

**Item #5 – Presentation on Extension of Pumping to 2070 as it relates to**

**Initial DFC's**

Board action during early to mid-2015 authorized the representative to the GMA 12 panel to put forward Desired Future Conditions for each of the aquifers that are the same as those adopted in 2010. The current DFC's are valid through 2060. The GMA has been tasked with extending the pumping and DFC's to 2070. This added pumping will affect the desired future conditions. If you want to keep the DFC the same, the added pumping causes the average decline of the aquifer (the DFC) to slightly increase.

John Seifert will give a presentation explaining how the pumping increase affects the DFC's and the amount of increase for each aquifer. The presentation is a part of this file.



# Update of Groundwater Modeling Results



Presented to:  
Groundwater Management Area 12

December 17, 2015



# Model Simulations Using Central Queen City-Sparta GAM

💧 Described on February 25, 2015

- Predictive Scenario 1 – All Permitted Pumping 2015-2070
- Predictive Scenario 2 – Ramp up Permitted Pumping
- Predictive Scenario 3 – Update of PS1
- Predictive Scenario 4 – Update of PS2

💧 Predictive Scenario 5

- Updated GMA12-7B Well File
- Historical and Some Predictive Pumping Updated



# Current Year 2060 MAGs (Acre-Feet)

| District           | Brazos River Alluvium | Carrizo       | Calvert Bluff | Simsboro       | Hooper       | Queen City   | Sparta        | Yegua-Jackson | Total          |
|--------------------|-----------------------|---------------|---------------|----------------|--------------|--------------|---------------|---------------|----------------|
| Brazos Valley      | -                     | 5,496         | 1,755         | 96,185         | 316          | 529          | 7,923         | 7,071         | 119,275        |
| Fayette County     | -                     | 1,000         | -             | -              | -            | 570          | 3,729         | 5,762         | 11,061         |
| Lost Pines         | -                     | 12,052        | 3,985         | 37,249         | 2,592        | 1,133        | 1,877         | -             | 58,888         |
| Mid-East Texas     | -                     | 11,088        | 3,912         | 7,170          | 827          | 974          | 3,334         | 1,122         | 28,427         |
| Post Oak Savannah  | 25,138                | 7,059         | 1,038         | 48,501         | 4,422        | 502          | 6,734         | 12,923        | 106,377        |
| <b>GMA 12 GCDs</b> | -                     | <b>36,695</b> | <b>10,690</b> | <b>189,105</b> | <b>8,157</b> | <b>3,688</b> | <b>23,597</b> | <b>26,878</b> | <b>323,968</b> |

