

READ ME FIRST FILE
LCCN CONSERVATION PRESENTATION
September 9, 2010

“Though it is one of our most valuable natural commodities, water is a resource that is often taken for granted except during times of drought. But in reality, unless we plan ahead, the next generation of Texans may not be able to turn on the sprinkler or the home faucet with the expectation that water will pour forth...” Governor Perry, June 19, 2007.

Explanation of slide comments.

Note, each slide is numbered in lower right corner and referenced in the following.

Slide 3: Study was originally requested in December, 2009 by Senator Nichols with objective of determining what, if any, legislation would be required to encourage conservation in Montgomery County.

Slide 4: This required determining 2009 operations in Montgomery County (MC) as a basis for going forward

Slide 5: As a by product of determining MC 2009 water use, high volume water users to irrigation and other uses was determined. While MC in total, has an annual average use of 36 % of water to irrigation and other, twelve (12) large volume water suppliers collective annual usage to irrigation and other exceeds 70 percent of MC water used for irrigation and other in 2009.

Slide 6: Twelve of MC highest users of water to irrigation are identified,

Slide 7: Population growth drives water demand and *also* provides opportunity for conservation. The more water used the more opportunity for conservation. Region H population projection is the "*Design Basis*" for water demand in MC. Three population projections have been used in this study. Region H as the design basis and University of Texas at San Antonio (UTSA) State Demographer, Dr. Karl Eschbach, 2010 >2040 Version 1.0. These projections were extrapolated from 2040 through 2060 to match Region H planning period. Study UTSA-B is less conservative than Region H and UTSA - A is significantly more aggressive in population projected growth. UTSA -A and UTSA - B are "*what if*" population projections. These higher projections allow us to determine demand and potential conservation offsets at these demand levels.....in case Region H projections are too low.

Slides 8: Presents population projections by decade for the three study population scenarios.

Slide 9: The Alliance for Water Efficiency Tracking Tool allowed study team to *simulate* county wide water usage under various scenarios of water usage and conservation steps. **UTSA -A** population was selected for these alternative case studies.

Slides: 10, 11, 12 & 13 Present results of modeling Montgomery County using Tracking tool.

Slide 14: Outlines short and long term advantages and directions for conservation opportunity.

Slide 15: Summarizes why Montgomery County should be able to achieve study projections.

Slide 16: Illustrates need for **new surface water** possibly as soon as 2030 without conservation.

Slide 17: Illustrates the payoff from early conservation by delaying new surface water needs by a decade.

Slide 18: Concludes conservation is mandatory and not simply substitution of another water source.

Slide 19: Can MC achieve significant conservation starting now with dedicated people and reasonable goals ? **YES**, we believe MC can. San Antonio Water System (SAWS) started at where MC is now in 1979 and has reduced gallons per capita day (**GPCD**) water consumption by 37 percent while population increased.

If MC starts now with a structured conservation plan, MC may achieve a 30 percent reduction in required water use by 2060 versus no conservation.

Slide 20: Concludes need for structured conservation plan with Lone Star Groundwater Conservation District assuming responsibilities and supplemented by County Government as required.

Slides 21 > 25 provide specific recommendations to achieve these goals.

Slide 26: Acknowledgement of assistance provided LCCN Study Team

Slides 29 > 31 show actual rain water harvesting and Xeriscaping installed and thriving in Walden on Lake Conroe.

Slide 32: illustrates water balances using the revised Region H planning basis where TWDB has recognized sedimentation in lakes throughout Texas is reducing volume yield. Lake Conroe is no exception and TWDB has provided guidance: yield from Lake Conroe is "probably" lower than currently permitted 100,000 Ac-Ft/Yr by 24 percent. (~ 76,000 Ac-Ft/Yr)

Also noted is the proposed inclusion of **new surface water** via pipeline from upper Lake Livingston. This proposed new surface water does not satisfy water demand in 2060 at higher population projections. **Slide 33** addresses water demand with estimated conservation savings.

Slide 33: illustrates considerably less water demand as a result of conservation satisfying Region H projected demand with new Livingston water but not meeting demand if population is greater than projected by Region H.

Slide 34 is a table of typical water appliance use per person per house in CPCD with estimated savings accumulated by switching to the next generation of low volume water use devices. These low water use devices are available now in Texas and provide a significant part of projected savings in the study.

TCEQ has mandated new construction include the next generation of low water use plumbing fixtures starting in 2010; gradually increasing in percentage application until achieving 100 percent compliance on January 1, 2015.