

**PLEASE ACCEPT THESE COMMENTS AS PUBLIC
COMMENTS SUBMITTED TO REGION H AT THE
MAY 28, 2008 REGION H MEETING.**

EXECUTIVE SUMMARY

2006 Region H Plan Chapter 5 presents Texas Water Development Board Water Availability Modeling (WAM) data projecting Lake Conroe levels to be equal or less than (196.6 Ft MSL) experienced immediately after Hurricane Rita during dam site repairs. These lower water levels caused significant economic disruption to the lake area economy.

While this WAM projection is an estimate and a result of assumptions in data input which may not match actual conditions, potential declines in property values and lost tax revenue from extended periods of lake levels equal or less than 197.5 Ft MSL argue for a more rigorous analysis of estimated lake levels after surface water from Lake Conroe is substituted for ground water usage.

A previous study ¹ has estimated tax revenue declines could possibly exceed \$100 Million per year by 2025.

One way to mitigate these potential economic disruptions is to develop Bedias Creek Reservoir as a flow through Lake Conroe water source to supplement surface water conversion use and mitigate potential lost tax revenue.

Bedias Creek Reservoir was included in Region H Plans prior to 2006. Texas needs additional surface water supplies to support future economic growth and Bedias Creek Reservoir is one of 19 designated sites for development.

We recommend Region H include Bedias Creek in the current planning cycle with full understanding of the need for additional surface water sources and need to define and mitigate potential declines in property values and lost tax revenue as a result of using Lake Conroe surface water to replace ground water.

We recommend Region H become more proactive in the 2012 Planning cycle and define specific conservation steps for regional water districts and large water suppliers with implementation goals.

We recommend Region H encourage the Texas Legislature to fund research with the objective of determining an acceptable method of treating effluent leading to the direct injection of this treated effluent into potable water without all of the expensive steps incurred today.

1. Part III Obstacles to reusing wastewater in Montgomery County, December, 2007, Dan Davis

DISCUSSION

Region H 2006 Plan, Chapter 5, Table 5-2, Yr 2060 w/all strategies, suggest Lake Conroe water levels will be equal or less than 194.2 Ft MSL 25 % of the time and equal or less than 198.6 Ft MSL 50 % of the time over the 1940 - 1996 period projected in Appendix 5B-1. Figure 5B-2 graphically depicts event probability. Rainfall rates used in these graphs are considered to be historically significant for WAM water projections.

Water levels below 197.5 Ft MSL during repair to Lake Conroe dam site after hurricane Rita, October, 2005 until October, 2006, caused lost business revenues; damage repairs to watercraft, lake front bulkhead damage repairs and lost sales taxes during a nine month period (The Courier articles). Extended lake levels, 12 months or more, at or below 197.5 Ft MSL may cause significant lake area property value declines resulting in lost property taxes. A previous study ¹ has projected lost tax revenue could exceed \$100 Million per year if lake levels are at or below 197.5 Ft-MSL for greater than one year.

One way to mitigate these potential economic disruptions is to develop Bedias Creek Reservoir as a flow through Lake Conroe water source to maintain lake levels and supplement surface water for Montgomery County.

Another study ² completed for County Judge Alan Sadler included projections of surface water required to meet Montgomery County future water needs. Appendix 1 of this Sadler work suggests additional surface water will be needed sometime in 2015-2040, depending upon actual success in exchanging water with Houston, population growth and conservation effort impact.

The Luce Bayou Trinity River water to Lake Houston to The Woodlands potential treatment plant is one option for supplying additional surface water to South Montgomery County and delaying the need for Bedias Creek. This appears to only delay in the need for Bedias Creek. The time required to design, permit and build the pipeline from Lake Houston to The Woodlands and the time required to design, permit and build Bedias Creek Reservoir suggest these two projects should run concurrently.

WATER AVAILABILITY MODEL (WAM)

The WAM model is primarily used for modeling water use changes impacting stream flows and reservoirs.

This analysis relies upon WAM modeling studies included in the 2006 Regional Plan to simulate impact on Lake Conroe water levels for various water use cases. There are four runs included in the Region H Plan. Each run has similar but different constraints and predicts different impacts on Lake Conroe levels.

This analysis specific interest is lake level at or below 197.5 Ft MSL for extended periods with constraints simulating, as close as possible, use of surface water from Lake Conroe in the surface water conversion effort currently under development by Lone Star Ground Water Conservation District and San Jacinto River Authority.

