bayou. See, http://www.caddolakeinstitute.us/decflowsmeeting08.html.

Representatives of the Corps of Engineers and NETMWD also explained the limitations on flows in Big Cypress Bayou downstream of Lake O' the Pines.[2] The current design and operations of the dam limit releases to about 3000 cfs. Existing water rights in Big Cypress, if fully exercised, would also limit the amount of water available for flows down stream of the Lake O' the Pine dam. Strategies to overcome the deficiencies in the amount of water needed for flows in Big Cypress Bayou were then discussed, including the possibility of increasing storage levels in Lake O' the Pines during certain times of the year and options for purchase, lease or use of appropriated but unneeded waters.

Issues related to the role of flows in protecting water quality and managing invasive aquatic plants were also discussed.

[2] The basic information on the Lake O' the Pines and the Ferrells Bridge Dam can be found in a presentation by the Corps of Engineers at the May 2005 workshop at http://www.caddolakeinstitute.us/may05.html

Breakout Sessions: The three breakout sessions were:

1. Practical Considerations & Physical Limits on Flows in the Building Blocks;

2. Legal Limitations, Water Rights & Uses, & Future Water Needs for Flows; and

3. Flows & Lake Level Management for Water Quality and Invasive Aquatic Vegetation.

The consensus was that the flows proposed in the building blocks, with the addition of the narrative flow regime for Black and Little Cypress should be used for the environmental flow standards. In essence, the participants did not believe they had or could obtain in the near future the information they would need to recommend changes to the building blocks for purposes of protection or restoration of water quality or for management of aquatic vegetation. It was noted that the ongoing WPP would provide additional analysis of the water quality impairments in the basin and potential solutions to address those problems. Changes in flows may be one option.

The Corps of Engineers raised a concern that a release of 3000 cfs might flood downstream oil and gas development and possibly other properties. It asked that this issue be added to list of research needs for the next workshop.

The Corps of Engineers also indicated a desire to expand its computer model for flows in Big Cypress Bayou to cover the flows in Little and Black Cypress Bayous at and just above the confluences of these bayous with Big Cypress Bayou. .

Recommendations for Environmental Flow Standards: Thus, the following recommendations were developed for the environmental flow standard (EFS), with the proposed language in italics:

1. EFS for Big Cypress Bayou: *The revised building blocks as limited by the 3000 cfs maximum flow rate from Lake O' the Pines and existing water rights.*

2. EFS for Black Cypress Bayou: *A narrative standard: Maintain Black Cypress Bayou in as natural condition as possible, allowing additional appropriations of water only where the impacts on the low flow building blocks are de minimis and where pulses and flood flows are not significantly reduced in timing, duration, or magnitude.*

3. EFS for Little Cypress Bayou: *A hybrid standard: The building blocks, with the exception for flood flows which would added a narrative standard that flood flows should not be further reduced significantly in timing, duration or magnitude.*

4. EFSs for James Bayou and other streams flowing into to Caddo Lake: *The building blocks for low and pulse flows for Big Cypress Bayou should be used for each stream by adjusting the building blocks in proportion to the size of the watershed of the stream in question to the size of the watershed for Big Cypress Bayou. Flood flows should not be reduced significantly in timing, duration or flow.*

5. EFSs for other streams in the Cypress Basin. *The building blocks for low, pulse, and flood flows for Big Cypress Bayou should be used for each stream by adjusting the*

building blocks in proportion to the size of the watershed of the stream to the size of the watershed for Big Cypress Bayou.

Recommendations for Strategies: The full group then turned its attention to the issues of where there is not be sufficient unappropriated water available to meet the environmental flow standards most of the time. One segment that did not appear to have sufficient unappropriated water was Big Cypress Bayou below Lake O' the Pines. The participants discussed a range of options. They indicated that several strategies should be included in the recommendations for obtaining sufficient water in the future. Those strategies were:

1. Extension of the dates for maintaining the recreational pool from the current period of May 20 to September 30 to the entire year to provide an additional 1.5 feet of storage of waters that could be set aside by TCEQ to be released down stream for environmental flows. See, Attachment 8. This option would provide much of the needed water downstream of Lake O' the Pines, but not at all times.

2. Raising the level of storage pool to reallocate some flood storage and provide addition water that could be set aside by TCEQ to be released down stream for environmental flows.

3, Purchase, lease, or otherwise acquiring access to water currently appropriated but not currently used or projected to be needed in the basin.

There was recognition that some strategies, such as raising the level of the storage pool, would require considerable time and effort, including new environmental, cultural and other studies to evaluate potential impacts.

Planning for Future Work: The participants then turned their attention to the next steps for the Project. Their recommendations can be divided into future work based on the four main objectives described above:

1. An SB 3 Flow Reservation or Set Aside: Develop recommendations for SB 3-type"environmental flow standards" for a state reservation of water in the watershed with associated "strategies" for assuring adequate water based on a consensus of scientists and stakeholders in the basin.

Workshop recommendation:

1) Develop language for the narrative and hybrid environmental flow standards to circulate to the participants and others for comments.

2) If a consensus is reached or there is no objection, present these standards, along with the environmental flow regimes and strategies in a summary report to the Texas Environmental Flow Advisory Group, the Texas Environmental Flow Science Advisory Committee, and the Texas Commission on Environmental Quality to seek a set aside pursuant to Senate Bill 3.

2. A New Release Rule for Lake O' the Pines: Develop recommendations for changes in the operations of the dam at Lake O' the Pines by the Corps of Engineers and NETMWD

to provide a more natural pattern of releases, while assuring flood control, water supply and the other purposes of the reservoir.

Workshop recommendations:

1) Develop additional technical information on flows in Black and Little Cypress Bayous and assist the Corps on Engineers in developing a better HEC RAS model for Big Cypress Bayou from Lake O' the Pines to Caddo Lake.

2) Pursue new field work on potential flooding of developed properties downstream of Lake O' the Pines at releases up to 3000 cfs.

3) Continue to pursue proposals for changes to the operations of Lake O' the Pines with the U.S. Corps of Engineers and Northeast Texas Municipal Water District for release of waters from the lake consistent with the building blocks.

3. Flow Needs for Watershed Protection Plan: Serve as the Hydrology Work Group for the state-sponsored Watershed Protection Plan to evaluate and recommend flows, lake level management, etc. to assist with protection of water quality and management of invasive aquatic species.

Workshop recommendation: Continue to serve as the Hydrology Work Group for the WPP to coordinate the work on water quality and aquatic vegetation with the work on environmental flows.

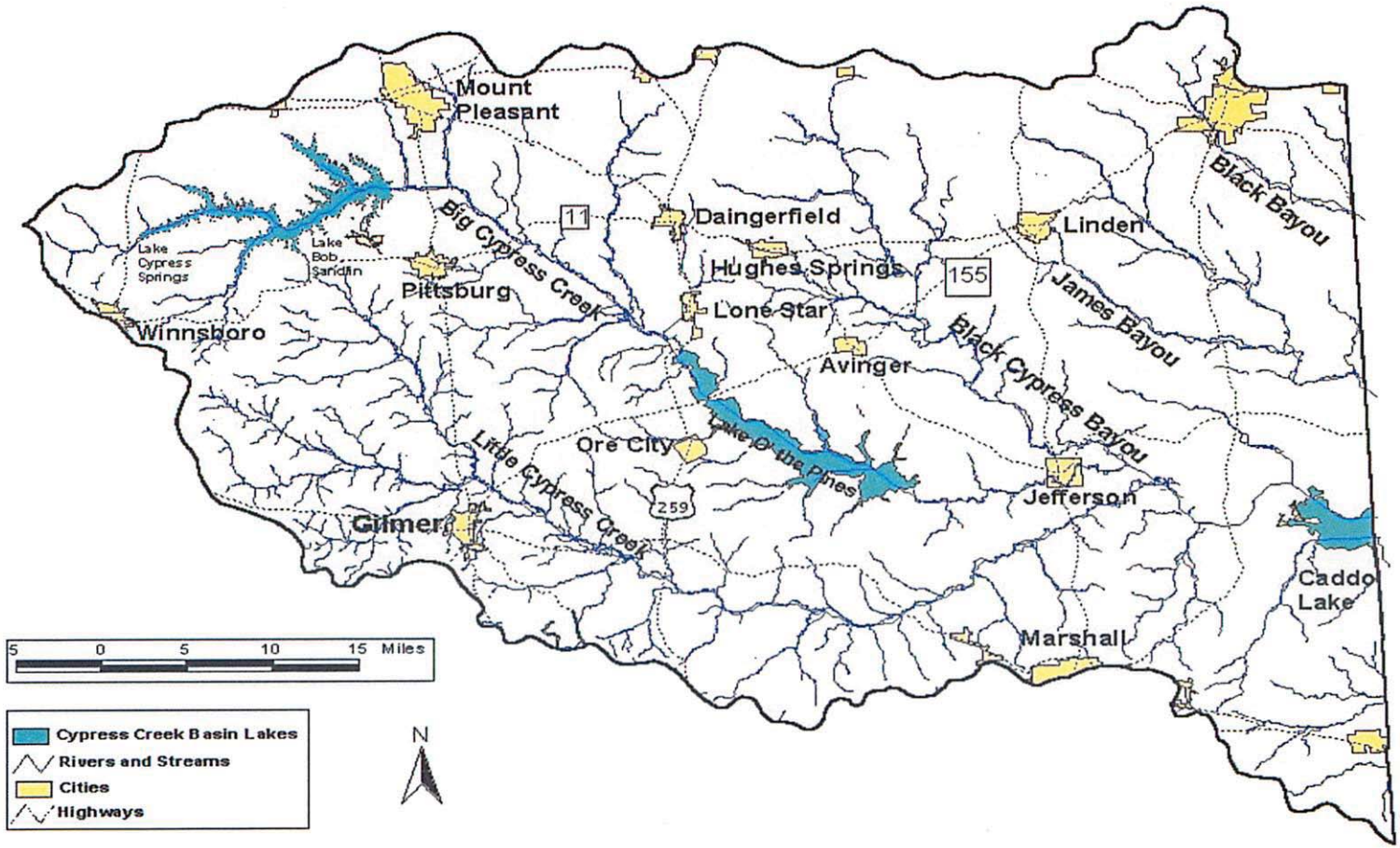
4. Long-term Adaptive Management: Establish a long-term effort, with the continuation of field work, other research, and consensus decision-making to refine environmental flow recommendations over time.

Workshop recommendation: Continue to pursue field work and other research to gain a better understanding of the ecological needs and values of the Cypress Basin, with a special focus over the next year or two on geomorphology and better indicators of progress at reaching the overall goal of adequate in stream flows to sustain the ecological, recreational, and economic values of Caddo Lake watershed and the Cypress Basin.

In addition, the participants proposed that another workshop be scheduled in 3 years to allow the scientists and stakeholders to review the new information and make appropriate revisions to the recommendations from the December 2008 workshop.

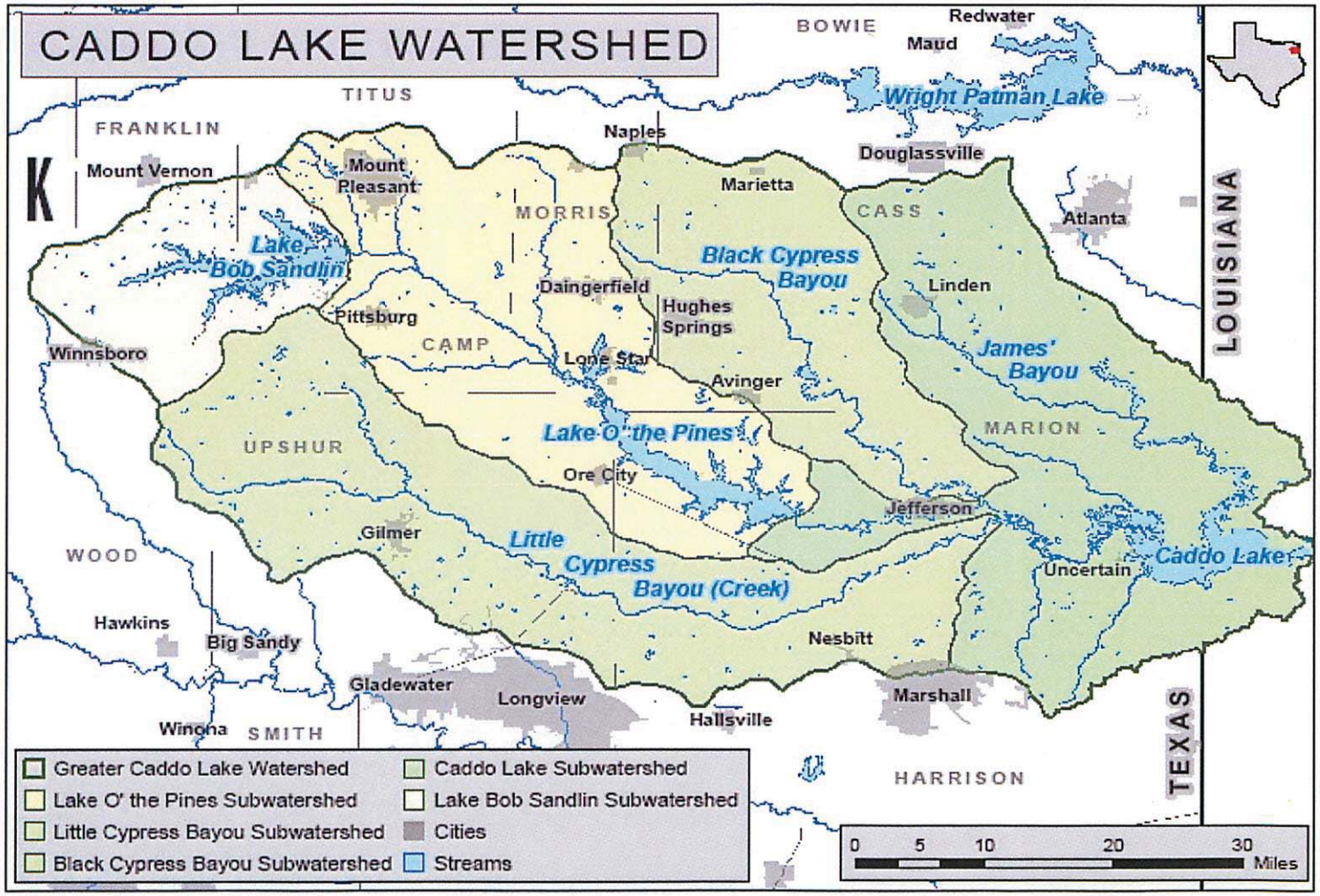
Attachments

1. Map of the Cypress River Basin
2. Map of the Caddo Lake Watershed
3. List of Major Participating Organizations
4. Time Table for Major Activities
5. Lake O' the Pines and the Changes in Flows with Construction of the Dam
6 Key Provisions of Senate Bill 3
7. Dam and impoundment statistics for Caddo Lake
8. Lake O' the Pines Operating Rule Curve



Attachment 1. Cypress Basin

Attachment 2.



C-641

Attachment 3

Major Participating Organizations

There have been more than 200 individual participants. The major organizations that have sent representatives are listed below along with the number of representatives who have participated over the 4 year process.

Federal Agencies

U.S. Army Corps of Engineers (13)
U.S. Fish and Wildlife Service (6)
U.S. Geological Survey. (12)
National Wetland Resource Center (3)

State Agencies

La Depart. of Environmental Quality (2)
La Depart. of Wildlife & Fisheries (1)
Tx Comm. on Environmental Quality (10)
Tx Parks & Wildlife Dept. (12)
Tx State Soil & Water Cons. Board (2)
Tx Water Development Board (3)
Tx Legislature (3)

Regional and Local Governments

City of Longview (2)
City of Marshall (2)
City of Uncertain (1)
Cypress Valley Navigation District (2)
Harrison County (1)
North East Tx Municipal Water Dist. (8)

Universities:

East Texas Baptist Univ. (1)
Louisiana State Univ. Shreveport (1)
Middle Tennessee State Univ. (1)
Tx A&M Univ. (6)
Tx A&M Water Resources Institute (4)
Texas Christian Univ. (1)
Texas State Univ. (1)
Texas Tech Univ. (1)
Univ. of Texas – Tyler (2)
Wiley College (2)

Other Organizations

American Ecology Inc. (2)
American Electric Power (2)
Caddo Lake Area Chamber of Commerce and Tourism (2)
Caddo Lake Institute (2)
Ducks Unlimited (1)
Environmental Defense Fund (1)
Espey & Associates (2)
Greater Caddo Lake Assn of Texas (4)
HDR Engineering, Inc. (1)
National Wildlife Federation (2)
Nature Conservancy (6)
Nestle Waters North America (1)
Red River Valley Association (1)
Texas Conservation Alliance (1)
TXU/Luminant (1)

Attachment 4

Time Table for Major Activities

December 2004: Orientation Meeting. (~60 Scientists and Stakeholders)

April 2005: Texas A&M Summary Report - on Past Scientific Studies.

May 2005: First Project Workshop. (~90 Scientists and Stakeholders)

Fall 2005 – Fall 2008: Research & Filling Data Gaps: Field Work and Other Research.

April & May 2006: Science Planning Meetings – Two (at Caddo and Austin) to Guide Research.

September 2006: Hydrology Update. Expansion & Update of Texas A&M Summary Report.

October 2006: Historic Trends in Fish Community, Cypress Basin**.** Texas State University.

October 2006: Second Project Workshop. (~80 Scientists and Stakeholders) Also Served as the First Hydrology Workgroup Meeting for the Parallel State Sponsored Caddo Lake Watershed Protection Planning Process.

May & June 2007: Science Planning Meetings – Two (at Caddo and Austin) to Guide Research.

July 2008: Science Planning Meeting – In Austin to Guide Research.

December 2008: Third Project Workshop. (~ 75 Scientist and Stakeholders) Also Served as the Second Hydrology Workgroup Meeting for the Parallel State Sponsored Caddo Lake Watershed Protection Planning Process.

January 2009: Science Planning Meeting – In Austin Texas to Guide Research for Fourth Project Workshop and Adaptive Management.

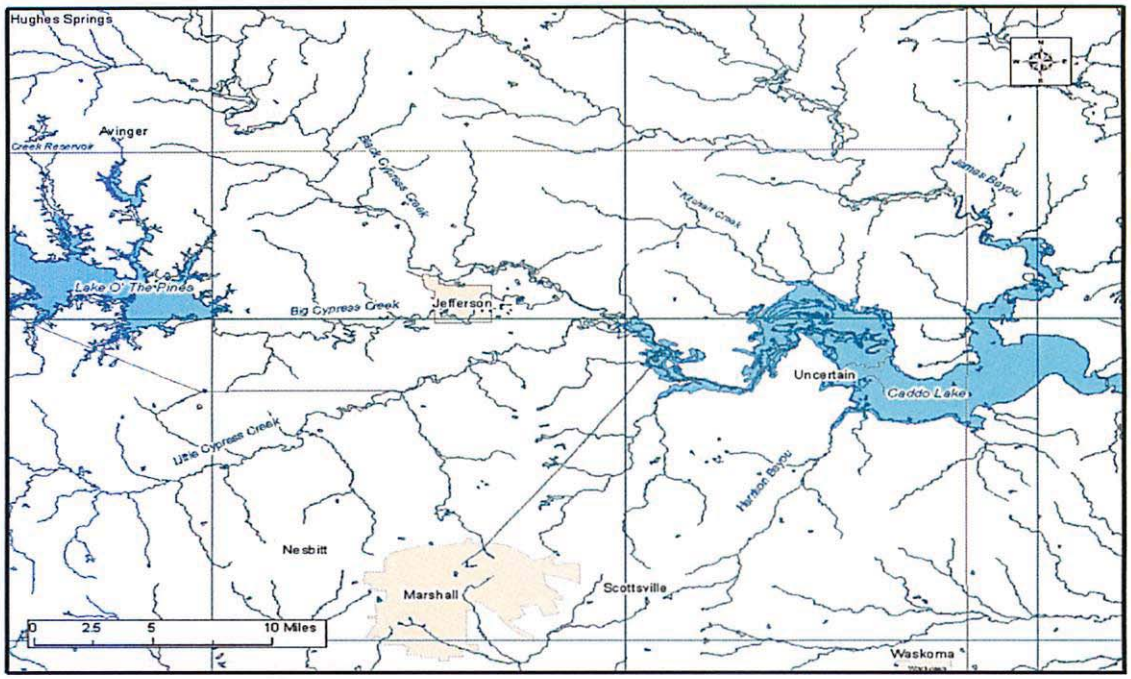
February 2009: Draft Final Report with Recommendations for Flow Regimes, Flow Standards and Strategies Resulting from Third Project Workshop.

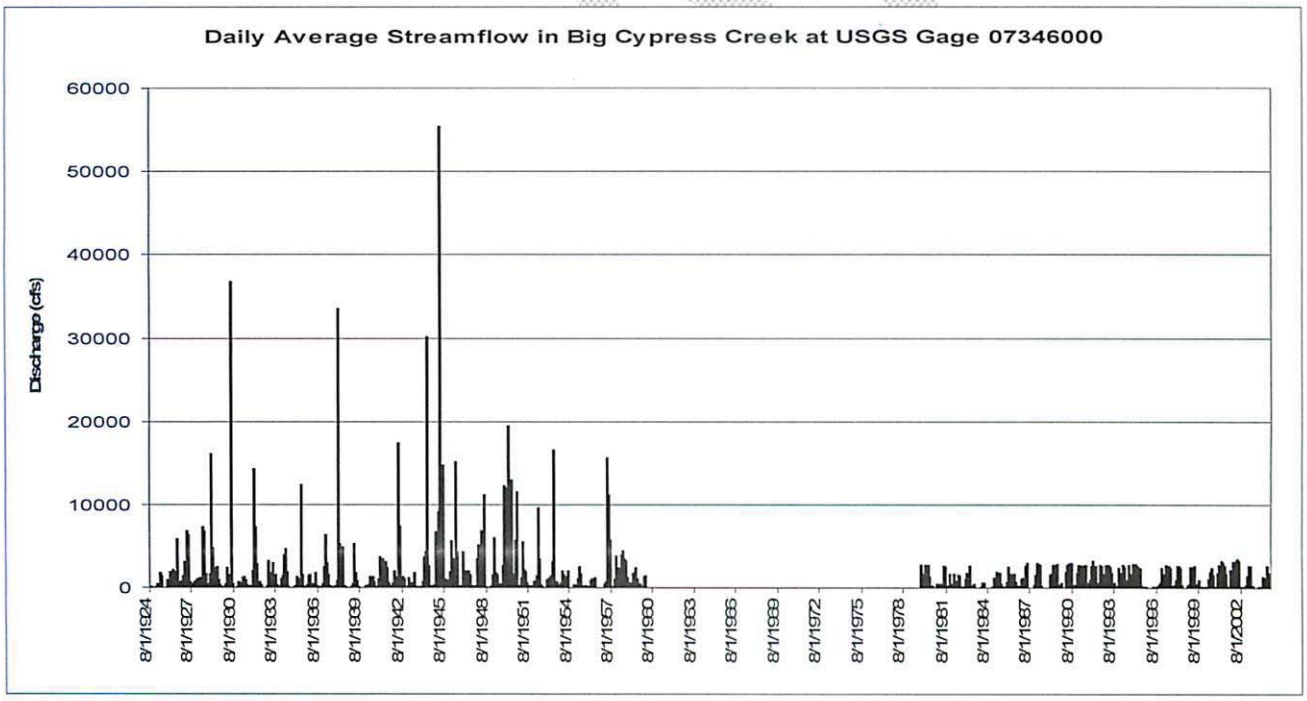
January 2010: Science Planning Meeting – In Austin to Guide Research for Fourth Project Workshop and Adaptive Management.

May 2010: Science Planning Meeting – In Austin to Guide Research on Indicators of Success to Present to the Fourth Project Workshop and Adaptive Management

Fall 2011: Proposed date for Fourth Project Workshop

Attachment 5: Lake O' the Pines and the Changes in Flows with Construction of the Dam





The range of flows changed significantly with the construction of the dam. Before the dam was built in 1959, flow in Big Cypress Creek above Caddo Lake ranged as high as 57,000 cfs. The maximum release now from the dam to Big Cypress is 3000 cfs. Thus, the variation of flows and the inundation of wetlands along Big Cypress and in Caddo Lake are limited by the construction of the dam. Current law requires only a 5 cfs release from the dam, although NETMWD has generally provided greater releases. There was no gaged information for 1960 to 1980.

Attachment 6 **KEY PROVISIONS OF SB 3**

Definitions

(15) **Environmental flow analysis** means the application of a scientifically derived process for predicting the response of an ecosystem to changes in instream flows or freshwater inflows.

(16) "**Environmental flow regime"** means a schedule of flow quantities that reflects seasonal and yearly fluctuations that typically would vary geographically, by specific location in a watershed, and that are shown to be adequate to support a sound ecological environment and to maintain the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies.

(17) "**Environmental flow standards"** must consist of a schedule of flow quantities, reflecting seasonal and yearly fluctuations that may vary geographically by specific location...

Goals: The [TCEQ] by rule shall:

1) adopt appropriate environmental flow standards for each river basin ... that are adequate to support a sound ecological environment, to the maximum extent reasonable considering other public interests and other relevant factors;

(2) establish an amount of unappropriated water, if available, to be **set aside** to satisfy the environmental flow standards to the maximum extent reasonable when considering human water needs;

An environmental flow **set-aside**... must be assigned a priority date corresponding to the date the [TCEQ] receives environmental flow regime recommendations ... and be included in the appropriate water availability models in connection with an application for a permit for a new appropriation...

Methodology:

Each ... expert science team shall develop environmental flow analyses and a recommended environmental flow regime for the river basin ... through a collaborative process designed to achieve a consensus. In developing the analyses and recommendations, the science team must consider all reasonably available science, without regard to the need for the water for other uses...

Each ... stakeholders committee shall review the environmental flow analyses and environmental flow regime recommendations submitted by the ... expert science team and shall consider them in conjunction with other factors, including the present and future needs for water for other uses ...

The ... stakeholders committee and the advisory group may not change the environmental flow analyses or environmental flow regime recommendations of the ... expert science team.

The ... stakeholders committee shall develop **recommendations regarding** environmental flow standards and strategies to meet the environmental flow standards and submit those recommendations to [TCEQ]

...in a river basin and bay system for which the [state environmental flows] advisory group has not yet established a schedule for the development of environmental flow regime recommendations and the adoption of environmental flow standards, an effort to develop information on environmental flow needs and ways in which those needs can be met by a voluntary consensus-building process (as this Project is doing for the Cypress watershed).

Attachment 7

DAM AND IMPOUNDMENT STATISTICS FOR CADDO LAKE*

– LOCATION –

On Cypress Bayou in Caddo Parish, Louisiana 19 Miles Northwest of Shreveport, Louisiana. The Lake Extends into Harrison and Marion Counties, Texas.

– DRAINAGE AREA –

2,700 Square Miles (Includes Drainage Area of Lake O' The Pines).

– DAM –

Type .....Earthfill and Concrete Spillway
Maximum Height .....36 Ft.
Top Width .....30 Ft.

– SPILLWAY –

Type.....Floodwall (Broad-Crested Wier)
Control .....None

.

– AUTHORIZATION –

Federal .....Flood Control Act of October 27, 1965

– RESERVOIR DATA –

(Data From U. S. Army Corps of Engineers, New Orleans District)

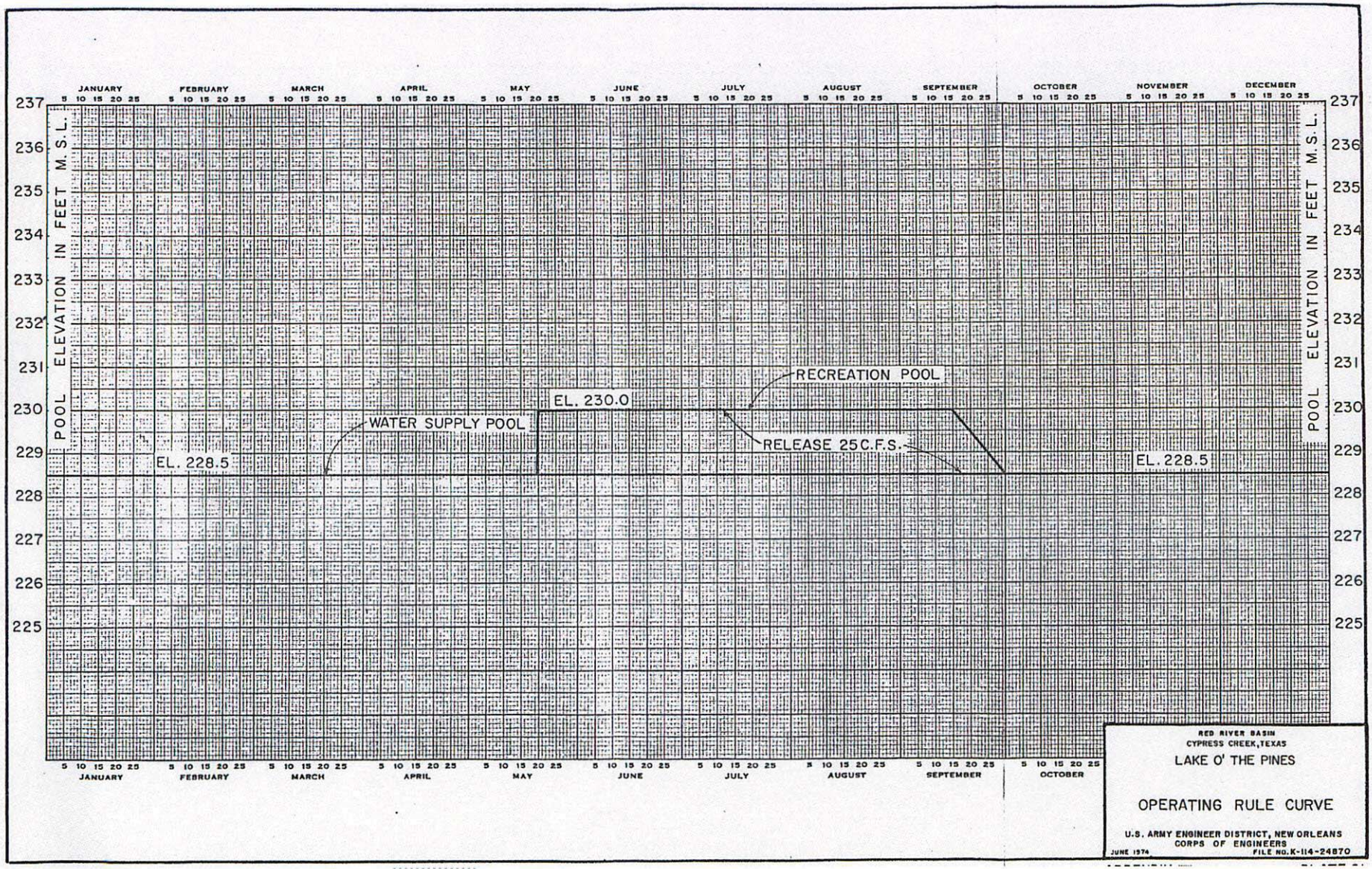
Feature	Feet Above M.S.L.	Acre Feet	Acres
Top of Dam	**176.0**	**391,400**	**43,000**
Spillway High Section	**170.5**	**186,600**	**31,000**
Spillway Low Section	**168.5**	**129,000**	**26,800**
Dead Storage	**168.0**	**69,200**	**20,700**
Usable Storage	–	**59,800**	–

– GENERAL –

Construction Started .....August 7, 1968
Dam Completed .....June 18, 1971
Impoundment of Water Began 1914

*Source: Caddo Lake Contoured Depth Topo Map, A.I.D., Associates, Inc./Publishers, 1993

Attachment 8



City of Clarksville

Established 1833

800 WEST MAIN • CLARKSVILLE, TEXAS 75426 • (903) 427-3834

May 15, 2010

Mr. Walt Sears/Executive Administrator
Region D Planning Group
North East Texas Municipal Water District
P.O. Box 955
Hughes Springs, Texas 75656

Reference: Written Comment for Region D's Initially Prepared Plan

Dear Mr. Sears and NETRWPG:

I would like to submit the following written comments to Region D's IPP:

The Special Study Commission for Region C should be noted in your plan. Senate Bill 3 formed this committee to review water supply alternatives for Region C. Three of these members are from Region D.

