UPDATE REGARDING POTENTIAL DFC FOR BRAZOS RIVER ALLUVIUM

Presented during
Brazos Valley
Groundwater Conservation
District Board Meeting

LBG GUYTON

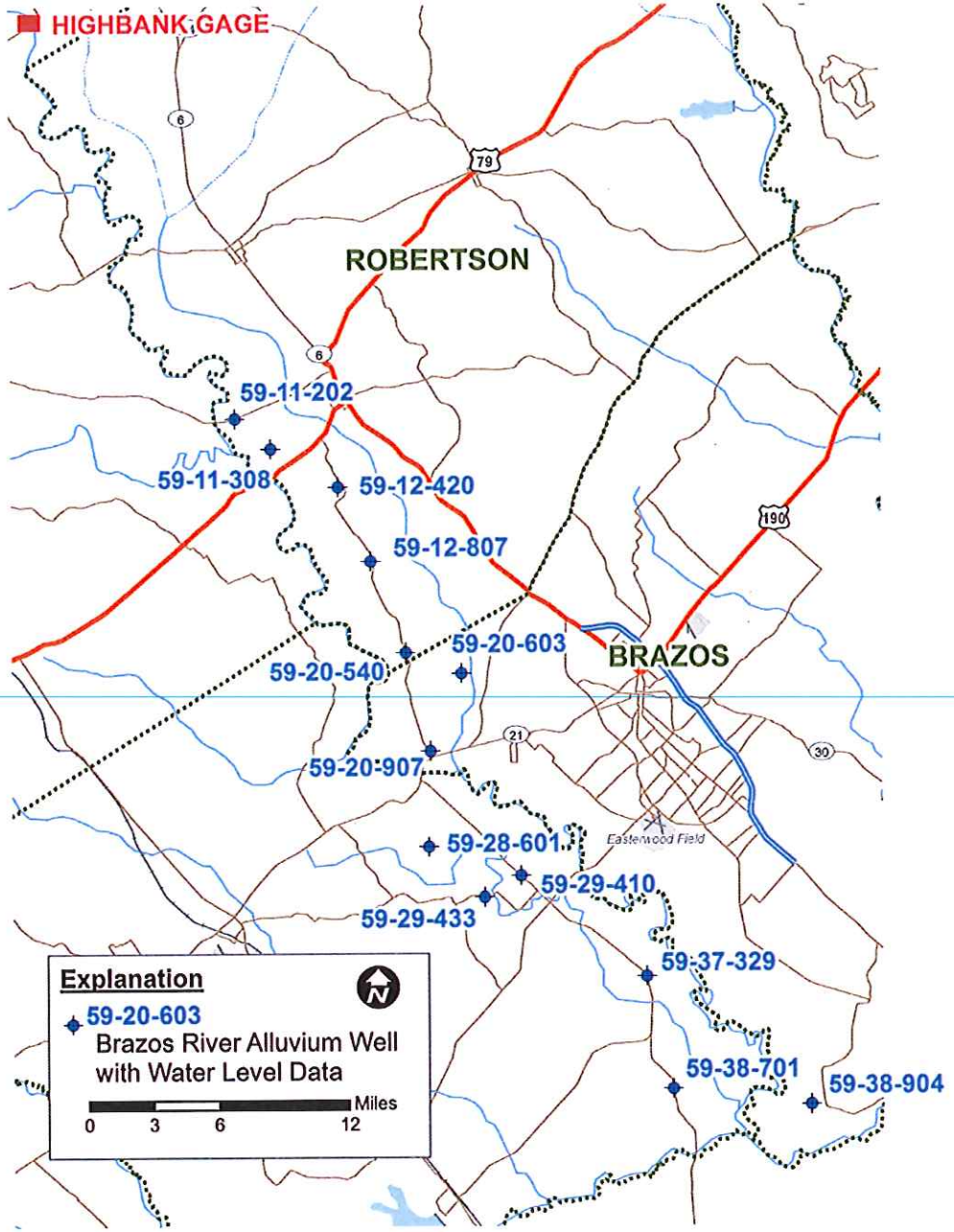
June 11, 2015

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

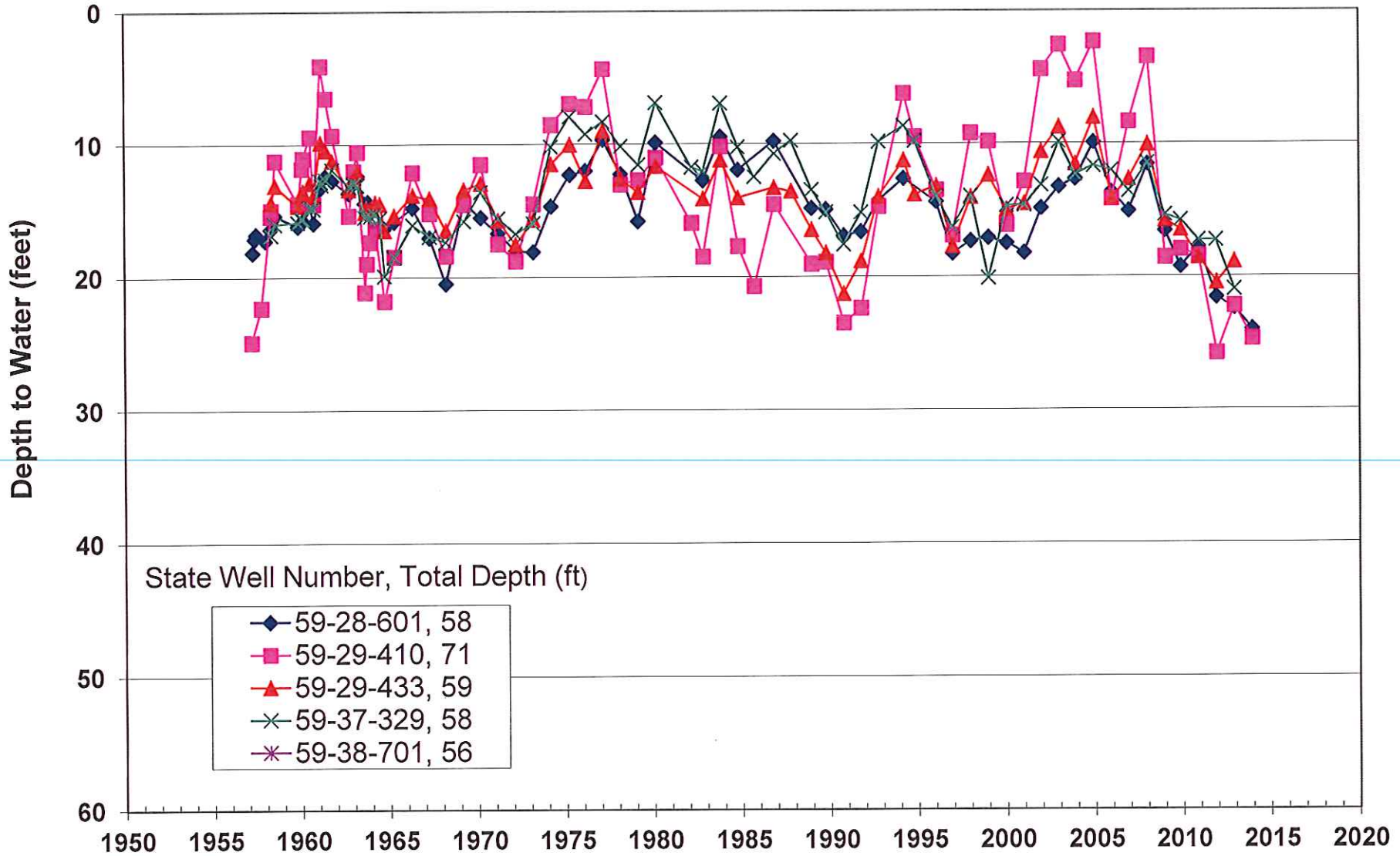
BRAZOS RIVER ALLUVIUM (cont'd)