2. Cost of Water to Average Montgomery County Water User and Projected Surface Water Demand, March, 2008, Dan Davis

Examination of 2006 Region H Plan, Chapter 5, Table 2, and Appendix 5B-2 YR 2000 Run 3 suggest Lake Conroe levels will be below 198.5 Ft MSL 50 % of the time and below 193.9 Ft MSL 25 % of the time. Year 2000 Run 3 uses 100,000 Ac-Ft per year and the Year 2060 Run uses 74,300 Ac-Ft [reduced because of projected sedimentation build up].

The Draft March 2008 Lone Star Ground Water Conservation District (LSGCD) report recommended a single water plant with design capacity of approximately 100,000 Ac-Ft per year. If the plant is designed to process 100,000 Ac-Ft per year, we should expect the plant will be run at or close to capacity as demand for water increases in the 2040-2060 period.

The LSGCD March 2008 Draft report Table 57 Page 92 suggest by 2050, ground water use in Montgomery County will exceed aquifer recharge rate with the recommended single plant option operating at 100 % design capacity. This supports the need for the two plant alternative and additional surface water to avoid exceeding aquifer recharge rate.

These demand projections are currently being updated by SJRA. Perhaps by early 2009, demand requirements and plant site alternatives will be better defined.

For reference, Region H 2006 Plan chapter 5, Table 2, Appendix 5B-1 and 5B-2 are included on pages 6, 7 and 8 of this analysis.

In addition to using Lake Conroe water for conversion to surface water, Lake Conroe is junior to Lake Houston; thus when Lake Houston is low (we do not know the level that triggers this event), water will be discharged from Lake Conroe into Lake Houston via San Jacinto River to return Lake Houston to acceptable levels. **This mandatory release of water is another potential drain on lake levels.**

Mandatory release to Lake Houston is mitigated in the Year 2060 Run because assumed sedimentation build up reduces Lake Conroe firm yield to 74,300 Ac-Ft/year. In other words, Lake Houston will maintain a higher level because Lake Conroe cannot hold historical volumes of water with sedimentation build up and more water will be passed to Lake Houston to maintain Lake Conroe at permitted 201 Ft MSL.

Potential impact on property values, lower tax revenue, etc., from lower lake levels was recognized in the 2006 Regional Plan as described in the following excerpt from Chapter 5. Page 11.

[“The drought of record lasted six years, and subsequent droughts have exceeded two years in duration. Looking at the simulation results in Figures 5B-1 and 5B-5, it can be seen that when significant declines in lake levels occur, they will not be instantaneous events, but will be a subset of the overall drought period. Anecdotally, a month with low lake levels will impact a land owner’s ability to use a dock. A year with low lake levels may impact his property rental or resale value. Similar inferences may be made as to the impacts on lake area communities and businesses.” Color emphasis and underline added]

Having recognized this potential issue, Region H made the decision to delete Bédias Creek from the 2006 Plan and substitute surface water as described in the following from Region H 2006 Plan, Chapter 4, Page 4-17.

[In Montgomery County, new surface water supply will come from Lake Conroe, the San Jacinto River at Lake Houston and the Trinity River via the Luce Bayou transfer into Lake Houston. It was assumed that there would be two service areas. One would serve the northern portion of the county (above Highway 105, including all of Conroe), one would serve the southern portion of the County (including the Woodlands). A diagram of these areas, the proposed pump stations, treatment plants and distribution systems are shown on Figure 4C-2 in Appendix C.] Diagram not included in this analysis.]

We assume this strategy to abandon Bedias Creek Reservoir, as supplemental water for Montgomery County, was made based upon perceived project cost without a rigorous analysis of potential property value declines and lost tax revenue.

Another reason to reinstate Bedias Creek in Region H future water supply planning is identified in last paragraph on first page of the enclosed letter from Representative Brandon Creighton included on Pages 9 and 10.

We recommend Region H include Bedias Creek in the current planning cycle with full understanding of the need for additional surface water sources and need to define and mitigate potential declines in property values and lost tax revenue as a result of using Lake Conroe surface water to replace ground water.

Texas needs additional surface water to maintain strong future economic growth. Bedias Creek cost has recently been updated ² using R. W. Back and R. J. Landes studies to between 3/4 to 1 Billion dollars. Delaying implementation will only increase cost.

CONSERVATION

Conservation is discussed in the 2006 Region H Plan in the form of estimated ground water saved by implementing various, undefined, conservation steps. We believe there are several immediate, some inexpensive and other relatively inexpensive, steps which can be implemented with reductions of discretionary irrigation use of potable water by up to 30 percent.