The Clarksville City Council, Clarksville, Texas, Red River County, is in support of all efforts to complete the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study which will include a review of all strategies and reservoir projects; mainly Marvin Nichols/Wright Patman and the Parkhouse sites. No project can move forward without the study and factual information is needed for use in evaluating water resource development in the Sulphur Basin. **Region D Planning Group should acknowledge the need for the feasibility study in the IPP**. Enclosed, please find a resolution approved by the Clarksville City Council on February 22, 2010, stating support of all efforts to complete the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study. Please make this resolution part of the written comment.

Texas is going to continue to grow. Estimates show an additional 22 million by 2060. The state has to plan for the population increase… water for homes, businesses and industry. No one can project the future and that includes the water needs for Region D. The Marvin Nichols Reservoir would provide the Northeast Texas region with an estimated 78 million gallons of water per day, increase economic activity and boost state economic activity. Please leave our options open. To oppose the Marvin Nichols Reservoir and eliminate the reservoir from the Region D plan before adequate studies can be conducted is not rational behavior anymore than if those in support of the reservoir were to say build at any cost.

Acknowledge Marvin Nichols Reservoir as a unique reservoir site designated by the Texas State Legislature. Senate Bill 3 acknowledges Marvin Nichols as a unique reservoir site and this certainly should be mentioned in Region D's plan.

The Clarksville City Council, in 2002, passed a resolution requesting Region D Planning Group keep the Marvin Nichols Reservoir in the Region D plan until adequate studies could be conducted. A resolution approved in 2005 states continued support of the feasibility study and all future studies and acknowledgement and recognition of the water, economic and recreational benefits to reap from building a reservoir such as the Marvin Nichols. Please include these resolutions as written comment. **Eliminating the Marvin Nichols from the Region D plan is not in our best interest, the Northeast Texas Region and future generations.**

Clarksville/Red River County is designated as Economically Disadvantaged, one of the poorest counties in Texas, below average per capita taxable property value, below average per capita income, above average unemployment, losing population and have one of the highest percentages of young people living in poverty per the Workforce Board Summary. Clarksville does not have the availability of surface water for the long term, for any substantial growth or for economic development. Not only does Clarksville need the water now, but one can not deny the importance of having water in excess in times of drought. Clarksville experienced such a drought in 2005-2006.

Acknowledge reservoir development in Northeast Texas has historically driven population up and provided water for economic development. Acknowledge the need for water in excess to compensate for times of drought.

Region C should be acknowledged for their efforts toward water conservation.

The Mayor, City Council of the City of Clarksville and administration request Pecan Bayou, Big Pine and Marvin Nichols all be included in Region D's plan and the State plan.

We want the reservoir, if /when built, to be a good thing for Northeast Texas. Region D Planning group needs to sit down at the table and work to the best of their ability to make that happen. I think it fair to say that water will be a future commodity more precious than oil in years to come. Our destiny will be determined by how well the planning and plan execution is done. The reservoir can be built with or without us. Right now, there is a willingness to work with our region and make this a win-win. The water is owned by the state, but we can only control the development of what we plan for and take action on.

We must leave something that our future generations can use for their benefit. If done correctly and in a cooperative manner, economic and water benefits from construction of reservoirs have a very positive impact in an area. This can hold true for us as well. It can be a win-win.

The final outcome should be what is best for all Texans. Thank you for the opportunity to provide input.

Sincerely,

Mayor Ann Rushing
City of Clarksville
County Seat of Red River County

Cc: Honorable Congressman Ralph Hall
Honorable Governor Rick Perry
Honorable Senator Kevin Eltife
Honorable Rep. Mark Homer
Texas Water Development Board
SRBA
NTMWD
NETWC

City of Clarksville

RESOLUTION NO. 2010-02

WHEREAS, the Sulphur River Basin Authority has been duly authorized by the State of Texas to develop all future water resources within the Sulphur River Basin, and

WHEREAS, the Clarksville City Council is aware that in order to factually determine the total impact of all present and future water resources there must first be a "Basin Wide Study" so that a project can move forward; and

WHEREAS, the City Council, of the City of Clarksville, has a very futuristic approach and of the belief that to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, Clarksville/Red River County is designated as an economically disadvantaged community that would greatly benefit from an additional surface water source for municipal, economic and recreational needs; and

WHEREAS, the Clarksville City Council wishes to place the most emphasis on support of first completing the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study, which includes a review of strategies and reservoir projects; namely Marvin Nichols/Wright Patman/and Parkhouse Sites, in order to gain an understanding of the impacts both positive and negative, that any of these projects produce.

NOW, THEREFORE, BE IT RESOLVED, BY THE CLARKSVILLE CITY COUNCIL OF THE CITY OF CLARKSVILE, TEXAS:

That the City Council, of the City of Clarksville, continue to support all efforts by the Sulphur River Basin Authority to complete the U.S.Army Corps of Engineers "Sulphur River Basin Feasibility Study", as quickly as possible, so that factual information may be obtained for use in evaluating water resource development in the Sulphur Basin.

PASSED AND APPROVED on the 16th day of February, 2010.

Mayor Ann Rushing

ATTEST:

Pennye Hobbs, City Secretary

City of Clarksville

RESOLUTION NO. 2005-21

WHEREAS, the City Council, of the City of Clarksville, Texas, recognizes the significant impact that the Marvin Nichols Reservoir could have on the economy and citizens of Clarksville, and ;

WHEREAS, there are certain feasibility studies needed on the Proposed Marvin Nichols Reservoir to identify the effect the reservoir would have on Clarksville, and;

WHEREAS, the City Council, of the City of Clarksville has a very futuristic approach and believe to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, the City Council, of the City of Clarksville, realizes there could be some set backs in some areas; but firmly believe the Marvin Nichols Reservoir will supply water and recreational and economic benefits badly needed in Clarksville and the good will far exceed any negative aspects.

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL, OF THE CITY OF CLARKSVILLE, TEXAS:

That the City Council, of the City of Clarksville, continues to support the Marvin Nichols Reservoir, continues to support future studies in an effort to form educated and rational decisions and continues to recognize and acknowledge the economic, recreational and water benefits to reap from building a reservoir such as the Marvin Nichols.

PASSED AND APPROVED on the 19th day of July, 2005.

Honorable Ann Rushing, Mayor

ATTEST:

Pennye Hobbs, City Secretary

City of Clarksville

RESOLUTION NO. 2002-33

WHEREAS, the City Council, of the City of Clarksville,Texas, recognizes the significant impact that the Proposed Marvin Nichols Reservoir could have on the economy and citizens of Clarksville, and;

WHEREAS, there are certain economic and feasibility studies needed on the Proposed Marvin Nichols Reservoir to identify the effect the reservoir would have on Clarksville, and;

WHEREAS, the Sulphur River Basin Authority has been duly authorized by the State of Texas to develop all future water resources within the Sulphur River Basin, and;

WHEREAS, the City Council, of the City of Clarksville, wishes to support any and all studies conducted on the Proposed Marvin Nichols Reservoir so that citizens will have facts on which rational opinions may be formed.

WHEREAS, the Region D Planning Committee has included the Proposed Marvin Nichols Reservoir in the Region D Plan, and;

WHEREAS, the Texas State Water Development Board has included the Proposed Marvin Nichols Reservoir in the State Water Plan;

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF CLARKSVILLE, TEXAS:

> **That the Region D Planning committee and the Texas State Water Development Board keep the Proposed Marvin Nichols Reservoir in the Region D Plan until adequate studies can be conducted to factually determine the total impact of the proposed reservoir on the City of Clarksville and Northeast Texas.**

PASSED AND APPROVED on the 17th **day of** September**, 2002.**

Ann Rushing

Honorable Ann Rushing, Mayor

ATTEST:

Lorene Beers

Lorene Beers, City Secretary

Region D Water Planning Group
C/o Mr. Walt Sears
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

March 31, 2010

Written Comment on Region D Initially Prepared Plan

Dear Mr. Sears and Region D Planning Group:

I would like to state my opposition and that of the Clarksville City Council and administration, to Region D's Initially Prepared Plan. We feel Region D has not taken into consideration the potential needs of our city/ county and the region. Clarksville's need for surface water has long been a topic of conversation and concern. It became very obvious to many in our city and county during the drought of 2005-2006. If the WCID water district had not raised the level of Langford Lake a year of so before we experienced the drought we would have literally run out of water and even then it was still necessary to drill an additional well to meet our needs. This is always a concern because, as we know, wells can be very undependable and our surface water source, Langford Lake, is showing signs of silting in. In our part of the world we really rely upon water for industry. Water brings industry, industry brings jobs, jobs bring people or growth, and jobs prevent people from leaving your area. This Regions plan restricts our potential for growth. Surface water is an integral piece of the puzzle, along with ordinances and regulations in promoting industry.

Decisions made fifty –sixty years ago for Clarksville and Red River County in relation to transportation, location, surface water and infrastructure do not have to define us today. We need to acknowledge our short falls , water being an integral piece of the puzzle, and try to compensate for past decisions made by others, basically try to do what is right now for our area and future generations .

What should be foremost in everyone's mind at this point is completing the Sulphur River Basin Wide Study. Questions concerning mitigation, positive and negative impacts of reservoirs, the silting in of Wright Patman , timber concerns, all will be answered when completed. If there is a fatal flaw with Marvin Nichols, raising the level of Lake Wright Patman, or other strategies, then you move on and look at other options. It's actually pretty simple. We also need to remember that no one can predict the future, we can only control the development of what we plan for and take action on, the state owns the

water and will and should take that water to meet the needs of the millions of people to address those needs.

The City of Clarksville/council and administration ask that the Marvin Nichols be acknowledged in Region D's Plan as a Unique Reservoir Site which was designated by the Texas State Legislature

Acknowledge the need to move forward with efforts by the Sulphur River Basin Authority to complete the U.S. Army Corp of Engineers, Sulphur River Basin Feasibility Study which will look at all strategies including Wright Patman, Park House Sites and Marvin Nichols

Acknowledge the Special Study Commission for Region C which was developed by Senate Bill 3 of which 3 members are appointed from both C & D

Acknowledge the economic impact to a region suffering from drought conditions and water shortages and the impact to a region economically when there is not sufficient water to entice industry, as that is very much a major concern of any city or county regardless of which region you call home

Acknowledge the great strides Region C has made with their water conservation efforts

Include Big Pine, Pecan Bayou and Marvin Nichols as water resources in Region D's plan to assist our county, region, Region C and future generations. Basically recognize that eventually new reservoirs will be needed and built.

Region D and Region C are not in different countries, only different planning groups, groups that should be interested in working in a coordinated effort to produce a win-win for our regions and all Texans. Region D fails to acknowledge the interdependency we share with Region C, the many from Region D that work in region C and will continue to work in that region. What's best for Texas should be the focus from both groups.

Thank you
Mayor Ann Rushing

C: The Honorable Congressman Ralph Hall
Honorable Senator Kevin Eltife
Honorable Representative Mark Homer
Honorable Gov. Rick Perry
Mike Russell- SRBA
Jim Parks- NTMWD
TWDB
NETWC

May 24, 2010

Region D Water Planning Group
Mr. Walt Sears
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

Reference: Written comment on Region D's Initially Prepared Plan

Dear Mr. Sears and Region D Planning Group:

Enclosed you will find a copy of two separate resolutions. This first resolution was approved by The Historic Red River County Chamber of Commerce in 2006 . This resolution recognizes the significant impact the Marvin Nichols Reservoir could have on the economy and security of water resources for the citizens of Clarksville and Red River County and the need to plan now for the next 50 years. It also states the Marvin Nichols Reservoir should remain in Region D's plan so that our region, Region D, may participate in the planning and construction of this reservoir. Unfortunately, Region D has eliminated the Marvin Nichols from the IPP.
Surely, we can all agree that there is no way to predict the future and therefore it is important to leave our options open. We have no way of knowing what our water needs in Region D will be in the next 30-40 years, much less the needs of another region.

The 2nd resolution was approved by the Chamber directors in 2010 and states support of all efforts to complete the U.S. Army Corps of Engineers "Sulphur River Basin Feasibility Study" as quickly as possible so that factual information may be obtained for use in evaluating water resource development in the Sulphur Basin. Both resolutions are being submitted as written comment of Region D's IPP. The Chamber acknowledges the economic and water benefits to be derived from an additional surface water source for municipal, economic and recreational needs and the need to complete the feasibility study in order to gain factual information for use in evaluating water resource development in the Sulphur Basin.

Thank you

W.F. Higgins
President, Chamber of Commerce

The Historic Red River County Chamber of Commerce

Resolution No. 4-06

WHEREAS, the Historic Red River County Chamber of Commerce recognizes the significant impact the Marvin Nichols Reservoir could have on the economy and security of water resources for the citizens of Clarksville and Red River County, and ;

WHEREAS, the Historic Red River County Chamber of Commerce has a very futuristic approach and believe to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, the Historic Red River County Chamber of Commerce believes the Marvin Nichols should remain in Region D's Plan so that our region will be allowed to participate in the planning and construction of the reservoir.

NOW, THEREFORE, BE IT RESOLVED
BY THE HISTORIC RED RIVER COUNTY CHAMBER OF COMMERCE:

That the Historic Red River County Chamber of Commerce recognizes the economic and water benefits to reap from building the Marvin Nichols and believes the Marvin Nichols should remain in Region D's Plan so that our region may participate in the planning and construction of this reservoir.

PASSED AND APPROVED on the 19 **day of** April **, 2006.**

Mac Varley
Mac Varley, President

ATTEST:
Winifred Bishop

Historic Red River County Chamber of Commerce

RESOLUTION NO. 2010-1

WHEREAS, the Sulphur River Basin Authority has been duly authorized by the State of Texas to develop all future water resources within the Sulphur River Basin, and

WHEREAS, The Historic Red River County Chamber of Commerce is aware that in order to factually determine the total impact of all present and future water resources there must first be a "Basin Wide Study" so that a project can move forward; and

WHEREAS, The Historic Red River County Chamber of Commerce has a very futuristic approach and of the belief that to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, Clarksville/Red River County is designated as an economically disadvantaged community that would greatly benefit from an additional surface water source for municipal, economic and recreational needs; and

WHEREAS, The Historic Red River County Chamber of Commerce wishes to place the most emphasis on support of first completing the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study, which includes a review of strategies and reservoir projects; namely Marvin Nichols/Wright Patman/and Parkhouse Sites, in order to gain an understanding of the impacts both positive and negative, that any of these projects produce.

NOW, THEREFORE, BE IT RESOLVED, BY THE HISTORIC RED RIVER COUNTY CHAMBER OF COMMERCE:
That The Historic Red River County Chamber of Commerce continues to support all efforts by the Sulphur River Basin Authority to complete the U.S.Army Corps of Engineers "Sulphur River Basin Feasibility Study", as quickly as possible, so that factual information may be obtained for use in evaluating water resource development in the Sulphur Basin.

PASSED AND APPROVED on the 29 day of March, 2010.

Chamber President

ATTEST:

Diane Peek

PRIDE ORGANIZATION
P.O. BOX 402
CLARKSVILLE, TEXAS 75426

May 26, 2010

Northeast Texas Regional Water Planning Group
c/o Northeast Texas Municipal Water District
P.O. Box 955
Hughes Springs, Texas

Re: Comments on Initially Prepared Northeast Texas Regional Water Plan

We recognize the IPP is subject to revision prior to adoption and continued revision in the future. We ask that you take into consideration the need to build new reservoirs in the future and acknowledge the Marvin Nichols Reservoir designated as a unique reservoir site by the Texas State Legislature. Senate Bill 3 acknowledges Marvin Nichols as a unique reservoir site and it should be mentioned in the Region D Plan.

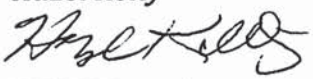
Acknowledge reservoir development in Northeast Texas has historically driven population up and provided water for economic development, municipal use and recreational uses. Acknowledge how important water is to our region, as in any region, to sustain and promote an area.

The Special Study Commission should be mentioned in Region D's plan.

A resolution is included approved by the PRIDE Organization to be submitted as written comment along with this letter and comparison of Titus county in relation to Red River County pertaining to growth and water development.

Thank you for your consideration.

Hazel Kelty



PRIDE President

Cc: Congressman Ralph Hall, Senator Kevin Eltife, Representative Mark Homer, Governor Rick Perry, Texas Water Development Board

PRIDE ORGANIZATION
POSITIVE REGENERATION IN DEVELOPING ECONOMY

WHEREAS, the Sulphur River Basin Authority has been duly authorized by the State of Texas to develop all future water resources within the Sulphur River Basin, and

WHEREAS, the PRIDE Organization, **Positive Regeneration in Developing Economy**, a civic organization founded in 1988, is aware that in order to factually determine the total impact of all present and future water resources there must first be a "Basin Wide Study" so that a project can move forward; and

WHEREAS, the PRIDE Organization has a very futuristic approach and of the belief that to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, Clarksville/Red River County is designated as an economically disadvantaged community that would greatly benefit from an additional surface water source for municipal, economic and recreational needs; and

WHEREAS, the PRIDE Organization wishes to place the most emphasis on support of first completing the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study, which includes a review of strategies and reservoir projects; namely Marvin Nichols/Wright Patman/and Parkhouse Sites, in order to gain an understanding of the impacts both positive and negative, that any of these projects produce.

NOW, THEREFORE, BE IT RESOLVED, BY THE PRIDE ORGANIZATION, MEMBERSHIP OF BOTH CITY AND COUNTY RESIDENTS:

That the PRIDE Organization continue to support all efforts by the Sulphur River Basin Authority to complete the U.S.Army Corps of Engineers "Sulphur River Basin Feasibility Study", as quickly as possible, so that factual information may be obtained for use in evaluating water resource development in the Sulphur Basin.

That the PRIDE Organization recognizes the positive water, economic and recreational benefits that the city and county could reap from having an additional surface water source in the city/county and the benefit to future generations.

PASSED AND APPROVED on the 26th day of May, 2010.

Hazel Kelty

ATTEST:

Margaret Aikin

Margaret Aikin

Consider Franklin County. Lake Cypress Springs was developed in Franklin County. From 1960 to 1970, the population of Franklin County grew by less than 4%. Deliberate impoundment of Lake Cypress Springs began on July 7, 1970. From 1970 to 2000, the population of Franklin County grew by more than 78%. The rate of growth for the first 10 years after deliberate impoundment of Lake Cypress Springs is more than 8 times greater than the rate of growth for the 10 years immediately prior to deliberate impoundment. The growth rate of Franklin County
increased after construction of Lake Cypress Springs.

Consider Titus County in relation to Red River. In 1960, the population of Red River and Titus County were not significantly different. In 1960, the difference in the population of the two counties was about 1,103 persons. From 1960 to 1970, the population in both counties decreased. During the decade of 1970 to 1980, significant development of Lake Bob Sandlin began in Titus County. Deliberate impoundment of Lake Bob Sandlin began on August 8, 1977. From 1970 to 2000, the population of Titus County grew by more than 68%. While Titus County had a developing major reservoir in the last 3 decades, Red River had none. Because of the difference in growth, the population of Titus County is now nearly double the population of Red River. The growth rate of Titus County increased after construction of Lake Bob Sandlin

Red River County Water Control and Improvement District, No. 1,
Langford Lake
P.O. Box 513
Clarksville, Texas 75426

May 5, 2010

Region D Water Planning Group
C/0 Mr. Walt Seas
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

Ref: Written Comment on Region D's Initially Prepared Plan

Dear Mr. Sears and NETRWPG (Region D):

The Red River County Water Control and Improvement District, No. 1, Langford Lake, Board of Directors, would like to voice *disapproval/opposition* of Region D's IPP. We believe our board does have knowledge pertaining to water issues and water needs for our city and county and feel the plan is not in our city/county's best interest. There are studies that must be conducted before we truly know the impact/both positive or negative , of the Marvin Nichols and other reservoir sites. There is support in our city and county of the needed studies and full support of the WCID board to move forward with the needed studies.

Clarksville/Red River County is designated as an Economically Disadvantaged Community. A lack of economic activity is directly tied to a dwindling population. If Clarksville/Red River County is to experience an appreciable growth, an additional source of surface water will have to be established. Clarksville's lack of surface water has, and will continue to be, a challenge and problem. The drought Clarksville experienced during 2005-2006 will long be remembered. Available surface water is also a very important factor when one is looking to locate a business or industry to your area. A community's economic development and sustainability depends on the ability to supply or produce what that business/industry requires. Clarksville/ Red River County can not supply any substantial amount of water for growth and economic development. Red River County has historically used groundwater and would greatly benefit from a surface water source as well. However, at the present time, there is no surface water plan for Clarksville/Red River County in Region D's plan.

According to a report submitted to Clarksville/Red River County by the Rural Resource Team in 2001, the Northeast Texas Regional Water Planning Group recommended the Marvin Nichols #1 site be developed to provide a source of future water supply for water users both within the region and Region C . Now, the planning group wants the Marvin Nichols eliminated from not only their plan, but all plans. The WCID is requesting the Marvin Nichols Reservoir remain in Region D's plan, as it is in Region C's and the State plan, and that Region D Planning Group be supportive of the next order of business which is completing the US Army Corps of Engineers Sulphur River Basin Feasibility Study.

The WCID Board of Directors also request Pecan Bayou and Big Pine be included in Region D's Plan and in the State Plan for future use and studies.

Enclosed, please find a *resolution i*n support of all efforts to complete the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study so that factual information may be obtained. Please include the enclosed resolution as written comment as well. Enclosed also is a resolution approved in 2005.

We appreciate your consideration and thank you for the opportunity to comment on the IPP.

Sincerely,

Scott Lindeman
President, WCID

Cc: Honorable Congressman Ralph Hall
Honorable Governor Rick Perry
Honorable Senator Kevin Eltife
Honorable Rep. Mark Homer
Honorable Mayor Ann Rushing and Clarksville City Council
Honorable Red River County Judge, Morris Harville
Jim Parks, NTMWD
Northeast Texas Water Coalition
Sulphur River Basin Authority

RED RIVER COUNTY WATER CONTROL & IMPROVEMENT DISTRICT #1

A RESOLUTION

WHEREAS, the Red River County Water Control & Improvement District No. One (WCID) recognizes the significant impact that the Marvin Nichols Reservoir could have on the economy and citizens of Clarksville and Red River County, and

WHEREAS, there are certain feasibility studies needed on the Proposed Marvin Nichols Reservoir to identify the effect the reservoir would have on Clarksville, Red River County and the region, and

WHEREAS, the WCID is of the belief that to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and

WHEREAS, the WCID realizes there could be some set backs in some areas; but firmly believes the Marvin Nichols Reservoir will supply water and recreational and economic benefits badly needed in Red River County and the good will far exceed any negative aspects, and

WHEREAS, the Region D Planning Group had previously included the Proposed Marvin Nichols in the Region D Plan and in fact the Marvin Nichols was the preferred option, and

WHEREAS, the WCID feels that water is your most precious resource, that we must plan for the future and that we can only control the development of what we plan for and take action on.

NOW, THEREFORE, BE IT RESOLVED, BY THE RED RIVER COUNTY WATER CONTROL IMPROVEMENT DISTRICT, #1:

That the WCID continues to support the Marvin Nichols Reservoir, continues to *support future studies in an effort to form educated and rational decisions and* continues to recognize and acknowledge the economic, recreational and water benefits to reap from building the Marvin Nichols.

That the Region D Planning Group and the Texas State Water Development Board include the Proposed Marvin Nichols Reservoir in the Region D finalized plan.

PASSED AND APPROVED on the 31st day of August, 2005

Scott Lindeman-President- WCID

ATTEST:

RED RIVER COUNTY WATER CONTROL & IMPROVEMENT DISTRICT (WCID) NO.1, LANGFORD LAKE

RESOLUTION

WHEREAS, the Sulphur River Basin Authority has been duly authorized by the State of Texas to develop all future water resources within the Sulphur River Basin, and

WHEREAS, the Red River County Water Control & Improvement District, No. 1, Langford Lake (WCID) is aware that in order to factually determine the total impact of all present and future water resources there must first be a "Basin Wide Study" so that a project can move forward; and

WHEREAS, the WCID, Red River County, has a very futuristic approach and of the belief that to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, Clarksville/Red River County is designated as an economically disadvantaged community that would greatly benefit from an additional surface water source for municipal, economic and recreational needs; and

WHEREAS, the Board of Directors, of the WCID, wish to place the most emphasis on support of first completing the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study, which includes a review of strategies and reservoir projects; namely Marvin Nichols/Wright Patman/and Parkhouse Sites, in order to gain an understanding of the impacts both positive and negative, that any of these projects produce.

NOW, THEREFORE, BE IT RESOLVED, BY THE RED RIVER COUNTY WATER CONTROL & IMPROVEMENT DISTRICT, NO.1, LANGFORD LAKE:

That the WCID Board of Directors, continue to support all efforts by the Sulphur River Basin Authority to complete the U.S.Army Corps of Engineers "Sulphur River Basin Feasibility Study", as quickly as possible, so that factual information may be obtained for use in evaluating water resource development in the Sulphur Basin.

PASSED AND APPROVED on the 22nd day of February, 2010.

Scott Lindeman, President, WCID

ATTEST:

Ken Bishop, Board of Director

CLARKSVILLE ECONOMIC DEVELOPMENT CORPORATION

800 West Main
Clarksville, TX 75426
(903) 427-3834 Phone
(903) 427-3907 Fax

Region D Water Planning Group
C/o Mr. Walt Sears
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

May 26, 2010

Written Comments on Region D's Initially Prepared Plan

The Clarksville Economic Development Corporation would like to state opposition to Region D's Initially Prepared Plan. We feel Region D has not taken into consideration the water needs of our region and does not have the region's best interest at heart. None of us have the ability to predict the future or needs of this region in the next 20-30-50 years.

We feel the Region D Planning Group should state their support of completing the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study. This study is vital if accurate information is to be obtained for evaluation of water resource development in the Sulphur Basin.
Resolutions are attached as part of this written comment which were approved in 2005 and 2010.

The CEDC fully supports the designation of the Marvin Nichols Reservoir as a Unique Reservoir Site, which was designated by the Texas State Legislature. The Marvin Nichols Reservoir should be acknowledged in the Region D Plan. To eliminate the Marvin Nichols from Region D's Plan is a mistake. We do not know the impact, whether positive or negative, until the study is completed. Why eliminate the Marvin Nichols Reservoir before we have the results of that study?

The CEDC works hard to retain and create jobs. As EDC director and City Manager for the City of Clarksville, I seldom meet with an interested party wishing to locate a business or industry to our area without the question of water surfacing. When locating to an area, that industry needs the assurance that we can provide the needed water and for the long term. In this area, we are deficient and can not compete with surrounding cities. Your plan needs to acknowledge the economic impact to a region suffering from a lack of available surface water to entice industry. Your plan also needs to address the impact to a region during drought conditions.

Your plan should elaborate more on the issue of mitigation and how those rules, used by federal agencies, have been modified. The plan should also elaborate a bit on the 2010 Census and the effect on future planning.

The CEDC feels the Region D board should acknowledge the Special Study Group which was designated in SB3 and the progress Region C has made in the area of water conservation.

Thank you for your consideration and the opportunity to voice my concerns and that of the CEDC Board of Directors.

Sincerely,

Wayne Dial

Wayne Dial- City Manager- CEDC Director

Clarksville Economic Development Corporation

RESOLUTION

WHEREAS, the Sulphur River Basin Authority has been duly authorized by the State of Texas to develop all future water resources within the Sulphur River Basin, and

WHEREAS, the Clarksville Economic Development Corporation (CEDC) is aware that in order to factually determine the total impact of all present and future water resources there must first be a "Basin Wide Study" so that a project can move forward; and

WHEREAS, the CEDC has a very futuristic approach and of the belief that to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, Clarksville/Red River County is designated as an economically disadvantaged community that would greatly benefit from an additional surface water source for municipal, economic and recreational needs; and

WHEREAS, the Board of Directors, of the CEDC, wish to place the most emphasis on support of first completing the U.S. Army Corps of Engineers Sulphur River Basin Feasibility Study, which includes a review of strategies and reservoir projects; namely Marvin Nichols/Wright Patman/and Parkhouse Sites, in order to gain an understanding of the impacts both positive and negative, that any of these projects produce.