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

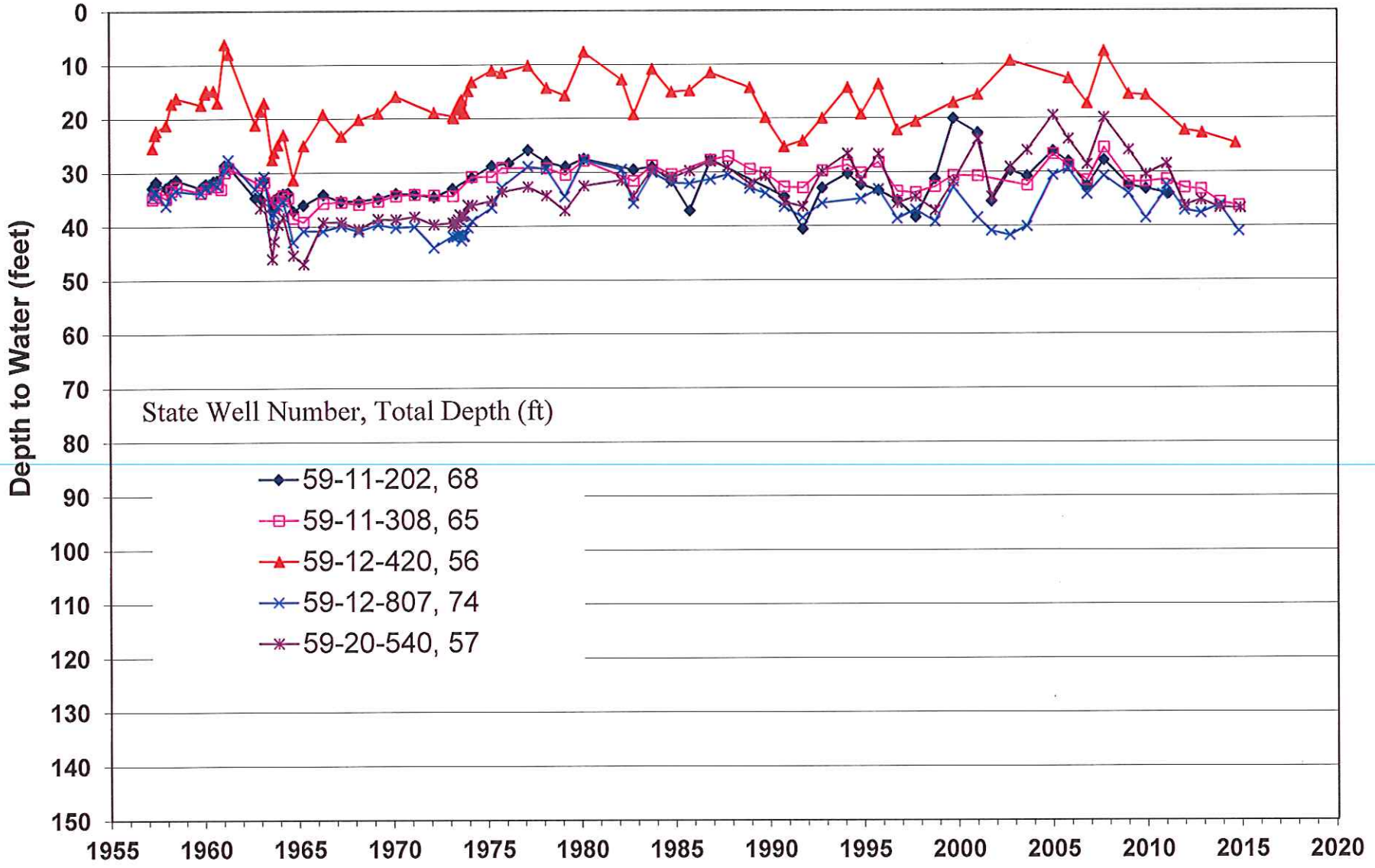


Brazos River Alluvium Well