Presentation to

Austin Water Resources Planning Task Force

Concerns Regarding CoA Water Planning on Bastrop & Lee counties

by

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City of Austin Water Planning

- Water **sourcing**, **use** and **re-use** by the City of Austin (CoA) have implications down-basin and repercussions throughout the Colorado River basin.
- Water **sourcing** by the City of Austin has implications for Lee County and the Brazos basin because massive water transfer projects are more likely to occur there than in Bastrop County.
- We want to share our concerns with you as you make your planning recommendations.

City of Austin Water Planning

Our Interests:

- To wisely use, conserve and protect the water resources of Bastrop and Lee counties (both surface water and groundwater).
- To protect the groundwater-surface water relationship between the Colorado River and the Carrizo Wilcox Aquifer group.
- To protect the interests of landowners and communities in our counties.

City of Austin Water Planning

Our Concerns:

1. Demands by City of Austin (CoA) for groundwater from our region will increase pressure for over-pumping of the aquifers and litigation.

2. Demand by CoA for groundwater from our region will increase pressure for development of pipelines.

City of Austin Water Planning

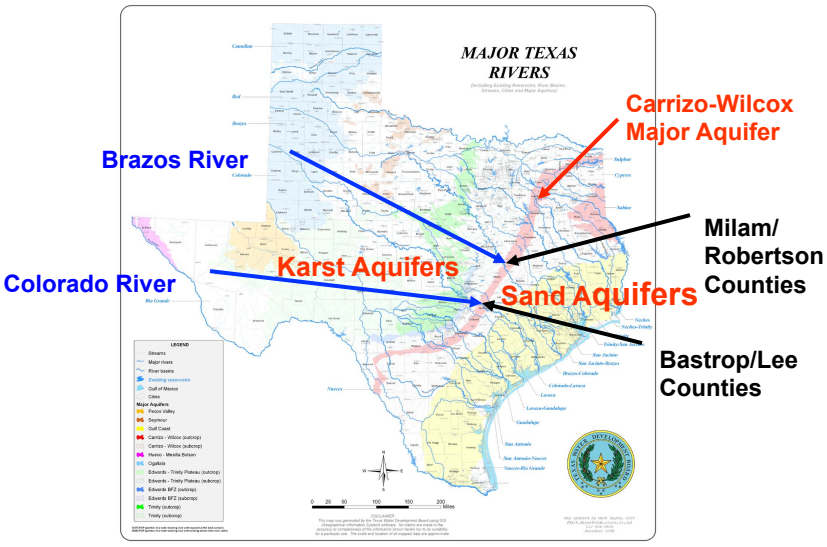
Our Concerns (continued):

3. Demand for groundwater and excessive re-use by the CoA will encourage **over-pumping** and **reduce return-flows** to the river.

4. Over-pumping and reduced return-flows will damage our communities:

- Economically
- Environmentally

Important Natural Resources



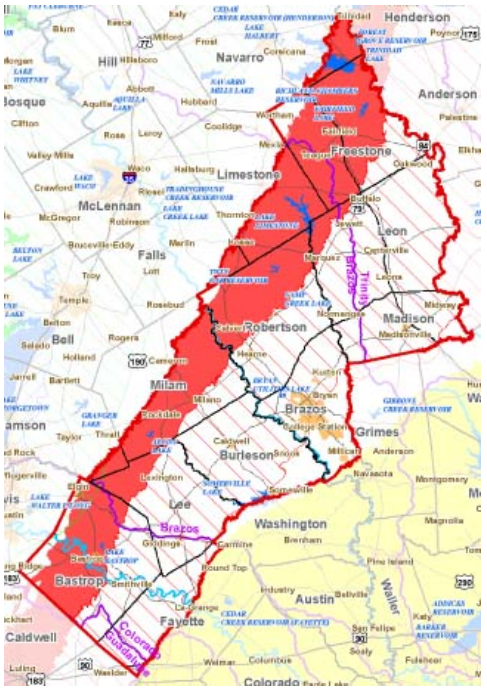
Carrizo-Wilcox Aquifer Group

- Composed of several **sand** aquifers:
  - Carrizo Aquifer
  - Wilcox Group
    - Calvert Bluff Aquifer
    - Simsboro Aquifer (Target of Water Marketers)
    - Hooper Aquifer
- Aquifers communicate with each other
  - Water can move between the aquifers.
- Recharge VERY SLOWLY (Old Water).

