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To: <bill.roberts@twdb.state.tx.us>
Date: 9/22/2006 11:08:35 AM
Subject: Comments 2007 State Water Plan- Coastal Bend Region

Bill,

Thank you for the opportunity to provide comments for the 2007 Draft State Water Plan. I recognize that the TWDB has invested a lot of time and effort compiling this state-wide report faced with the inherent challenges in compiling and summarizing region-specific information. I feel that the report is a good-statewide overview and have some suggestions that I would like considered prior to finalizing the Coastal Bend (N) Region summary, as attached.

Thanks again for the opportunity to provide comments. If you have any questions, please contact me at (512) 912-5118.

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<<Region N Final Draft 9-22_KristiShaw.doc>>

CC: "Matt Nelson" Matt.Nelson@twdb.state.tx.us

Comments from Kristi Shaw, HDR Engineering: [KS1]

Summary of Coastal Bend (N) Region

The Coastal Bend Regional Water Planning Area includes 11 counties, the Nueces River Basin, and the Nueces Estuary (Figure N.1). The region's largest economic sectors are service, retail trade, government, and the petrochemical industry. Corpus Christi is the region's largest metropolitan area. The next largest cities in the region are Kingsville, Alice, Beeville, and Robstown[KS2]. The members of the Coastal Bend Planning Group are listed on the last page of this summary.

Population and Water Demands

Approximately 3 percent of the state's total 2010 population is projected to reside in Region N, and between 2010 and 2060 its population is projected to increase by 44 percent to 885,665 (Figure N.2). Ninety-three percent of this population growth is projected to occur in Nueces and San Patricio counties. By 2060, the total water demands for the region are projected to increase 36 percent, from 226,691 acre-feet to 308,577 acre-feet (Figure N.3). Municipal water use makes up the largest share of these demands in all decades and is projected to increase 40 percent over the planning period, from 100,231 acre-feet to 140,636 acre-feet (Table N.1). Manufacturing demands are also expected to grow significantly, from 63,820 acre-feet in 2010 to 88,122 acre-feet (38 percent) in 2060. Agricultural irrigation water demand, however, is projected to decline 33 percent, from 20,072 acre-feet to 13,365 acre-feet in 2060.

Existing Water Supplies

Over three-fourths of the region's existing water supply is associated with surface water resources. The majority of those supplies are provided by Nueces River Basin stream flows together with reservoirs in the Nueces River Basin and interbasin transfers from the Lavaca Region. The region relies on significant amounts of surface water transferred from the Lavaca-Navidad River Basin via the Mary Rhodes Pipeline, which was designed with excess capacity to convey additional water supplies, such as future interbasin transfer from the Colorado River Basin. The remaining surface water is provided through run-of-river sources. The two major (Gulf Coast and Carrizo-Wilcox) and two minor (Queen City and Sparta) aquifers provide groundwater to numerous areas within the region. As the primary groundwater source, the Gulf Coast Aquifer underlies at least a portion of every county in the region and is capable of providing 80 percent of the region's groundwater supply. Because of existing groundwater supply capacity that can grow to meet demands, the region's supplies are projected to increase slightly over the planning period, from 261,446 acre-feet to 262,487 acre-feet (Table N.2).

Needs

Because total supplies are not accessible by all water users throughout the region, the Coastal Bend Region faces water supply needs of 3,404 acre-feet as early as 2010 in the event of drought (Figure N.4, Table N.3). Mining use accounts for 1,802 acre-feet (53 percent) of the 2010 needs. By the year 2060, the needs total 53,432 acre-feet and are dominated by manufacturing users with 43,092 acre-feet of needs (81 percent) and mining water user groups with 7,572 acre-feet of needs (14 percent).

Recommended Water Management Strategies and Cost

The Coastal Bend Planning Group recommended a variety of water management strategies to meet future needs. Implementing all the recommended water management strategies in the Coastal Bend plan would result in 147,182 acre-feet of additional water supplies in 2060 (Figure N.5) at a **total capital cost of \$789,515,000** [KS3](Appendix 2.1).

SELECT MAJOR WATER STRATEGIES (Dollar amounts are rounded[KS4]. See Appendix 2.1 for all recommended strategies and actual costs.)

- Off-channel reservoir and pipeline project would provide 44,005 acre-feet to Corpus Christi for manufacturing—**Implementation by: 2020; Capital Cost: \$260 million.**
- Garwood pipeline interbasin transfer of existing surface water right would provide 35,000 acre-feet to Corpus Christi—**Implementation by: 2030; Capital Cost: \$81 million.**
- Seawater desalination project would provide 18,200 acre-feet of water to Corpus Christi—**Implementation by: 2040; Capital Cost: \$249 million.**
- Stage II Lake Texana new reservoir project would yield an estimated 23,000 acre-feet of additional water to Corpus Christi —**Implementation by: 2060; Capital Cost: \$149 million.**

[KS5]

Conservation Recommendations

The projected municipal water demands assume a 100% replacement of existing plumbing fixtures to water efficient fixtures by Year 2045. The region recommends an additional 15% reduction in per capita water use for municipal entities exceeding 165 gpcd in 2060.