NOW, THEREFORE, BE IT RESOLVED, BY THE CLARKSVILLE ECONOMIC DEVELOPMENT CORPORATION:

That the Clarksville Economic Development Corporation continue to support all efforts by the Sulphur River Basin Authority to complete the U.S.Army Corps of Engineers "Sulphur River Basin Feasibility Study", as quickly as possible, so that factual information may be obtained for use in evaluating water resource development in the Sulphur Basin.

PASSED AND APPROVED on the 1st day of March 2010.

Steve Bishop- President CEDC

ATTEST:

Pennye Hobbs, CEDC Clerk

RESOLUTION NO. 2005-101

WHEREAS, the Clarksville Economic Development Corporation, known as the CEDC, recognizes the significant impact the Marvin Nichols Reservoir could have on the economy and citizens of Clarksville, and;

WHEREAS, there are certain feasibility studies needed on the Proposed Marvin Nichols Reservoir to identify the effect the reservoir would have on Clarksville, and;

WHEREAS, the CEDC has a very futuristic approach and believe to fully address our needs and those of future generations we must glance to the future and plan now for the next 50 years, and;

WHEREAS, the CEDC, realizes there could be some set backs in some areas; but firmly believe the Marvin Nichols Reservoir will supply water and recreational and economic benefits badly needed in Clarksville and the good will far exceed any negative aspects.

NOW, THEREFORE, BE IT RESOLVED, BY THE CLARKSVILLE ECONOMIC DEVELOPMENT CORPORATION:

That the CEDC continues to support the Marvin Nichols Reservoir, continues to support future studies in an effort to form educated and rational decisions and continues to recognize and acknowledge the economic, recreational and water benefits to reap from building a reservoir such as the Marvin Nichols.

PASSES AND APPROVED on the 13th day of September, 2005.

Bill Jennings, Director

ATTEST:

Pennye Hobbs, Secretary

Northeast Texas Water Coalition

May 7, 2010

Region D Water Planning Group
Mr. Walt Sears
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

Written Comments on Region D's Initially Prepared Plan

Region D Water Planning Group:

Our organization, the Northeast Texas Water Coalition, would like to state its opposition to Region D's Initially Prepared Plan. We feel Region D has not taken into consideration the potential needs of our region by considering every possible water resource available in Region D for future needs.

The Northeast Texas Water Coalition (NETWC) was formed in early 2007. The mission of the Coalition is to work with all interested parties and stakeholders to study and develop water resources in the Northeast Texas region. This water resource will serve to ensure the future sustainability, growth and economic development of the region in a manner that serves the best interests of all local citizens, landowners and industry, while also serving the greater needs of the State of Texas.

The Coalition's board of directors contains the mayors of Mt Pleasant, New Boston and Clarksville communities, executive directors of three area water districts, city council members of area communities and business leaders. This diverse board of leadership provides our coalition with a strong representation base within Region D. The board also holds resolutions of support from the City of Mt. Pleasant, Mt. Pleasant Chamber of Commerce, Mt. Pleasant Industrial Foundation, City of Clarksville, Clarksville EDC, Red River County Industrial Foundation and the City of Mt. Vernon.

We fully support beginning and completing the Sulphur River Basin Wide Study. We feel the Region D Water Planning Group should also be supportive of this vital study. Questions concerning mitigation, positive and negative impacts of reservoirs, the silting of Wright Patman, timber industry concerns....all will be answered when completed. The facts regarding the possibility of Marvin Nichols, raising the level of Wright Patman, or other strategies will be determined by this vital basin-wide study conducted by the U.S. Army Corp of Engineers.

The Northeast Texas Water Coalition feels strongly the Marvin Nichols Reservoir should be acknowledged in Region D's Plan as a Unique Reservoir Site, which was designated by the Texas State Legislature. The Plan should acknowledge the economic impact to a region suffering from drought conditions and water shortages and the impact to a region economically when there is not sufficient water to entice industry. A Plan that lacks these basic considerations is in our opinion deficient.

We appreciate the cooperative efforts of Region C and D in working together in the study group designated by SB3. Our Coalition stands ready to work with both regions for the betterment of our State.

Sincerely,

Ty Abston
President
Northeast Texas Water Coalition

cc: Honorable Senator Kevin Eltife
Honorable Representative Mark Homer
Honorable Gov. Rick Perry
Mike Russell- SRBA
Jim Parks- NTMWD

The Nature Conservancy
Protecting nature. Preserving life.™

318 Congress Ave.
Austin, Texas 78701

512-623-7240
512-623-7239 (fax)

May 28, 2010

Walt Sears
NETRWPG
PO Box 955
Hughes Spring, TX 75656

To the Northeast Texas Regional Water Planning Group:

I commend the Group's efforts in including as Ecologically Unique, both Pecan Bayou and the Black Cypress Creek and Bayou in the Initially Prepared Plan. Because of its intact hydrology, abundance of rare plant and animal species, and mature bottomland hardwood forest, Pecan Bayou stands as a truly unique natural area in northeast Texas. In addition to supporting rare plant and animal life, the Black Cypress complex provides critical flows for Caddo Lake, which is recognized as a global treasure.

The Nature Conservancy has long been a stakeholder in both Caddo Lake and Pecan Bayou, where we hold nature preserves. In both cases, alteration of hydrology or inundation by reservoir construction would seriously impact our ability to conserve these irreplaceable jewels of Texas and global natural history.

Sincerely,

Laura Huffman
State Director
The Nature Conservancy, Texas Chapter

cc: Jim Eidson, TNC
David Bezanson, TNC
Ryan Smith, TNC

TEXAS PARKS & WILDLIFE

Life's better outside.®

Commissioners

Peter M. Holt
Chairman
San Antonio

T. Dan Friedkin
Vice-Chairman
Houston

Mark E. Bivins
Amarillo

Ralph H. Duggins
Fort Worth

Antonio Falcon, M.D.
Rio Grande City

Karen J. Hixon
San Antonio

Dan Allen Hughes, Jr.
Beeville

Margaret Martin
Boerne

S. Reed Morian
Houston

Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

May 27, 2010

Mr. Walt Sears
Northeast Texas Municipal Water District
P.O. Box 955
Hughes Springs, TX 75656

Re: Review of Region D North East Texas Region Initially Prepared Water Plan

Dear Mr. Sears:

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

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

- Does the plan include a quantitative reporting of environmental factors including the effects on environmental water needs, and habitat?
- Does the plan include a description of natural resources and threats to natural resources due to water quantity or quality problems?
- Does the plan discuss how these threats will be addressed?
- Does the plan describe how it is consistent with long-term protection of natural resources?
- Does the plan include water conservation as a water management strategy? Reuse?
- Does the plan recommend any stream segments be nominated as ecologically unique?
- If the plan includes strategies identified in the 2000 regional water plan, does it address concerns raised by TPWD at that time?

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

In Chapter 1 of the IPP on page 1-10, the IPP states, "there are four TPW wildlife management areas in the North East Texas RWPG Region." There are actually six wildlife management areas (WMAs) in Region D including the four mentioned in the IPP plus (1) Old Sabine Bottom WMA, located in North Smith County and encompassing 5,727 acres, and (2) Caddo Lake WMA, located in Marion and Harrison Counties and encompassing 7,805 acres. On page 1-14, Table 1.3 provides a list of state parks by county. Lake Tawakoni State Park in Hunt and Van Zandt counties should be included. On page 1-26, the text states that "State parks exist adjacent to several of the reservoirs." This list should also include Lake Tawakoni and Tawakoni State Park.

Chapter 1 of the IPP describes threats to the natural resources. Giant salvinia is discussed as a serious threat to the region's water sources; however, additional non-native species of concern should be included as a potential detriment to the natural resources of the Region. Water hyacinth, hydrilla, zebra mussels and other exotic species could be identified and included. The Region D IPP does not include a quantitative reporting of environmental factors. According to the IPP, the recommended water management strategies for Region D can be avoided or minimized if properly sited. Potential impacts to spring flows and spring ecosystems should be identified where additional groundwater development was identified as a water management strategy.

Region D supports water conservation as a management strategy. However, it appears advanced water conservation is not implemented as a strategy due to cost concerns. Region D has also developed a comprehensive guide to assist those in the region to incorporate a water conservation plan into their system policies.

Marvin Nichols Reservoir is not a recommended water management strategy for Region D; however, it is a recommended water management strategy for Region C. The Region D IPP summarizes impacts on water resources, agricultural resources and natural resources that could be expected to occur if Marvin Nichols Reservoir were to be built since the project would be located within Region D. Region D understands that the exact amount and location of mitigation acreage required for Marvin Nichols would be a significant impact to the agricultural resources of the region. The Region D IPP states the "inclusion of the Marvin Nichols I Reservoir in any regional water plan would be inconsistent with the Region's efforts to ensure the long-term protection of the State's water resources, agricultural resources and natural resources…".

Region D received two presentations for considering streams as ecologically unique stream segments. These are White Oak Creek in the Sulphur River Basin and Pecan Bayou in the Red River Basin. After considering all information, Region D elected not to recommend the proposed White Oak Creek segment for

this planning session. Region D did elect to recommend to the Legislature that Pecan Bayou be named an ecologically unique stream segment. TPWD staff applauds the planning group for making this recommendation.

The Region D IPP is a very comprehensive document that reflects the direction of the Region D Board and public comments from concerned citizens throughout North East Texas.

Thank you for your consideration of these comments. Please be assured that TPWD will continue to work with Region D to explore all possibilities to meet future water supply needs and assure the ecological health of the region's aquatic resources. Please contact Cindy Loeffler at (512) 389 -8715 if you have questions or concerns.

Sincerely,

Ross Melinchuk
Deputy Executive Director, Natural Resources

RM:CL:ch

Texas Conservation Alliance

Comments on the North East Texas Regional Water Planning Group's Initially Prepared Plan
By Texas Conservation Alliance
June 1, 2010

Texas Conservation Alliance appreciates the hard work and dedication of the North East Texas Regional Water Planning Group in preparing the Initially Prepared Plan (IPP).

Texas Conservation Alliance registers its support for the IPP and offers the following specific comments:

The Alliance appreciates the North East Texas Regional Water Planning Group's assessment of water management strategy options and your consequent opposition to the proposed Marvin Nichols Reservoir. Our study of the data provided by the Texas Water Development Board and consultants to the regional water planning groups makes it very clear that there are alternative sources of water that would avoid the huge negative economic and environmental impacts associated with building a new reservoir project.

Texas Conservation Alliance supports the NETRWPG's nomination of Pecan Bayou and Black Cypress Creek as ecologically unique stream segments. Black Cypress nurtures important bottomland hardwood forest habitat and has high aesthetic value for the region. Protecting its water quality is a key factor in protecting the downstream water quality of the famed Caddo Lake. Pecan Bayou, in the Red River basin is one of the largest undammed watersheds in northeast Texas, with mature bottomland hardwood forests, exceptional aquatic life, and a number of endangered or threatened species.

Austin Office 512-327-4119 • Tyler Phone/Fax 903-592-0909
Mailing Address: P. O. Box 6295 • Tyler, TX 75711-6295
TCA@TCAtexas.org • TCAtexas.org

Ward Timber, LTD.

P.O. Box 360
Linden, Texas 75563

903-756-7700
Fax 903-756-8313

May 27, 2010

Region D Water Planning Group
c/o Northeast Texas Municipal Water District
P.O. Box 955
Hughes Springs, Texas 75656

Re: Written comments regarding Region D's Initially Prepared Plan

Dear Planning Group:

Ward Timber, Ltd. operates a hardwood sawmill, chipping operations and logging operations throughout Northeast Texas, with our home operations being located in Linden, Cass County, Texas. Ward Timber employs approximately 100 people and has annual sales of over 50 million dollars.

Ward Timber, Ltd. appreciates the work the Region D Water Planning Group has done on the Initially Prepared Plan and joins with a great many individuals, groups, landowners and civic groups expressing our thanks for your opposition to the proposed Marvin Nichols Reservoir. That Reservoir would be crippling to the timber industry in Northeast Texas and would jeopardize thousands of jobs throughout the area, as well as depriving landowners of property rights for a project that is unnecessary to provide future Texans with ample water supplies.

I urge you to continue to oppose this unnecessary project and continue to fight for the rights of Northeast Texans. Many families, farms, workers and industries depend on it.

Thank you.

Ward Timber, Ltd.

By: W.R. Ward, Jr.

W.R. Ward, Jr.

28 May 2010

I want you all to know I support the Region D Water Planning Group's IPP and I am especially pleased they left the Marvin Nichols Reservoir plan off of it.

This is a note of confidence in the worthiness of the people who live in this area, who vote and pay their taxes and dwell with their families and contribute to their communities.

Mary E Farmer
424 Midway
Wake Village TX 75501

FUSE, Inc.
Friends United for a Safe Environment
Post Office Box 85
Texarkana, Ark-Tex 75504-0085

May 26, 2010

North East Texas Regional Water Planning Group
Region D
PO Box 955
Hughes Springs, Tx 75656 Attn: The Honorable Walt Sears

Re: Support of IPP

Dear Water Planners:

On behalf of our members and Friends United for a Safe Environment (FUSE), we applaud the Initially Prepared Plan now receiving comment. We support the IPP, and we especially applaud your leaving the proposed Marvin Nichols Reservoir off the plan. This makes the plan what the legislature had in mind when setting up the water planning groups, for the plan as you now present it is a People's Plan. By that term I mean that you have listened to the people who would suffer from such an ill-conceived reservoir and created a common sense approach. This plan assures our region an adequate, or better, water supply, which is its purpose. Just as important, it ignores the water rustlers/hustlers who, we believe, are more interested in money than in water.

It is apparent from your study that we have the water we'll need, without making refugees of families who have lived here for generations. As for Region C and what the planners in Dallas-Fort Worth want, they already have within reach all the water they need to water their imported grasses out on the prairie. They cannot plausibly deny that Lake Texoma would supply their every thirst, and there are other existing sources. Their pipelines would cost less than building Marvin Nichols, PLUS its mitigation, PLUS its pipeline. To go forward with the Marvin Nichols scheme would be to cave in to regional economic imperialism.

Thank you for being responsible stewards of our region's water and for protecting what we have from those whose major priority is to cash in on our natural resources.

Again, let me emphasize that Friends United for a Safe Environment is united in support of t he IPP.

Yours for a safe environment,

James Presley

James Presley, Ph.D.
President

Printed on
Recycled Paper

Date: Monday, May 24, 2010 12:59 PM
From: NETMWD@aol.com
To: jmnetmwd@windstream.net
Subject: Fwd: In itially Prepared plan updates

Jenny,

Please add this e-mail to the official comments received on the Region D IPP.

Thanks,

Walt
NETMWD

From: edomwater@embarqmail.com
To: netmwd@aol.com
CC: irnetmwd@aol.com
Sent: 5/24/2010 11:37:36 A.M. Central Daylight Time
Subj: In itially Prepared plan updates

Edom section 4.8.18.4

470 connections should be corrected to 486

Edom WSC is planning a future well with a total pumping capacity of 80 to 120 gpm in the year 2006. Results: Test hole proved no yield. Moving east of Edom for another test well for late 2010 is an agenda item. Continue to drill for water

Buddy asked me to tell you that he apologizes for the delay in his response.

Edom Water Supply Corporation
PO Box 245
Brownsboro, TX 75756
903-852-5055
903-852-5058 - fax

Date: Monday, May 24, 2010 8:57 AM
From: NETMWD@aol.com
To: jmnetmwd@windstream.net, Lrnetmwd@aol.com
Subject: Fwd: Fw: WAM Runs for Region D

Jenny & Lou,

For the Region D Comment Folder.

Walt
NETMWD

From: wgcarter@aep.com
To: jflemons@bwrcorp.com
CC: netmwd@aol.com, Temple.McKinnon@twdb.state.tx.us, jsimece1@luminant.com
Sent: 5/21/2010 6:12:06 P.M. Central Daylight Time
Subj: Fw: WAM Runs for Region D

Ray -

I am submitting the following information as a comment to the IPP.

As you can see below, I asked TCEQ to provide WAM runs for the Region D lakes with power plants on them because there appeared to be uncertainty from where the Chapter 3 supply numbers were derived. Please note that these supplies should be based on the flows that enter the cooling lake from the surrounding watershed, and should not include the supplemental flows that many power plant reservoirs have. In reviewing the TCEQ data, want to get some feedback from y'all as to what flows should be utilized. I am not comfortable using the minimum flow as the criteria to be used for what the watershed will produce. I am also not comfortable using the mean flow. My gut feel is that the supply number for the Region D power plant lakes should be between a 10 percentile to 25 percentile flow. I will defer to your engineering judgement as to what is the best criteria based on how the other supplies are used for other lakes in Region D. I would like to visit with y'all as you develop the numbers so that I can see where the numbers end up.

Please note that the Pirkey WAM run is definitely wrong. TCEQ mistakenly included the amount of water that SWEPCO is allowed to force evaporate per the water rights permit and not the amount of water that the watershed can produce.

Thanks and I look forward to finalizing this with y'all.

W. Greg Carter, P.E.
AEP Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585
Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

----- Forwarded by William G Carter/AEPIN on 05/21/2010 05:50 PM -----

"Kathy Alexander" <KALEXAND@tceq.state.tx.us>
05/13/2010 08:28 AM

To <wgcarter@aep.com>, <jsimece1@luminant.com>
cc
Subject Re: Fw: WAM Runs for Region D

Attached are the water right summaries for the water rights you requested. These were calculated using the WAMs that TCEQ currently uses for water rights permitting. Note that these summaries are only for the base water rights. TCEQ recognizes that the owners of these rights have additional

authorizations, such as contractual permits, that can be used to increase the storage and reliabilities of some of these permits. If you have additional questions, please feel free to contact me.

Kathy

Kathy Alexander, Technical Specialist
Water Rights Permitting and Availability Section
Water Supply Division, TCEQ
MC-160, P.O. Box 13087
Austin, Texas 78711-3087
(512) 239-0778

>>> <wgcarter@aep.com> 4/30/2010 4:43 PM >>>

Kathy -

Wanted to see if you would be able to provide any info to me my the Region D meeting on Wednesday 5/5. thanks

W. Greg Carter, P.E.
AEP Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585
Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

----- Forwarded by William G Carter/AEPIN on 04/30/2010 04:42 PM -----

William G Carter/AEPIN

04/13/2010 05:31 PM

To kalexand@tceq.state.tx.us
cc <jsimece1@luminant.com>
Subject WAM Runs for Region D

Kathy -

As we discussed last week, I am interested in the WAM yield values that are being used for the power plant lakes in Region D. The Initially Prepared plans appear to have a hodge podge of numbers that do not seem to be consistent from one cooling reservoir to another. The power plant lakes are in the Sulphur, Cypress and Sabine basins. In some cases they are owned by the power company and in other cases by another party with whom we have contracted for water supply. In most cases, a supplemental makeup source is required from a larger body of water, which may be recognized in a run of river water right or by contract.

Please provide the WAM run 3 and run 8 outputs for the following water rights.

Sabine Basin
05-4642 - Cherokee Water Company - SWEPCO's Knox Lee plant is located on the lake and pumps water from the lake under contract
05-4647 - SWEPCO's Brandy Branch Reservoir - SWEPCO also has CP-454 with Northeast Texas Municipal Water District for 18,000 acft from Lake O' the Pines

Cypress Basin
04-4582 - Lone Star Steel or US Steel - SWEPCO's Lone Star plant is located on the lake and pumps water from the lake under contract
04-4563 - Luminant's Monticello Lake (could be listed as Blundell Creek) - Luminant also has CP-109 (may have been superseded) with Northeast Texas Municipal Water District for 10,000 acft from Lake O' the Pines and has CP-259 with Titus County Freshwater District #1 for 38,500 acre feet in Lake Bob Sandlin
04-4576 - SWEPCO's Welsh Reservoir - SWEPCO also has CP-237 with Northeast Texas Municipal Water District for 12,000 acft from Lake O' the Pines
04-4588 - SWEPCO's Johnson Creek Reservoir (Wilkes plant) - SWEPCO also has CP-1278 with Northeast Texas Municipal Water District for 6668 acft from Lake O' the Pines

Sulphur Basin
03-4804 - Luminant's Rivercrest Reservoir - it is my understanding that the Luminant water right includes a run of the river diversion as well

Also as we discussed, when the WAMs first came out, TCEQ provided a sheet that listed how much water would be available during certain droughts to provide each water rights holder an estimate of how dependable his water right truly was. If you have an up to date copy of this data on the expected dependable yield for the SWEPCO water rights and the water rights for which we contract, I would appreciate a copy for my files. Finally please let me know when y'all complete the Cypress WAM revisions, as I would like to get a copy of the report and if possible, review the information prior to it becoming final.

Thanks for your help. Let me know if you require any clarification. I am copying Joe Simecek with Luminant as he has had some of the same questions as I have.

W. Greg Carter, P.E.
AEP-SWEPCO Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585

Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

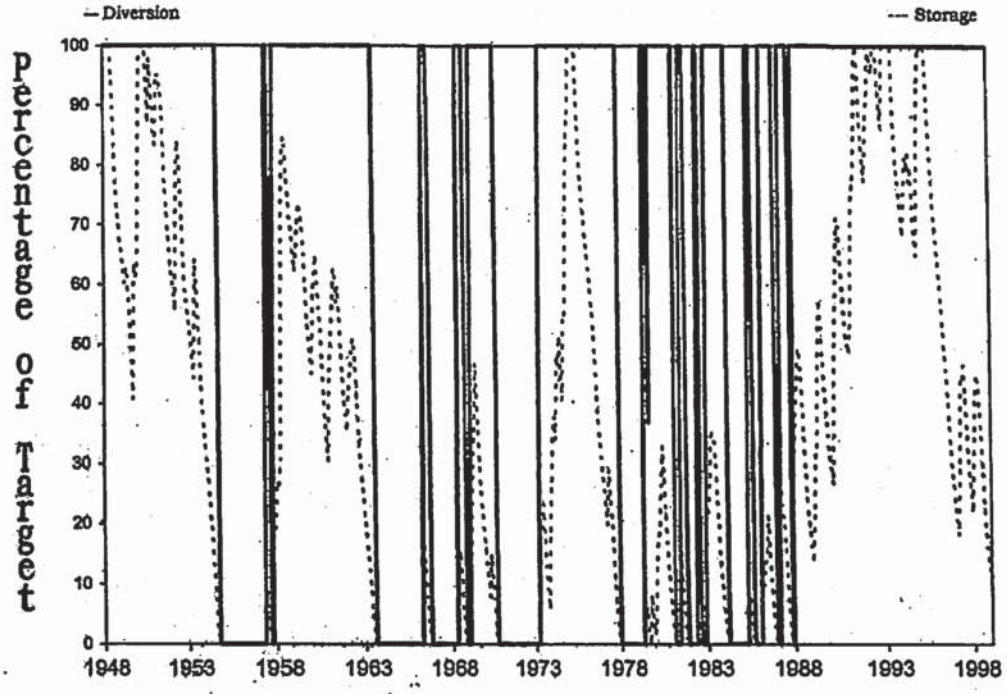
4563.pdf

4576.pdf

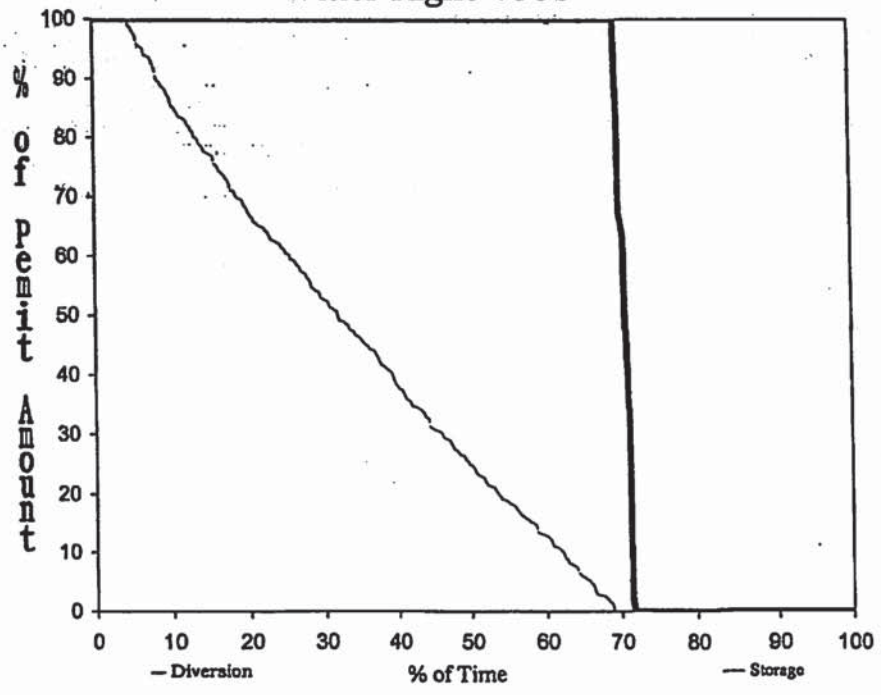
TCEQ Water Availability Model Output
Predicted Diversion Table
Water Right 4563 Luminant

	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
1948	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1949	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1950	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1951	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1952	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1953	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1954	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1079.5	0.0	0.0	0.0	11202.5
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	1186.4	1679.5	1086.7	0.0	0.0	1109.4	1171.0	6233.0
1958	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1959	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1960	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1961	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1962	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1963	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	823.3	0.0	0.0	0.0	0.0	0.0	7587.3
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	1248.0	1186.4	1679.5	1679.5	1338.6	0.0	0.0	0.0	7132.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	1248.0	1186.4	1679.5	1679.5	1602.4	600.7	0.0	0.0	7998.5
1969	0.0	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	14252.3
1970	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1059.8	0.0	0.0	0.0	0.0	9503.1
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	12203.0
1974	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1975	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1976	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1977	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	0.0	14129.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	1248.0	1186.4	1679.5	619.0	1602.4	1294.3	1109.4	1171.0	9909.9
1980	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1981	1047.7	0.0	0.0	0.0	0.0	1186.4	1679.5	1679.5	1602.4	400.4	0.0	0.0	7595.9
1982	0.0	0.0	0.0	0.0	0.0	1186.4	1505.3	0.0	0.0	0.0	0.0	1171.0	3862.7
1983	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1984	1047.7	970.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2018.4
1985	0.0	0.0	0.0	0.0	1248.0	1186.4	1679.5	41.2	0.0	0.0	0.0	0.0	4155.1
1986	0.0	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	13.0	13094.3
1987	0.0	0.0	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	857.5	0.0	1171.0	11735.4
1988	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1989	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1990	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1991	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1992	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1993	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1994	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1995	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1996	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1997	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
1998	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
MEAN	877.9	847.1	719.0	845.9	954.4	977.0	1362.9	1240.5	1147.1	848.5	717.5	758.0	10896.3
Maximum	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Target Diversion	1047.7	970.7	1078.6	1232.6	1248.0	1186.4	1679.5	1679.5	1602.4	1294.3	1109.4	1171.0	15300.0

Predicted Annual Diversion
Water Right 4563



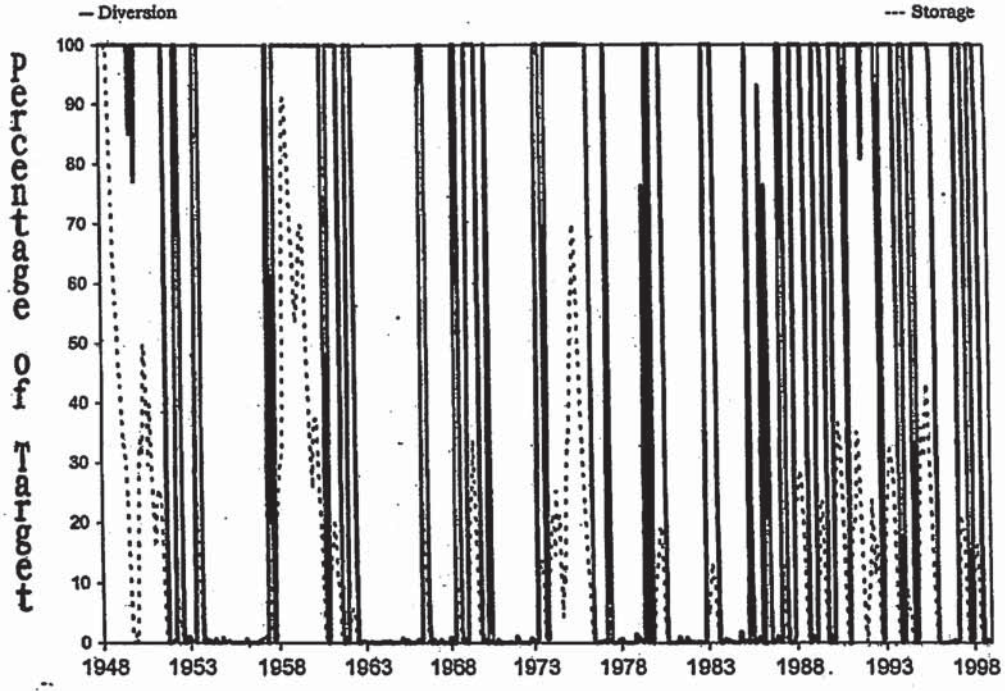
Reliability Curve
Water Right 4563



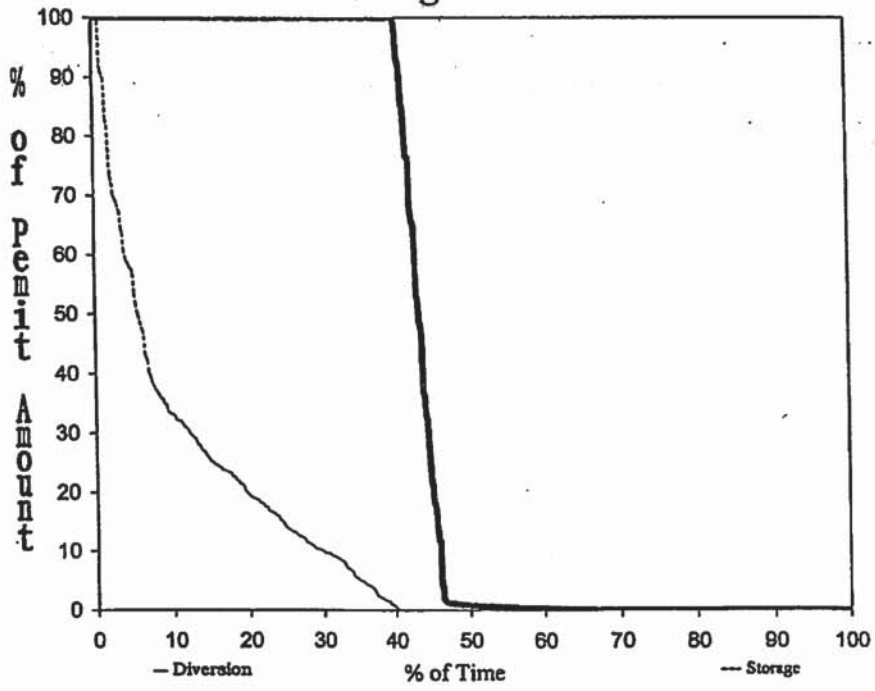
TCEQ Water Availability Model Output
Predicted Diversion Table
Water Right 4576 SWEPCO