Carrizo-Wilcox Aquifer Group

is managed by

Groundwater Management Area 12 (GMA-12)



Groundwater Management Area 12

Groundwater Conservation Districts:

- **Lost Pines**
  - **Bastrop & Lee**
- **Fayette County**
  - **Fayette**
- **Post Oak Savannah**
  - **Milam & Burleson**
- **Brazos Valley**
  - **Robertson & Brazos**
- **Mid East Texas**
  - **Freestone, Leon & Madison**

Worked Together to Adopt Desired Future Conditions (DFC)

--- 5+ years process

--- 50 year planning horizon

TWDB determined Modeled Available Groundwater (MAG) from DFC

--- 1+ year process

City of Austin Water Planning

Our Concerns:

1. Demand by City of Austin for groundwater from our region will increase pressure for over-pumping of the aquifers and litigation.
   - Negotiations with water marketers bring pressure:
     - **Forestar** (contract with Hays County; well field in Lee Co.; permit from Lost Pines GCD appealed in District Court)
     - **End OP** (well field in Bastrop and Lee Counties; in contested case hearing)
     - **Blue Water** (well field in Burleson County, 71,000 AFY; contract with Manor; negotiating with SAWS)
     - **Alcoa** (Milam and Lee County; mining wells in Simsboro convertible to municipal; negotiating with LCRA and Williamson County?)

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Our Concerns:

1. (continued)
   - Do NOT want to repeat follies of Ogallala Aquifer over-pumping.
     - Aquifers are not TOO BIG TO FAIL or BE IRREPARABLY DAMAGED
     - We must move conservatively in developing the Carrizo-Wilcox water resource.
   - Region will seek cooperation by users to enhance **aquifer recharge** during normal and wet conditions.

Desired Future Conditions (DFC)

Simsboro Aquifer (ft)	Bastrop Co.	Lee Co.	District Avg.
Adopted DFC	**145**	**345**	**237**
Current Permits	**89**	**274**	**175**
Applications Pending[1]	**223**	**350**	**283**
Forestar (Export) (law suit)	44	201	118
End Op (Export) (Pending)	145	136	141
LCRA (approved)	34	13	24
TOTAL Permits + Applications	**312**	**936**	**458**
Drawdown Exceeding DFC	**167**	**591**	**221**

[1] **Pending before LPGCD as of March 20, 2013; other applications are now pending or in preparation**

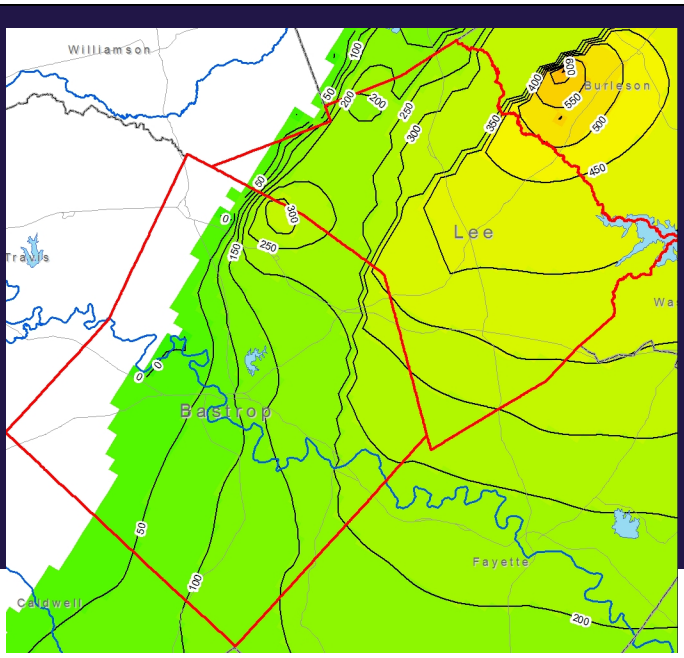
Modeled Available Groundwater(MAG)

Simsboro Aquifer (acre-feet/year)	2010	2020	2030	2040	2050	2060
MAG (from DFC)	29,556	32,731	31,362	34,916	36,544	37,249
Current Permits	53,564					
Current Pumping	17,424					
Applications Pending[1]	111,000					
Forestar	45,000		Export			
End Op	56,000		Export			
LCRA	10,000					
TOTAL Permits + Applications	164,564					
TOTAL X MAG	5.6					

. [1] Pending before LPGCD as of March 20, 2013; other applications are now pending or in preparation