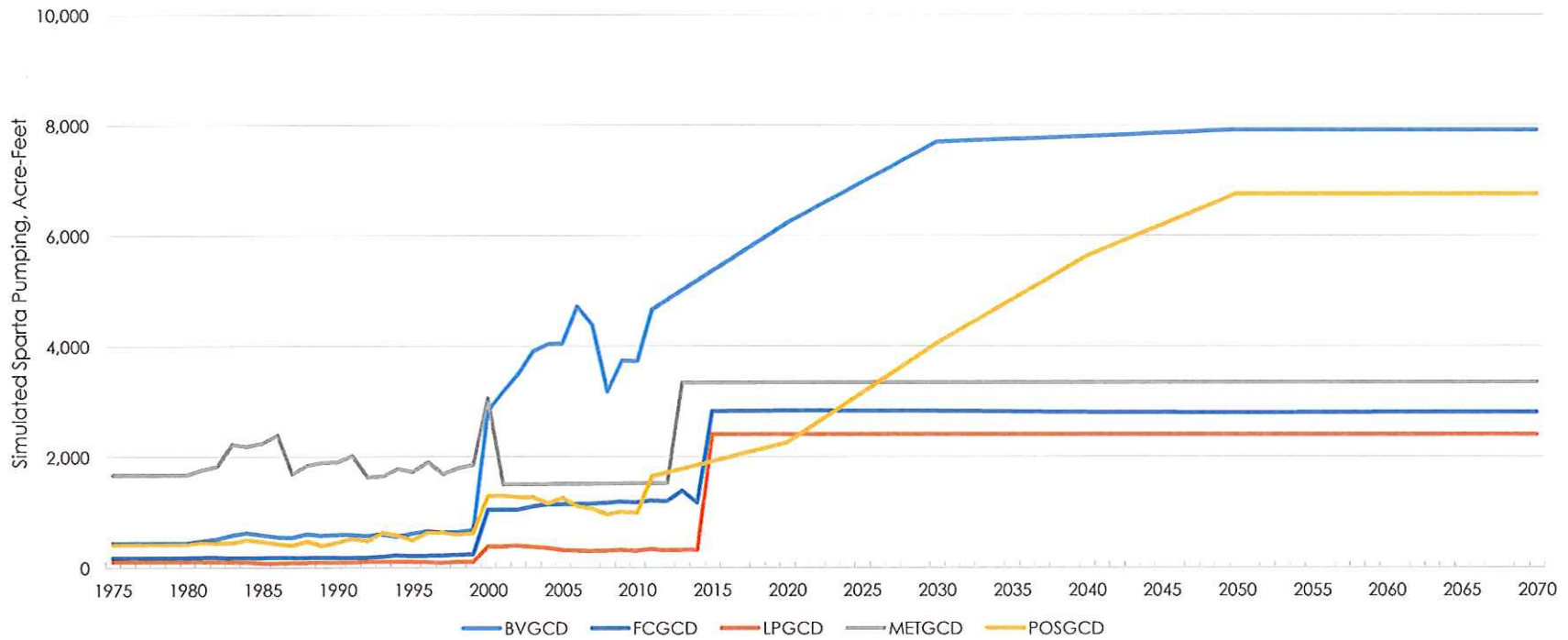


# PS5 Year 2070 Pumping (Acre-Feet)

| District                 | Carrizo       | Calvert Bluff | Simsboro       | Hooper       | Queen City   | Sparta        | Total          |
|--------------------------|---------------|---------------|----------------|--------------|--------------|---------------|----------------|
| <b>Brazos Valley</b>     | 5,494         | 1,758         | 96,187         | 1,999        | 1,199        | 7,905         | 114,542        |
| <b>Fayette County</b>    | 5,474         | —             | —              | —            | 2,708        | 2,802         | 10,984         |
| <b>Lost Pines</b>        | 12,052        | 3,984         | 37,249         | 2,592        | 1,315        | 2,405         | 59,597         |
| <b>Mid-East Texas</b>    | 11,091        | 3,917         | 7,181          | 835          | 974          | 3,343         | 27,341         |
| <b>Post Oak Savannah</b> | 7,063         | 1,037         | 48,503         | 4,480        | 504          | 6,747         | 68,334         |
| <b>GMA 12 GCDs</b>       | <b>41,173</b> | <b>10,696</b> | <b>189,119</b> | <b>9,906</b> | <b>6,700</b> | <b>23,202</b> | <b>280,797</b> |