Hydrograph Locations

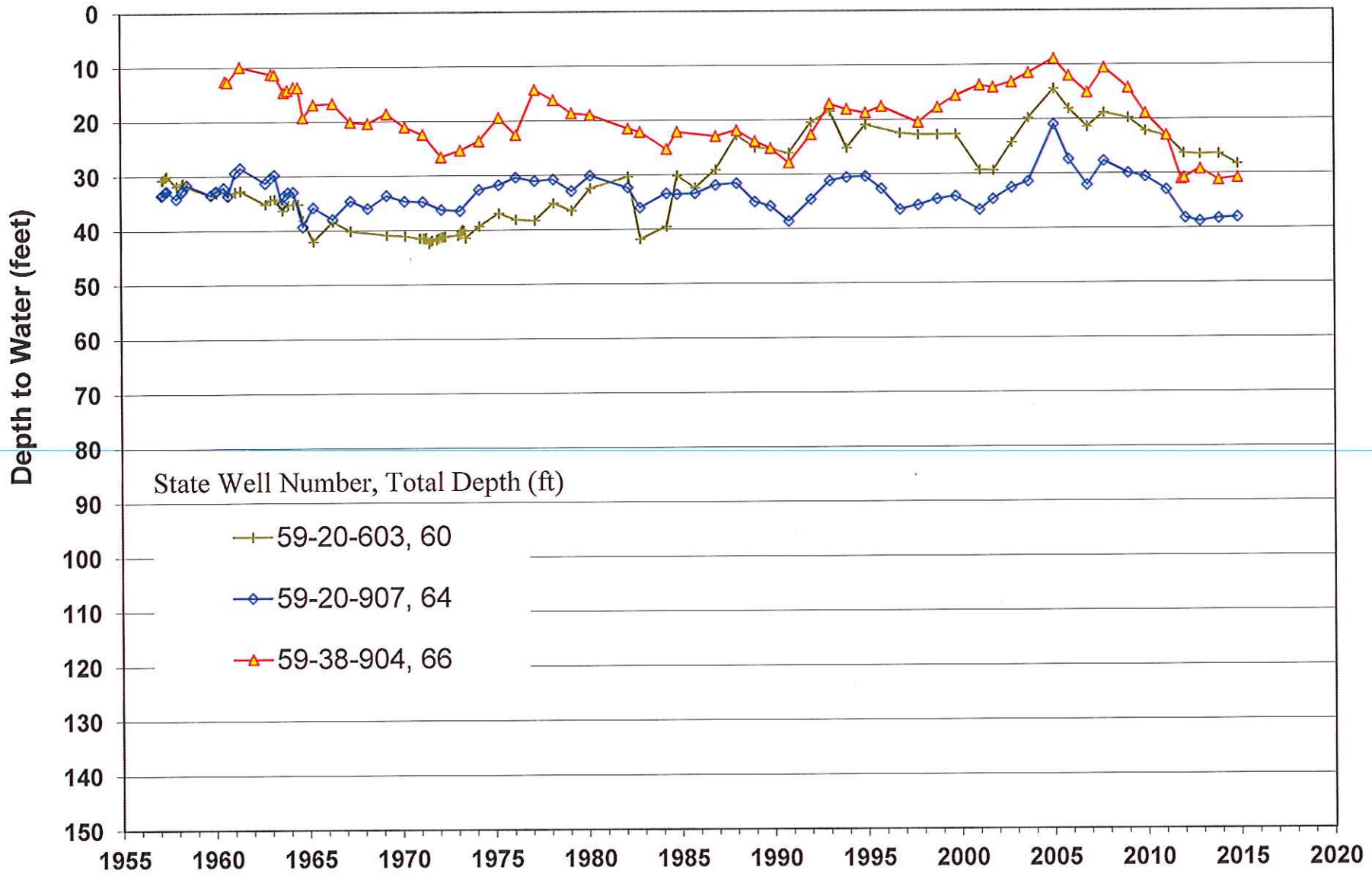
TWDB Brazos River Alluvium Water Level Data - Burleson County