GMA 12 Final Simulation

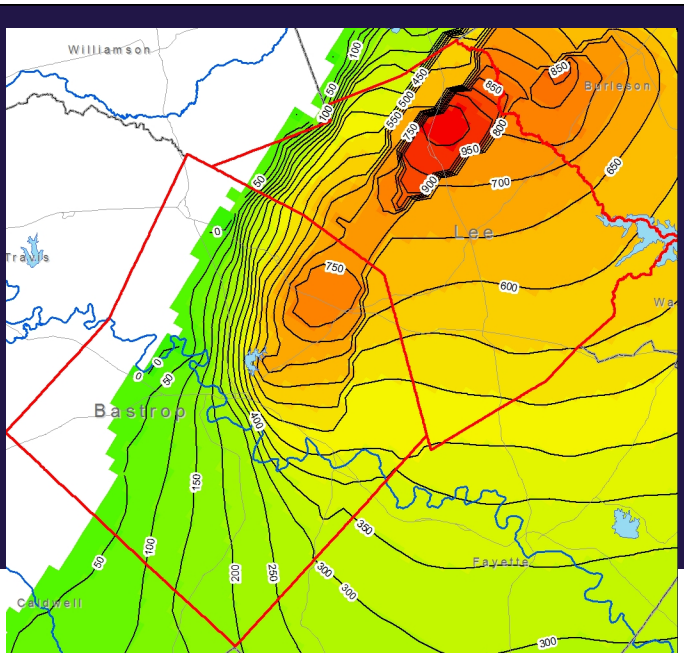
LPGCD Pumpage = 29,556 ac-ft/year in 2010 32,731 ac-ft/year in 2020 31,362 ac-ft/ year in 2030 34,916 ac-ft/year in 2040 36,544 ac-ft/year in 2050 37,249 ac-ft/year in 2060



All Permit Applications 100% Approved

LPGCD Pumpage = 124,226 ac-ft/year

Total drawdown (feet)



Desired Future Conditions (DFC)

(With Forestar and LCRA Permits reduced)

Simsboro Aquifer (ft)	Bastrop Co.	Lee Co.	District Avg.	% of Requested
Adopted DFC	**145**	**345**	**237**	
Current Permits[1]	**89**	**274**	**175**	
Applications Pending	**185**	**196**	**184**	
Forestar[2] (now current permit)	*23*	*53*	*31*	*27%*
End Op (pending)	145 *(16)*	136 *(11)*	141 *(19)*	*10-15%*
LCRA[3] (now current permit)	*17*	*7*	*12*	*50%*
TOTAL Permits + Applications	**274**	**470**	**359**	
Drawdown Exceeding DFC	**129 (0)**	**125 (0)**	**122 (0)**	

[1] Includes City of Bastrop , Heart of Texas, Manville

[2] Forestar permitted as 26.6% (Estimated by Environmental Stewardship)

[3] LCRA permitted at 50% ; non drought years. (Estimated by Environmental Stewardship)

Modeled Available Groundwater(MAG)

(With Forestar and LCRA Permits Reduced)

Simsboro Aquifer (acre-feet/year)	2010	2013 Permits	2020	2030	2040	2050	2060
MAG	**29,556**	**29,556**	**32,731**	**31,362**	**34,916**	**36,544**	**37,249**
Current Permits[1]	**53,564**	**53,564**					
Current Pumping	**17,424**						
Applications Pending	**111,000**	**25,400**					
Forestar	45,000	12,000					
End Op	56,000	*8,400[2]* *(15%)*					
LCRA	10,000	5,000					
TOTAL Permits + Applications	**164,564**	**78,964**					
TOTAL X MAG	**5.6**	**2.7**					

[1] Includes: City of Bastrop (1,613), Heart of Texas (3,360), Manville (3,226)

[2] End Op estimated by Environmental Stewardship

Modeled Available Groundwater(MAG)

(With Forestar and LCRA Permits Reduced)