	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
1948	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
1949	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1514.4	1430.2	1232.6	1003.5	16428.3
1950	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
1951	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	393.5	0.0	0.0	1.7	11642.9
1952	4.0	6.0	2.5	1369.6	1386.7	1318.2	693.6	0.0	0.0	0.0	13.7	8.2	4802.5
1953	4.5	2.6	4.3	2.6	1386.7	1318.2	1866.1	1866.1	79.8	0.0	0.0	7.0	6537.9
1954	5.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	12.6	0.0	2.9	28.9
1955	2.4	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2
1956	1.1	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	13.0
1957	7.2	7.4	8.8	14.9	0.0	1318.2	1866.1	476.9	4.8	12.8	1232.6	1301.1	6249.9
1958	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
1959	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
1960	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	371.3	0.0	0.0	1301.1	12920.1
1961	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	339.5	0.0	0.0	9.0	6.3	9736.5
1962	1164.2	1078.6	1198.4	1369.6	1386.7	432.1	0.0	0.0	0.9	4.6	3.2	0.0	6638.2
1963	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.2	5.6
1964	0.0	1.4	0.8	4.1	0.0	0.0	0.0	0.0	0.8	0.0	0.0	1.2	8.4
1965	4.1	8.2	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	2.7	22.4
1966	6.4	6.1	0.0	5.2	1386.7	1318.2	1866.1	1866.1	73.1	0.0	0.0	8.0	6535.9
1967	0.0	0.0	0.0	0.9	7.4	0.0	0.0	0.0	0.0	0.0	0.0	10.1	18.3
1968	9.6	0.0	0.5	0.3	1386.7	1318.2	1866.1	220.0	5.3	0.0	9.2	0.0	4815.8
1969	0.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	254.0	5.2	9.3	12132.7
1970	0.0	5.0	0.0	1369.6	839.9	0.0	0.0	0.0	0.0	7.9	0.0	0.0	2222.4
1971	0.0	0.8	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.2	13.2	15.4
1972	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	8.4	4.8	27.4
1973	4.6	0.0	3.6	1369.6	1386.7	1318.2	1866.1	1215.9	10.8	8.8	1232.6	1301.1	9718.1
1974	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
1975	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
1976	1164.2	1078.6	1198.4	1369.6	504.9	0.0	0.0	0.0	2.3	2.1	0.0	4.2	5324.2
1977	4.5	0.0	0.0	1369.6	1384.8	0.0	0.0	0.0	0.0	0.0	7.4	0.0	2748.3
1978	8.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	5.1	32.0
1979	10.6	5.2	1.8	0.0	1.4	1006.8	1.4	0.0	1780.5	940.3	0.0	1301.1	5049.0
1980	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	976.3	0.0	0.0	0.0	0.0	10360.0
1981	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	24.8
1982	2.8	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	1.9	15.6	1301.1	1325.0
1983	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	849.2	0.0	0.0	0.0	4.0	8.4	8377.2
1984	1.1	4.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	24.9	4.4	2.0	39.9
1985	0.6	3.7	0.0	0.0	1386.7	196.7	0.0	0.0	0.0	10.7	12.1	2.8	1613.2
1986	0.0	1004.0	0.0	731.5	1059.1	637.9	0.0	0.0	0.0	4.8	12.7	7.1	3457.0
1987	0.0	9.0	1198.4	1369.6	1386.7	156.4	0.0	0.0	0.0	0.0	19.0	1301.1	5440.2
1988	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1267.0	0.0	3.0	15.0	5.9	10672.7
1989	4.5	2.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1643.5	0.0	0.0	0.0	10655.7
1990	13.9	0.4	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	602.5	5.4	12845.8
1991	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	997.8	1301.1	16765.1
1992	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	14.4	7.9	1301.1	14351.7
1993	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	468.6	2.0	0.0	13498.9
1994	4.0	1078.6	1198.4	1369.6	1386.7	1185.8	1592.9	0.0	0.0	15.2	1232.6	1301.1	10384.8
1995	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1170.5	3.8	15640.6
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.3	4.3	0.0	5.5	1.1	13.1
1997	1.3	7.4	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	515.9	7.8	5.2	7.3	9549.9
1998	1164.2	1078.6	1198.4	1369.6	1386.7	877.1	0.0	0.0	9.3	7.9	4.6	1.1	7097.3
MEAN	458.6	488.8	611.4	820.6	917.5	786.0	976.3	783.4	544.6	317.6	299.7	405.0	7407.3
Maximum	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6
Target Diversion	1164.2	1078.6	1198.4	1369.6	1386.7	1318.2	1866.1	1866.1	1780.5	1438.1	1232.6	1301.1	17000.0

Predicted Annual Diversion
Water Right 4576



Reliability Curve
Water Right 4576



NORTHEAST TEXAS MUNICIPAL WATER DISTRICT

Comments by the Northeast Texas Municipal Water District To Improve the Initially Prepared Plan for Region D

The Northeast Texas Municipal Water District (NETMWD) is a major water provider within Region D and provides the following comments to the Initially Prepared Plan (IPP) of Region D:

1. The IPP should contain a recommendation to standardize statistics used for conservation assessments. NETMWD suggests that there should be a recommendation in Chapter 8 of the IPP to the Texas Legislature to encourage the standardization of the method used to derive the statistic known as "gcpd" and also known as "municipal per capita usage." The justification for this recommendation is demonstrated by the need to have a successful conservation program in areas that are projected to need water management strategies. NETMWD supports conservation as a water management strategy for any entity that has a gcpd ratio greater than the goal of 140 gcpd. Assessing the progress of communities engaged in conservation will be more reliable with a standardized method for comparison.

2. The IPP should provide more information about mitigation. NETMWD suggests that the IPP contain more information about how the mitigation rules used by federal agencies have been modified in and after 2008. NETMWD suggests that the mitigation content may be appropriate in either or both Chapter 7 and Chapter 8 of the IPP. While the basic rule of "avoid, minimize, and compensate" remains intact, there has been considerable modification of the federal interpretation of this topic since the completion of the Round 2 State Water Plan. Topics that should be specifically identified and discussed include at least the following: 1) preference for mitigation banking; 2) required credits can be "off-site, and out-of-kind"; 3) the significant role that a local sponsor of a proposed project plays in mitigation choices; 4) the case-by-case nature of decision-making routinely encountered in mitigation choices; and, 5) expanded use of mitigation banking substantially decreases the possibility of use of eminent domain for mitigation purposes. At the very least, there should be a description as to where detailed information provided by federal agencies on this subject is accessible.

3. Statements of the probable effects of the upcoming U.S. Census on future planning cycles should be included in the IPP. NETMWD suggests that there should be language in Executive Summary and in the first overview section of Chapter 2 that acknowledges that much more time and financial resources will be needed to complete a comprehensive plan in Round 4 of regional water planning than in Round 3 due to the need to assess, understand, and apply the latest numbers from the U.S. Census to the projected needs of Region D. NETMWD suggests that the level of planning activity in relation to population projections will be much greater in Round 4 of regional water planning.

NETMWD EXECUTIVE OFFICE
Highway 250 South
P.O. Box 955, Hughes Springs, Texas 75656
Office:(903) 639-7538 Fax: (903) 639-2208
E-mail: netmwd@aol.com Website: www.netmwd.com

4. Description of probable effects of development of the Haynesville Shale should be included in the IPP. NETMWD anticipates that there will be development of the Haynesville Shale in eastern Texas. Development of the Haynesville Shale is already underway in western Louisiana. Extracting the resource will require access to an adequate water supply. As with any other industry that develops or extracts a resource that is under or that goes through a water supply, there will be opportunity for there to be effects on water quantity and water quality. NETMWD suggests that an additional Figure be inserted within Section 1.1 (e) to show the general location of the Haynesville Shale formation that is within Region D. There should be additional narrative in Section 1.1 (e) to alert the reader that the development of wells to extract product from the Haynesville Shale is anticipated. Any additional information on the amount of wells already in operation and the associated water needed for development or operation would be suggested for inclusion in the IPP.

5. The IPP should describe possible effects of environmental flows planning on future planning cycles. NETMWD anticipates that planning related to environmental flows will continue. NETMWD understands that the volume needed for environmental flows is still being discussed in basins within Region D. There is a formal process underway in the Sabine River Basin. If available, some inclusion as to the possible effects of assuring environmental flows will have on water availability is suggested. While this task is capable of being more complete in Round 4 of regional water planning, the more that can be provided in Round 3 will be helpful. For purposes of Round 3 as contained in the IPP, it appears that 100% of the safe yield of existing reservoirs has been assumed to be available to meet future municipal and industrial needs. It is possible that an effect of environmental flows planning will be to obligate some portion of the safe yield to assuring environmental needs thereby making less than 100% of the safe yield available for future municipal and industrial demands. While these effects will not likely occur by September 1, 2010, the allocation of some of the safe yield of an existing reservoir to an environmental purpose is within the realm of what is possible. Some narrative should be included in the IPP on this topic. NETMWD suggests that the IPP contain a Section 2.3.7 that would specifically list environmental flows as part of the water demand to be projected for the region. Since no volume has been established for this environmental water demand, Section 2.3.7 would only contain a narrative that the process of establishing a flows volume has begun and summarize the progress of that planning to date. It is suggested that Section 2.3.7 would provide an expectation that the next round of planning may be more complete in terms of the water demand for the environmental needs of the region.

6. Use information gathered by the Study Commission on Region C Water Supply. NETMWD suggests that the IPP be compared to the report and additional information provided to the Study Commission on Region C Water Supply. The website of http://www.twdb.state.tx.us/wrpi/rwp/committee/rgc/rgc.htm contains the report and related information. The information in the IPP should be consistent with this information or there should be an explanation as to why the information in the report and the IPP vary.

7. Further analysis and information should be provided in relation to any wholesale water provider having a deficit described in Chapter 4.3 of the IPP. The IPP describes the supply and demand for 17 Wholesale Water Providers (WWP). Of the 17 wholesale water providers, the IPP only shows two entities with a supply smaller than its listed demands. Those two WWPs are Cash SUD and Franklin County Water District (pages 4-12 & 4-15). It is also possible that this comment applies to the city of Texarkana. Given the information provided in the asterisk in Table 4.37, it is not clear that the supply of the city of Texarkana is equal to or more than the projected demands of the city of Texarkana. Table 4.37 may not accurately state the supply volume for Texarkana. There should be additional narrative and analysis in Section 4.3.1 and Section 4.3.5 about the difference between the total volume for supply and the total listed for demand. The analysis should describe the factors that cause the supply to be less than the demand. There should be a thorough presentation on how each deficiency is derived and how the deficiency may be alleviated. If the demands listed in Table 4.21, Table 4.25, or Table 4.37 are more than the firm yield of the surface water supply under permit or contract to the wholesale water provider and these listed demands are supported by a valid contract, then some estimation from a Water Availability Modeling (WAM) analysis as to the reliability of water already contractually committed could be useful for inclusion. A WAM estimate of the degree of reliability of the water in existing contracts should be provided if available. If not available, then there should be a statement that further review of the reliability is suggested.

8. A table showing the larger Wholesale Water Providers in relative size should be provided in Chapter 1. Just as the large population centers are noted in Table 1.5, there should be easy access to that same comparison for water suppliers. A table would make it easier for the reader to understand the relative capabilities of wholesale water providers. Those suppliers having a 2010 supply of more than 40,000 acre feet ranked by size are: 1) Sabine River Authority, 2) Northeast Texas Municipal Water District, 3) City of Texarkana, 4) City of Longview, 5) City of Paris, and 6) Titus County Fresh Water Supply District No.1.

9. Additional language should be provided in Section 3.1 about water rights and access to surface water. NETMWD suggests that the IPP contain additional statements in Section 3.1 on page 3-2 about water rights and access to surface water. NETMWD suggests the following additional language: "A properly issued water right is no guarantee of access to water. It is possible that a water right can be held in which there is no water during some of the time of the year. For example, a holder of a water right that is run-of-the-river may have no access to water when there is no flow in the river. For example, a holder of a water right that is a right to store and divert at a later date may have only limited access to water during a drought. It should be acknowledged that water rights have been issued in circumstances where the water is estimated to be available less than 100% of the time. For entities that place all of the water potentially available under a water right in a water supply contract, it is essential that buyers understand the limitations and qualifications of the water right that supports the water supply contract. It is not uncommon for Wholesale Water Providers to have water rights for a volume greater than what can be delivered during the worst drought of record. It is not uncommon for water rights to be issued in an amount greater than the dependable yield of a reservoir."

10. The IPP should provide additional language to minimize the consequences on requests for small volumes of water. NETMWD believes that a request for a small amount of water should be reviewed without an argument for exclusion due to the failure of the adopted plan to specifically mention it. NETMWD acknowledges that the provision suggested below is substantially identical to the provision found in the Adopted 2006 Brazos G Regional Water Plan. NETMWD suggests that the following language appear within the first section of Chapter 4 of the IPP, beginning on page 4-1: "The North East Texas Regional Water Planning Group (Region D) has considered the variety of actions and permit applications that may come before the TCEQ and the TWDB and does not want to unduly constrain projects or applications for small amounts of water that may not be specifically included in the adopted regional water plan. "Small amounts of water" is defined as involving no more than 1,000 acre feet per year, regardless of whether the action is for a temporary or long term action. The North East Texas Regional Water Planning Group provides direction to TCEQ and TWDB regarding appropriations, permit amendments, and projects involving small amounts of water that will not have a significant impact on the region's water supply, as follows: such projects are consistent with the regional water plan, even though not specifically recommended in the plan."

11. The IPP should specifically mention feral hogs as a threat to the water quality of area surface water supplies. NETMWD is concerned about the water quality effects that an increasing population of feral hogs is causing. NETMWD together with the Texas State Soil and Water Conservation Board (TSSWCB) is assessing the bacteria levels in areas near Mount Pleasant. While this work is not completed yet, it is apparent that feral hogs contribute bacteria in these areas. NETMWD acknowledges that more information will be available for inclusion in Round 4 of regional water planning. NETMWD suggests specific language be included within Section 1.3 (c) of the IPP on page 1-28. The additional language is suggested as follows: "The population of feral hogs has increased substantially in the northeast Texas region over the last decade. As feral hogs congregate around water sources to drink and wallow, this concentration of high numbers in small riparian areas poses a threat to water quality. Fecal matter deposited directly in streams by feral hogs contributes bacteria and nutrients, polluting water belonging to the State. In addition, extensive rooting activities of groups of feral hogs can cause extreme erosion and soil loss. The destructive habits of feral hogs cause an estimated $52 million worth of damage each year in Texas alone. Landowners are encouraged to seek assistance and information on feral hog biology, behavior, and management options for the proper control of feral hogs. It is recommended that landowners should take actions to reduce the population, limit the spread of these animals, and minimize their effects on water quality and the surrounding environment. State agencies together with local and regional entities are monitoring water quality which should lead to a more informed assessment of the effects that the feral hogs are having on the environment. In the event that the adverse effects of the feral hog population cannot be adequately minimized with existing laws and control mechanisms, additional measures to limit the problems being created by the feral hog population may deserve consideration."

12. The IPP should contain a specific recommendation to conduct a comprehensive study for the Sulphur River Basin as part of the recommendations in Chapter 8. NETMWD supports responsible development of water resources. NETMWD acknowledges that further resort to the water resources within the Sulphur River appears inevitable. NETMWD asserts that a comprehensive analysis of all options within the Sulphur River Basin should be completed. The options that this comprehensive study should include are at least: 1) utilizing the existing capacity in constructed reservoirs more efficiently; 2) allocating some of the flood pool in existing reservoirs to a water supply purpose; and 3) utilizing unappropiated flows by constructing impoundments at the appropriate time, location, and in the appropriate size.

NETMWD suggests that the following additional language be added to Chapter 8 at the end of the chapter as a section numbered 8.13.15 as follows:

"Section 13.15 Recommendation: Support for a comprehensive study of the Sulphur River Basin

The North East Texas Regional Water Planning Group (NETRWPG) encourages support for a comprehensive study of the water resources within the Sulphur River Basin. NETRWPG believes that the completion of a comprehensive study would be an advancement in analyzing the possible strategies. NETRWPG acknowledges that there are many diverse opinions on the future development within the Sulphur River Basin. The comprehensive study should analyze all reasonably-possible options. NETRWPG believes the successful completion of the comprehensive study will require the evaluation of all possible strategies and therefore, many sources of information will need to be considered. NETRWPG does not have confidence that the comprehensive study can be competently undertaken and successfully completed if only one entity substantially participates in the process on a local level. NETRWPG acknowledges that the Texas Legislature created a Special Study Commission in Senate Bill 3 to consider possible options involving the Sulphur River together with additional tasks. NETRWPG believes that the Study Commission is an example of a group with diverse interests addressing complex water options. NETRWPG believes that the participation in a comprehensive study for the Sulphur River on a local level should not be reserved or allocated to a single entity but rather to an entity or entities that can incorporate participation from a variety of sources much as the regional water planning process contemplates multi-party participation. It is noted that NETRWPG has received substantial participation from several distinct interest groups when considering possible options for a future supply. It is noted that the Texas Water Development Board has actively assisted both the NETRWPG process and the Special Study Commission created in Senate Bill 3. While the NETRWPG does not express an opinion in this recommendation for who should be the entity or entities for the local portion of the comprehensive study, the NETRWPG does express the opinion that the Sulphur River Basin Authority (SRBA) does not presently possess the financial capability to be the sole entity in charge of the local portion of the comprehensive study.

13. <u>The IPP should contain an additional section in Chapter 3 about the impact of environmental flow policies on water rights, water availability and water planning</u>. The NETMWD suggests that the IPP contain a section labeled as 3.5 and that the content of such section be substantially similar to the language set out in Section 3.1 of the IPP of Region I and contain the information as set out below:

3.5. Impact of Environmental Flow Policies on Water Rights, Water Availability, and Water Planning

The objective of this section of the 2011 Plan is to provide an evaluation of the effect of environmental flow policies on water rights, water availability, and water planning in the NETRWPG area and within Region I to the extent that it affects Region D. Much has occurred in the area of environmental flow recommendations since the 2006 Plan was adopted, including the development of new recommendations for the Sabine and Neches watersheds. However, it is not clear how much effect these recommendations will have in the short-term.

The Legislature passed Senate Bill 3 (SB3) in the 2007 80th Regular Session. SB3 is the third in a series of three omnibus water bills related to the State of Texas' meeting the future needs for water. SB3 created a basin-by-basin process for developing recommendations to meet the instream flow needs of rivers as well as freshwater inflow needs of affected bays and estuaries and required TCEQ to adopt the recommendations in the form of environmental flow standards. Such standards will be utilized in the decision-making process for new water right applications and in establishing an amount of unappropriated water to be set aside for the environment.

Prior to SB3, Texas law recognized the importance of balancing the biological soundness of the state's rivers, lakes, bays, and estuaries with the public's economic health and general well-being. The Texas Water Code (TWC) requires the TCEQ, while balancing all other interests, to consider and provide for the freshwater inflows necessary to maintain the viability of Texas' bay and estuary systems in TCEQ's regular granting of permits for the use of state water. Balancing the effect of authorizing a new use of water with the need for that water to maintain a sound ecological system was done on a case-by-case basis as part of the water rights permitting process.

SB3 called for the appointment of stakeholder committees for the various watersheds feeding bays and estuaries for the Texas coast. For that portion within Region D and I, the primary basins of interest were the Sabine and Neches Rivers, and part of the Neches-Trinity Coastal basin. These basins feed fresh water to Sabine Lake and the upper Texas coast. Since a portion of the Trinity River basin is in Region D and I and the Trinity River forms a portion of the western boundary of Region I, another stakeholder group for the Trinity-San Jacinto-Galveston Bay area is also of potential interest. Stakeholder committees for both areas were appointed in 2008. Each stakeholder committee then appointed a "bay and basin expert science team" (BBEST) in the fall of 2008 to address the development of environmental flow recommendations in accordance with SB3.

BBESTs met individually over the course of 12 months to develop environmental flow recommendations for their respective areas. The recommendations and the Sabine and Neches Executive Summary (ES) are accessible from other sources. It is suggested that this information be reviewed by all interested persons. The ES describes, generally, the process undertaken and the recommendations made by the BBEST.

The recommendations prepared by the BBEST are, at this time, under consideration of the stakeholder committee. Over the next few months, analysis of the potential effects of these new recommendations will be undertaken. It is expected that by June of 2010, the final recommendations will be transmitted by the stakeholder committee to the TCEQ for implementation.

Environmental flow recommendations will impact the procurement of water rights in the future by creating a comprehensive process of evaluating environmental flow needs whenever a new water right application is processed. The process of approving water rights is likely to become more complex under the new environmental flow policies that will be implemented by the TCEQ. However, it should result in more clarity in how diversions can be made, and better ensure that sufficient water is available in the streams of the Sabine and Neches basins.

As a result of the implementation of new environmental flow recommendations, the operation of reservoirs will become more dependent on the development of an "accounting plan," which is a feature that the TCEQ is already implementing within the State. Whether such accounting plans will have a significant impact on the availability of water is not known at this time.

The implementation of environmental flow recommendations will result in a need to more carefully consider environmental flow needs during the process of water planning in Region D as well as other areas. In future planning cycles, the NETRWPG will need to analyze new water rights in light of these recommendations to determine how the new environmental flow requirements are consistent with the long-term protection of the region's water resources.

14. Technical improvements to the IPP should be made. NETMWD suggests that there are numerous typographical, clerical, and other non-substantive revisions that are needed to the IPP. Attached to these Comments is a listing of the technical/typographical suggestions for improving the IPP.

CYPRESS SPRINGS SPECIAL UTILITY DISTRICT
P.O. BOX 591
Mt. Vernon, Texas 75457-0591
(903) 588-2081/888-588-1464

April 15, 2010

NETRWPG
PO BOX 955
Hughes Springs TX 75656

Table 4.25 Water supplies and demands for Franklin County Water District

To what degree or % is the water under contract reliable?

Also please make correction to our name from Cypress Springs WSC to Cypress Springs SUD since we are no longer a water supply corporation, but a special utility district.

Thank you.

Sincerely

Richard Zachary, Manager

City
of
MOUNT PLEASANT

April 7, 2010

Region D Water Planning Group
c/o Mr. Walt Sears
NETMWD
P.O. Box 955
Hughes Springs, Texas 75656

Re: Written Comment on Region D Initially Prepared Plan

Dear Mr. Sears and Region D Planning Group:

The City Council of Mount Pleasant is interested in providing water resources for the future of our city, county and all of Northeast Texas

Enclosed is a resolution adopted yesterday by our council, urging Region D Water Planning Group to carefully study the development potential of the Sulphur River basin. The city council feels the Region D Initially Prepared Plan (IPP) should be modified to include and not exclude the proposed Marvin Nichols Reservoir on the Sulphur River as a viable potential source of water for our area.

Please include this letter and our resolution as our written comment on the IPP.

Sincerely,

Jerry Boatner, Mayor
City of Mount Pleasant

501 N. Madison • Mount Pleasant, TX 75455-3650 • Office: 903/575-4000 • Fax 903/577-1828

RESOLUTION NO. 2010-4

WHEREAS, the City of Mount Pleasant is a member of the Northeast Texas Water Coalition, a group of area cities, water districts, chambers of commerce and economic development councils that are interested in providing future water resources for our northeast Texas region and for the state of Texas, and

WHEREAS, the Region D water planning group is preparing its regional water plan for the northeast corner of Texas, and

WHEREAS, the Northeast Texas Water Coalition urges the Region D regional water-plan to include careful study of the development potential of the Sulphur River basin, including the proposed Marvin Nichols Reservoir which should be included and not excluded from the regional water plan,

NOW THEREFORE, BE IT RESOLVED BY THE MOUNT PLEASANT CITY COUNCIL OF THIS CITY OF MOUNT PLEASANT, TEXAS: That the Region D regional water plan include careful study of the development potential of the Sulphur River basin, and that the regional water plan include and not exclude the proposed Marvin Nichols Reservoir from the regional water plan.

Jerry Boatner

JERRY BOATNER, MAYOR

ATTEST:

Brenda Reynolds

BRENDA REYNOLDS, CITY SECRETARY

Ref. No.	Date	Name	Entity	Address	Comment
1	3/31/2010	William Chapman	Landowner	Chapman Ranch, Red River County	Did not Speak
2	3/31/2010	Scott Chapman	Landowner	Chapman Ranch, Red River County	Did not Speak
3	3/31/2010	Bobby Arey	Property Owner	1301 Kings Bridge, Garland Texas	Favor EUSS Designation of Pecan Bayou,
4	3/31/2010	Steve Arey	B&L Ranch, Red River County	2300 Woodrow Way, Rowlett, texas	Favor EUSS Designation of Pecan Bayou,
5	3/31/2010	Jerry Boatner	Mayor	Mt. Pleasant, Texas	Supports a Sulphur Basin Study as an untapped resource in the 50 year plan. The Sulphur River has many possibilities and none should be excluded from the long-range usage and planning studies
6	3/31/2010	Max Shumake	Self	1457 CR 4291, Dekalb Texas	Supports the plan and does not support Marvin Nichols
7	3/31/2010	Wayne Dial	City of Clarksville	800 West Main, Clarksville TX	Put all options back in IPP
8	3/31/2010	Libby Trussell	Self	905 W 12th, Clarksville TX	Supports IPP and no Marvin Nichols Reservoir/ Conservation for Dallas
9	3/31/2010	Nina Holt	Self	365 CR 4615, Bogata TX	Supports IPP
10	3/31/2010	John Dugdale		2100 Ross Ave, Suite 2800, Dallas, TX	Wrote Memo submitted by Jim Eidson
11	3/31/2010	John Jarvis	Riverbend Water Resources District	808 B Olive, Texarkana TX	Population Projection for Region D, Wants to increase it. Submitted Memo
12	3/31/2010	Jeff Sandford	Texarkana Chamber of Commerce	819 State Line, Texarkana, TX	Growth in NE Texas Submitted Memo
13	3/31/2010	James Henry Russell	Texarkana Chamber of Commerce	4241 Summerhill Rd, Texarkana, TX	Growth in NE Texas Submitted Memo & data. Memo signed by Charles Nichersoly, VP Economic Development TCC
14	3/31/2010	Chris Watson		1244 Oscar Ragon Rd	How is the proposed plan going to affect privately held diversion permits.
15	3/31/2010	Jim Eidson	Nature Conservancy	6210 CR 1140	Opportunity regarding EUSS Relationships
16	3/31/2010	Michael Russell	President SRBA	533 Hidden Lake DR, Powerdly TX	SRBA comments regularly on the Region D IPP- SRBA Board submitted remarks attached. Oppose construction of large reservoirs that would destroy local communities such as Cuthand and supports voluntary acquisition of mitigation lands
17	3/31/2010	Roberta Smith	Self	16475 FM 1159, Clarksville TX	Against new reservoir, Future for Red River County lies in beauty of County and natural resources
18	3/31/2010	Sheri New	International Paper, Environmental Leader	9978 FM 3129, Queen City TX	IP opposes Marvin Nichols and believes protecting jobs in Northeast Texas should be a priority
19	3/31/2010	Ken Bishop		601 9th St, Clarksville, TX	Langford Lake's silting rate will limit its usefulness; Water lines from Wright Patman are too expensive; Aquifers are unpredictable due to no accurate records or studies; No entities with actual shortages in Red River County. Possible lake sites of Pecan Bayou, Big Pine and Marvin Nichols need to be included in plan. Submitted letter
20	3/31/2010	Ann Rushing	Mayor, City of Clarksville	800 W Main, Clarksville, Texas	Put all options back in the plan and recognize positive aspects of studies completed to date, move forward with feasibility "Basin Wide Study" (Ms. Rushing used information from the letter dated 3/31/10 by Ken Bishop)

Date	Name	Entity	Subject	Level	No.
02/26/10	Coy and Patsy Johnson	Johnson Law Firm	Approve the IPP	1	1
03/30/10	Delores McCright	Biology Professor/Texarkana College	Reduce Water Use Approve IPP	1	2
04/05/10	Jack Willett	Self	Against Marvin-Nichols	1	3
04/05/10	Bobby Arey	B & L Ranch	Approve Pecan Bayou	1	4
04/05/10	Mary Arey	B & L Ranch	Approve Pecan Bayou	1	5
04/05/10	Steve Arey	B & L Ranch	Approve Pecan Bayou	1	6
04/05/10	Jana Arey	B & L Ranch	Approve Pecan Bayou	1	7
05/26/10	James Presley	Friends United for a Safe Environment	Support IPP	1	8
05/27/10	Brenda Stevenson	Mothers Air Watch	Support IPP	1	9
05/28/10	W R Ward	Ward Timber	Support IPP	1	10
06/01/10	Mary Farmer	Self	Support IPP	1	11
06/01/10		Texas Conservation Alliance	Support IPP	1	12
06/01/10	Vencene Reed	Self	Supports IPP	1	13
06/01/10	Laura Huffman	The Nature Conservancy	Supports Pecan Bayou	1	14
06/07/10	Scot Moorhead	International Paper	Late	1	15
02/15/10	Mr Hudson	Edom WSC	Correct Numbers	2	16
03/31/10	Luminant	Draft	Change Numbers	2	17
04/15/10	Richard Zachary	Cypress Springs SUD	Answer Question on % of Contract Water Reliable	2	18
05/24/10		Edom WSC	Correct Numbers	2	19
05/24/10	Greg Carter	AEP	Correct Numbers	2	20
06/01/10	Ross Melinchuk	Texas Parks and Wildlife	Change Numbers and Add Words	2	21
06/01/10	Kim Mireles	Luminant	Correct Numbers	2	22
	Senator Shapiro	Region C	Add Comments in Appendix	2	23
02/23/10	Walt Sears	NETMWD	Additions	3	24
03/01/10	Andy McCuistion	City of Canton	Reuse Application be included	3	25
04/07/10	Jerry Boatner	City of Mt. Pleasant	Include Study of Marvin-Nichols	3	26
05/07/10	Ty Abston	NET Water Coalition	Add Marvin Nichols & Sulphur Study	3	27
05/28/10	Mayor Ann Rushing	City of Clarksville	Add Special Study Comm-Study Sulphur-Add M/N	3	28
05/28/10	W F Higgins	Red River Co Chamber of Commerce	Add M/N- Special Study Commission	3	29
05/28/10	Mayor Ann Rushing	City of Clarksville	See 5/15/10	3	30
05/28/10	Hazel Kelty	PRIDE Organization	Add M/N- Special Study Commission	3	31
05/28/10	Scott Lindeman	Red River Co WCID	Support Pecan Bayou-Big Pine-Special Study	3	32
05/28/10	Wayne Dial	Clarksville Economic Development Corporation	Oppose IPP-Support Spec Study on Sulphur-Support M/Nmitigation Rules-Reg. C/D Study	3	33
06/01/10	Rick Lowerre	Caddo Lake Institute	Change Wording and Add Wording	3	34
06/01/10	Richard LeTourneau	Self	Change Language Ch. 8	3	35
06/01/10	Shirley Shumake	Self	Add Section 8.12.4	3	36

Casey L. Berend

From: Casey L. Berend
Sent: Wednesday, June 02, 2010 5:37 PM
To: Casey L. Berend
Subject: FW: WAM Runs for Region D
Attachments: 4563.pdf; ATT29653.htm; 4576.pdf; ATT29654.htm; ATT29500.gif; ATT29655.htm; ATT29501.gif; ATT29656.htm; ATT29502.gif; ATT29657.htm; ATT29503.gif; ATT29658.htm; ATT29504.gif; ATT29659.htm

From: Ray Flemons
Sent: Saturday, May 22, 2010 7:50 AM
To: Jeffery A. Hogan; Reeves Hayter; Stan Hayes
Subject: Fwd: WAM Runs for Region D

Sent from my iPhone

Begin forwarded message:

> **From:** "wgcarter@aep.com" <wgcarter@aep.com>
> **To:** "Ray Flemons" <jflemons@bwrcorp.com>
> **Cc:** "netmwd@aol.com" <netmwd@aol.com>, "Temple McKinnon" <Temple.McKinnon@twdb.state.tx.us>, "jsimece1@luminant.com" <jsimece1@luminant.com>
> **Subject: Fw: WAM Runs for Region D**
>
> Ray -
>
> I am submitting the following information as a comment to the IPP.
>
> As you can see below, I asked TCEQ to provide WAM runs for the Region D lakes with power plants on them because there appeared to be uncertainty from where the Chapter 3 supply numbers were derived. Please note that these supplies should be based on the flows that enter the cooling lake from the surrounding watershed, and should not include the supplemental flows that many power plant reservoirs have. In reviewing the TCEQ data, want to get some feedback from y'all as to what flows should be utilized. I am not comfortable using the minimum flow as the criteria to be used for what the watershed will produce. I am also not comfortable using the mean flow. My gut feel is that the supply number for the Region D power plant lakes should be between a 10 percentile to 25 percentile flow. I will defer to your engineering judgement as to what is the best criteria based on how the other supplies are used for other lakes in Region D. I would like to visit with y'all as you develop the numbers so that I can see where the numbers end up.
>
> Please note that the Pirkey WAM run is definitely wrong. TCEQ mistakenly included the amount of water that SWEPCO is allowed to force evaporate per the water rights permit and not the amount of water that the watershed can produce.