TWDB Brazos River Alluvium Water Level Data - Robertson County

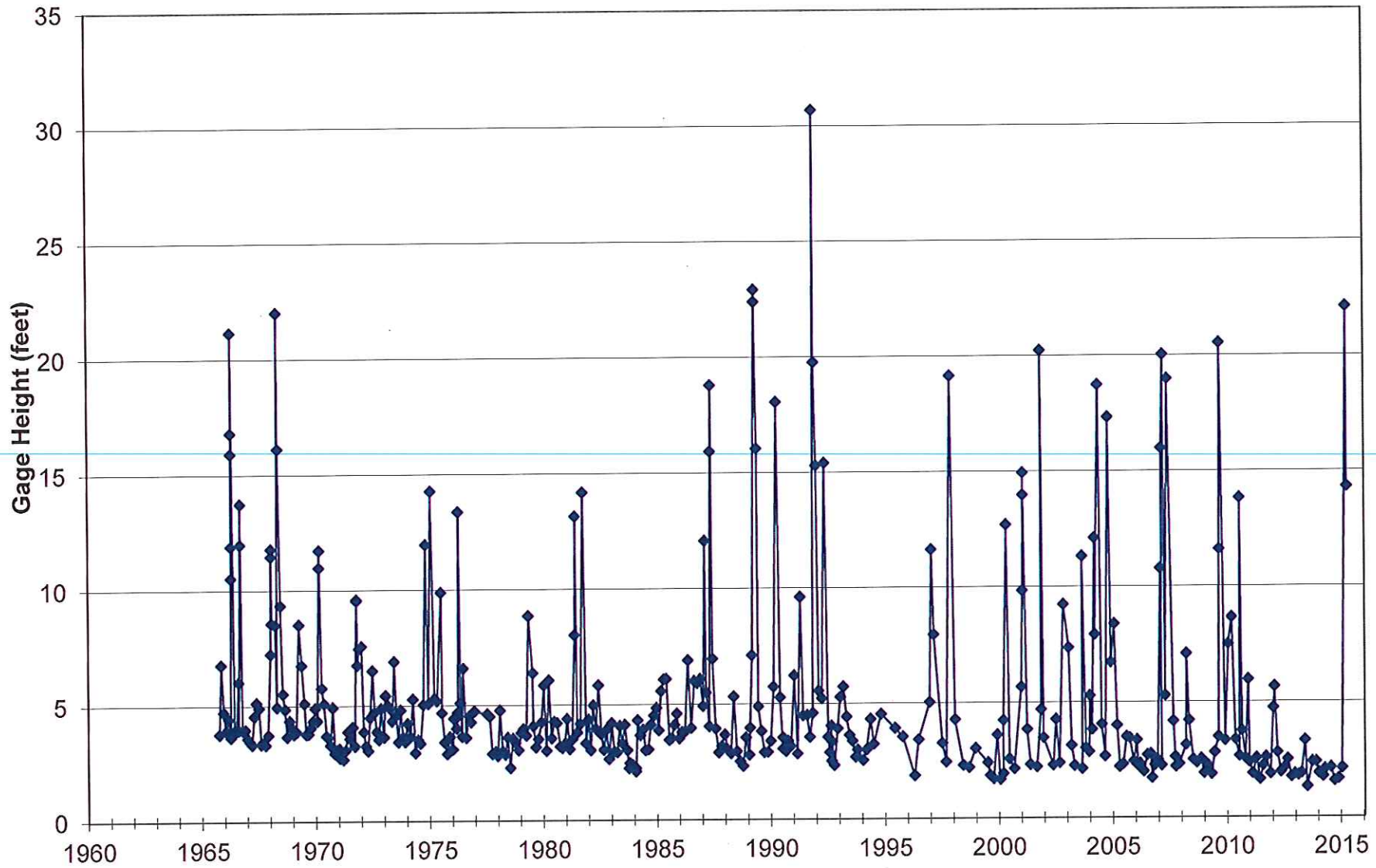


TWDB Brazos River Alluvium Water