We recommend Region H become more proactive in the 2012 Planning cycle and define specific conservation steps for regional water districts and large water suppliers with implementation goals.

REUSE OF SEWER TREATMENT PLANT EFFLUENT

As with conservation, reuse of sewer treatment plant “effluent” is discussed in the 2006 Region H Plan. We recognize much, but not all, effluent finds it’s way into streams, rivers and lakes to be reused as surface water. This has been a long established practice. Recent studies by the U. S. Department of Agriculture and others ¹ have measured micro-contaminants which may ultimately require a different approach to reusing effluent.

We recommend Region H encourage the Texas Legislature to fund research with the objective of determining an acceptable method of treating effluent leading to the direct injection of this treated effluent into potable water without all of the expensive steps incurred today.

Region H 2006 Plan can be accessed at:

http://www.twdb.state.tx.us/rwpg/2006_RWP/RegionH/

This will link to a CD. Click on CD and follow links to chapters.

This work product, including analysis of the 2006 Region H Plan and recommendations, is the sole product of Dan Davis and is not intended to represent a position or recommendation of any organizations of which I am a member or officer. The work product is intended to identify issues which need additional definition to prevent implementation or mitigation of steps which may cause unintended consequences.

Dan Davis

May 21, 2008

3418 Wooddale Lane
Montgomery, TX 77356

(936) 448-1809

COPY

Chapter 5 – Impacts of Management Strategies on Water Quality
and Impacts of Moving Water from Rural and Agricultural Areas

Table 5.2 Lake Level Percentile Tables

Lake Conroe Water Surface Elevations

	Current Conditions	Yr 2000 Run 1	Yr 2000 Run 3	Yr 2060 w/ Strategies
Maximum	201.0	201.0	201.0	201.0
90th	201.0	201.0	201.0	201.0
75th	210.0	200.7	200.6	200.6
Median	200.7	198.9	198.7	198.6
25th	199.3	194.7	193.9	194.2
10th	197.2	185.4	183.8	185.9
Minimum	191.9	145.0	145.0	152.0

Lake Houston Water Surface Elevations

	Current Conditions	Yr 2000 Run 1	Yr 2000 Run 3	Yr 2060 w/ Strategies
Maximum	44.0	44.0	44.0	44.0
90th	44.0	44.0	44.0	44.0
75th	44.0	44.0	44.0	44.0
Median	44.0	44.0	44.0	44.0
25th	43.6	43.6	43.0	44.0
10th	42.7	42.9	41.5	44.0
Minimum	36.2	37.0	28.5	40.4

Lake Livingston Water Surface Elevations

	Current Conditions	Yr 2000 Run 1	Yr 2000 Run 3	Yr 2060 w/ Strategies
Maximum	131.0	131.0	131.0	131.0
90th	131.0	131.0	131.0	131.0
75th	131.0	131.0	131.0	131.0
Median	131.0	131.0	129.7	131.0
25th	131.0	130.2	124.6	131.0
10th	130.9	127.9	117.8	130.0
Minimum	127.6	114.5	60.0	125.3

[“As can be seen from the table, under current conditions Lake Conroe would have a 9-ft elevation variation range during the historical period, Lake Houston an 8-ft range and Lake Livingston a 3-ft range. In all cases, the lakes are essentially full more than 50% of the time. To compare the runs with and without management strategies, it is best to compare Run 1 with the Recommended Strategies simulation, because both models use expected return flows.”]