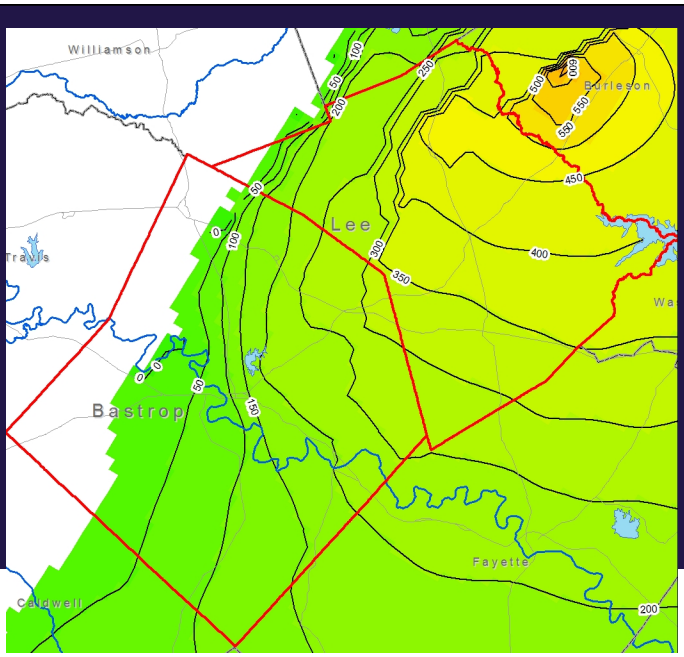
Simsboro Aquifer (acre-feet/year)	2010	2013 Permits	2020	2030	2040	2050	2060
MAG	**29,556**	**29,556**	**32,731**	**31,362**	**34,916**	**36,544**	**37,249**
Current Permits[1]	**53,564**	**53,564**					
Current Pumping	**17,424**						
Applications Pending	**111,000**	**25,400**					
Forestar	45,000	12,000	**Filed suit against District & Directors**				
End Op	56,000	*8,400[2]* *(15%)*	**Contested Case Hearing PFD to District**				
LCRA	10,000	5,000					
XS Ranch, CoB	Pending	6,000	**Contested Case Hearing**				
TOTAL Permits + Applications	**164,564**	**78,964**					
TOTAL X MAG	**5.6**	**2.7**					

[2] End Op estimated by Environmental Stewardship

All Permit Applications 25% Approved

LPGCD Pumpage = 31,057 ac-ft/year

Total drawdown (feet)



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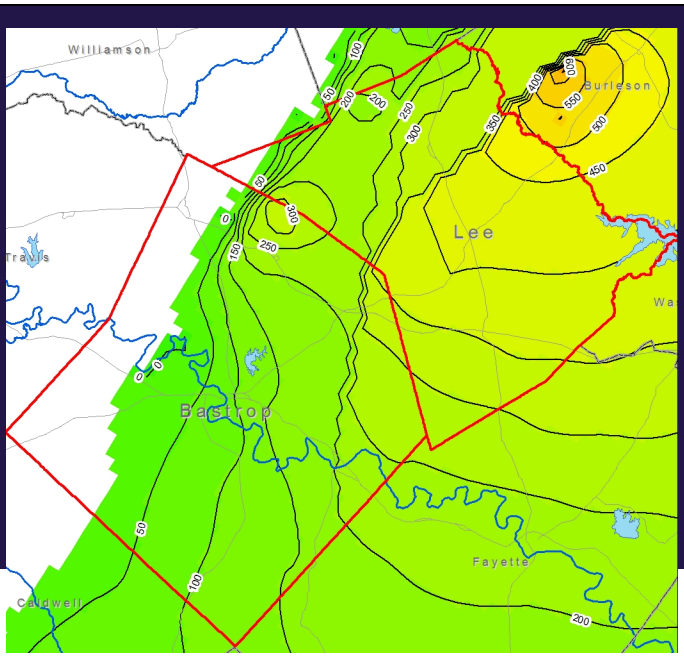

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Our Concerns:

2. Demand by City of Austin for groundwater from our region will increase pressure for development of pipelines.

- State Participation Pipeline
  - In State Water Plan (Region L)
  - Qualifies for Prop 6 funding
  - GBRA-LCRA MOU to cooperate in developing water resources (including this pipeline)

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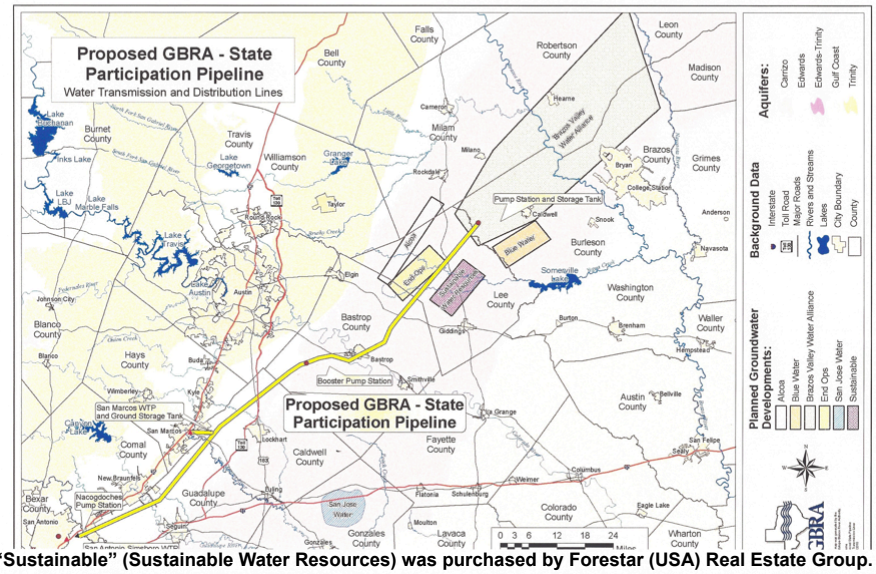
Our Concerns:

