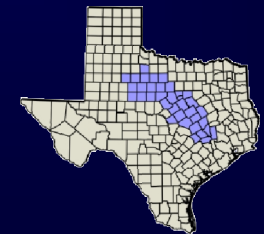


***Agenda Item 6.9***  
***Water Demand/Supply Comparisons***

**August 19, 2009**



# ***Topics for Today***

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- ✓ **Supplies: Surface Water, Groundwater & Constraints**
  
- ✓ **Water Supply Needs (shortages)**
  - **Municipal WUGs**
  - **County-Aggregated WUGs**
  - **Wholesale Water Providers**
  
- ✓ **Next Steps**

# Supplies

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- ✓ **Methodologies and results presented previously**
- ✓ **Surface Water Supplies**
  - **Brazos G WAM**
    - ✓ **Reservoir yields (firm, 1-year safe, 6-month safe)**
    - ✓ **Run-of-the-river rights**
  - **WAM results for individual rights assigned to applicable WUGs and WWP**s
- ✓ **Groundwater Supplies**
  - **Groundwater availability**
    - ✓ **Managed Available Groundwater (GMA process)**
    - ✓ **2006 Plan estimates when GMA process not finished**
  - **Available groundwater pro-rated to users based on well capacities**

# Constraints on Supplies

- ✓ Two types of constraints considered
  - Surface water treatment capacity (TCEQ data)
  - Projected Trinity Aquifer level declines will force wells out of service
- ✓ Constrained supply less than or equal to total supply
- ✓ Example: City of Granbury
  - Total Supply
    - 7,560 acft/yr surface water (BRA contract)
    - 763 acft/yr groundwater (Trinity wells)
    - 
    - 8,323 acft/yr total supply
  - Constrained Supply
    - 226 acft/yr surface water (treatment constraint)
    - 683 acft/yr groundwater (Trinity Aquifer levels)
    - 
    - 909 acft/yr total constrained supply

# Needs

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- ✓ **Compare constrained supplies with demands**
- ✓ **Needs = projected shortages = supply minus demand in each decade**
- ✓ **Demands include contractual commitments for WUGs that are not WWPs**

# Needs for Municipal WUGs

**Table 6. Comparison of Municipal WUG Needs by County, 2006 and 2011 Plans.**

County	Sum of Projected Shortages for Municipal WUGs in County (acft/yr)			
	2006 Plan		2011 Plan	
	2030	2060	2030	2060
Bell	0	0	0	(8,913)
Bosque	(706)	(816)	0	0
Brazos	(1,064)	(9,705)	0	(7,093)
Falls	0	0	(1,312)	(1,701)
Haskell	(303)	(363)	(385)	(327)
Hill	0	(576)	0	0
Hood	0	0	(508)	(7,170)
Johnson	(8,524)	(32,296)	0	(18,338)
Knox	(364)	(488)	(472)	(464)
Lee	(137)	(771)	0	(334)
Nolan	(2,088)	(1,694)	(1,092)	(710)
Palo Pinto	0	0	(461)	(2,389)
Somervell	(193)	(223)	0	0
Taylor	(12,575)	(11,412)	(17,541)	(16,158)
Williamson	0	(86,662)	(19,931)	(108,039)

# Needs for Manufacturing

**Table 7. Comparison of County-Aggregated Manufacturing Needs, 2006 and 2011 Plans (acft/yr).**

County	2006 Plan		2011 Plan	
	2030	2060	2030	2060
Bell	(1,163)	(1,446)	0	0
Bosque	(921)	(1,300)	0	0
Brazos	(96)	(232)	0	0
Burleson	0	(98)	0	0
Falls	(16)	(40)	(2)	(2)
Fisher	(155)	(236)	0	0
Grimes	(80)	(189)	0	0
Hill	(21)	(53)	0	0
Hood	(8)	(15)	0	0
Johnson	(2,546)	(3,639)	(2,141)	(3,232)
Lampasas	(135)	(169)	(135)	(169)
Limestone	(44)	(69)	(39)	(69)
McLennan	(1,089)	(1,508)	(2,958)	(4,403)
Nolan	0	(239)	(197)	(531)
Robertson	(31)	(77)	0	0
Somervell	(4)	(7)	0	0
Washington	(70)	(199)	0	0
Williamson	(1,583)	(2,328)	(1,777)	(2,513)

# Needs for Steam-Electric

**Table 8. Comparison of County-Aggregated Steam-Electric Needs, 2006 and 2011 Plans (acft/yr).**

County	2006 Plan		2011 Plan	
	2030	2060	2030	2060
Bell	0	0	(4,296)	(7,102)
Bosque	(3,497)	(8,223)	(735)	(5,461)
Grimes	(727)	(9,715)	(16,699)	(23,199)
Haskell			(393)	(650)
Johnson	(1,200)	(1,200)	(7,000)	(7,000)
Limestone	0	(15,814)	(25,152)	(42,413)
McLennan	(21,628)	(34,016)	0	(2,377)
Milam	(4,700)	(8,200)	0	0
Nolan	(1,377)	(2,817)	(20,000)	(20,000)
Palo Pinto	0	(1,658)	0	0
Robertson	0	(8,284)	(22,254)	(41,485)
Somervell	0	0	(75,505)	0

# Needs for Mining

**Table 9. Comparison of County-Aggregated Mining Needs, 2006 and 2011 Plans (acft/yr).**

County	2006 Plan		2011 Plan	
	2030	2060	2030	2060
Haskell	(52)	(47)	0	0
Hood	(25)	(24)	0	0
Johnson	(285)	(315)	0	0
Knox	(3)	(3)	0	0
Lampasas	(24)	(23)	0	0
Nolan	(199)	(197)	(108)	(108)
Somervell	(94)	(85)	0	0
Stephens	(5,884)	(6,662)	0	0
Taylor	(5)	(4)	0	0
Williamson	(1,576)	(1,882)	(2,296)	(2,781)

# Needs for Irrigation

**Table 10. Comparison of County-Aggregated Irrigation Needs, 2006 and 2011 Plans (acft/yr).**

County	2006 Plan		2011 Plan	
	2030	2060	2030	2060
Burleson	(3,993)	(2,991)	(5,012)	(3,042)
Eastland	(9,224)	(9,257)	0	0
Haskell	(25,936)	(21,950)	(26,223)	(22,215)
Knox	(13,317)	(10,460)	(13,267)	(10,389)
Nolan	(2,914)	(2,566)	(1,465)	(1,091)
Shackelford	(99)	(81)	0	0
Throckmorton	(3,988)	(3,988)	0	0

# Wholesale Water Providers

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- ✓ **16 Wholesale Water Providers**
  - **Hold contracts to sell 5,000 acft/yr or more**
- ✓ **Supplies determined from surface water and groundwater analyses**
- ✓ **Demands**
  - **Contracts**
    - ✓ **Contracts lists verified (three pending confirmation)**
    - ✓ **Full contractual commitment treated as demand**
  - **WUG demands (6 WWPs are also WUGs)**
- ✓ **Needs (shortages)**
  - **Are applied back through to WUG contract holders**
  - **Are applied to municipal WUG demands first, if both WWP and WUG**
    - ✓ **Attempt to keep contractual commitments whole**

# Summary

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- ✓ **Demands/supplies/needs analysis is complete**
- ✓ **Memorandum is posted on Brazos G website**
- ✓ **Some minor refinement might still be needed**
- ✓ **Recommend approval of the needs shown in the memorandum, pending small refinements**
- ✓ **Recommend submitting needs to TWDB for economic analysis of not meeting needs**

# Questions/Discussion?

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