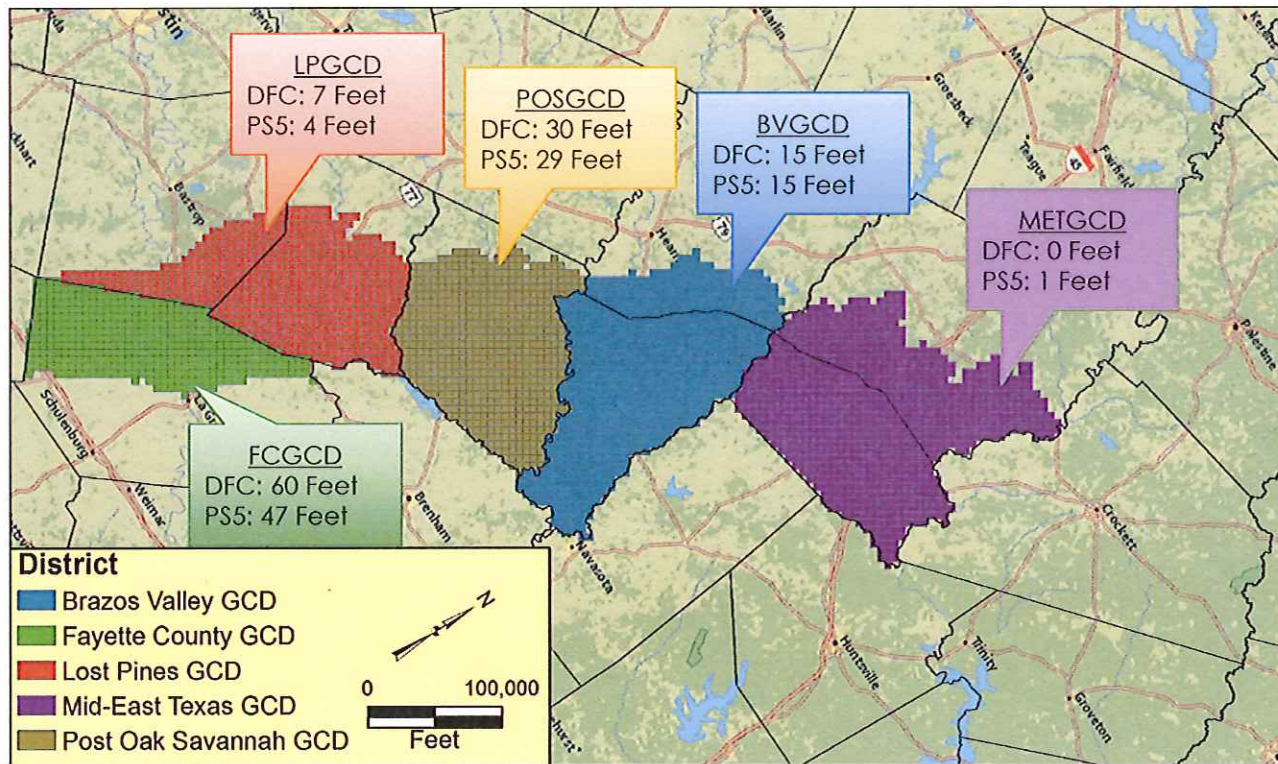


# PS5 – Sparta Pumping

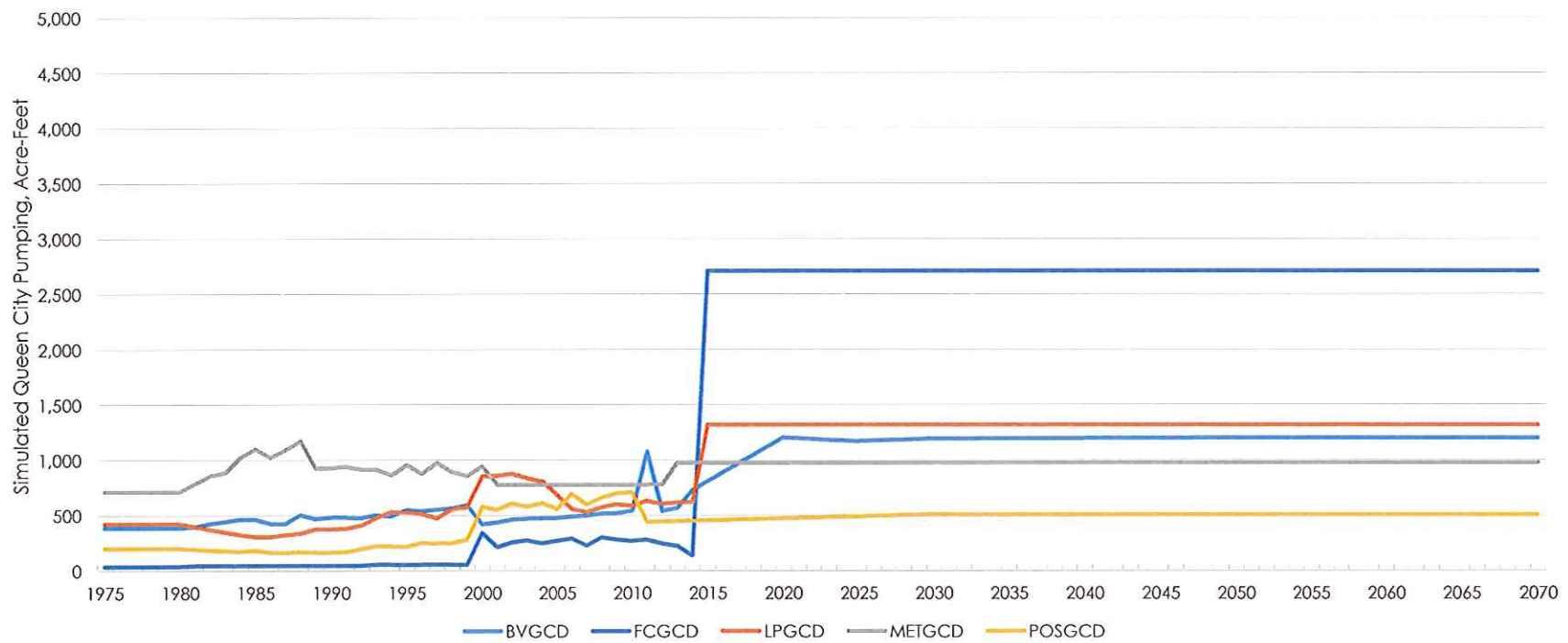


# Sparta Aquifer (Layer 1)

Average Drawdown – 1/1/2000 through 12/31/2070