2. Continued.
   - Once pipelines are built and groundwater permits granted, **reductions in quantity of use is unlikely.**
   - Creates situation similar to CoA oversizing of current water distribution system, without engineering in low-flow capabilities, resulting in:
     - "threat to public health and safety," and
     - LCRA-TCEQ emergency order during low-flow drought conditions.

Proposed State Participation Pipeline



"Sustainable" (Sustainable Water Resources) was purchased by Forestar (USA) Real Estate Group.

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Our Concerns:

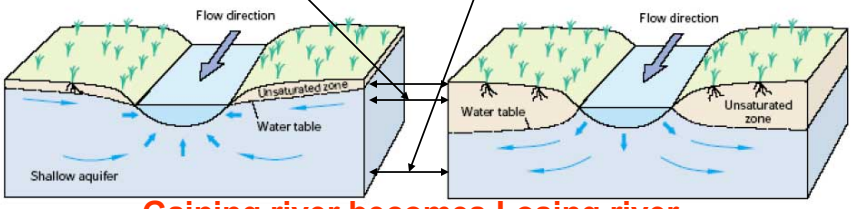
3. Demand for groundwater and excessive re-use by the City of Austin will:

- Encourage **over-pumping** that will **deplete base flows** and damage the Colorado River
  - **Gaining** river becomes **Losing** river.
- **Reduce return-flows** to the river causing:
  - An increased demand on the Highland Lakes System, OR
  - Reduced flow in the river below Longhorn Dam
  - LCRA Emergency Relief from Environmental Flows (TCEQ).

Groundwater-Surface Water Relationship (Base-Flows)

Original desired drawdown in outcrop area = 50 ft.

Adopted DFC drawdown = 237 ft.



Gaining river becomes Losing river

Figure B-2: Gaining (Left) and Losing (Right) Streams and Associated Groundwater Flow Direction

Lost Pines GCD originally set "sustainable" drawdown levels at 50 ft for the outcrop region of the Simsboro formation.

Under pressure from GMA-12, in March 2009 Board meeting the drawdown was increased to 150 ft for the outcrop region of the Simsboro formation.

Under pressure from GMA-12, in August 2010 the Board adopted GMA-12 DFC of 237 ft for the Simsboro Aquifer in LPGCD.

Environmental Flow during Drought Conditions

Critical Flow - life support during drought

On Life Support for the last three years

Instream Flows for the Rivers

– Bastrop Gage

- Minimum flow standard: 120 cfs
- Low flow (Sept, 2013): 170 cfs **(Includes CoA return-flow)**
- Groundwater contribution: ~36 cfs **(30% of minimum flow)**
  - – Approximately 25,000 acre-feet per year.

Freshwater Inflows for the Bays

– Matagorda Bay 14,500 acre-feet/month

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Our Concerns:

4. Over-pumping and reduced return-flows will damage our communities:

- Economically
  - loss of **private property values** if water is either not physically or economically accessible by private landowners
  - loss of **economic development potential** includes loss of agricultural opportunities --- who will feed a doubled population?
- Environmentally

City of Austin Water Planning

Summary of Our Concerns:

1. Demands by City of Austin (CoA) for groundwater from our region will increase pressure for over-pumping of the aquifers and litigation.

2. Demand by CoA for groundwater from our region will increase pressure for development of pipelines.

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Summary of Our Concerns (continued):

3. Demand for groundwater and excessive re-use by the CoA will encourage **over-pumping** and **reduce return-flows** to the river.

4. Over-pumping and reduced return-flows will damage our communities:

- Economically
- Environmentally

City of Austin Water Planning

Our Requests:

1. Don't take Carrizo-Wilcox water. To do so will cause harm to Colorado River flows and take water needed by local communities -- *just hurting yourselves and your neighbors.*

City of Austin Water Planning

Our Requests (continued):

2. IF Carrizo-Wilcox water is *not* taken off table, consider only as a last resort and with close collaboration with local communities to assure **protection of river flows and to avoid permanent damage to aquifer.**

- Region will consider allowing use to **mitigate shortages** during drought conditions but will seek enhanced **aquifer recharge** during normal and wet conditions.
  - Reverse those pipelines and send water back for recharge.

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Environmental Stewardship
A Sustainable Ecosphere

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