Level Data - Brazos County

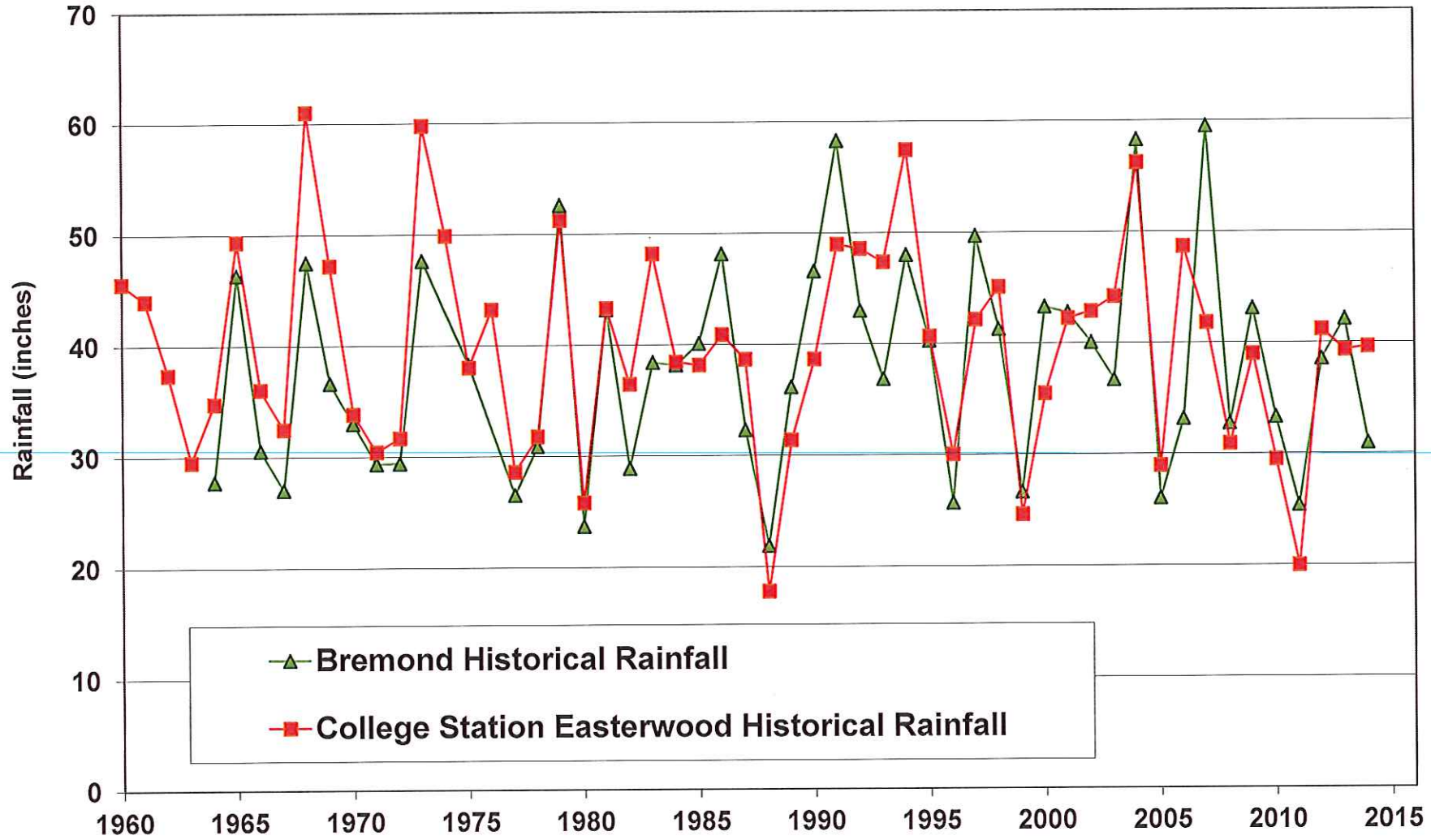


USGS 08098290 Brazos River Near Highbank, TX

(USGS, 6/10/2015)