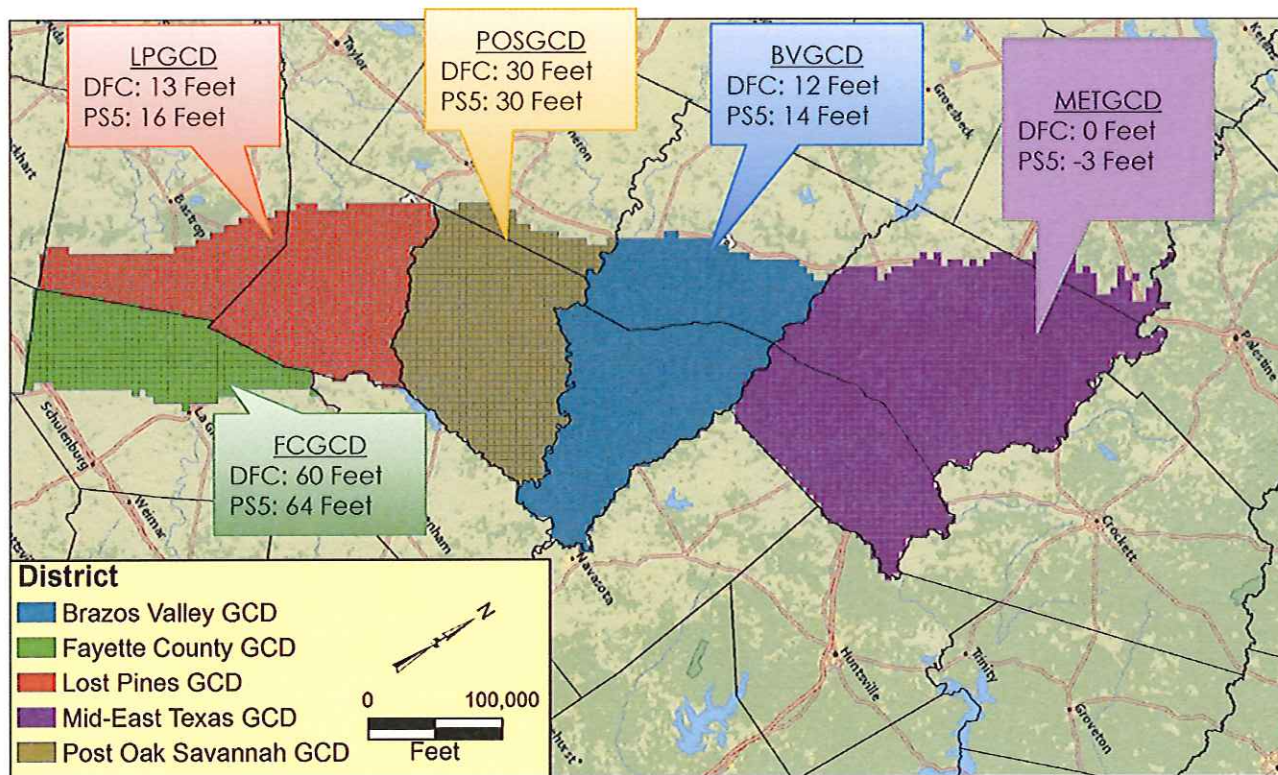
# PS5 – Queen City Pumping



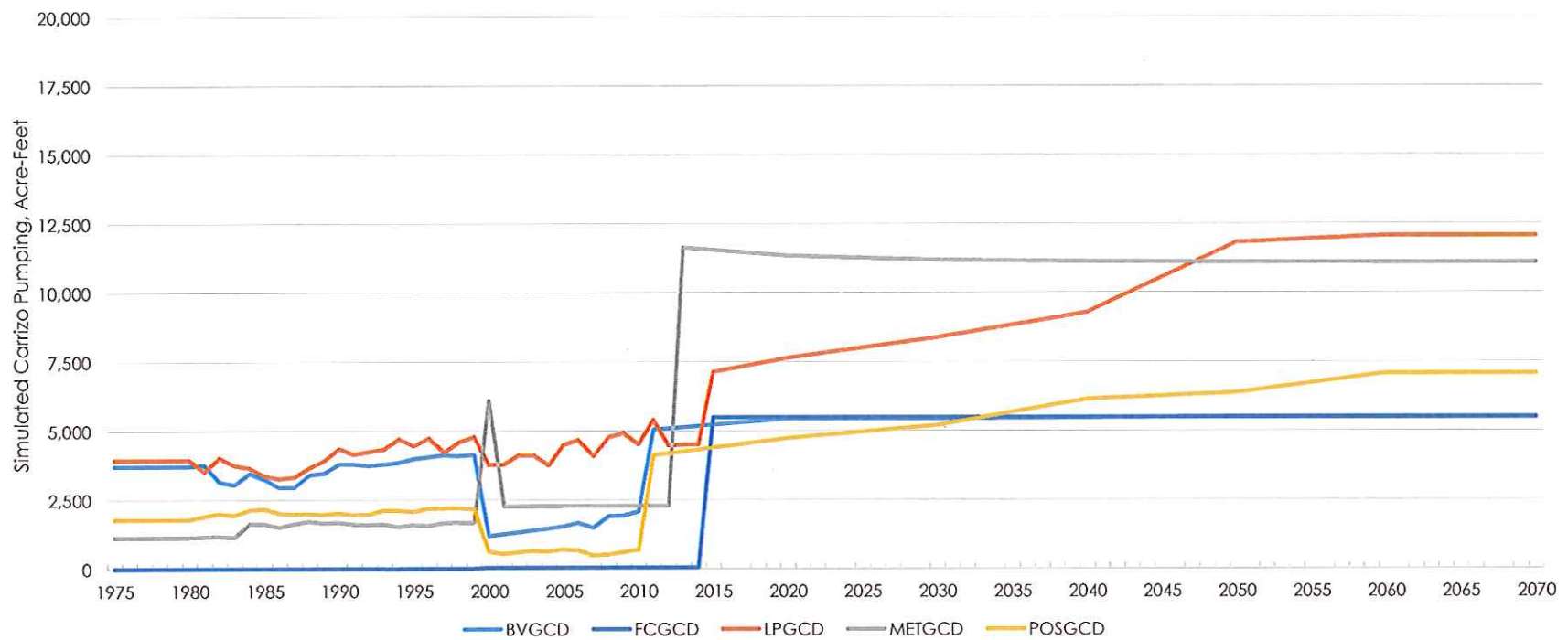


# Queen City Aquifer (Layer 3)

Average Drawdown – 1/1/2000 through 12/31/2070