2006 REGION H PLAN FIGURE 5B-1 LAKE CONROE ELEVATION

MODIFIED TO ADD RAINFALL BY YEAR AND NOTES

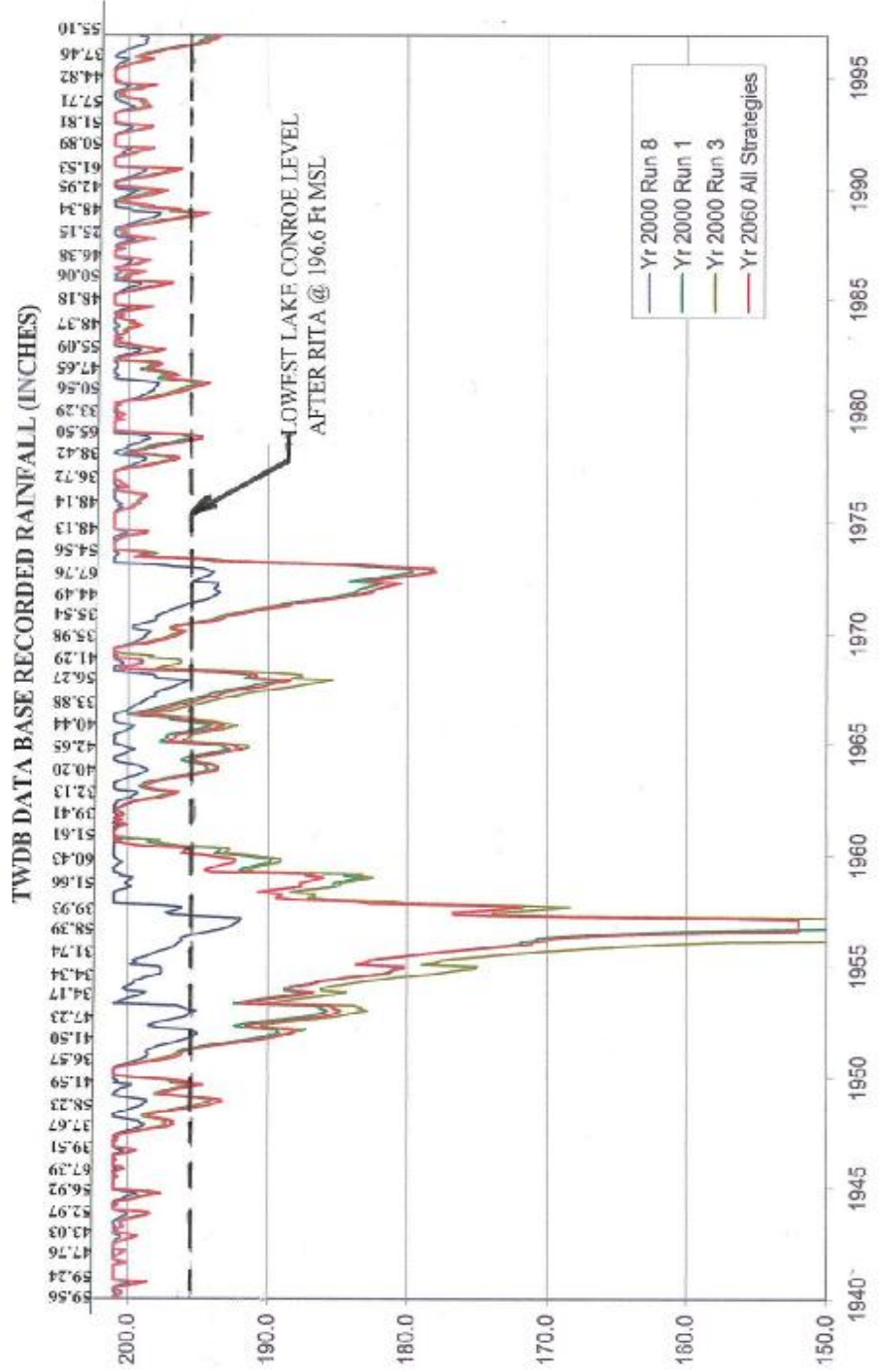
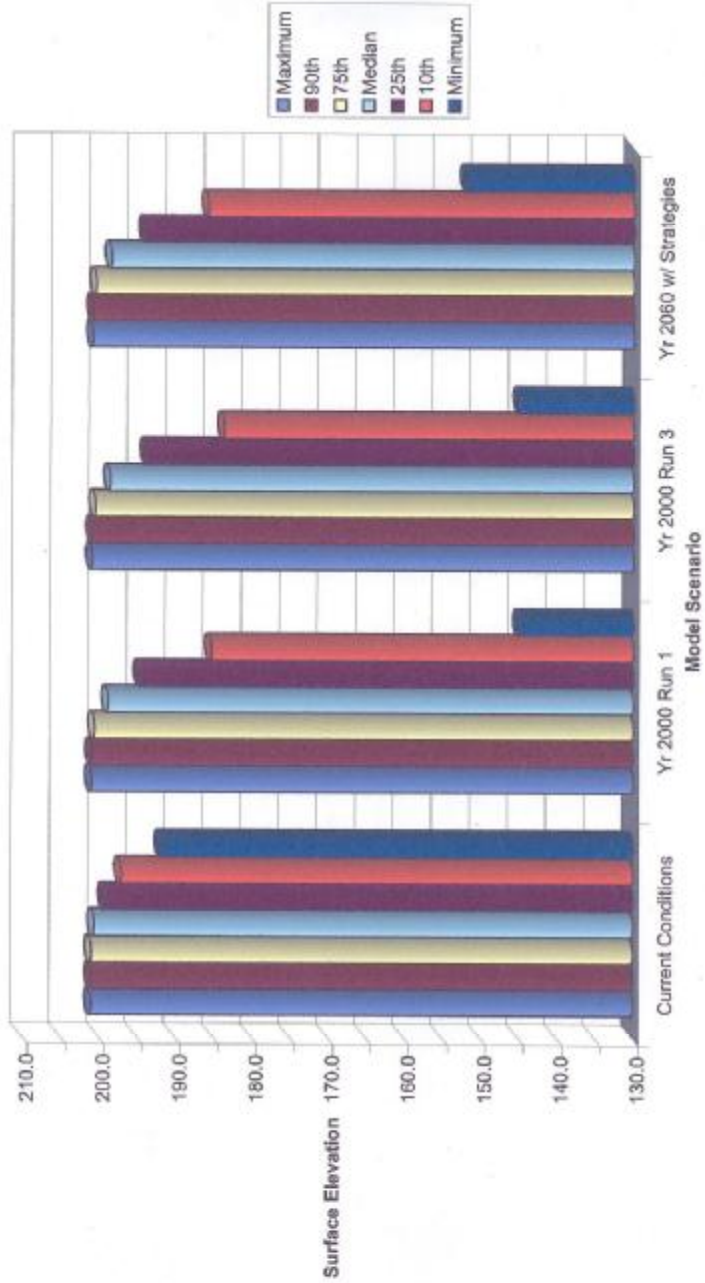