Thanks and I look forward to finalizing this with y'all.

W. Greg Carter, P.E.
AEP Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585
Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

----- Forwarded by William G Carter/AEPIN on 05/21/2010 05:50 PM -----

"Kathy Alexander" <KALEXAND@tceq.state.tx.us>
05/13/2010 08:28 AM

To
<wgcarter@aep.com>, <jsimece1@luminant.com>
cc

Subject
Re: Fw: WAM Runs for Region D

Attached are the water right summaries for the water rights you requested. These were calculated using the WAMs that TCEQ currently uses for water rights permitting. Note that these summaries are only for the base water rights. TCEQ recognizes that the owners of these rights have additional authorizations, such as contractual permits, that can be used to increase the storage and reliabilities of some of these permits. If you have additional questions, please feel free to contact me.

Kathy

Kathy Alexander, Technical Specialist
Water Rights Permitting and Availability Section
Water Supply Division, TCEQ
MC-160, P.O. Box 13087
Austin, Texas 78711-3087
(512) 239-0778

<wgcarter@aep.com> 4/30/2010 4:43 PM >>>

Kathy -

Wanted to see if you would be able to provide any info to me my the Region

D meeting on Wednesday 5/5. thanks

W. Greg Carter, P.E.
AEP Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585
Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

----- Forwarded by William G Carter/AEPIN on 04/30/2010 04:42 PM -----
William G Carter/AEPIN
04/13/2010 05:31 PM

To
kalexand@tceq.state.tx.us
cc
<jsimece1@luminant.com>
Subject
WAM Runs for Region D

Kathy -

As we discussed last week, I am interested in the WAM yield values that are being used for the power plant lakes in Region D. The Initially Prepared plans appear to have a hodge podge of numbers that do not seem to be consistent from one cooling reservoir to another. The power plant lakes are in the Sulphur, Cypress and Sabine basins. In some cases they are owned by the power company and in other cases by another party with whom we have contracted for water supply. In most cases, a supplemental makeup source is required from a larger body of water, which may be recognized in a run of river water right or by contract.

Please provide the WAM run 3 and run 8 outputs for the following water rights.

Sabine Basin
05-4642 - Cherokee Water Company - SWEPCO's Knox Lee plant is located on the lake and pumps water from the lake under contract
05-4647 - SWEPCO's Brandy Branch Reservoir - SWEPCO also has CP-454 with Northeast Texas Municipal Water District for 18,000 acft from Lake O' the Pines

Cypress Basin

04-4582 - Lone Star Steel or US Steel - SWEPCO's Lone Star plant is located on the lake and pumps water from the lake under contract
04-4563 - Luminant's Monticello Lake (could be listed as Blundell Creek) - Luminant also has CP-109 (may have been superseded) with Northeast Texas Municipal Water District for 10,000 acft from Lake O' the Pines and has CP-259 with Titus County Freshwater District #1 for 38,500 acre feet in Lake Bob Sandlin
04-4576 - SWEPCO's Welsh Reservoir - SWEPCO also has CP-237 with Northeast Texas Municipal Water District for 12,000 acft from Lake O' the Pines
04-4588 - SWEPCO's Johnson Creek Reservoir (Wilkes plant) - SWEPCO also has CP-1278 with Northeast Texas Municipal Water District for 6668 acft from Lake O' the Pines

Sulphur Basin
03-4804 - Luminant's Rivercrest Reservoir - it is my understanding that the Luminant water right includes a run of the river diversion as well

Also as we discussed, when the WAMs first came out, TCEQ provided a sheet that listed how much water would be available during certain droughts to provide each water rights holder an estimate of how dependable his water right truly was. If you have an up to date copy of this data on the expected dependable yield for the SWEPCO water rights and the water rights for which we contract, I would appreciate a copy for my files. Finally please let me know when y'all complete the Cypress WAM revisions, as I would like to get a copy of the report and if possible, review the information prior to it becoming final.

Thanks for your help. Let me know if you require any clarification. I am copying Joe Simecek with Luminant as he has had some of the same questions as I have.

W. Greg Carter, P.E.
AEP-SWEPCO Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585
Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

From: wgcarter@aep.com
Sent: Thursday, July 15, 2010 2:56 PM
To: Jeffery A. Hogan
Cc: Ray Flemons; jsimece1@luminant.com; rhayter@haytereng.com; Temple.McKinnon@twdb.state.tx.us; netmwd@aol.com; RICHARDOII@aol.com
Subject: Re: NETRWPG - steam electric

Attachments: 2010 IPP Table 3.5 Comments.xls

Here are our comments for the steam electric number in the IPP based on our conference call on July 1. The suggested revision to table 3.5 is provided only to show the revisions to the subject reservoirs. Let me know if you have any questions.

What is the purpose of the Supply column in Table 1.6? Is the table supposed to show the firm yield of the reservoir per the WAM runs or is it to show the permitted yield of the reservoir? Is it supposed to match the supply tables in Chapter 3? For instance, Table 1.6 indicates 5,103 AF "Supply" as compared to 6,098 AF "Surface Water Availability" for Monticello Reservoir.

Table 3.2 – Brandy Branch supply is not 11,000 acre feet – that is the allowed forced evaporation. The WAM also lists 11,000 which is not correct. For supply I would assume 0 acre feet.

Table 3.4 – There are two line items that may involve River Crest Lake. "River Crest Lake/Reservoir" indicates 8,635 AF. "Sulphur River Combined Run of the River" indicates 10,000 AF. Please determine if the 10,000 acre feet indicated in "Sulphur River Combined Run of the River" in the Table is meant to cover the 10,000 AF that may be diverted from the Sulphur River; then stored in RiverCrest Lake; then consumed (reference Certificate of Adjudication 03-4804) . If so, we suggest that the 10,000 AF should be reduced to 8,624 acre feet per the WAM. Also the 8,635 acre feet for "River Crest Lake/Reservoir" should probably be 0 in the table since the reservoir has virtually no watershed. Or, the best resolution of this issue is to consider having one line item entitled "River Crest Lake / Sulphur River Run of the River" = 8,624 AF that would cover both areas.

Table 3.5 – There are two line items that may involve Monticello Lake. "Monticello Lake/Reservoir" indicates 6,098 AF. "Blundell Creek Run of the River" indicates 16,300 AF. The values in the rows for Monticello and Blundell Creek are redundant. According to the WAM, the value for Monticello should be 0 acre feet. The 16,300 acre feet value is the permitted consumption from the reservoir. Monticello Reservoir is formed by a dam across Blundell Creek near the junction of the mouth of Blundell Creek and Cypress Creek. Thus, Monticello Reservoir captures almost all of the water of Blundell Creek. The 1970 Luminant contract with NETMWD indicates that Luminant pays for the right to capture the runoff from Blundell Creek in Monticello Reservoir. A study by Forest & Cotton indicates that the estimated minimum annual run-off at the dam site on Blundell Creek is 2,439 AF which occurred in 1964. (Reference: Forest and Cotton, Inc. , "Report on Detailed Design of Lower Blundell Dam and Appurtenant Works, October 1970). We understand that this run-off water would otherwise be counted toward the firm yield of Lake O' Pines. So, either the 2,439 should be allocated to the firm yield of Lake O' the Pines with the understanding that it is being sold to be part of Monticello Lake, or it should be listed for Blundell Creek and this same yield should be subtracted from the firm yield of Lake O' the Pines.

Also per the WAM the row for Welsh Reservoir should be 6 acre feet. Please note that Freese and Nichols estimated the yield from Swauano Creek in 1964 during the drought of record at 3810 acre feet. The lowest single year was 1954 at 2200 acre feet. When the Texas Water Rights Commission reviewed the permit request for Welsh Lake, they estimated the yield reduction of Pines at 4500 acre feet. The contact between SWEPCO and NETMWD appears to be based on a 4470 acre foot reduction in Pines - SWEPCO paid $44,700 annually at an initial rate of $10/acft.

Per the WAM, Johnson Creek should be 0 acre feet. No information could be found in the historical SWEPCO files to date to demonstrate how the yield of Johnson Creek would affect Pines. If that data is found in the future it will be provided for future Region D plans.

For Table 3.5A, the following assumptions are included:

- Monticello is assumed to have a yield of 0 acre feet from Blundell Creek per the WAM during the drought of record and 2439 acre feet due to a reduction in the yield of Pines;
- Welsh is assumed to have a yield of 6 acre feet from Swauano Creek per the WAM during the drought of record and 4470 acre foot due to the reduction in the yield of Pines
- Johnson Creek is assumed to have a yield of 0 acre feet from Johnson Creek per the WAM during the drought of record and 0 acre foot due to the reduction in the yield of Pines

Please note that Table 3.5A does not include the contract water that is pumped to these reservoirs from Pines or Bob Sandlin.

I also do not believe the numbers for Gray Creek after having reviewed the WAM runs. When I have previously questioned this number the response was that Snider Industries is permitted to divert 16.084 acre feet, but I suspect that the WAM would produce a much smaller number in a drought of record.

Finally what comprises the Cypress run of the river totals? Is much is from US Steel's water right?

Finally for Table 3.5 – the values for Lake O' the Pines in Table 3.5 do not match the values in Table 4.27.for the NETMWD.

Tables 3.13 and 3.14.- the lower values discussed in Tables 3.2, 3.4, and 3.5 should be carried forward to these tables.

Table 4.27 – Welsh Reservoir was determined to reduce the yield of Lake O' the Pines by 4470 acre feet and Monticello Reservoir was determined to reduce the yield of Pines by 2439 acre feet. I have not been able to determine how much Johnson Creek reduced the yield of Pines, so please assume 0 acre feet at this time. I believe these numbers should be reflected in the Watershed of Lake O' the Pines row and deducted from the Pines value if this has not already been done. Please note that the steam electric demand row at the bottom of the table appears to be correct.

Tables 4.6, 4.12, 4.18, 4.20, 4.30, and 4.40 - the supply shortages should be amended in these tables and Table 4.30 should be Luminant, not Texas Utilities.

Page 4-68 – Paragraph 4.8.9.8 should be amended, plus whatever affected appendices.

Page 4-84 – paragraph 4.8.17.1 should be amended, plus whatever affected appendices.

W. Greg Carter, P.E.
AEP Region 5 Engineering
e-mail: wgcarter@aep.com Cell Phone: 903-746-4585
Welsh Phone 903-853-4863 Pirkey Phone 903-927-5896

"Jeffery A. Hogan" <jhogan@bwrcorp.com>

07/12/2010 05:50 PM

To <wgcarter@aep.com>, <jsimece1@luminant.com>

cc "Ray Flemons" <jflemons@bwrcorp.com>

Subject NETRWPG - steam electric

Hello gentlemen:

Just checking in to see if you have any information for the Region D plan.

Thanks.
Jeff

Jeffery A. Hogan, P.E., CFM I Municipal Services I BWR
2620 County Road 1106 I Anna, TX 75409 I P 972.924.2757 I C 214.250.0070 I F 214.765.1763
jhogan@bwrcorp.com I www.bwrcorp.com

Comments received from W. Greg Carter on 7/15/10

Table 3.5 Cypress Creek Basin Surface Water Supplies
Cypress River Basin Surface Water Availability (ac-ft/yr)

	2010	2020	2030	2040	2050	2060
Johnson Creek Lake / Reservoir	0	0	0	0	0	0
Monticello Lake / Reservoir	0	0	0	0	0	0
Welsh Lake / Reservoir	6	6	6	6	6	6

Note: These volumes are based on WAM Run 3 provided by TCEQ in 2010

Table 3.5A Cypress Creek Basin Surface Water Supplies
Cypress River Basin Surface Water Availability (ac-ft/yr)

	2010	2020	2030	2040	2050	2060
Johnson Creek Lake / Reservoir	0	0	0	0	0	0
Monticello Lake / Reservoir	2439	2439	2439	2439	2439	2439
Welsh Lake / Reservoir	4476	4476	4476	4476	4476	4476

Note: These volumes include those from Table 3.5 plus the amount of firm yield reduction of Lake O' the Pines due to the upstream reservoir

January/February 2006

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Planning report delivered to Austin

The North East Texas Regional Water Planning Group has approved a new 50-year updated water plan for nineteen counties and delivered it to the Texas Water Development Board in Austin.

The plan includes strategies for water planning in all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

The plan represents a culmination of five years of work, noted Group Chairman Jim Thompson of Cass County.

The final plan will be reviewed by the TWDB in workshops next June and, with other regional plans in Texas, will become part of a proposed statewide plan to be considered by the Texas Legislature in 2007.

Virginia Sabia of the TWDB told the Group a meeting of all regional water planning chairs, along with water stakeholders in Texas, will be held in Austin in February to focus on future planning in Texas. She said the discussions are likely to include implementation of planning strategies developed by the regional groups.

The North East Texas planning group will not resume its water planning work until mid-2006, said administrator Walt Sears.

Water issues in forefront

Water issues will continue to receive significant attention from Texas policy makers in 2006. Among the issues likely to be in the forefront include:

• Environmental flows. Although legislation affecting this issue did not pass the Texas Legislature in 2005, the debate will continue as a result of an exeutive order issued by Governor Rick Perry. The order creates an Environmental Flows Advisory Commiteee to address requirements for instream flows for Texas rivers and freshwater flows for bay and estuary systems. The committee will make its report by December 31, 2006.

• Interim charges. House and Senate committees will make interim studies on a number of water issues, including surface water permits, impediments to the Texas Water Plan, wastewater reuse, water conservation, surface water needs, and the effectiveness of water management entities.

Officers reelected

Jim Thompson of Cass County has been reelected as chairman of the North East Texas Water Planning Group.

Also reelected were vice-chair Richard LeTourneau of Harrison County, secretary-treasurer Beth Wisenbaker of Hopkins County, and two at-large members of the executive committee, John Durgin of Van Zandt County and Mendy Rabicoff of Gregg County.

Wayne Harris of TXU Electric was elected a non-voting member of the group, and Thompson and Rabicoff were named liaisons to regional planning groups in North Texas and lower East Texas.

• Legislation implementation. Implementation will be done in 2006 on legislation establishing new requirements for groundwater conservation districts, a take and pay contract study, rainwater harvesting, and certificates of convenience and necessity for water and sewer service.

Meeting to focus on regional issues

The chairs of Texas' regional water planning groups will meet in Austin during February to determine future directions for a third five-year planning cycle to begin in 2006.

The meeting will also include various stakeholders in Texas water issues. The meeting is expected to focus on implemention of plans already developed by the Texas regional water planning groups.

Jim Thompson, chair of the North East Texas Regional Water Planning Group, will represent the region's nineteen counties. The Austin meeting is tentatively scheduled for mid-February.

North Texas (Region C) plan proposes new reservoirs

The North Texas Regional Water Planning Group (Region C) has proposed two new lakes in East Texas to meet future water needs in the Dallas-Fort Worth area. They are:

• Marvin Nichols Reservoir on the Sulphur River near Clarksville (490l,000 acre feet per year).

• Lake Fastrill, on the Neches River between Alto and Elkhart (112,000 acre feet per year).

Region C also proposed in its plan a supply of 400,000 acre feet per year from Toledo Bend Reservoir on the Texas-Louisiana border.

Marvin Nichols Reservoir was removed from the North East Texas Regional Water Plan (Region D). The Region D planners felt the lake was not needed for the 19-county region.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
Beth Wisenbaker, Hopkins County, Secretary
John Durgin, Van Zandt County, At Large Member, Exec. Comm.
Samuel M. (Mendy) Rabicoff, Gregg County, At Large Member, Exec. Comm.
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carrell, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
Mike Dunn, Hunt County
John Durgin, Van Zandt County
George Frost, Bowie County
Steve Hammer, Upshur County
Don Hightower, Wood County
Troy Henry, Wood County
Gary Jackson, Smith County
William R. Justiss, Lamar County
Richard LeTourneau, Harrison County
Jim Nickerson, Camp County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Jim Thompson, Cass County
Beth Wisenbaker, Hopkins County
Eldon Wold, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

August/September 2006

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Priorities identified

The North East Texas Regional Water Planning Group (Region D) has identified ten priorities which could become the basis of a new five-year planning effort for the region's nineteen counties.

The Group selected the priorities for submission to the Texas Water Development Board for project funding between 2006 and 2011.

The Group's first priority is to research alternative solutions to meet water needs in the region, as well as demands which may come from neighboring regions in North Texas and East Texas.

The research effort would include management strategies involving surface water, groundwater, water transportation, the use of unallocated water, mitigation laws affecting reservoirs, population and water demand growth, and other impacts on water planning.

A second priority was a review of groundwater management strategies and the role of groundwater management authorities created by the Texas Legislature.

A third priority calls for a study of possible impacts of combining clusters of small water supply systems into single entities to improve financial and operating efficiencies.

The Group's fourth priority will be a study to reevaluate population and water demands to see if significant changes have occurred in North East Texas.

Other priorities include an exploration of problems dealing with brackish groundwater; a broader study of major springs in the region; a study of continued drought conditions in North East Texas; an updated study of the impact of MTBE, a gasoline additive used in motor-driven boats, on municipal water supplies; a reevaluation of per capita water consumption in the region; and the creation of a new water availability model.

The next North East Texas Group meeting is scheduled for September 20, starting at 1 p.m. in the Mount Pleasant Civic Center.

Members of the North East Texas Regional Water Planning Group hear a presentation from engineer Ray Flemons in Mount Pleasant.

Public hearing scheduled on state water plan

The Texas Water Development Board will hold a public hearing on the new Texas Water Plan, which includes recommendations from the North East Texas Group, on September 21, starting at 6 p.m. in the Gilmer Civic Center. The meeting is open to the public

The 2007 State Water Plan, which includes regional plans from sixteen Texas regions, will be presented to the 2007 State Legislature for consideration.

The North East Texas plan, developed by the North East Texas Regional Water Planning Group (Region D), includes strategies for water planning in all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

The plan represents a culmination of five years of work, noted chairman Jim Thompson of Cass County. The previous state water plan was approved in 2002.

New law will impact groundwater

A new state law which goes into effect in September creates a mandatory joint planning requirement for groundwater conservation districts. Some groundwater conservation districts perceive this planning requirement as an unfunded mandate.

HB 1763 allows Texas to be divided into "Groundwater Management Areas." Most of Region D is in Groundwater Management Area 11 while some areas lie in Area 8. The website of the TWDB has a map of the Groundwater Management Areas.

Walt Sears, administrator of the North East Texas Water Planning Group, said House Bill 1763 "has the potential of changing the way groundwater will be managed in the future."

Does Texas need Marvin Nichols Reservoir?

As part of its effort to develop a new water plan, the North East Texas Regional Water Planning Group has begun discussing the feasibility of raising the level of Wright Patman Reservoir.

In a presentation titled, "Why does Texas need Marvin Nichols as a water source?" Ray Flemons, one of the Group's engineering consultants, said raising the level of Patman Reservoir would affect the need for building Marvin Nichols Reservoir, a controversial lake proposed on the Sulphur River by Dallas area water planners.

Flemons said for each foot of elevation that Patman's level is raised, the region would gain 60,000 additional acre feet of water. By raising the level from 220 to 336 feet, about 960,000 acre feet of additional water storage capacity could be created.

Board members elected

The North East Texas Water Planning Group has reelected four board members and chosen four new members.

Reelected were George Frost of Bowie County, Mendy Rabicoff of Gregg County, Jim Thompson of Cass County, and John Durgin of Van Zandt County.

The new board members are Sharron Nabors of Lamar County, who succeeds William Justiss; Bob Staton of Smith County, who succeeds Gary Jackson; Jimmy Clark of Hunt County, who succeeds Mike Dunn; and Don Patterson of Hopkins County, who succeeds Beth Wisenbaker.

North East Texas Regional Water Planning Group (Region D)

Officers:

Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
John Durgin, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:

Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
John Durgin, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Bob Staton, Smith County
Sharron Nabors, Lamar County
Richard LeTourneau, Harrison County
Jim Nickerson, Camp County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Jim Thompson, Cass County
Don Patterson, Hopkins County
Eldon Wold, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

October/November 2006

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

NET Planning Group opposes lake

Representatives of the North East Texas Regional Water Planning Group (Region D) have protested the inclusion of the proposed Marvin Nichols Reservoir in the Texas Water Development Board's new Texas Water Plan.

Members of the Planning Group, joined by more than fifty residents of North East Texas, told the Water Development Board at a Gilmer public hearing Thursday night that the draft plan released by the TWDB "ignored the wishes of North East Texas, its legislators and its appointed water planning authority."

The Marvin Nichols lake, which would be located on the Sulphur River south of Clarksville, was included in the state plan at the request of water planners representing the Dallas area.

Richard LeTourneau, vice-chairman of the Region D planning group, said that while the North East Planning Group respects the TWDB staff and its work, "we do not agree with the plan's conclusions." With the inclusion of Marvin Nichols, he said the plan "does not reflect our region's work or the wishes of the public or our legislators."

LeTourneau also said the inclusion of Marvin Nichols "is not consistent with the TWDB's promise to protect natural resources and the environment."

George Frost, another Region D director, said the state plan ignored the fact that, by raising the levels of Wright Patman Reservoir, some 900,000 acre feet of water "could be realized without taking one acre."

A third Region D director, Sharron Nabors, also protested the inclusion of Marvin Nichols in the state plan. She said all members of the Region D planning group, with one exception, voted for removing Marvin Nichols from the North East Texas Water Plan. She said the proposed lake is widely opposed by landowners, agricultural operators and timber growers in the area.

The three Region D directors were joined by nine other individuals in opposing the lake. Two individuals, Clarksville Mayor Ann Rushing and former Region D director Gary Jackson of Lindale, supported the inclusion of the lake.

A day before the state hearing, the Region D group voted to oppose Marvin Nichols. In addition to testifying at the Gilmer hearing, the board will file additional comments with the TWDB in Austin next month and ask North East Texas legislators to seek "a legislative fix."

Citizens can provide comments on the draft Texas Water Plan by e-mailing the comments to Bill.Roberts@twdb.state.tx.us or by sending them to the following address: Bill Roberts, Water Resources Planning Division, Texas Water Development Board, PO Box 13231, Austin, TX 78711-3231.

Frost, Nabors and Bain appointed

George Frost of Bowie County has been elected secretary of the North East Texas Regional Water Planning Group. He succeeds Beth Wisenbaker of Hopkins County.

Two directors were also named to liaison roles with two Groundwater Management Areas affecting the Planning Group's nineteen counties. They were Sharron Nabors of Lamar County, who will work with GMA 8, which serves the region's western counties, and Max Bain of Cass County, who will work with GMA 11, which serves the region's southern counties.

A new state law effective in September established a series of Groundwater Management Areas in Texas to coordinate planning among groundwater conservation districts.

The Region D board also received the resignation of Eldon Wold of Franklin County. Mr. Wold, has represented the interests of water districts, is moving from the region. His replacement will be named at a future meeting.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
John Durgin, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
John Durgin, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Bob Staton, Smith County
Sharron Nabors, Lamar County
Richard LeTourneau, Harrison County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Jim Thompson, Cass County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

December 2006

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Group will seek legislators' support on Marvin Nichols Reservoir

Having lost its effort to remove the proposed Marvin Nichols Reservoir from the new Texas Water Plan, the North East Texas Regional Water Planning Group plans to seek support from state legislators in the nineteen-county region.

Meeting at Mount Pleasant, the Group voted to ask the area's House and Senate members to oppose the designation of the Marvin Nichols site on the Sulphur River as a unique reservoir site.

The 62,000 to 77,000-acre reservoir has been proposed as a water management strategy for the North Texas Regional Water Planning Group. If built, the lake would primarily supply water needs for the Dallas-Fort Worth area.

George Frost of Bowie County, a planning group member, said the Dallas area "appears to have the philosophy that if you are a prosperous area, that entitles you to waste water resources and take water from other regions."

Richard LeTourneau of Harrison County, also a Group member, said options exist for creating new water supplies "without building a costly new reservoir which hurt people and consume land."

He said raising the level of Wright Patman Reservoir and importing water from Toledo Bend Reservoir on the Sabine River are two viable options.

Walt Sears, administrator of the North East Texas Group, said an effort will be made "to illuminate to our legislators on the feelings of people who live in their districts." He said the Texas Legislature has the authority to designate or remove the designation for unique reservoir sites.

The Marvin Nichols dispute is one of six

(Continued on next page)

Members of the North East Texas Regional Water Planning Group (Region D) discuss water issues during a meeting at the Mount Pleasant Civic Center.

(continued from front page)

water issues which the Group will identify for local legislators when the Texas Legislature begins its new session in January.

The others are:

• Maintenance of the current law on interbasin water transfers.

• The ramifications of land acquisition policies for water management strategies.

• The clarification of the impacts that occur when unique stream segments are designated.

• Reconciliation differences in water plans among adjoining planning regions.

• Joint planning and coordination with the new groundwater management areas established by the Texas Water Development Board.

David Weidman, General Manager of the Franklin County Water District, was named to the Group board. He succeeds Eldon Wold, also of Franklin County, who recently resigned.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
John Durgin, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
John Durgin, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

January/February 2007

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

North East Texas Planners to seek additional funds

Officers of the North East Texas Regional Water Planning Group plan to meet with representatives of the Texas Water Development Board in Austin in an effort to procure additional funding for projects the Group considers essential to water planning in the nineteen-county region during 2007 and 2008.

Meeting at Mount Pleasant Wednesday,January 31, the Group authorized chairman Jim Thompson, executive committee member Mendy Rabicoff, engineering consultant Ray Flemons and administrator Walt Sears to seek additional planning funds for a key project to explore alternatives for meeting future water demands in North East Texas.

The Group had sought $290,900 from the Water Development Board for the project, but received only $59,065, which the Group said was insufficient.

The Group received an additional $132,440 for a further study of sub-regional water supply plans and $73,810 for a study of brackish groundwater in the region.

Seven other regional projects were not funded by the state.

These included a plan to coordinate the work of two groundwater management areas in the region, a study of minimum per capita water use estimates, a study of water consumption during record droughts, a study of springs in the region, an update of the impacts of gasoline additives on water supplies, the creation of water availability models, and a study of areas with high per capita water consumption.

Chairman Jim Thompson said the Group's officers will also seek funding for some of the rejected studies.