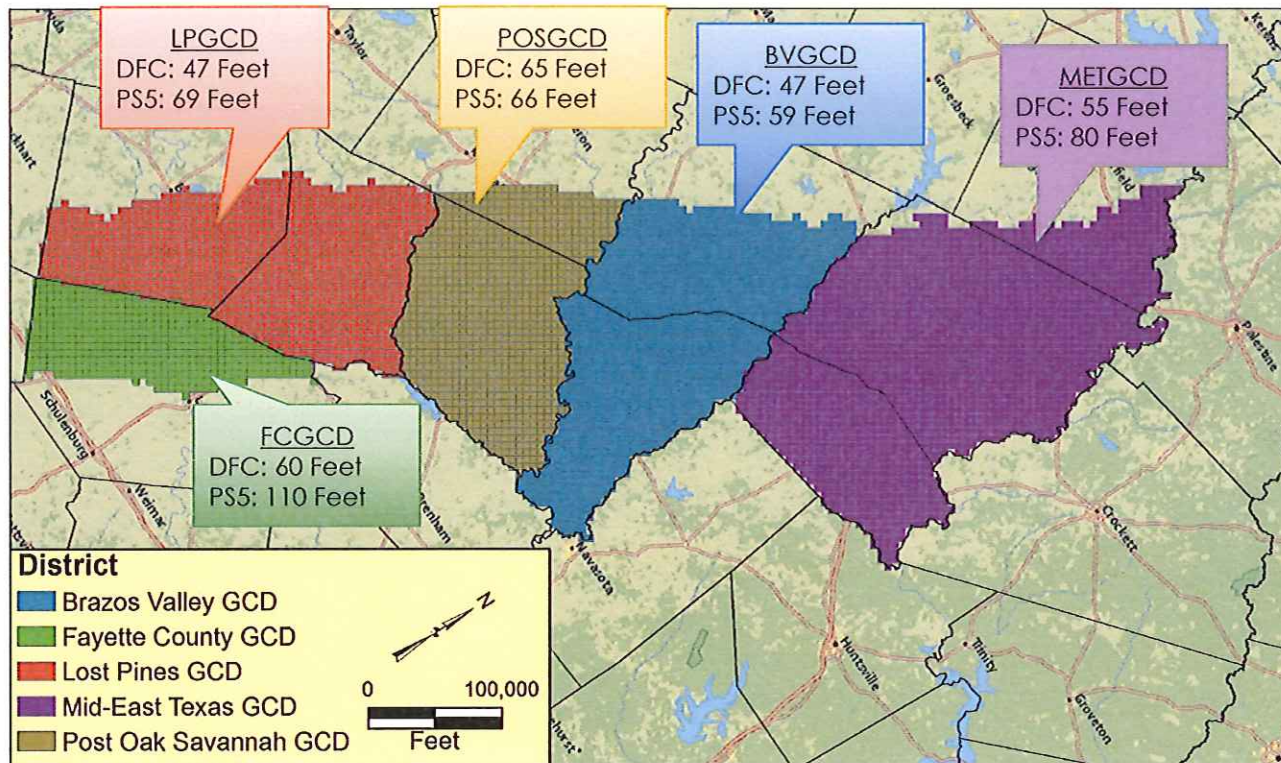


# PS5 – Carrizo Pumping

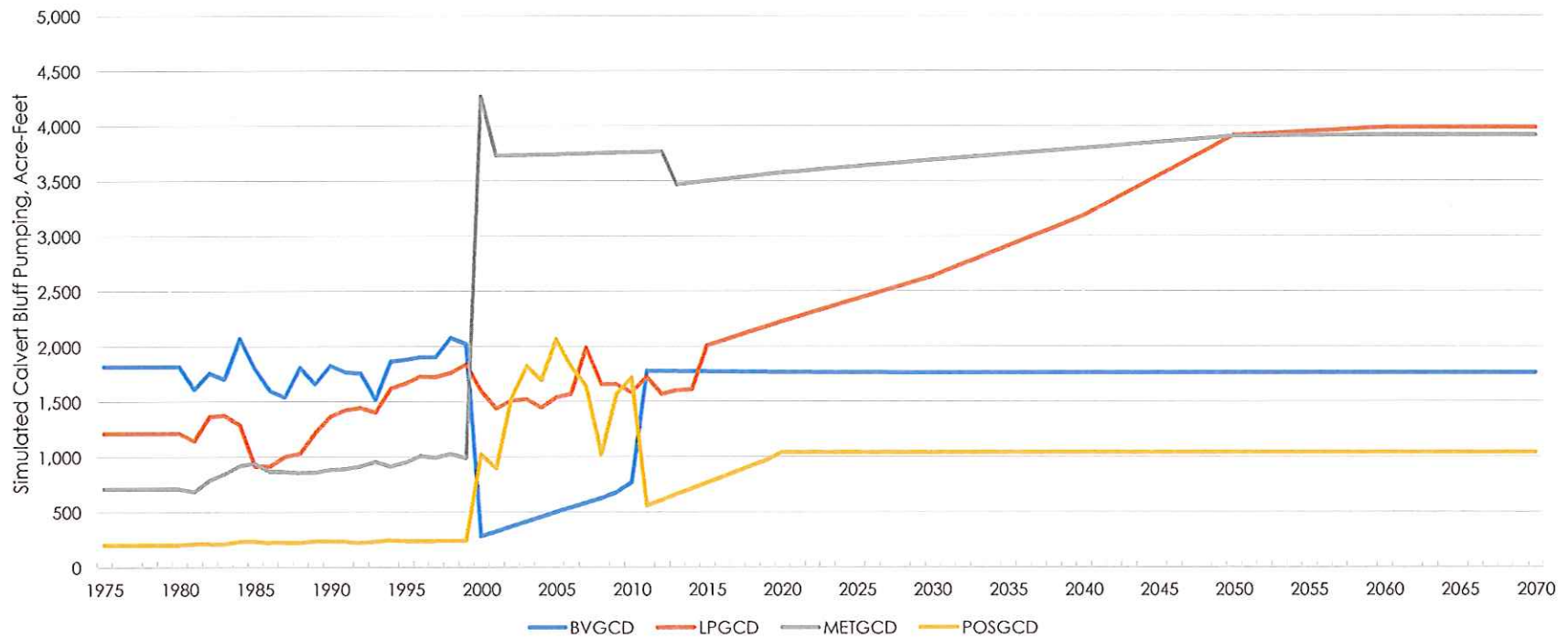


# Carrizo Aquifer (Layer 5)

Average Drawdown – 1/1/2000 through 12/31/2070