Figure 5B-2: Lake Conroe Elevation Percentiles





Brandon Creighton
Texas House of Representatives

April 1, 2008

James Buscin
Montgomery County MUD # 9
12606 Lauren Lane
Montgomery, TX 77356

Dear James:

In the coming weeks I will be sending you updates regarding future water planning and wanted to provide you an overview of the current status of reservoirs and planning in the State of Texas.

Texas currently has 196 major reservoirs. 175 of which are used for water supply, irrigation, or industrial purposes. Existing surface water supply accounts for more than 50% of the state's total water supply. However, overall supply is expected to decrease by almost 10% by 2060.

Current keys to effective management of surface water supply include making the best use of existing reservoirs and controlling watershed erosion to maintain their holding capacity. The Texas Water Development Board also proposed the construction of new reservoirs for increasing future water supply.

Surface water is only part of the state's overall plan. Other strategies include conservation, groundwater use, water reuse, and desalination.

In 2007 the Legislature designated 19 new unique reservoir sites around the state. These are the sites recommended in the Water Board's 2007 State Water Plan as locations of unique value for the future construction of a dam or reservoir.

Once a site is designated as unique, a state agency or political subdivision is not allowed to purchase land or obtain an easement that would prevent the construction of a reservoir at the site.

The designation of these sites terminates on September 1, 2015, unless steps are taken toward the construction of a reservoir at that site- a vote for a proposed project or expenditure, filing for applications or permits under federal or state law, etc.

CAPITOL OFFICE
P.O. Box 2910
AUSTIN, TEXAS 78768-2910
(512) 463-0726
FAX (512) 463-8428



DISTRICT 16 - MONTGOMERY (PART)

DISTRICT OFFICE
326 1/2 MAIN STREET, SUITE 110
CINNED, TEXAS 77301
(936) 539-0028
FAX (936) 539-0088

The bill designating these sites also included landowner protections to ensure owners can still make use of their land and are properly compensated if their land is eventually used.

The main purpose of the designation is to protect these sites for future use. None of the projects are in their region's water plan, and to be added would require much debate and study. **There are currently no plans to develop any of these sites in the near future, and many of the projects are several decades away. The designation of unique sites was merely a precautionary measure to start now in planning for future needs.**

Speaker Tom Craddick appointed me to a committee that will study the funding aspect of this issue and we will soon be exploring options to consider for the future. In the short term, water users in Montgomery County will need to take steps to solve our problems related to **ensuring our long term sustainable water supply by relying on planning** between our local Lone Star Groundwater Conservation District and the San Jacinto River Authority.

Please do not hesitate to contact me with questions or concerns. I look forward to working with you on this issue for the benefit of all in Montgomery County.

Respectfully,



Brandon Creighton