TWDB representative David Messey, who attended the meeting, gave the Group some encouragement that new funds might be available. He said the state agency has some unallocated funds "which we want to distribute between the state's regional planning groups for coordinated work."

Several Group members complained that the TWDB funded projects for the Dallas area that impact water resources in North East Texas, but did not fund projects

(Continued on next page)

Officers of the North East Texas Water Planning Group are, from the left, chairman Jim Thompson, vice chair Richard LeTourneau, secretary George Frost, and at-large executive committee members John Durgin and Mendy Rabicoff.

(continued from front page)

"that we need in our own region."

'It doesn't make much sense that the TWDB is sending money to another region to manage water resources in our region, but doesn't respond to the needs for our region," said Rabicoff.

A source of contention was funds allocated for a Region C (Dallas) study for raising levels of Wright Patman Reservoir on the Sulphur River while rejecting funds for allowing Region D (North East Texas) to participate in the study even though the lake is in North East Texas.

"Raising the levels of Patman would help our area and, if Region C does the study, we should be allowed to participate in a spirit of cooperation between the two regions," said Rabicoff.

Officers Reelected

Jim Thompson of Cass County has been reelected chairman of the North East Texas Regional Water Planning Group.

Also reelected were vice-chairman Richard LeTourneau of Harrison County, secretary George Frost of Bowie County, and executive committee at-large members John Durgin of Van Zandt County and Mendy Rabicoff of Gregg County.

Max Bain of Cass County was named liaison representative for Groundwater Management Area 11 and Sharron Nabors of Lamar county was named to a similar position for Management Area 8.

David Weidman was named liaison representative for Region C (Dallas) with Sharron Nabors serving as alternate. Rabicoff was named liaison representative for Region I (East Texas).

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
John Durgin, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
John Durgin, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

June/July 2007

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Commission to study water supply options

A special study commission to explore water supply options in Northeast Texas for the Dallas area will likely begin work this fall.

Mandated by the Texas Legislature, the commission will consist of three members selected by the Region D Water Planning Group (Northeast Texas) and three members selected by the Region C Water Planning Group (Dallas/North Texas)

The Region D group will accept nominations for individuals in the region's 19 counties to serve on the commission. From the nominations, the Region D board will select three individuals who have the support of at least two-thirds of the board membership.

The Legislature developed the special study approach in an effort to resolve water supply differences between the two regions.

The Dallas area region has proposed building Marvin Nichols Reservoir, a 62,000 to 77,000-acre reservoir on the Sulphur River south of Clarksville, as a future water source for the Dallas area.

Northeast Texas water planners have contended that the reservoir is not needed and Dallas' needs can be supplied by other strategies, including conservation, raising the water levels of Wright Patman Reservoir near Texarkana, pumping water from Toledo Bend Reservoir on the Sabine River, and possibly using water from other existing reservoirs.

The legislation establishing the special study said the commission should:

- Review water supply alternatives, including supplies from Wright Patman, Toledo Bend, Lake Texoma, Lake O' the Pines and other lakes, and groundwater sources.
- Analyze the socioeconomic effect of the development of Dallas area water supply sources on Northeast Texas, including the impact on landowners, agriculture, industries, and local taxing entities.
- Examine the effect of water availability from Wright Patman Reservoir and the impact of industries now using Patman's water.
- Evaluate measures to comply with federal mitigation requirements and consider whether the burden can be shared by the Region C area.
- Review innovative methods of compensation to property owners--including royalties and annual payments--affected by the construction of a new reservoirs such as Marvin Nichols.
- Evaluate the minimum number of surface acres required for proposed reservoirs.
- Identify the locations of proposed reservoir sites and possible mitigation sites.

The special study will likely start this year, possibly in September, and will be completed by December 1, 2010, and delivered to state officials for consideration.

The study drew criticism from several members of the Northeast Texas water planning group, but others said the study is an opportunity for the group to express concerns over Marvin Nichols' economic and environmental impacts on the region. Members also expressed the sentiment that the special study commission is an opportunity to work toward a win-win scenario in future water resource management.

Several public officials said additional water supplies will not only be needed by Dallas in the next ten to 50 years, but similar needs will be faced by Northeast Texas.

Speaking in favor of the possible construction of Marvin Nichols were Clarksville Mayor Ann Rushing, Mount Pleasant Mayor Jerry Boatner, and Ty Abston, also of Mount Pleasant, representing the Northeast Texas Water Coalition.

"We must face the realities that Northeast Texas has only 600,000 voters while Dallas has six million," said Abston. "They will ultimately get what they want."

Max Shumake said Dallas has "all the water it will need" in Wright Patman and Toledo Bend Reservoirs.

In other business, the Northeast Texas planners renewed its administrative arrangement with the Northeast Texas Municipal Water District headquartered in Hughes Springs. Apprecation was expressed to the District and its manager,Walt Sears, for work that assists the planning on behalf of the Region.

Ty Abston of Mount Pleasant, representing the Northeast Texas Water Commission, addresses the Northeast Texas Regional Water Planning Group.

Meeting scheduled August 15

The next meeting of the Northeast Texas Regional Water Planning Group (Region D) has been tentatively scheduled for Wednesday, August 15.

The meeting will begin at 1 p.m. in the Mount Pleasant Civic Center.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
John Durgin, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
John Durgin, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

August/September 2007

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Three regional leaders to serve on special study commission

The Northeast Texas Regional Water Planning Group (Region D) has named three regional leaders to a special study commission to explore water supply options for the Dallas area in Northeast Texas.

Elected August 15 in Mount Pleasant were Tom Duckert of Bowie County, environmental manager for International Paper Company; Stephen Frost of Cass County, an attorney and member of the Texas House of Representatives; and Richard LeTourneau of Harrison County, vice chairman of the Region D planning group.

Duckert, Frost and LeTourneau will join three members from the Dallas/North Texas Regional Planning Group (Region C) on the commission, which was established by Senate Bill 3, passed by the Texas Legislature earlier this year.

The Legislature developed the special study approach in an effort to resolve water supply differences between the two regions.

The Dallas area region has proposed building Marvin Nichols Reservoir, a 62,000 to 77,000-acre reservoir on the Sulphur River south of Clarksville, as a future water source for the Dallas area.

Northeast Texas water planners have contended that the reservoir is not needed and Dallas' needs can be supplied by other strategies, including conservation, raising the water levels of Wright Patman Reservoir near Texarkana, pumping water from Toledo Bend Reservoir on the Sabine River, and possibly using water from other existing reservoirs.

The legislation establishing the special study said the commission should:

- Review water supply alternatives, including supplies from Wright Patman, Toledo Bend, Lake Texoma, Lake O' the Pines and other lakes, and groundwater sources.
- Analyze the socioeconomic effect of the development of Dallas area water supply sources on Northeast Texas, including the impact on landowners, agriculture, industries, and local taxing entities.
- Examine the effect of water availability from Wright Patman Reservoir and the impact of industries now using Patman's water.
- Evaluate measures to comply with federal mitigation requirements and consider whether the burden can be shared by the Region C area.
- Review innovative methods of compensation to property owners—including royalties and annual payments—affected by the construction of a new reservoirs such as Marvin Nichols.
- Evaluate the minimum number of surface acres required for proposed reservoirs.
- Identify the locations of proposed reservoir sites and possible mitigation sites.

The special study will be completed by December 1, 2010, and delivered to state officials for consideration.

Elected to a special study commission to explore water supply options for the Dallas area in Northeast Texas were Tom Duckert, left, of Bowie County, Richard LeTourneau, center, of Harrison County, and Stephen Frost, right, of Cass County.

Meeting scheduled October 17 in Mount Pleasant

The next meeting of the Northeast Texas Regional Water Planning Group will be held on Wednesday, October 17.

The meeting will begin at 1 p.m. in the Mount Pleasant Civic Center.

Eight members reappointed to planning group

The Northeast Texas planning group has reappointed eight members to new three-year terms.

They are Max Bain, Cass County; Keith Bonds and Scott Hammer, both of Upshur County; Gary Cheatwood, Red River County; Troy Henry of Wood County; Richard LeTourneau of Harrison County, and David Weidman and Richard Zachary, both of Franklin County.

The group also named Don Hightower of Wood County to succeed the late John Durgin of Van Zandt County as a member of the group's executive committee.

Durgin was recently killed in an automobile accident. His position as a group member will be filled at the organization's next meeting October 17.

Water planning recommendations to be submitted

In the coming months, members of the Northeast Texas Regional Water Planning Group will submit recommendations for Northeast Texas water planning to the Texas Water Development Board for the 2011 Texas Water Plan.

The members' recommendations will represent suggestions from groups and individiuals involved in water development and delivery within the region.

The Northeast Texas planning area consists of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

October/November 2007

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Group to seek finding on projects

The North East Texas Regional Water Planning Group will ask the Texas Water Development Department for funding to carry out a series of projects designed to identify water strategies in the 19-county region.

Engineering consultant Ray Flemons identified a series of regional issues which would constitute much of the Group's planning work in 2008 and 2009.

They include:

• The impact of sedimentation and the assessment of existing sediment control structures on area lakes. Flemons said a study of sedimentation in area lakes could help ensure the prolonged availability of existing surface water supplies.

• The study of a system to carry water from Toledo Bend Reservoir on the Sabine River to the North East Texas and the Dallas area, utilizing the use of Lake Fork in North East Texas.

• The analysis of water plant intake elevations versus reservoir surface levels during drought periods. During droughts, water users may experience critical shortages because of insufficient intake elevations in the lakes.

• A broader study of water conservation strategies in North East Texas, including the number of water utilities with conservation plans, measures favored in the region, and recorded water savings.

• A study to identify problems associated with disinfection byproducts on area lakes, groundwater supplies, freshwater and other water sources.

Flemons said the North East Texas group will also arrive at more than one alternative to meet some water needs. He said water user groups complained during previous planning work that they needed more than one water strategy to adapt to changing conditions.

He said the group will also update population and water demand figures in some cases, as well as water infrastructure financing information.

Engineering consultant Ray Flemons of Dallas addresses the North East Texas Regional Water Planning Group in Mount Pleasant.

Continued opposition of Marvin Nichols Reservoir urged

Representatives of several unions and employee groups associated with International Paper Company's paper mill at Domino, south of Texarkana, have encouraged the North East Texas Regional Water Planning Group to continue to oppose the construction of Marvin Nichols Reservoir, a 62,000 to 77,000-acre lake proposed on the Sulphur River by the Dallas area and to explore water alternatives to meet Dallas' future water needs.

The speakers said construction of the lake would result in the loss of timber resources needed by the mill to remain viable in North East Texas.

Douthit elected to Group board

The North East Texas Group also appointed Darwin Douthit of Canton, in Van Zandt County, to fill the unexpired term of John Durgin.

Durgin was killed earlier this year in an automobile accident. He served on the Group's executive committee.

Douthit was recommended by the executive committee and elected unanimously by the Group.

Darwin Douthit

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

February/March, 2008

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Scope of work outlined

The Northeast Texas Regional Water Planning Group has outlined its 2008 scope of work for the nineteen countries included in the region.

Addressing a Group meeting in Mount Pleasant, engineering consultant Ray Flemons outlined the year's objectives, including:

- The evaluation of new water management strategies for some parts of the region.
- Funding assistance to further implement existing water management strategies.
- The refining of water supply and water management strategy information developed by the previous planning cycle.
- Efforts to overcome challenges presented in the Group's last round of water planning.
- The enablement of inter-regional coordination, such as the merger of some water supply groups.
- Assistance to fund administrative and public participation activities.

The Water Planning Group has already received approval from the Texas Water Development Board for three studies.

One study will focus on the further evaluation of sub-regional water supply master plans. Another will deal with brackish groundwater found at several locations in Northeast Texas. And the third study will deal with administrative issues in water planning.

The three studies will cost $251,300, which will come from state sources.

The studies are expected to be completed by December 31 of this year with a final report on the studies by April 30 of 2009.

Engineering consultant Reeves Hayter said the evaluation of some 93 small water supply systems in Northeast Texas could lead to consolidation efforts of some systems with greater operating efficiencies and reduced costs.

The Regional Water Planning Group also received a report on the initial meeting of a joint commission of Northeast Texas planners and North Texas planners established by Senate Bill 3, passed by the Texas Legislature during its 2007 session.

The joint commission is charged with recommending suitable water supply sources for the North Texas Region, including the Dallas area.

Officers reelected

The Northeast Texas Regional Planning Group has reelected its officers, including Jim Thompson of Cass County as chair, Richard LeTourneau of Harrison County as vice-chair, George Frost of Bowie County as secretary, and Mendy Rabicoff of Gregg County and Don Hightower of Wood County as at-large members of the executive committee.

The Group also reelected its liaison representatives with other water groups, including David Weidman of Franklin County, Region C (North Texas); Rabicoff, Region I (East Texas), Sharron Nabors of Lamar County, Groundwater Management District 8; and Max Bain of Cass County, Groundwater Management District 11.

Reelected as officers of the Northeast Texas Regional Planning Group are Jim Thompson, center, chair; Richard LeTourneau, second from right, vice-chair; George Frost, second from left, secretary; Mendy Rabicoff, right, at large member of the executive commitee; and Walt Sears, left, administrator. Not shown is Don Hightower, also an at-large member of the executive committee.

Bright Star-Salem request approved

The Water Plannning Group has approved a request from the Bright Star-Salem Special Utilities District to seek a minor amendment to allow the use of more surface water from the Sabine River basin and reduce its consumption of groundwater.

The request will also have to be approved by the Texas Water Development Board and, after authorization following a public hearing, the request can be formally considered by the regional planning group.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

May/June, 2008

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Water planning tasks approved

The Northeast Texas Water Planning Group (Region D) has approved water planning tasks totaling $452,880 for the next two years, but the proposal may be cut in half by the Texas Water Development Board in Austin.

Meeting in Mount Pleasant Wednesday, May 21, the Group was told by TWDB representative Temple McKinnon that the state agency is likely to recommend only $220,000 for baseline planning.

She said the Board is expected to have about $9 million to be spent by the sixteen regional planning groups in Texas and is reducing proposed planning expenditures in many of the regions.

The Northeast Texas Group, nevertheless, approved the full $452,800 for its planning projects and said it will try to persuade the TWDB that the full amount is needed to fund essential projects in the region's nineteen counties.

The final funding figure will likely be determined by the Texas Legislature in 2009.

As outlined by engineering consultants Ray Flemons, Reeves Hayter and Stan Hayes, the regional planning work would include ten tasks:

- An update of the planning region's physical, demographic and economic characteristics, sources of surface and underground water, major water providers and demand centers, current water uses, water quality conditions, and other planning needs, $27,160.
- A review of population and water demand projections, $46,566.
- An analysis of water supply sources, including a survey of water suppliers, $101,756.
- The identification, evaluation and selection of water management strategies based on the region's projected needs, $36,908.
- A study of the impacts of water management strategies as key parameters of water quality and the impacts of moving water from rural and agriculture areas, $8,880.
- Recommendations for water conservation and drought management, $9,800.
- A study to determine if the strategies to be recommended in Region D's plan are consistent with the long-term protection of Texas' water, agricultural and natural resources, $10,50.
- The identification of unique reservoir and stream segments in the region, and recommendations for legislative action, $12,920.
- A study and report to the Legislature for water infrastructure funding, $19,920.
- The adoption of the plan and proposals for public participation, $178,490.

Meeting tentatively scheduled July 16 in Gilmer

The regional group may know the status of its planning tasks and state funding by July 16, when the group meets again. A meeting is tentatively scheduled in Gilmer. It is anticipated that water quality topics will be considered at the meeting.

Other Business

In other business at its Mount Pleasant meeting May 21, the group heard a presentation on the importance of groundwater availability and the determination of desired future conditions in Northeast Texas by Len Luscomb, general manager of the Rusk County Water Conservation District.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

July, 2008

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Group focuses on water issues.

Members of the North East Texas Regional Water Planning Group (Region D) Wednesday focused on the need for regionalization of small water supply systems, water quality concerns such as the growth of non-native aquatic plants on area lakes, and a recent study involving mercury in Caddo Lake.

Meeting in Gilmer, the Group heard engineering consultant Stan Hayes report on a Texas Commission on Environmental Quality policy encouraging the regionalization of some small water supply systems to protect the public health and assure long-term supplies of safe water.

Hayes said a study of water supply systems in North East Texas shows that the area's best interests could be served by combining 51 systems in ten clusters. An additional 93 small systems have been invited to discuss regionalization, but only 21 systems responded so far.

He said the TCEQ goal is to provide timely and cost-effective solutions for bringing about quality water supply services. Some small systems are facing an increasing demand on their resources to stay in compliance with the federal safe drinking water act, he said.

Hayes said there exists a growing movement in Texas toward regionalization of water systems.

Dealing with non-native aquatic plants

Robert Speight with the Cypress Valley Navigation District advised the Group of the difficulties of controlling giant salvinia, a non-native water plant, and water hyacinth and hydrilla in area lakes.

He said lake officials recently built a two-mile $35,000 barricade across Caddo Lake to control salvinia, but it stopped the plant's growth only temporarily, and additional control efforts were needed and will be implemented.

Mercury levels on Caddo Lake discussed

Matt Chumchal, a consultant from Texas Christian University, said the presence of mercury in Caddo Lake has resulted in a warning not to eat largemouth bass taken from the lake. The mercury concentrations are the highest, however, for spotted gar, raccoons and cottonmouth snakes.

He said mercury levels are not the same for all fish and creatures in the lake, and appear to be higher in forested wetlands than open water with the higest numbers being in open water.

Future studies are warranted, he said, and should compare mercury levels with other North East Texas lakes and surrounding areas.

Group will meet August 14 in Mount Pleasant

The North East Texas Water Planning Group will hold its next meeting on Thursday, August 14, starting at 1 p.m. at the Mount Pleasant Civic Center.

Group administrator Walt Sears said the Group will then fill eight vacancies, three of wich are vacancies created by members who are not seeking new terms or who are not eligible for new terms. They are Dean Carrell of Rains County, John Bryan of Morris County, and Larry Calvin of Delta County.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
John Bryan, Morris County
Larry O. Calvin, Delta County
Dean Carroll, Rains County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

August, 2008

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Group briefed on environmental flows

Rick Lowerre, president of the Caddo Lake Institute, briefed the Group on Senate Bill 3, legislation passed by the Texas Legislature last year, which encourages balanced approaches to maintain the environmental flows of Texas' streams and lakes by reserving or setting aside water for that purpose.

Caddo Lake started a volunteer effort in 2004 to protect the natural lake's environmental flows, as well as economic, recreational and environmental needs.

Lowerre said Senate Bill 3 encourages stakeholders to take into account the interests of all water users. Lowerre cited examples such as protecting wetlands, maintaining channels, and safeguarding sandbars.

He said the Caddo Lake effort was guided by recommendations of nationally-known scientists and experts on environmental flows.

More than 175 people from Texas and Louisiana attended the first conference on environmental flows, said Lowerre. He said a goal is to develop a consensus on ways to protect environmental flows by the end of 2008.

Water Conservation

As Texas grows, our water supply will become more stressed, so it is always imperative to consider adopting water-efficient methods to keep landscaping attractive.

Conservation and reuse are a big part of our region's water plan and we all need to do our part to adopt these strategies where feasible.

These efforts will go a long way in saving water when you're planning landscape projects.

- Planning and design.
- Practical turf areas.
- Efficient irrigation.
- Appropriate maintenance.
- Soil analysis.
- Appropriate plant selection.
- Use of mulches.

For more information about the best water-efficient landscaping strategies for your home or business, see the Earth Kind website at EarthKind.tamu.edu, or visit one of the following websites.

- wwwtxsmartscape.com
- htp:/urbanlandscapeguide.tamu.edu/waterwise.html
- www.wateriq.org

Other water planning developments

- Temple McKinnon of Austin, a representative of the Texas Water Development Board, said the Group's financial proposal for new planning activities in 2008 and 2009, will be recommended to the state board at its August meeting.

- Richard LeTourneau of Harrison County said plans are shaping up for a September meeting of a special study commission made up of regional water planners from Northeast Texas (Region D) and the Dallas-Fort Worth area (Region C) on the future water needs of the Dallas-Fort Worth area.

Water Planning Group selects and reelects members

The Northeast Texas Regional Water Planning Group has elected three new members and reelected five others.

Meeting at Mount Pleasant, the Group elected Sam Long of Delta County, who succeeds Larry Calvin, also of Delta County; Mike Dunn of Rains County, who replaces Dean Carrell, also of Rains County; and Bret McCoy of Morris County, who succeeds John Bryan from the same county.

Group members who were reelected were Greg Carter for Titus County, Ken Shaw of Harrison County, Jim Nickerson of Camp County, Adam Bradley of Marion County, and Don Hightower of Wood County.

New members of the Northeast Texas Water Planning Group are, from the left, Sam Long, Mike Dunn and Bret McCoy.

October meeting

The Northeast Texas Regional Planning Group (Region D) is planning its next meeting at Mount Pleasant on Tuesday, October 7, 2008.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
Mike Dunn, Rains County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sam Long, Delta County
Bret McCoy, Morris County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

October, 2008

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Contract to be finalized for 2009-2011 planning

Members of the North East Texas Regional Water Planning Group (Region D) have authorized its administrative agency, the Northeast Texas Municipal Water District, to finalize a $451,680 contract with the Texas Water Development Board for the funding of planning activities for 2009-2011 in nineteen counties.

The Group also authorized the District to enter into a contract with Bucher, Willis and Ratliff, a Dallas engineering firm, to provide services for the planning work.

The planning work will include all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

New members of the Northeast Texas Water Planning Group are, from the left, Sam Long, Mike Dunn and Bret McCoy.

Brackish water usage discussed

The Water Planning Group, meeting at Mt. Pleasant, also heard a report on a planned study of brackish water in the nineteen counties from Jeffery A. Hogan, an engineer with Bucher, Willis and Ratliff.

Hogan said the study will focus on treated brackish groundwater as a potential source of water to meet the future needs by municipal and industrial water users, along with comparing costs of the water with other alternatives

The study will:

- Identify existing water users who have needs that could be supplemented by treated brackish groundwater.
- Analyze which water users might have potentially brackish groundwater.
- Comparison of brackish water to other alternatives.
- Prepare recommendations for incorporation into the Region D water plan.

Meeting tentatively scheduled for November

The next meeting of the Region D Group has been tentatively scheduled for Wednesday, November 19, at the Mt. Pleasant Civic Center.

Other meetings planned

• A November 12 meeting, also in Mt. Pleasant, of the Special Study Committee made up of Northeast Texas and Dallas area water planners.

• A meeting of the Texas water conservation advisory committee on November 16 in Austin. The purpose of the meeting is to draft recommendations to the Texas Legislature for its 2009 session.

Three Region D members have been named to a special study committee to examine water needs in Northeast Texas and the Dallas area. They are from left, Tom Duckert, Richard LeTourneau and Stephen Frost.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
Mike Dunn, Rains County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sam Long, Delta County
Bret McCoy, Morris County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

November, 2008

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Groundwater planning coming to Northeast Texas

The Northeast Regional Water Planning Group (Region D), has been told that groundwater planning will be coming to Northeast Texas.

Dr. Robert Mace of the Texas Water Development Board, addressing the Group during a recent meeting at Mount Pleasant, said Northeast Texas is one of the few water planning regions in Texas without groundwater conservation districts even though there are six groundwater aquifers in the area.

Groundwater conservation districts have the authority over wells which pump water from aquifers and the power to limit withdrawals. Such districts can be formed by petitions to the Texas Commission on Environmental Quality, by attachments to existing districts, or by the passage of enabling legislation by the Texas Legislature.

If local water users do not want conservation districts when one is needed, the state can establish one, he said.

"You will see more groundwater conservation districts, he said, and when one is needed the state can establish one in a prority groundwater management area," Mace added. "Groundwater management is coming to your area."

He said existing groundwater conservation districts outside Region D can determine future groundwater conditions in the region.

Mace said in 2005, House Bill 1873 put into place state regulations providing for joint planning between water planning groups and groundwater conservation districts in Texas.

HB 1873, he said, requires each water planning group in Texas to decide the future of groundwater supplies and the future of local springs, as well as a calculation of how much water can be safely pumped from local aquifers.

He said two groundwater management areas (GMA 8 and 11) are now focused on Northeast Texas, even though there are no groundwater conservation districts within the planning region. "As you move ahead with your water planning, you will need to have groundwater numbers in the plan you are now working on," said Mace.

Changes being made among regional water suppliers

Another engineering consultant, Reeves Hayter, reported on a study designed to determine if it is feasible and practical to cluster small regional water suppliers into larger regional suppliers in the interest of greater efficiencies and lowered operating costs.

He said in July of this year the study looked at 93 small systems (those with 200 or less water meters) located near larger systems, but found in September that only 45 were still independently operating. The remaining systems had been purchased by a larger system, had ceased to exist, or were part of a consolidated system.

He said the study produced the conclusion that small water systems should consolidate in the years ahead to achieve operating efficiencies and reasonable water costs.

Region D meeting tentatively scheduled for December 17

Walt Sears, administrator for Region D, said the group's next meeting is tentatively scheduled for December 17 at the Mount Pleasant Civil Center, starting at 1 p.m.

The Region D group serves all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Brackish water may be become a regional water source

Ray Flemons of Dallas, Region D's engineering consultant, told the planning group that Northeast Texas can anticipate a 72% increase in population during the 50-year planning period (2010-2060).

During this period, he said, water demand is expected to increase by 50%, requiring an additional 277,900 acre feet of water.

He said brackish water (water with a high salt content) may become an important supplemental source of water for the region. Because there were no strategies proposed for dealing with brackish water in Region D's 2006 water plan, he said brackish water should be a water source in current planning.

Even though disposal injection wells can be expensive, brackish water may be an essential future water source for some Northeast Texas suppliers, particularly for municipalities and perhaps livestock and agriculture.

Northeast/Dallas-Fort Worth Study Commission Discussing Ongoing Tasks

Richard LeTourneau, a Region I Group member, reported on a meeting held Nov. 12 by the joint study commission between regional water planners in Northeast Texas and the Dallas-Fort Worth area.

He said the commission will meet again in Austin January 12 to discuss ongoing tasks related to poviding the means for serving the two areas with water in a manner consistent with Senate Bill 3.

North East Texas Regional Water Planning Group (Region D)

Officers:
Jim Thompson, Cass County, Chair
Richard LeTourneau, Harrison County, Vice Chair
George Frost, Bowie County, Secretary
Don Hightower, At-Large Member of the ExecutiveCommittee
Mendy Rabicoff, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
Mike Dunn, Rains County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sam Long, Delta County
Bret McCoy, Morris County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

March/April 2009

WATER PLANNING REPORT

A publication of the North East Texas Regional Planning Group (Region D)

Canton Reservoir Proposed

Northeast Texas could see the construction of a new reservoir near Canton if a proposal submitted to the region's Water Planning Group takes shape.

The City of Canton proposes to build a 1,500-acre lake to serve the growing community's future water needs, Canton City Engineer Gary Burton told the planning group Wednesday in a meeting at Mount Pleasant.

Burton asked the regional planners to include the proposed reservoir in the state's 2007-2012 water plan, now being developed by regional groups across the state.

Burton said Canton would likely purchase 2,500 acres of land, including the footprint of the lake and its flood pool. The reservoir would produce a yield about five million gallons a day to supplement the city's existing water sources.

The lake would be on Mill Creek, about nine miles from Canton. The new lake would also require the upgrading of the city's existing water treatment plant.

Richard LeTourneau of the regional planning group commented that he looks forward to receiving more information as this proposal is considered by the planning group and believes that group members will have a number of questions when they continue to consider this lake proposal further on May 27.

Richard LeTourneau, center, was elected chair of the Northeast Regional Water Planning Group. Shown with him are Gary Cheatwood, left elected an at-large executive committee member, and Bret McCoy, who was elected secretary

LeTourneau to Head Goup

Richard LeTourneau, of Harrison County, was elected chairman of the planning group, succeeding Jim Thompson of Cass County.

Also named were Don Hightower of Wood County, vice-chairman; Bret McCoy of Morris County secretary; Gary Cheatwood of Red River County, and Bob Staton of Smith County at-large directors; Mendy Rabicoff of Gregg County, liaison for the East Texas Water Planning Group (Region I), and David Wideman of Franklin County, liaison for the Dallas-Fort Worth Planning Group (Region C).

Sharron Nabors and Max Bain were named liasons for two groundwater conservation districts, District 8 and District 11.

Draft Reports Being Studied

The planning group's engineering consulting team, headed by Ray Flemons of Dallas said work is underway on draft reports dealing with population projections, water availability modeling and additional items affecting the state's 2007-2012 water plan.

The regional planning group also discussed planning for steam-electric water demands for the new water plan. Possible future action includes the authorization for methodology to be used to determine water demands project for the stream electric needs within Region D.

In other business, the planning group approved a minor amendment in its regional plan to include the Bright Star-Salem Special Utility District's surface water management strategy and heard reports on other regional water planning groups, special study commissions, a water advisory council, and other advisory groups.

Meeting Scheduled for May

The planning group's next meeting will be on Wednesday, May 27, 2009, starting at 1 p.m. in the Mount Pleasant Civic Center.

North East Texas Regional Water Planning Group (Region D)

Officers:
Richard LeTourneau, Harrison County, Chair
Don Hightower, Vice Chair
Bret McCoy, Secretary-Treasurer
Gary Cheatwood, At-Large Member of the Executive Committee
Bob Staton, At-Large Member of the Executive Committee
Walt Sears, Hughes Springs, Administrator

Directors:
Max Bain, Cass County
Keith Bonds, Upshur County
Adam Bradley, Marion County
Greg Carter, Titus County
Gary Cheatwood, Red River County
James C. Clark, Hunt County
Darwin Douthit, Van Zandt County
Mike Dunn, Rains County
George Frost, Bowie County
Scott Hammer, Upshur County
Troy Henry, Wood County
Don Hightower, Wood County
Richard LeTourneau, Harrison County
Sam Long, Delta County
Bret McCoy, Morris County
Sharron Nabors, Lamar County
Jim Nickerson, Camp County
Don Patterson, Hopkins County
Samuel M. (Mendy) Rabicoff, Gregg County
Ken Shaw, Harrison County
Bob Staton, Smith County
Jim Thompson, Cass County
David Weidman, Franklin County
Richard Zachary, Franklin County

Region D is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

North East Texas Regional Water Planning Group (RWPG D)
P.O. Box 955
Hughes Springs, Texas 75656
(903) 639-7538 • FAX (903) 639-2208
Email: netrmwd@aol.com

Presorted
Standard
U.S. Postage
PAID
Lufkin, Texas
Permit No. 38

North East Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
January 4, 2006

FOR IMMEDIATE RELEASE

The North East Texas Regional Water Planning Group has approved a new 50-year updated water plan for nineteen counties and delivered it to the Texas Water Development Board in Austin.