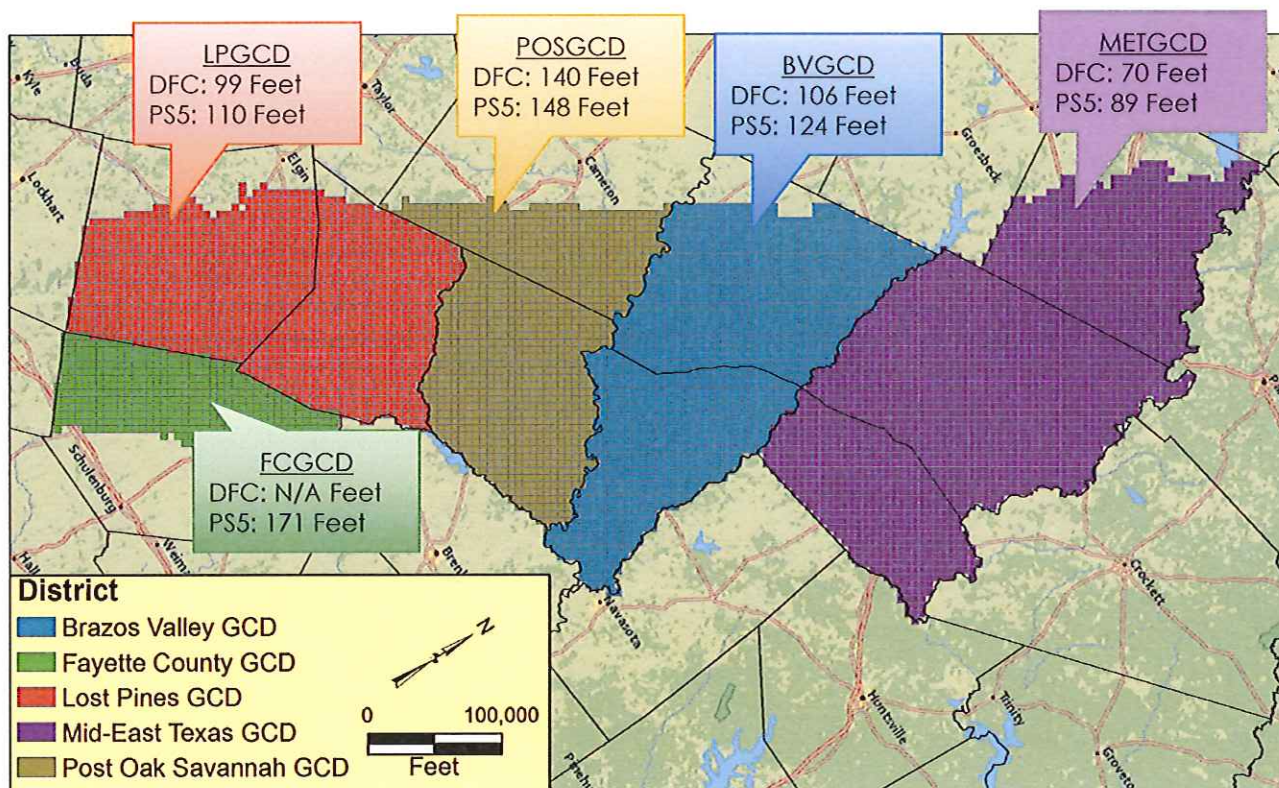


# PS5 – Calvert Bluff Pumping

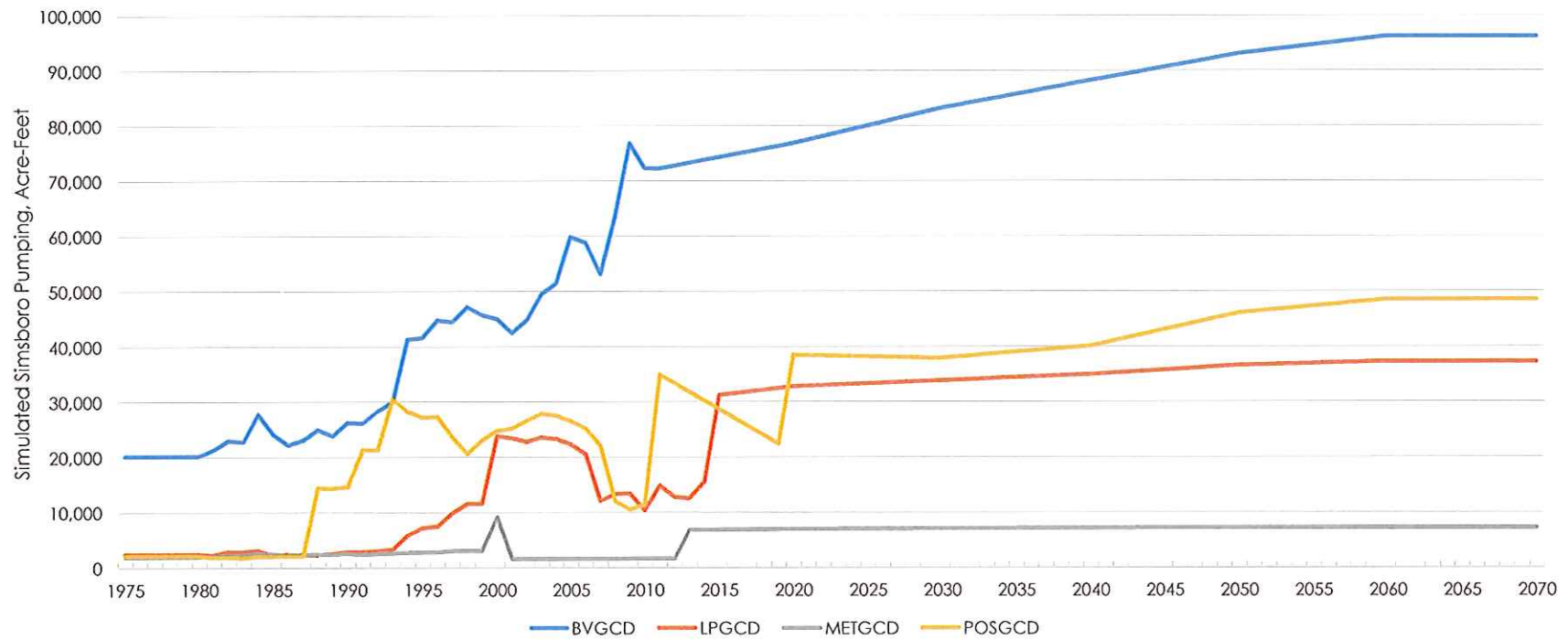


# Calvert Bluff Aquifer (Layer 6)

Average Drawdown – 1/1/2000 through 12/31/2070

