Item #5 – Methodology for Brazos River Alluvium DFC

John Seifert will be available to assist Board in making a decision as to the possible method for determining a Desired Future Condition for the Brazos River Alluvium Aquifer (BRA). This is a necessary process due to the 2014 Board approval making the BRA relevant during the 2016 GMA 12 planning process.

The slide presentation in this folder is a presentation given to the Board during the 2010 DFC planning process that ultimately ended by declaring the BRA non-relevant. This action led to no MAG being established.

John’s presentation at the June 11, 2015 Board meeting was followed by table the item until a later time so further consideration could be made.
BRAZOS RIVER ALLUVIUM

• Irrigation, stock and limited domestic pumping has occurred for decades

• Pumping in Brazos, Burleson and Robertson Counties

• DFC for Brazos River Alluvium could be needed
BRAZOS RIVER ALLUVIUM (cont’d)

- Develop a reasonable approach for DFC
- Consider maintaining a percentage of saturation of Brazos River Alluvium
- Brazos River Alluvium somewhat self regulating
Brazos River Alluvium Well Hydrograph Locations

Explaination

- **59-20-603**
  - Brazos River Alluvium Well with Water Level Data

Scale: 0 3 6 12 Miles
TWDB Brazos River Alluvium Water Level Data - Robertson County

State Well Number, Total Depth (ft)

- 59-11-202, 68
- 59-11-308, 65
- 59-12-420, 56
- 59-12-807, 74
- 59-20-540, 57
TWDB Brazos River Alluvium Water Level Data - Brazos County

Depth to Water (feet)

State Well Number, Total Depth (ft)
- 59-20-603, 60
- 59-20-907, 64
- 59-38-904, 66

Bremond and College Station Historical Rainfall

- ▲ Bremond Historical Rainfall
- ■ College Station Easterwood Historical Rainfall
Potential DFC Percent of Aquifer Saturation

\[ WD = \text{Well Depth, ft} \]
\[ DTW = \text{Depth to Water, ft} \]

\[ \text{Percent Saturation (PS)} = \frac{WD - DTW}{WD} \]

Static water-level data to estimate PS would be collected during the winter months following the irrigation season. To reach a DFC the average PS for all wells measured would have to be below the applicable PS for three consecutive years.
Irrigation Well Depths
Range: 45 to 72 feet
Average ~ 55 to 60 feet

Potential DFC Threshold on Allowable Percent Saturation
P.S. ≥ 30% or ≥ 40%

Average Irrigation Well Depth
60 to 65 feet

Brazos River Alluvium Well Data