The plan includes strategies for water planning in all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

The plan represents a culmination of five years of work, noted Group chairman Jim Thompson of Cass County.

The final plan will be reviewed by the TWDB in workshops next June and, with other regional plans in Texas, will become part of a proposed statewide plan to be considered by the Texas Legislature in 2007.

Virginia Sabia of the TWDB told the Group a meeting of all regional water planning chairs, along with water stakeholders in Texas, will be held in Austin in February to focus on future planning in Texas. She said the discussions are likely to include implementation of planning strategies developed by the regional groups.

The North East Texas planning group will not resume its water planning work until mid-2006, said administrator Walt Sears.

Along with approval of its new plan, the North East Texas group reelected its officers, including chair Jim Thompson, vice-chair Richard LeTourneau of Harrison County, secretary-treasurer Beth Wisenbaker of Hopkins County, and two at-large members of the executive committee, John Durgin of Van Zandt County and Mendy Rabicoff of Gregg County.

Wayne Harris of TXU Electric was elected a non-voting member of the Group and Thompson and Rabicoff were named liaisons to regional planning groups in North Texas and lower East Texas.

North East Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
May 17, 2006

FOR IMMEDIATE RELEASE

The Texas Water Development Board has unanimously approved a new 50-year water plan for nineteen North East Texas counties.

The plan, developed by the North East Texas Regional Water Planning Group, includes strategies for water planning in all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties

The plan represents a culmination of five years of work, noted Group chairman Jim Thompson of Cass County, who appeared before the TWDB to support the plan.

Also appearing as supporters of the plan were Group member George Frost of Bowie County, engineers Ray Fleming and Reeves Hayter, and representatives of a landowners group in North East Texas.

Group member Gary Jackson of Smith County appeared in opposition to the plan because it did not include Marvin Nichols Reservoir, a controversial lake proposed on the Sulphur River near Clarksville by the Dallas area regional planning group. Clarksville Mayor Ann Richards also spoke in favor of the lake.

Virginia Sabia of the TWDB said future water planning in North East Texas will likely include implementation of planning strategies developed by the regional group.

The North East Texas planning group will meet Wednesday, August 16, in Mount Pleasant to begin work for the new planning cycle.

North East Texas Regional Planning Group (Region D)
Contact: Walt Sears. 903-639-7538
August 16, 2006

FOR IMMEDIATE RELEASE

The North East Texas Regional Water Planning Group has identified ten priorities which could become the basis of a new five-year planning effort for the region's 22 counties.

Meeting at Mount Pleasant, the Group selected the priorities for submission to the Texas Water Development Board for project funding between 2006 and 2011.

The Group's first priority is to research alternative solutions to meet water needs in the region, as well as demands which may come from neighboring regions in North Texas and East Texas.

The research effort would include management strategies involving surface water, groundwater, water transportation, the use of unallocated water, mitigation laws affecting reservoirs, population and water demand growth, and other impacts on water planning.

A second priority was a review of groundwater management strategies and the role of groundwater management authorities created by the Texas Legislature.

Walt Sears, administrator of the Group, said House Bill 1763 "has the potential of changing the way groundwater will be managed in the future." He said two of the legislative-mandated authorities will impact the North East Texas planning area.

A third priority calls for a study of possible impacts of combining clusters of small water supply systems into single entities to improve financial and operating efficiencies.

The Group's fourth priority will be a study to reevaluate population and water demands to see if significant changes have occurred in North East Texas.

Other priorities include an exploration of problems dealing with brackish groundwater; a broader study of major springs in the region; a study of continued

drought conditions in North East Texas; an updated study of the impact of MTBE, a gasoline additive used in motor-driven boats, on municipal water supplies; a reevaluation of per capita water consumption in the region; and the creation of a new water availability model.

As part of its effort to develop a new water plan, the Group discussed the feasibility of raising the level of Wright Patman Reservoir. In a presentation, Ray Flemons, one of the Group's engineering consultants, said raising the level of Patman Reservoir would affect the need for building Marvin Nichols Reservoir, a controversial lake proposed on the Sulphur River by Dallas area water planners.

Flemons said for each foot of elevation that Patman's level is raised, the region would gain 60,000 additional acre feet of water. By raising the level from 220 to 336 feet, about 960,000 acre feet of additional water storage capacity could be created.

The Water Planning Group also reelected four board members and elected four new members.

Reelected were George Frost of Bowie County, Mendy Rabicoff of Gregg County, Jim Thompson of Cass County, and John Durgin of Van Zandt County.

The new board members are Sharon Neighbors of Lamar County, who succeeds William Justiss; Bob Staton of Smith County, who succeeds Gary Jackson; Jimmy Clark of Hunt County, who succeeds Mike Dunn; and Don Patterson of Hopkins County, who succeeds Beth Wisenbaker.

The planning group was advised that the Texas Water Development Board will hold a public hearing on the new Texas Water Plan, which includes recommendations from the North East Texas Group, on September 21, starting at 6 p.m. in the Gilmer Civic Center.

North East Texas Regional Water Planning Group (Region D).

Contact: Walt Sears, 903-639-7538

Sept. 21, 2006

FOR IMMEDIATE RELEASE

Representatives of the North East Texas Regional Water Planning Group (Region D) have protested the inclusion of the proposed Marvin Nichols Reservoir in the Texas Water Development Board's new Texas Water Plan.

Members of the Planning Group, joined by more than fifty residents of North East Texas, told the Water Development Board at a Gilmer public hearing Thursday night that the draft plan released by the TWDB "ignored the wishes of North East Texas, its legislators and its appointed water planning authority."

The Marvin Nichols Lake, which would be located on the Sulphur River south of Clarksville, was included in the state plan at the request of water planners representing the Dallas area.

Richard LeTourneau, vice-chairman of the Region D planning group, said that while the North East Planning Group respects the TWDB staff and its work, "we do not agree with the plan's conclusions." With the inclusion of Marvin Nichols, he said the plan "does not reflect our region's work or the wishes of the public or our legislators."

LeTourneau also said the inclusion of Marvin Nichols "is not consistent with the TWDB's promise to protect natural resources and the environment."

George Frost, another Region D director, said the state plan ignored the fact that, by raising the levels of Wright Patman Reservoir, some 900,000 acre feet of water "could be realized without taking one acre."

A third Region D director, Sharron Nabors, also protested the inclusion of Marvin Nichols in the state plan. She said all members of the Region D planning group, with one exception, voted for removing Marvin Nichols from the North East Texas Water Plan. She said the proposed lake is widely opposed by landowners, agricultural operators and timber growers in the area.

The three Region D directors were joined by nine other individuals in opposing the lake. Two individuals, Clarksville Mayor Ann Rushing and former Region D director Gary Jackson of Lindale, supported the inclusion of the lake.

A day before the state hearing, the Region D group voted to oppose Marvin Nichols. In addition to testifying at the Gilmer hearing, the board will file additional comments with the TWDB in Austin next month and ask North East Texas legislators to seek "a legislative fix."

Citizens can provide comments on the draft Texas Water Plan by e-mailing the comments to Bill.Roberts@twdb.state.tx.us or by sending them to the following address: Bill Roberts, Water Resources Planning Division, Texas Water Development Board, PO Box 13231, Austin, TX 78711-3231.

North East Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
November 29, 2006

FOR IMMEDIATE RELEASE

Having lost its effort to remove the proposed Marvin Nichols Reservoir from the new Texas Water Plan, the North East Texas Regional Water Planning Group plans to seek support from state legislators in the nineteen-county region.

Meeting at Mount Pleasant, the Group voted to ask the area's House and Senate members to oppose the designation of the Marvin Nichols site on the Sulphur River as a unique reservoir site.

The 62,000 to 77,000-acre reservoir has been proposed as a water management strategy for the North Texas Regional Water Planning Group. If built, the lake would primarily supply water needs for the Dallas-Fort Worth area.

George Frost of Bowie County, a planning group member, said the Dallas area "appears to have the philosophy that if you are a prosperous area, that entitles you to waste water resources and take water from other regions."

Richard LeTourneau of Harrison County, also a group member, said options exist for creating new water supplies "without building a costly new reservoir which hurt people and consume land."

He said raising the level of Wright Patman Reservoir and importing water from Toledo Bend Reservoir on the Sabine River are two viable options.

Walt Sears, administrator of the North East Texas Group, said an effort will be made "to illuminate to our legislators on the feelings of people who live in their districts." He said the Texas Legislature has the authority to designate or remove the designation for unique reservoir sites.

The Marvin Nichols dispute is one of six water issues which the Group will identify for local legislators when the Texas Legislature begins its new session in January.

The others are:

- Maintaining the current law on interbasin water transfers.
- The ramifications of land acquisition policies for water management strategies.
- The clarification of the impacts that occur when unique stream segments are

designated.

- Reconciliation of differences in water plans among adjoining planning regions.
- Joint planning and coordination with the new groundwater management areas established by the Texas Water Development Board.

In other activity, David Weidman, General Manager of the Franklin County Water District, was named to the Group board, succeeding Eldon Wold, also of Franklin County, who recently resigned.

The North East Texas Planning Region includes all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

North East Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 9-03-639-7538
January 32, 2007

FOR IMMEDIATE RELEASE

Officers of the North East Texas Regional Water Planning Group plan to meet with representatives of the Texas Water Development Board TWDB) in Austin in an effort to procure additional funding for projects the Group considers essential to water planning in the nineteen-county region during 2007 and 2008.

Meeting at Mount Pleasant Wednesday, the Group authorized chairman Jim Thompson of Cass County, executive committee member Mendy Rabicoff of Gregg County, administrator Walt Sears, and engineering consultant Ray Flemons to seek additional planning funds for a key project to explore alternatives for meeting future water demands in North East Texas.

The Group had sought $290,900 from the TWDB for the project involving evaluation of future water management strategies, but received a response that indicated only $59,065 might be available, which the Group said was insufficient.

The Group received an indication from the TWDB that additional sums of $132,440 for a further study of sub-regional water supply plans and $73,810 for a study of brackish groundwater in the region might be available

Seven other regional projects were requested, but no indication has been made by the TWDB that the state could fund any of these projects.

These projects included a plan to coordinate the work of two groundwater management areas in the region, a study of minimum per capita water use estimates, a study of water consumption during record droughts, a study of springs in the region, an update of the impacts of gasoline additives on water supplies, the creation of water availability models, and a study of areas with high per capita water consumption.

Chairman Jim Thompson said the Group's officers will also seek funding for some of the rejected studies.

TWDB representative David Meesey, who attended the meeting, gave the Group some encouragement that new funds might be available. He said the state

agency has some unallocated funds "which we want to distribute between the state's regional planning groups for coordinated work."

Several Group members complained that the TWDB funded projects for the Dallas area that impact water resources in North East Texas, but may not fund projects "that we need in our own region."

'It doesn't make much sense that the TWDB is sending money to another region to manage water resources in our region, but doesn't respond to the needs for our region," said Rabicoff.

A source of contention was funds allocated for a Region C (Dallas) study for raising levels of Wright Patman Reservoir on the Sulphur River while rejecting funds for allowing Region D (North East Texas) to participate in the study even though the lake is in North East Texas.

"Raising the levels of Patman would help our area and, if Region C does the study, we should be allowed to participate in a spirit of cooperation between the two regions," said Rabicoff.

He said raising the levels of existing lakes will do a lot less damage to the economy of North East Texas than building new lakes, as proposed by the Dallas area.

During its meeting, the North East Texas Group reelected its officers, including Jim Thompson as president, Richard LeTourneau as vice-president, George Frost as secretary, and John Durgin and Mendy Rabicoff as executive committee members.

Max Bain of Cass County was named liaison representative for Groundwater Management Area 11 and Sharron Nabors of Lamar county was named to a similar role for Management Area 8.

David Weidman of Franklin County was named liaison representative for Region C (Dallas) with Sharron Nabors serving as the alternate. Mendy Rabicoff was named liaison representative for Region I (East Texas).

North East Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 9-03-639-7538
May 16, 2007

FOR IMMEDIATE RELEASE

Regional water planners in Northeast Texas may embark on a joint study with planners in the Dallas area to explore alternatives to Marvin Nichols Reservoir as the means of meeting future water demands for the two regions.

The group met Wednesday in Mount Pleasant.

Suggested by the Texas Water Development Board (TWDB) as a part of water planning for a new Texas water plan, the study is being proposed as a key effort in Region D (Northeast Texas) and Region C (the Dallas and North Texas area).

Region C has proposed Marvin Nichols Reservoir on the Sulphur River, south of Clarksville, as a long-range water source while planners in Northeast Texas have opposed the lake because of its possible averse impact on the region's economy and Sulphur River area landowners.

"The TWDB is making an effort to bring the two regions together on a consensus regarding water supply needs for the two areas," explained Walt Sears, administrator for the Northeast Texas planning group.

Final approval of the study, however, is awaiting the outcome of Senate Bill 3 by the Texas Legislature. Lawmakers in Austin have removed Marvin Nichols as a proposed reservoir from the legislation, but are still working on the bill in the closing days of the current legislative session in Austin.

The joint regional study, to be funded by about $290,000 in state funds to Region D, would include an analysis of Lake Wright Patman to determine if raising the lake's level to the 259-foot level could produce sufficient water for the two regions' needs in the next 50 years.

The study will also review the potential capacity of other reservoirs in the Sulphur, Red, Trinity, Sabine, Neches and Cypress river basins, the feasibility of a new lake in the Sulphur River basin, and a study of mitigation lands if they are needed in the event new water sources are developed.

The study would be carried out jointly by Bucher Willis and Ratliff Engineers, representing Northeast Texas, and Freese & Nichols, Inc., representing the Reion C area.

In addition to the joint regional study, Northeast Texas planners are awaiting TWDB approvals for two other projects over the next two years. They are:

- The evaluation of small regional water supply plans. A primary concern of planners in the region is the large number of small rural water systems which have inadequate staffs and resources to comply with regulatory needs.
- The identification of existing water suppliers with needs which could be augmented by brackish groundwater supplies if pretreated with methods such as desalination.

At its meeting Wednesday, the Northeast Texas group requested the TWDB to grant an extension of the deadline for regional projects until June 25 because the deadline of May 17 did not allow sufficient time to study the state's contact for the proposed work.

Further discussion of the three projects will be take place at the June 20 meeting of the Northeast Texas Planning Group in Mount Pleasant, starting at 1 p.m. at the Mount Pleasant Civic Center.

The Northeast Texas region is composed of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties

Northeast Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-7538
June 6, 2007

FOR RELEASE AT WILL

A special study commission to explore water supply options in Northeast Texas for the Dallas area will likely begin work this fall.

Mandated by the recent session of the Texas Legislation, the commission will consist of three members selected by the Region D Water Planning Group (Northeast Texas) and three members selected by the Region C Water Planning Group (Dallas/North Texas)

In a meeting Wednesday in Mount Pleasant, the Region D group agreed to accept nominations for individuals in the region's 19 counties to serve on the commission.

From the nominations, the Region D board will select three individuals who have the support of at least two-thirds of the board membership.

The Texas Legislature developed the special study approach in an effort to resolve water supply differences between the two regions.

The Dallas area region has proposed building Marvin Nichols Reservoir, a 62,000 to 77,000-acre reservoir on the Sulphur River south of Clarksville, as a future water source for the Dallas area.

Northeast Texas water planners have contended that the reservoir is not needed and Dallas' needs can be supplied by other strategies, including conservation, raising the water levels of Wright Patman Reservoir near Texarkana, pumping water from Toledo Bend Reservoir on the Sabine River, and possibly using water from other existing reservoirs.

The legislation establishing the special study said the commission should:

• Review water supply alternatives, including supplies from Wright Patman, Toledo Bend, Lake Texoma , Lake O' the Pines and other lakes, and groundwater sources.

• Analyze the socioeconomic effect of the development of Dallas area water supply sources on Northeast Texas, including the impact on landowners, agriculture, industries, and local taxing entities.

• Examine the effect of water availability from Wright Patman Reservoir and the impact of industries now using Patman's water.

• Evaluate measures to comply with federal mitigation requirements and consider whether the burden can be shared by the Region C area.

• Review innovative methods of compensation to property owners--including royalties and annual payments--affected by the construction of a new reservoirs such as Marvin Nichols.

• Evaluate the minimum number of surface acres required for proposed reservoirs.

• Identify the locations of proposed reservoir sites and possible mitigation sites

The special study will likely start this year, possibly in September, and will be completed by December 1, 2010, and delivered to state officials for consideration.

The study drew criticism from several members of the Northeast Texas water planning group, but others said the study is an opportunity for the group to express concerns over Marvin Nichols' economic and environmental impacts on the region. Members also expressed the sentiment that the special study commission is an opportunity to work toward a win-win scenario in future water resource management.

Several public officials said additional water supplies will not only be needed by Dallas in the next ten to 50 years, but similar needs will be faced by Northeast Texas.

Speaking in favor of the possible construction of Marvin Nichols were Clarksville Mayor Ann Rushing, Mount Pleasant Mayor Jerry Boatner, and Ty Abston, also of Mount Pleasant, representing the Northeast Texas Water Commission

"We must face the realities that Northeast Texas has only 600,000 voters while Dallas has six million," said Abston. "They will ultimately get what they want."

Max Shumake said Dallas has "all the water it will need" in Wright Patman and Toledo Bend Reservoirs.

In other business, the Northeast Texas planners renewed its administrative arrangement with the Northeast Texas Municipal Water District headquartered in Hughes Springs. Apprecation was expressed to the District and its manager,Walt Sears, for work that assists the planning on behalf of the Region.

The next Region D meeting has been tentatively scheduled for Wednesday, August 15, starting at 1 p.m. in the Mount Pleasant Civic Center.

The Northeast Texas planning area consists of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-7538
August 15, 2007

FOR RELEASE AT WILL

The Northeast Texas Regional Water Planning Group (Region D) has named three regional leaders to a special study commission to explore water supply options for the Dallas area in Northeast Texas.

Elected Wednesday in Mount Pleasant were Tom Duckert of Bowie County, environmental manager for International Paper Company; Stephen Frost of Cass County, an attorney and member of the Texas House of Representatives; and Richard LeTourneau of Harrison County, vice chairman of the Region D planning group.

Duckert, Frost and LeTourneau will join three members from the Dallas/North Texas Regional Planning Group (Region C) on the commission, which was established by Senate Bill 3, passed by the Texas Legislature earlier this year.

The Legislature developed the special study approach in an effort to resolve water supply differences between the two regions.

The Dallas area region has proposed building Marvin Nichols Reservoir, a 62,000 to 77,000-acre reservoir on the Sulphur River south of Clarksville, as a future water source for the Dallas area.

Northeast Texas water planners have contended that the reservoir is not needed and Dallas' needs can be supplied by other strategies, including conservation, raising the water levels of Wright Patman Reservoir near Texarkana, pumping water from Toledo Bend Reservoir on the Sabine River, and possibly using water from other existing reservoirs.

The Northeast Texas planning group also reappointed eight members to new three-year terms.

They are Max Bain, Cass County; Keith Bonds and Scott Hammer, both of Upshur County; Gary Cheatwood, Red River County; Troy Henry of Wood County, Richard LeTourneau, and David Weidman and Richard Zachary, both of Franklin County.

The group also named Don Hightower of Wood County to succeed the late

John Durgin of Van Zandt as a member of the group's executive committee. Durgin was recently killed in an automobile accident. His position as a group member will be filled at the organization's next meeting October 17.

In other business, group members were asked to submit recommendations for Northeast Texas water planning to the Texas Water Development Board for the 2011 Texas Water Plan.

The Northeast Texas planning area consists of all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

North East Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-7538

October 17, 2007

FOR IMMEDIATE RELEASE

The North East Texas Regional Water Planning Group will ask the Texas Water Development Department for funding to carry out a series of projects designed to identify water strategies in the 19-county region.

Appearing before the Group at its meeting Wednesday in Mount Pleasant, engineering consultant Ray Flemons identified a series of regional issues which would constitute much of the Group's planning work in 2008 and 2009.

They include:

• The impact of sedimentation and the assessment of existing sediment control structures on area lakes. Flemons said a study of sedimentation in area lakes could help ensure the prolonged availability of existing surface water supplies.

• The study of a system to carry water from Toledo Bend Reservoir on the Sabine River to the North East Texas and the Dallas area, utilizing the use of Lake Fork in North East Texas.

• The analysis of water plant intake elevations versus reservoir surface levels during drought periods. During droughts, water users may experience critical shortages because of insufficient intake elevations in the lakes.

• A broader study of water conservation strategies in North East Texas, including the number of water utilities with conservation plans, measures favored in the region, and recorded water savings.

• A study to identify problems associated with disinfection byproducts on area lakes, groundwater supplies, freshwater and other water sources.

Flemons said the North East Texas group will also arrive at more than one alternative to meet some water needs. He said water user groups complained during previous planning work that they needed more than one water strategy to adapt to changing conditions.

He said the group will also update population and water demand figures in some cases, as well as water infrastructure financing information.

The North East Texas Group also appointed Darwin Douthit of Canton to fill the unexpired term of John Durgin, who recently passed away.

During a public comment session, representatives of several unions and employee groups associated with International Paper Company's paper mill south of Texarkana encouraged the planners to continue to oppose the construction of Marvin Nichols Reservoir, a 62,000 to 77,000-acre lake proposed on the Sulphur River by the Dallas area and to explore water alternatives to meet Dallas' future water needs.

The speakers said construction of the lake would result in the loss of timber resources needed by the mill to remain viable in North East Texas.

Group administrator Walt Sears said the Group's next meeting will likely be between Thanksgiving and Christmas.

The regional group serves all or parts of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-7538
February 27, 2008

FOR IMMEDIATE RELEASE

The Northeast Texas Regional Water Planning Group has outlined its 2008 scope of work for the nineteen countries included in the region.

Addressing a Group meeting in Mount Pleasant, engineering consultant Ray Flemons outlined the year's objectives, including:

- The evaluation of new water management strategies for some parts of the region.
- Funding assistance to further implement existing water management strategies.
- The refining of water supply and water management strategy information developed by the previous planning cycle.
- Efforts to overcome challenges presented in the Group's last round of water planning.
- The enablement of inter-regional coordination, such as the merger of some water supply groups.
- Assistance to fund administrative and public participation activities.

The Water Planning Group has already received approval from the Texas Water Development Board for three studies.

One study will focus on the further evaluation of sub-regional water supply master plans. Another will deal with brackish groundwater found at several locations in Northeast Texas. And the third study will deal with administrative issues in water planning.

The three studies will cost $251,300, which will come from state sources. The studies are expected to be completed by December 31 of this year with a final report on the studies by April 30 of 2009.

Engineering consultant Reeves Hayter said the evaluation of some 93 small water supply systems in Northeast Texas could lead to consolidation efforts of some systems with greater operating efficiencies and reduced costs.

The Regional Water Planning Group received a report on the initial meeting

of a joint commission of Northeast Texas planners and North Texas planners established by Senate Bill 3, passed by the Texas Legislature during its 2007 session.

The joint commission is charged with recommending suitable water supply sources for the North Texas Region, including the Dallas area.

The Northeast Texas planning group also:

• Reelected its officers, including Jim Thompson of Cass County as chairman, Richard LeTourneau of Harrison County as vice-chair, George Frost of Bowie County as secretary, and Mendy Rabicoff of Gregg County and Don Hightower of Wood County as at-large members of the executive committee.

• Reelected its liaison representatives with other water groups: David Weidman of Franklin County, Region D (North Texas); Rabicoff, Region I (East Texas), Sharron Nabors of Lamar County, Groundwater Management District 8; and Max Bain of Cass County, Groundwater Management District 11.

• Approved a request from the Bright Star-Salem Special Utilities District to seek a minor amendment to allow the use of more surface water from the Sabine River basin and reduce its consumption of groundwater. The request will also have to be approved by the Texas Water Development Board and, after authorization followint a public hearing, the request can be formally onsidered by the regional planning group..

The Regional Planning Group serves all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
May 21, 2008

FOR IMMEDIATE RELEASE

The Northeast Texas Water Planning Group (Region D) has approved water planning tasks totaling $452,880 for the next two years, but the proposal may be cut in half by the Texas Water Development Board in Austin.

Meeting in Mount Pleasant Wednesday, the Group was told by TWDB representative Temple McKinnon that the state agency is likely to recommend only $220,000 for baseline planning.

She said the Board is expected to have about $9 million to be spent by the sixteen regional planning groups in Texas and is reducing proposed planning expenditures in many of the regions.

The Northeast Texas Group, nevertheless, approved the full $452,800 for its planning projects and said it will try to persuade the TWDB that the full amount is needed to fund essential projects in the region's nineteen counties.

The final funding figure will likely be determined by the Texas Legislature in 2009.

As outlined by engineering consultants Ray Flemons, Reeves Hayter and Stan Hayes, the regional planning work would include ten tasks:

- An update of the planning region's physical, demographic and economic characteristics, sources of surface and underground water, major water providers and demand centers, current water uses, water quality conditions, and other planning needs, $27,160.
- A review of population and water demand projections, $46,566.
- An analysis of water supply sources, including a survey of water suppliers, $101,756.
- The identification, evaluation and selection of water management strategies based on the region's projected needs, $36,908.
- A study of the impacts of water management strategies as key parameters of

water quality and the impacts of moving water from rural and agriculture areas, $8,880.

- Recommendations for water conservation and drought management, $9,800.
- A study to determine if the strategies to be recommended in Region D's plan are consistent with the long-term protection of Texas' water, agricultural and natural resources, $10,50
- The identification of unique reservoir and stream segments in the region, and recommendations for legislative action,$12,920.
- A study and report to the Legislature for water infrastructure funding, $19,920.
- The adoption of the plan and proposals for public participation, $178,490.

The regional group may know the status of its proposals and state funding by July 16, when the group meets again. A meeting is tentatively scheduled in Gilmer. It is anticipated that water quality topics will be considered at the meeting.

In other business, the group heard a presentation on the importance of groundwater availability and the determination of desired future conditions in Northeast Texas by Len Luscomb, general manager of the Rusk County Water Conservation District.

The Northeast Texas planning group includes all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties

North East Texas Regional Water Planning Group
Contact: Walt Sears. 903-639-7538

July 23, 2008

FOR RELEASE AT WILL

Members of the North East Texas Regional Water Planning Group (Region D) Wednesday focused on the need for regionalization of small water supply systems, water quality concerns such as the growth of non-native aquatic plants on area lakes, and a recent study involving mercury in Caddo Lake.

Meeting in Gilmer, the Group heard engineering consultant Stan Hayes report on a Texas Commission on Environmental Quality policy encouraging the regionalization of some small water supply systems to protect the public health and assure long-term supplies of safe water.

Hayes said a study of water supply systems in North East Texas shows that the area's best interests could be served by combining 51 systems in ten clusters. An additional 93 small systems have been invited to discuss regionalization, but only 21 systems responded so far.

He said the TCEQ goal is to provide timely and cost-effective solutions for bringing about quality water supply services. Some small systems are facing an increasing demand on their resources to stay in compliance with the federal safe drinking water act, he said.

Hayes said there exists a growing movement in Texas toward regionalization of water systems.

Robert Speight with the Cypress Valley Navigation District reported on the difficulties of controlling giant salvinia, a non-native water plant, and water hyacinth and hydrilla in area lakes.

He said lake officials recently built a two-mile $35,000 barricade across Caddo Lake to control salvinia, but it stopped the plant's growth only temporarily, and additional control efforts were needed and will be implemented.

Matt Chumchal, a consultant from Texas Christian University, said the

presence of mercury in Caddo Lake has resulted in a warning not to eat largemouth bass taken from the lake. The mercury concentrations are the highest, however, for spotted gar, raccoons and cottonmouth snakes.

He said mercury levels are not the same for all fish and creatures in the lake, and appear to be higher in forested wetlands than open water with the higest numbers being in open water.

Future studies are warranted, he said, and should compare mercury levels with other North East Texas lakes and surrounding areas.

The North East Texas Water Planning Group will hold its next meeting on Thursday, August 14, starting at 1 p.m. at the Mount Pleasant Civic Center.

Group administrator Walt Sears said the Group will then fill eight vacancies, three of wich are vacancies created by members who are not seeking new terms or who are not eligible for new terms. They are Dean Carrell of Rains County, John Bryan of Morris County, and Larry Calvin of Delta County.

Northeast Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
August 14, 2008

FOR IMMEDIATE RELEASE

The Northeast Texas Regional Water Planning Group has elected three new members and reelected five others.

Meeting at Mount Pleasant, the Group elected Sam Long of Delta County, who succeeds Larry Calvin, also of Delta County; Mike Dunn of Rains County, who replaces Dean Carrell, also of Rains County; and Bret McCoy of Morris County, who succeeds John Bryan from the same county.

Group members who were reelected were Greg Carter for Titus County, Ken Shaw of Harrison County, Jim Nickerson of Camp County, Adam Bradley of Marion County, John Bryan of Morris County, and Don Hightower of Wood County.

Temple McKinnon of Austin, a representative of the Texas Water Development Board, said the Group's financial proposal for new planning activities in 2008 and 2009, will be recommended to the state board at its August meeting.

Rick Lowerre, president of the Caddo Lake Institute, briefed the Group on Senate Bill 3, legislation passed by the Texas Legislature last year, which encourages balanced approaches to maintain the environmental flows of Texas' streams and lakes by reserving or setting aside water for that purpose.

Caddo Lake started a volunteer effort in 2004 to protect the natural lake's environmental flows, as well as economic, recreational and environmental needs.

Lowerre said Senate Bill 3 encourages stakeholders to take into account the interests of all water users. Lowerre cited examples such as protecting wetlands, maintaining channels, and safeguarding sandbars.

He said the Caddo Lake effort was guided by recommendations of

nationally-known scientists and experts on environmental flows.