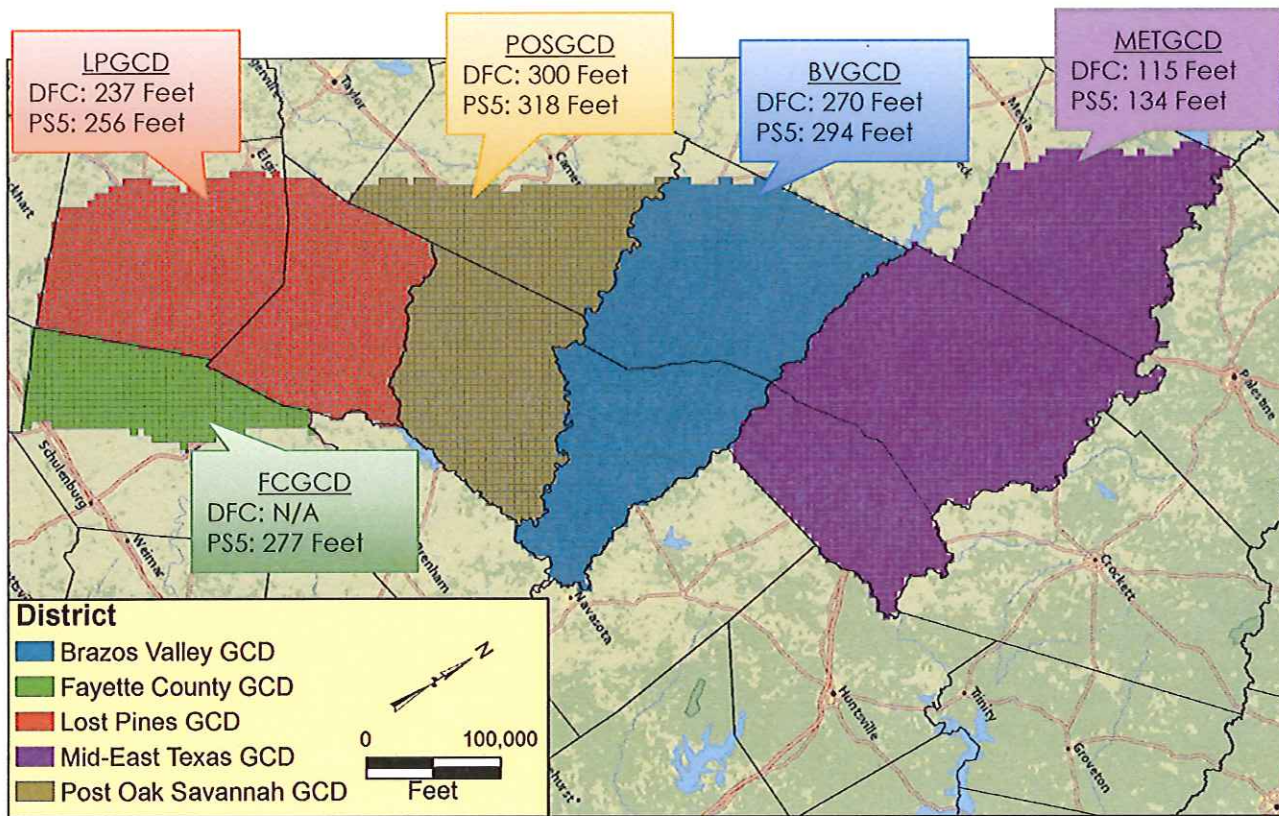


# PS5 – Simsboro Pumping

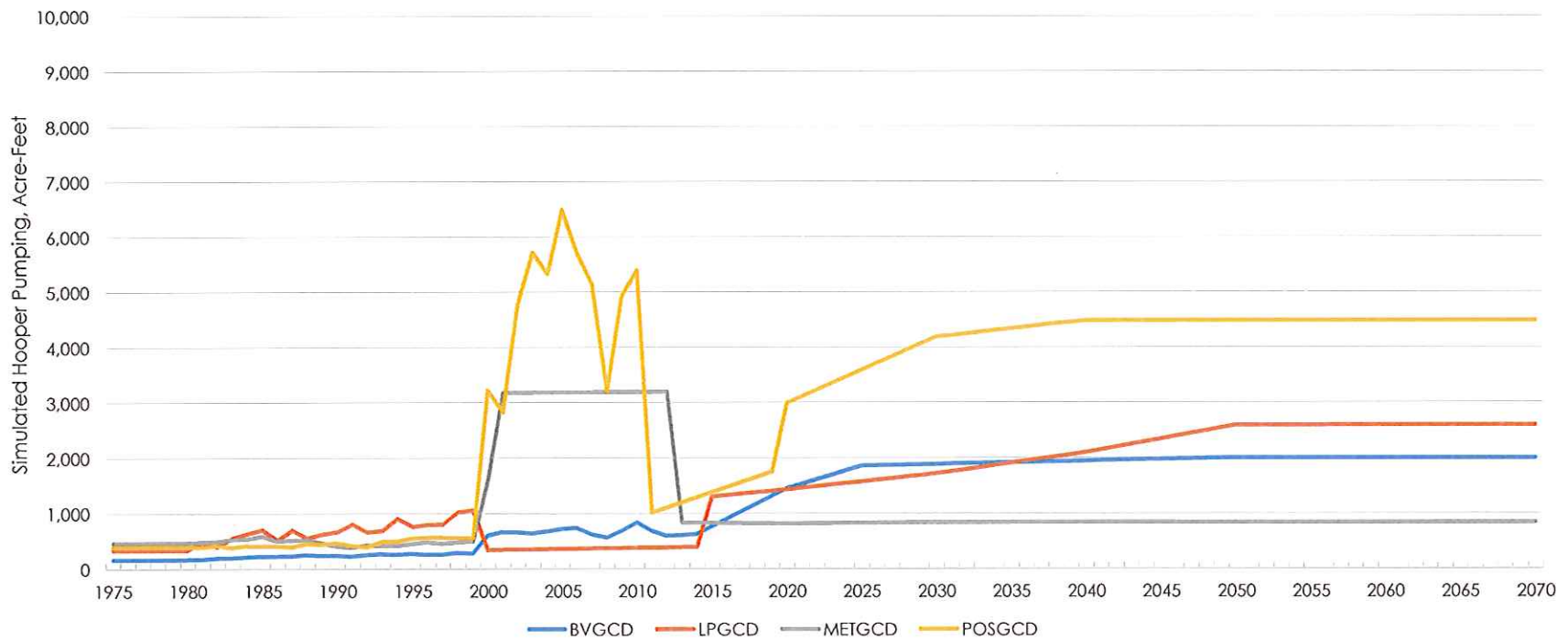


# Simsboro Aquifer (Layer 7)

Average Drawdown – 1/1/2000 through 12/31/2070