Conservation strategies represent approximately 3 percent of the total amount of water that would be provided by all recommended water management strategies. The Coastal Bend Region made a general recommendation that conservation practices be implemented by all municipal and nonmunicipal water user groups regardless of gallons-per-capita-per-day usage, as well as by entities without any identified water need. Conservation water management strategies were recommended for irrigation, manufacturing, and mining water users. [KS6]

Ongoing Issues

The region faces some ongoing water quality issues including: dissolved mineral concentrations at the Calallen Reservoir Pool where the bulk of the region's water system intakes are located; potential impacts of uranium mining on groundwater; and the impacts and mitigation of abandoned oil and gas wells that affect groundwater resources within the region.

Select Policy Recommendations

- Support managing all water resources on conjunctive use basis
- Repeal the "junior rights" provision regarding interbasin transfers
- Develop a common set of standards for disposing of "reject" water that would apply to both industrial and municipal desalination facilities, as well as to the oil and gas industry
- Encourage regional groundwater management where feasible

Plan Highlights

- Total capital cost \$790 million
- Two new major reservoirs: Stage II Texana and Nueces off-channel
- Seawater desalination recommended to provide 18,200 acre-feet* Add footnote: Recommended with federal participation. Assumes water supplies is 65% of project potential, with 35% dedicated for ecosystem restoration. Water supply is 28,000 acre-feet if funded solely by region.

Table N.1 Projected water demands for 2010–2060					
Category	2010 (acre-feet)	2060 (acre-feet)	Change in demand 2010– 2060	Percent of overall demand in 2010	Change in relative share of overall demand, 2010 2060
Municipal	100,231	140,636	40%	44%	1%
County-other	11,264	10,838	-4%	5%	-1%
Manufacturing	63,820	88,122	38%	28%	0%
Mining	15,150	19,114	26%	7%	0%
Irrigation	20,072	13,365	-33%	9%	-5%
Steam-electric	7,316	27,664	278%	3%	6%
Livestock	8,838	8,838	0%	4%	-1%
Region	226,691	308,577	36%		

Table N.2 Existing water supply sources for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Corpus Christi-Choke Canyon Reservoir system	153,696	160,012
Lake Texana	40,000	40,000 [KS7]
Other surface water	4,685	15,843
Surface water subtotal	209,685	215,843
Groundwater		
Gulf Coast Aquifer	51,278	46,137
Other groundwater	490	513
Groundwater subtotal	51,768	46,650
Region	261,446	262,487

Water supply sources are listed individually if 10,000 acre-feet per year or greater in 2010.

Only includes supplies that are physically and legally available to users.

Table N.3 Water needs by county and type of use for 2010 and 2060 (acre-feet per year)

County	Total		Municipal and County- other		Manufacturin g		Steam- electric		Mining		Irrigation		Live
	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	
Aransas	72	1,579	-	1,443	72	136	-	-	-	-	-	-	-
Duval	1,738	4,205	-	-	-	-	-	-	1,738	4,205	-	-	-

Jim Wells	167	170	167	170	-	-	-	-	-	-	-	-	-
Kleberg	-	155	-	155	-	-	-	-	-	-	-	-	-
Live Oak	1,028	2,892	-	-	337	764	-	-	64	1,755	627	373	-
Nueces	399	40,095	399	590	-	37,893	-	-	-	1,612	-	-	-
San Patricio	-	4,336	-	37	-	4,299	-	-	-	-	-	-	-
Region	3,404	53,432	566	2,395	409	43,092	-	-	1,802	7,572	627	373	-

Coastal Bend Water Planning Group Members

Current voting members:

Scott Bledsoe, III (Co-Chair), water districts; Carola Serrato (Co-Chair), water utilities; Tom Ballou, industries; Bill Beck, electric generating utilities; Chuck Burns, agriculture; Teresa Carrillo, environmental; Billy Dick, municipalities; Patrick Hubert, small business; Pearson Knolle, small business; Robert Kunkel, industries; Josephine Miller, counties; Bobby Nedbalek, agriculture; Bernard Paulson, other; Thomas Reding, Jr., river authorities; Mark Scott, municipalities; Kimberly Stockseth, public

Former voting members during 2001-2006 planning cycle:

Newell Atkinson, small business; Ray Burdette, agriculture; Greg Carter, electric generating utilities; Bernie Delaune, small business; Ben Figueroa, public; Ariel Garcia, river authorities; Jerry Kane, industries; David McNichols, municipalities; Jennifer Smith-Engle, environmental; Fausto Yturria, agriculture