More than 175 people from Texas and Louisiana attended the first conference on environmental flows, said Lowerre. He said a goal is to develop a consensus on ways to protect environmental flows by the end of 2008.

Richard LeTourneau of Harrison County said plans are shaping up for a September meeting of a special study commission made up of regional water planners from Northeast Texas (Region D) and the Dallas-Fort Worth area (Region C) .on the future water needs of the Dallas-Fort Worth area.

The Northeast Texas Group is planning its next meeting at Mount Pleasant on October 7, 2008.

The Northeast Texas Regional Planning Group includes all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast East Texas Regional Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
October 7, 2008

FOR IMMEDIATE RELEASE

Members of the North East Texas Regional Water Planning Group (Region D) has authorized its administrative agency, the Northeast Texas Municipal Water District, to finalize a $451,680 contract with the Texas Water Development Board for the funding of planning activities for 2009-2011 in nineteen counties.

The Group also authorized the District to enter into a contract with Bucher, Willis and Ratliff, a Dallas engineering firm, to provide services for the planning work.

The planning work will include all or portions of Bowie, Camp, Cass. Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt, and Wood counties.

The Group, meeting at Mt. Pleasant, also heard a report on a planned study of brackish water in the nineteen counties from Jeffery A. Hogan, an engineer with Bucher, Willis and Ratliff.

Hogan said the study will focus on treated brackish groundwater as a potential source of water to meet the future needs by municipal and industrial water users, along with comparing costs of the water with other alternatives

The study will:

• Identify existing water users who have needs that could be supplemented by treated brackish groundwater.

• Analyze which water users might have potentially brackish groundwater.

• Comparison of brackish water to other alternatives.

• Prepare recommendations for incorporation into the Region D water plan.

The next meeting of the Region D Group has been tentatively scheduled for Wednesday, November 19, at the Mt. Pleasant Civic Center.

Other upcoming meetings related to water planning include:

• A November 12 meeting, also in Mt. Pleasant, of the Special Study Committee made up of Northeast Texas and Dallas area water planners.

• A groundwater management meeting on October 15 in Nacogdoches.

• A meeting of the Texa water conservation advisory committee on November 16. The purpose of the meeting is to draft recommendations to the Texas Legislature for its 2009 session in Austin.

Northeast Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-2208
November 19, 2008

FOR IMMEDIATE RELEASE

The Northeast Regional Water Planning Group (Region D), was told Wednesday that groundwater planning will be coming to Northeast Texas.

Dr. Robert Mace of the Texas Water Development Board, addressing the Group at Mount Pleasant, said Northeast Texas is one of the few water planning regions in Texas without groundwater conservation districts even though there are six groundwater aquifers in the area.

Groundwater conservation districts have the authority over wells which pump water from aquifers and the power to limit withdrawals. Such districts can be formed by petitions to the Texas Commission on Environmental Quality, by attachments to existing districts, or by the passage of enabling legislation by the Texas Legislature.

If local water users do not want conservation districts when one is needed, the state can establish one, h said.

"You will see more groundwater conservation districts, he said, and when one is needed the state can establish one in a prority groundwater management area," he said. "Groundwater management is coming to your area."

He said existing groundwater conservation districts outside Region D can determine future groundwater conditions in the region.

Mace said in 2005, House Bill 1873 put into place state regulations providing for joint planning between water planning groups and groundwater conservation districts in Texas.

HB 1763, he said, requires each water planning group in Texas to decide the future of groundwater supplies and the future of local springs, as well as a calculation of how much water can be safely pumped from local aquifers.

He said two groundwater management areas (GMA 8 ad 11) are now focused on Northeast Texas, even though there are no groundwater conservation districts within the planning region. "As you move ahead with your water planning, you will need to have groundwater numbers in the plan you are now working on,"

said Mace.

Ray Flemons of Dallas, Region D's engineering consultant, told the planning region that Northeast Texas can anticipate a 72% increase in population during the 50-year planning period (2010-2060). During this period, he said, water demand is expected to increase by 50%, requiring an additional 277,900 acre feet of water.

He said brackish water (water with a high salt content) may become an important supplemental source of water for the region.

Because there were no strategies proposed for dealing with brackish water in Region D's 2006 water plan, he said brackish water should be a water source in current planning.

Even though disposal injection wells can be expensive, brackish water may be an essential future water source for some Northeast Texas suppliers, particularly for municipalities and perhaps livestock and agriculture.

Another engineering consultant, Reeves Hayter, reported on a study designed to determine if it is feasible and practical to cluster small regional water suppliers into larger regional suppliers in the interest of greater efficiencies and lowered operating costs.

He said in July of this year the study looked at 93 small systems (those with 200 or less water meters) located near larger systems, but found in September that only 45 were still independently operating. The remaining systems had been purchased by a larger system, had ceased to exist, or were part of a consolidated system

He said the study produced the conclusion that small water systems should consolidate in the years ahead to achieve operating efficiencies and reasonable water costs.

Richard LeTourneau, a Region I Group member, reported on a meeting held Nov. 12 by the joint study commission between regional water planners in Northeast Texas and the Dallas-Fort Worth area. He said the commission will meet again in Austin January 12 to discuss ongoing tasks related to poviding the means for serving the two areas with water in a manner consistent with Senate Bill 3.

Walt Sears, administrator for Region I, said the group's next meeting is tentatively scheduled for December 17 at the Mount Pleasant Civil Center, starting at 1 p.m.

The Region D group serves all or portions of Bowie, Camp, Cass, Delta,

Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-2208
December 17, 2008

FOR IMMEDIATE RELEASE

Meeting in Mount Pleasant, members of the North East Texas Regional Water Planning Group Wednesday gave their approval to a final draft of two key studies impacting water supplies in the nineteen-county region.

One study focused on brackish groundwater in the region. Ray Flemons of Tyler, Region D's engineering consultant, told the planning region that Northeast Texas can anticipate a 72% increase in population during the 50-year planning period (2010-2060)

Flemons noted that brackish water (water with a high salt content) may become an important supplemental source of water for the region.

Because there were no strategies proposed for dealing with brackish water in Region D's 2006 water plan, he said brackish water should be a water source in current planning.

Even though disposal injection wells can be expensive, brackish water may be an essential future water source for some Northeast Texas suppliers, particularly for municipalities and perhaps livestock and agriculture.

The second draft approved focused on the feasibility and practicality of clustering small regional water suppliers into larger regional suppliers in the interest of greater efficiencies and lowered operating costs.

Group administrator Walt Sears said there will be no forced consolidation of any water systems. Action will be dependent on the individual systems.

The study looked at 93 small systems (those with 200 or less water meters) located near larger systems, but found in September that only 45 were still independently operating. The remaining systems had been purchased by a larger system, had ceased to exist, or were part of a consolidated system.

No date was set for the next group meeting, but it is expected to be in March.

The Region D group serves all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
May 27, 2009

FOR IMMEDIATE RELEASE

Members of the Northeast Texas Regional Water Planning Group (Region D) were told Wednesday that the consolidation of small water suppliers in the 19-county region may be inevitable in the future as a means of dealing with water shortages and financial problems.

In a study of 100 small water systems, engineering consultant Reeves Hayter said only five water suppliers expressed an interest in merging with other suppliers while ninety-five others showed little interest.

Hayter said consolidations may only happen if severe water or financial shortages occur in the years ahead.

Meeting at Mount Pleasant, the Planning Group also heard from Canton Mayor Rusty Wilson and City Engineer Gary Burton on a proposal to build a new 1500-acre lake to serve growing water needs by Canton and Van Zandt County.

The lake proposal was announced at a Planning Group earlier this year. The lake would be built on Mill Creek, about nine miles from Canton. Construction of the lake would also require the upgrading of the city's existing water treatment plant.

The lake would produce a yield of five million gallons of water a day to supplement the city's existing water sources. Canton currently relies on two groundwater wells and will drill a third next year, said Burton, "but for the long term, surface water will be essential to Canton and the surrounding area."

Mayor Wilson said population projections predict Canton and Van Zandt County will grow six times its current size in the coming years. During the 2000 census, the region had grown by 28%, the mayor said.

Canton currently has a population of about 5,000, but on weekends when Canton Trade Days are held in the city, the population approaches 200,000, said Burton. Van Zandt County's nearness to the Dallas Metroplex, sixty

miles to the east, is causing much of the growth as people move to rural areas to escape the city's growth.

In other activity, the Planning Group:

• Announced that nominations are being sought for Group members whose terms will begin in September of this year.

• Approved a suggestion by Group member Greg Carter of Titus County that the Group adopt the 2000 figures for steam-electric water usages for the 2007-2012 planning cycle.

• Approved the same methodology used in 2000 for determining groundwater availability figures for 2007-2012. Group administrator Walt Sears said 32 groundwater systems exist in Region D, and some systems may need additional water supplies in the future.

• Set a date of Wednesday, August 19, for the Group's next meeting. The meeting will begin at 1 p.m. in the Mount Pleasant Civic Center.

• Heard Bud Kendall of Smith County, who spoke during the public comment period, suggest that the state build a 20-foot wide, ten-feet deep stainless steel pipeline from Dallas down Interstate 45 to the Texas gulf, remove the salt from the ocean water, and supply most of East Texas with water instead of building new lakes. The pipeline, he said, would cost $2 billion.

Region D serves all or parts of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Planning Group
Contact: Walt Sears, 903-639-7538
August 19, 2009

FOR RELEASE TODAY

The Northeast Texas Regional Water Planning Group has elected four new group members and reelected four current members.

Meeting in Mount Pleasant, the Group named Shirley Shumake of Bowie County to succeed George Frost, also of Bowie County, Doug Wadley of Bowie County to succeed Mendy Rabicoff of Gregg Ccounty, Nancy Clemons of Cass County to succeeed Jim Thompson, also of Cass County, and Jim Edson of Hunt County to succeed James C. Cook, also of Hunt County.

Elected to new terms of service on the Group were incumbents Sharron Nabors of Lamar County, Bob Staton of Smith County, Don Patterson of Hopkins County, and Darwin Douthit of Van Zandt County.

Shawn Napier, engineer for the City of Paris, requested the Planning Group to modify the Red River's Water Availabiliy Model (WAM) in the Group's new water planning, which is now being prepared.

Walt Sears, administrator of the Northeast Texas Group (also known as Region D), explained that the Water Availability Model is a simulation of what amounts of water will be available in a river basin in the future.

"In some cases, you could have water rights that may not be availabile 365 days a year," said Sears.

A WAM is a work in progress, he said, " and helps to determine what we have now, how much water we will need, and what actions we'll have to take in the future," he explained.

While Paris officials said they are not asking for WAM changes on Pat Mayes Lake, near the city, but they suggested changes in expected output of Lake Creek, also in the Red River basin, from 1,000 acre feet a year to 7,290 acre feet.

Temple McKinnon of the Texas Water Development Board, said the state is comfortable with the Paris request to modify the WAM.

The Regional Planning Group will vote on Paris request during its

October 15 meeting in Mount Pleasant.

A delegation from Van Zandt County appeared before the Group to protest the construction of a new lake in the Canton area. They said the lake is "excessively expensive" and will cover up lands owned by Van Zandt County residents.

Stan Hayes, an engineering consultant for the Group, reviewed proposed water management strategies being developed by the consulting team, including water quality stability and costs of the water when it is delivered to users.

The studies, he said, will also focus on environmental factors, the impacts on fish and wildlife, the costs of interbasin water transfers, the reuse of waste water, and the acquisition of water sources.

Richard LeTourneau of Gregg County, chairman of the Northeast Texas Group, announced that an open public meeting by the Study Commission on Water Needs of Region C (the Dallas area) will be held at Texarkana College on September 24, starting at 1 p.m. with a focus on a proposed schedule of work by Espy Consultants, Inc.

The Study Commission was created by the Texas Legislature to implement legislative charges in Senate Bill 3.

Ms. McKinnon also provided the Northeast Group with an overview of impacts caused by the current drought in Central Texas. "Lake Travis," she said, "is at one of the lowest level since the lake was built."

The Northeast Texas Group serves all or parts of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
October 15, 2009

FOR IMMEDIATE RELEASE

The Northeast Regional Water Planning Group (Region D) has given its approval to the inclusion of new water availability numbers for the City of Paris in Lamar County.

The new figures, which will go into the development of a new regional plan being prepared by the Water Planning Group, "represent more accurate numbers for the Paris area," said engineer Reeves Hayter.

The figures for yield, which will be submitted to the Texas Water Development Board in Austin, include 59,670 acre feet for Pat Mayse Lake and 7,290 acre feet for Lake Crook. The updated figures were the result of a engineering study for Paris. The water will come from the Red River basin.

Meeting at Mount Pleasant, the Water Planning Group also heard a report on the growing threat of Giant Salvinia, a water-borne invasive plant native to South America which has become a growing threat to East Texas lakes.

Lee Thomas of the Northeast Texas Municipal Water District said the plant has become the world's most aggressive aquatic weed and has become a serious threat to Caddo Lake, Martin Lake, and Lake O' the Pines since it was found in Toledo Bend Reservoir in 1998.

Thomas said educating lake owners and operators of the threat posed by Giant Salvinia is the key to its control. But he said there are limited biological solutions to controlling the weed. He said the Texas Legislature recently appropriated $200,000 to control the plant on Caddo Lake, but the effort has had limited success

Noting that a new federal law has made it a crime to possess the weed, Thomas said the plant can clog lake intake structures, blocks sunlight from entering the body of a lake, depletes oxygen and degrades water quality.

"We have to stay after the weed, but I am afraid we will never wipe it out," said Thomas, "and if we don't catch it early, it can easily get out of control."

James Beach of LBG Guyton, Inc., of Austin, reported on groundwater management efforts in Northeast Texas. If approved, it will be the first groundwater conservation district located in the North East Regional Planning Group area (Region D).

He said there are only two groundwater management areas (GMA's) now operating in Northeast Texas. GMA No. 11 serves in the Carrizo Aquifer and some adjoining areas. GMA 8 serves a number of minor aquifers in the upper Trinity River area.

A groundwater conservation district for Harrison County is awaiting voter approval, Beach said, and if approved it will be the first groundwater conservation district located in the Northeast Texas Regional Water Planning Group Area (Region D).

He further stated that a Desired Future Conditions report for groundwater areas will be submitted to the Texas Water Development Board by September of 2010.

Richard LeTourneau, chairman of the Water Planning Group, reported on a Sept. 24 Texarkana meeting held by the Region C Special Study Commission established by the Texas Legislature to exlore water sources for the Dallas area.

LeTourneau said the study is currently placing emphasis on a proposal to raise the water levels of Wright Patman Lake in Northeast Texas as one solution. Another meeting is scheduled for November.

The Water Planning Group will hold its next meeting on Wednesday, November 18, in Mount Pleasant, starting at 1 p.m.

North East Texas Regional Water Planning Group
Contact: Walt Sears 903,639-7538
November 19, 2009

FOR IMMEDIATE RELEASE

The North East Texas Regional Water Planning Group (Region D) moved ahead Wednesday with the development of a Round 3 water plan for the Group's 19 counties.

Meeting in Mount Pleasant, the Group approved Chapters 1 and 2 and discussed the contents of Chapters 3 and 8, as well as ecologically unique stream segments

Administrator Walt Sears told the Group that it must complete its regional water plan by March 1, 2010, including chapters 1 through 10.

Sears said chapters 1 and 2 are currently accurate as Region D members proposed.

In reviewing Chapter 3, consulting engineer Reeves Hayter said the segment's purpose is to evaluate current water supplies and determine shortages in the region.

He said the chapter projects an increase of 6,000 acre feet of surface water and 43,000 acre feet of groundwater, but he said the latter figure could be inaccurate and may require some adjustments. He indicated that groundwater projections for a portion of Smith County would be examined more closely.

He said studies have projected 1,844,912 acre feet of water over the next 50 years. The plan, he said, assumes there will be no additional major reservoirs developed in the next 50 years.

The Group discussed possible ecologically unique stream segments, including Pecan Bayou, which originates two miles south of Woodland in Red River County near the Red River and flows 40 miles to rejoin the river one mile west of the Bowie County line.

Jim Eidson of Hunt County said the unique stream segment includes bottomland forests covering about 613,462 acres and is one of the largest undamed forest watersheds in North East Texas and supports large forests with rare and endangered species.

Another endangered forest segment discussed is White Oak Creek, which originates a mile east of Pleasant Grove in central Hopkins County and winds 66 miles through North Franklin County north of Mount Pleasant and north and west of Interstate 30.

Ray Flemons, chief engineering consultant for the regional group, discussed the group's plan for revising recommendations found in the 2006 water plan. He said recommendations must be compiled in 2010 for unique reservoir sites and legislative recommendations for the Texas Water Development Board's statewide plan.

Unique stream segments may be set aside for biological functions, hydrological purposes, and endangered stream protection, he said.

Richard LeTourneau, Region D's chairman and a member of a Study Commission exploring water options for Region D and Region C (Dallas-Fort Worth), said the Commission will meet Friday at Richardson.

The group set January 6, 2010, for its next meeting, starting at 1 p.m. in Mount Pleasant's Civic Center. Posssible water management strategies for entities expected to exprience an inadequate supply over the next 50 years will likely be discussed at that meeting.

Region D serves all or parts of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

North East Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-7538
January 6, 2010

FOR IMMEDIATE RELEASE

Members of the North East Texas Regional Water Planning Group (Region D) focused Wednesday on legislative recommendations as part of its long-range water planning efforts for nineteen counties in the region.

Meeting in Mount Pleasant, the group discussed designating two area streams as ecologically unique stream segments. They are a segment of Pecan Bayou in the Red River basin and Black Cypress Bayou in the Cypress Creek basin.

A proposal by Group member Sharron Nabors of Lamar County to include Pine Creek was tabled for consideration. Group administrator It was indicated that City of Paris is considering portions of the creek as a reservoir to supplement the city's water needs in its long-range planning.

Among other legislative recommendations under consideration include:

• That no reservoir sites be designated as unique and that no new reservoir sites be pursued in the region until all other viable alternatives are exhausted. However, the group reiterated its support of the Prairie Creek Reservoir on the Sabine River as an aid to delivering water from Toledo Bend to Region D and Region C. (Dallas-Fort Worth).

• Support of the Wetlands Compensation Mitigation Rule.

• That the Marvin Nichols Reservoir site remain a concern for regional water planners.

• That the Legislature adopt the Giant Salvinia recommendations presented to the Group last October.

• That the Toledo Bend Pipeline be designated as a water supply strategy.

• That recommendations concerning oil and gas wells be adopted to protect fresh water supply aquifers.

• That mitigation be addressed as a part of initial studies.

The Group's engineers reported that a study of regional water supplies indicated that they remain sufficient to meet demand for the projected planning period. Also updated were the estmated supplies in the Pat Mayes Reservoir and Lake Crook in the Red River basin and updated groundwater availability and updated regional pumping estimates.

Another engineering report said 61 of the region's 268 water systems have deficiencies, but of the 61, only 40 systems have actual deficiencies and 21 have contractual deficiencies.

Kevin Ward of Austin, executive administrator of the Texas Water Development Board, addressed the group and noted that Texas has been fortunate that severe droughts in the state have been short.. During the recent drought, he said, only one

area of Texas, extreme South Texas, was among the most severe drought areas in the U.S.

He noted that the new Texas Water Plan, which is being prepared by the state's regional water planning groups, is due for consideration by the Texas Legislature on January 5, 2012.

He said if Texas fails to implement suitable water strategies by 2060, Texas likely will have a water crisis in some areas of the state.

In other action, the North East Texas planning group reelected all of its officers and at-large members and designated members to serve as liaisons to other planning groups and groundwater management areas for 2010.

The group's next meeting will be on January 27 at the Mount Pleasant Civic Center, starting at 1 p.m.

Region D serves all or portions of Bowie, Gregg, Camp, Cass,, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Smith, Titus, Upshur, Van Zandt and Wood counties.

Northeast Texas Regional Water Planning Group (Region D)
Contact: Walt Sears 903-639-7538
January 27, 2010

The Northeast Regional Water Planning Group (Region D) moved forward Wednesday with the development of Round 3 components of its new regional water plan for nineteen East Texas counties.

Meeting at Mount Pleasant, the Group voted to conditionally authorize inclusion in the initially prepared plan two ecologically unique stream segments, Pecan Bayou, a stream located in the Red River basin in Red River County, and Black Cypress Bayou and Creek, a segment of the Cypress Creek basin.

Group member Jim Eidson said the Pecan Bayou segment has significant conservation efforts in place or underway and is one of the few areas in Texas where the rare black bear has been sighted in the vicinity of the stream.

However, Wayne Dial, city manager of Clarksville in Red River County, said the inclusion of Pecan Bayou will limit the options of Red River County to build a reservoir in the future.

"If this designation takes place, all it is doing is stopping the development of Red River County," he said.

Black Cypress Bayou, a major tributary of Caddo Lake, is the home of rare and endangered species, including the paddle fish, a prehistoric-like fish that can attain lengths of seven feet, said Walt Sears, administrator of the Water Planning Group.

The group also approved six chapters of the initially prepared plan for Round 3 with comments and suggestions from water entities in the region and members of the Planning Group. The initally prpared plan will be further discussed on February 11 and further action is anticipated at that time.

Ray Flemons of Dallas, chief engineering consultant for the Planning Group, outlined the six proposed chapters to be included in the initial version of the new regional plan.

One addition specified that before any new reservoir should be considered in the Sulphur River basin within Region D, the raising of water levels in Wright Patman Reservoir should be considered as a possible additional source of supply by the Texas Legislature.

Another revision to the draft clarified the position that Marvin Nichols Reservoir, which has been proposed for the Sulphur River, is not consistent with the Northeast Regional Water Plan.

Keith Bonds of the City of Longview suggested that the draft be clarified about a proposed pipeline that would carry water from Toledo Bend Reservoir on the Sabine River. He said it could be a viable alternative to supply water for some water entities in Northeast Texas.

The planning group also authorized a request to the Texas Water Development Board, asking the board's staff to perform a socioeconomic impact analysis of water management strategies and related activities in Northeast Texas.

Flemons said the Northeast Texas Group's final regional plan should be completed in August of this year after all interested persons have reviewed the initially prepared plan, provided comments, and the group has edited the plan as appropiate to the coments.

The planning group will hold its next meeting on Wednesday, February 11, starting at 1 p.m. in Mount Pleasant.

Region D serves all or portions of Bowie, Gregg, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Smith, Titus, Upshur, Van Zandt and Wood counties.

North East Texas Regional Water Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
Feb. 11, 2010

FOR IMMEDIATE RELEASE

The North East Texas Regional Water Planning Group (Region D) Thursday confirmed the completion of an Initially Prepared Plan (IPP) and adopted it for nineteen counties in North East Texas.

Meeting at Mount Pleasant, the Group also announced plans for disbursement of the plan to libraries and county clerks in the nineteen counties and scheduled a public hearing for Wednesday, March 31, at the Mount Pleasant Civic Center, starting at 1 p.m.

The plan, which has been in preparation for more than three years, will also be posted on the website of the Texas Water Development Board.

Following the March 31 hearing, another sixty days will be available for the public to make comments.Public comments may be sent to the NETRWPG, P.O. Box 955, Hughes Springs, Texas 75656.

The water plan includes all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Rains, Red River, Smith, Titus, Upshur, Van Zandt and Wood counties.

Chapter 1 of the plan describes the region's physical characteristics, demographics, and economics, as well as sources of surface and ground water,
major water supplies and demand centers, current water uses, and water quality conditions. It also includes an initial assessment of the region's preparations for drought, as well as the region's agricultural and natural resources, and potential threats to these resources.

Other chapters address the following:

• Population and water demand projections.
• An evaluation of current water supplies for each user group in the region, including surface and ground water.
• Identification of water shortages and supplies in the region by counties and river basins.
• Identification of water management strategies for addressing every projected shortage in the North East Texas planning area
• The impact of water management strategies on key parameters of water quality and the impacts of moving water from rural and agricultural areas.
• Water conservation and drought management recommendations.
• Policy recommendations regarding the designation of unique reservoir sites and unique streams, interbasin transfers, conversion of water supplies from groundwater to surface water, limiting the expansion of giant salvinia and other noxious aquatic plants, and improvements to the regional water supply planning process.

• A report to the Texas Legislature on water infrastructure funding recommendations to Northeast Texas areas with identified shortages during the planning process.
• A summary of public involvement throughout the planning process.

The water plan was prepared by Bucher, Willis and Ratliff, an engineering firm, in association with Hayter Engineering, Inc., Hayes Engineering Company, Bob Bowman & Associates, and LBG/Guyton Associates.

North East Texas Regional Planning Group (Region D)
Contact: Walt Sears, 903-639-7538
May 5, 2010

FOR RELEASE

Engineering consultants for the North East Texas Regional Water Planning Group have begun the process of reviewing comments on the Group's Initially Prepared Plan (IPP) for nineteen North East Texas counties.

Meeting at Mount Pleasant, lead engineer Ray Flemons of Dallas said comments will continue to be agenda items for subsequent Group meetings.

Most of the initial comments came from the Texas Water Development Board seeking verification and data. Other comments came from municipalities and other water suppliers.

The City of Canton, which says it needs additional water sources to meet the city's anticipated population growth, asked for the right to use treated wastewater, to drill two new water wells, and construct a new reservoir.

The IPP shows Canton with a 161 acre feet water deficit. The city's water enhancement proposals would give the city an additional 181 acre feet or more.

Canton officials said the additional water supplies could alleviate water shortages caused by anticipated growth.

The IPP said Canton's current population is 3,537 and is projected to be around 4,613 by 2060 by the IPP. Canton officials, however, believe the city's population could be as high as 31,000.

Engineer Stan Hays commented on two aquifers supplying water to North East Texas. He said the Carrizo-Wilcox Aquifer's water supplies have been over-allocated, according to a groundwater allocation model.

He said that no water groups have claimed to be using water from the Queen City Aquifer in Gregg, Harrison and Upshur counties.

The North East Texas Water Planning Group also announced that, starting in September, it will accept nominations for eight individuals who would serve as voting members for the Group.

One member of the Group, Max Bain, 67, of Atlanta, passed away on April 23 in Texarkana. Bain was county commissioner of Cass County and active in numerous civic endeavors.

The North East Water Planning Group serves all or portions of Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Hopkins, Hunt, Lamar, Marion, Morris, Red River, Rains, Smith, Titus, Upshur, Van Zandt and Wood counties.

The Group's next meeting will be Wednesday, June 23, starting at 1 p.m. in the Mount Pleasant Civic Center.

Northeast Texas Regional Water Planning Group
Contact: Walt Sears, 903-639-7638
June 23, 2010

FOR IMMEDIATE RELEASE

The Northeast Texas Regional Water Planning Group (RWPG D) Wednesday approved revisions to an Initially Prepared Plan accepted by the Group earlier this year.

During a public hearing in May and during a public comment period, the Group received 36 written comments and 20 oral comments dealing with the Initially Prepared Plan (IPP).

Meeting in Mount Pleasant, the Group's engineering consultants, headed by Ray Flemons of Dallas, reviewed the comments, which were divided into three groups: One, those which reflected the opinions of individuals and groups, but which did not request any changes in the IPP.

Two, comments which represented facts that were incorrectly stated or needed clarity.

Three, comments which recommended or requested changes in the IPP which required more direction by the Group.

Other IPP revisions focused on these water issues:

• Proposals for new reservoirs or interbasin water transfers should be made consistent with environmental flow needs in the Cypress and Sulphur River basins in the Northeast Texas regional planning area. Until then, however, no water should be proposed for a new reservoir or for uses in other water regions unless water plans in other regions explicitly recognize the environmental flow needs for Northeast Texas and that the amount, timing, diversion and other characteristics must be consistent with the need.

• The Northeast Texas RWPG does not recommend the designation of the following proposed unique reservoir sites: Little Cypress, Barkman, Liberty Hill, Big Pine, Pecan Bayou, Big Sandy, Carl Estes, Waters Bluff, Carthage, Marvin Nichols I, IA and II and George Parkhouse I and II,

The RWPG supports the proposal of the Sabine River Authority to build Prairie Creek Reservoir if used in conjunction with a pipeline from Toledo Bend Reservoir to provide water to serve Northeast Texas and the Dallas-Fort Worth Metroplex.

The Northeast Texas RWPG said its position is that the development of additional reservoirs by other planning regions could negatively impact the agricultural resources of Northeast Texas.

The Northeast RWPG also discussed environmental flows and said it recognizes that such flows will likely be defined in Round 4 of the planning process and can be specifically defined at that time.

The Sabine River basin has appointed a bay and basin expert science team

(BBEST) to address the development of environmental flow recommendations. BBEST has submitted a report on environmental flows and the process is underway, but is not complete.

The Northeast Texas RWPG said there will be unavoidable negative impacts to the integrity of the ecological environments of water bodies in the Cypress River Basin, especially Caddo Lake, should new reservoirs are developed in the Cypress Basin or water is transferred out of the basin without assuring water for environmental flows

The Northeast Texas RWPG also took the position that no new reservoirs should be developed, or transfers made, in the Sulphur River Basin within the planning area until the flow needs for a sound ecological environment are defined for the basin through a process established by Senate Bill 3.

The IPP recommended that a water strategy for the City of Canton would be to construct two new water wells with a capacity of 180 gallons per minute from the Carrizo-Wilcox aquifer in Van Zandt County. The planning group has authorized additional language that includes the strategies of reuse and a lake in Van Zandt County that meets Canton's needs and further regional needs

The city plans to meet future needs with a proposed reservoir on Grand Saline Creek

On mitigation issues, the Northeast RWPG recommended that any planning group or entity proposing a new reservoir or other water management strategy should address the subject of mitigation.

Other recommendations by the Northeast Texas RWPG included:

• The standardizing of statistics used for conservation assessments.

• That the subject matter of the Sulphur River Basin study to include the feasibility of raising the water level of Wright Patman Reservoir continue to be evaluated by the Special Study Commission of Rep. Stephen Frost, Thomas S. Ducker, Richard LeTourneau, Senator Florence Shapiro, Rep. Jodie Laubenberg and James M. Parks.

• Inclusion of language in the plan about the development of the Haynesville Shale formation and the possible effects on water supplies in the region.

• The control of feral hogs, which are threatening water quality in. Northeast Texas.

The Northeast Texas RWPG 's next meeting will be on Wednesday, July 28, starting at 1 p.m. in the Mount Pleasant Civic Center.