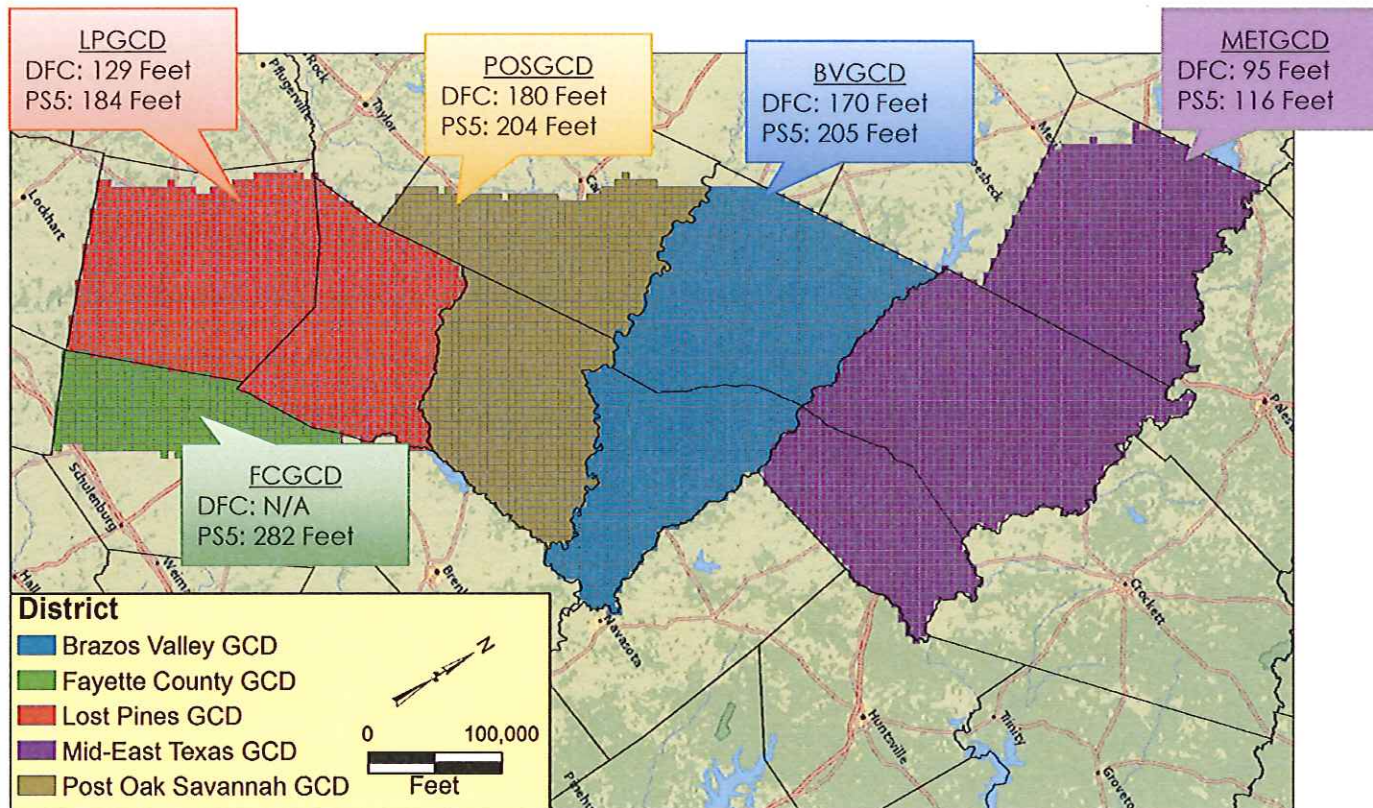
# PS5 – Hooper Pumping





# Hooper Aquifer (Layer 8)

Average Drawdown – 1/1/2000 through 12/31/2070





# Discussion

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