Bremond and College Station Historical Rainfall



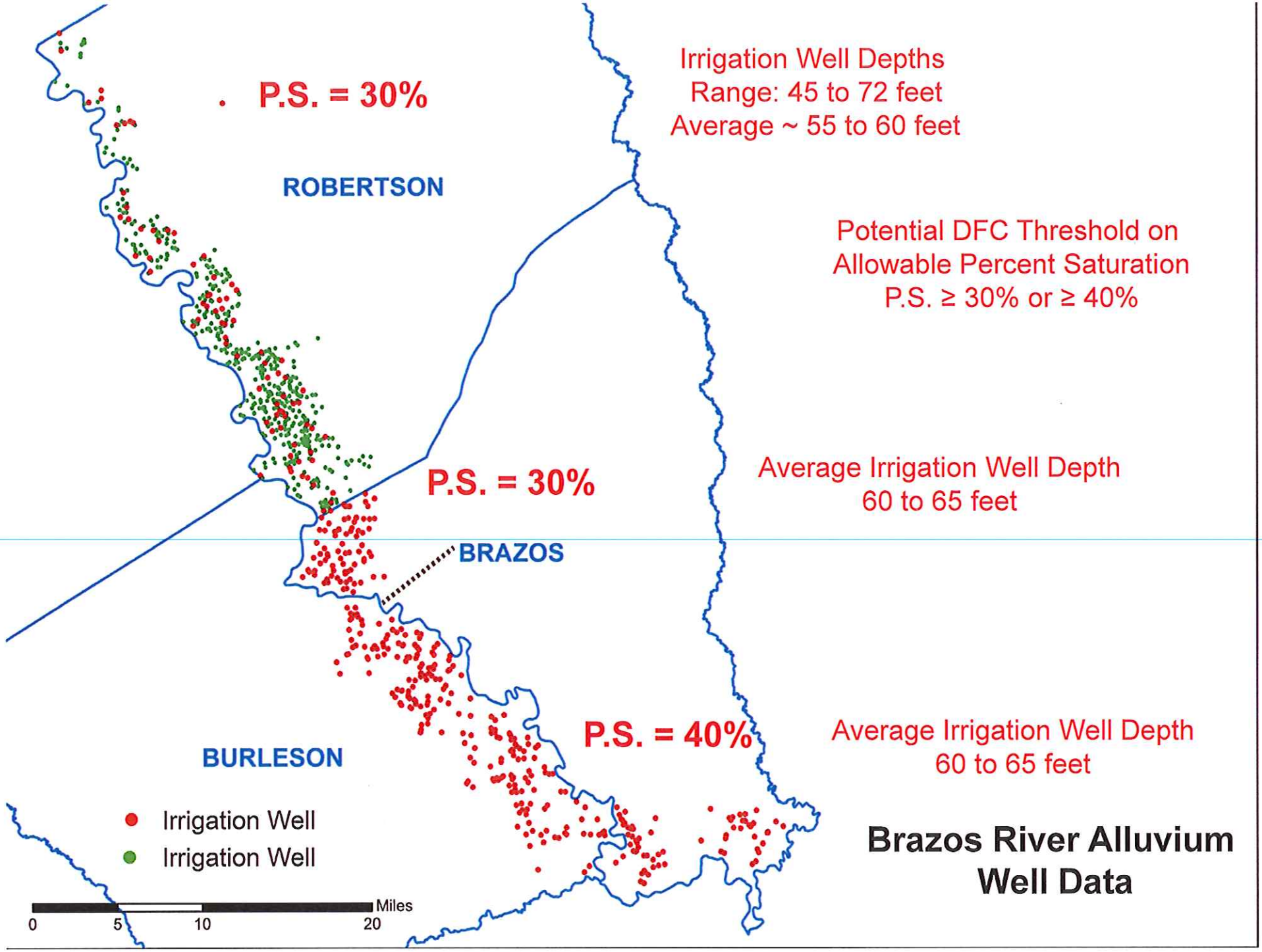
Potential DFC Percent of Aquifer Saturation

WD = Well Depth, ft

DTW = 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.


P.S. = 30%
ROBERTSON
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%
P.S. = 30%
BRAZOS
Average Irrigation Well Depth
60 to 65 feet
P.S. = 40%
BURLESON
Average Irrigation Well Depth
60 to 65 feet
Irrigation Well
Irrigation Well
Miles
0
5
10
20
Brazos River Alluvium
Well Data


Thank you!
Questions?