

Cottonwood Critical Ground Water Area

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This area was originally established as the Goose Creek-Rock Creek Critical Ground Water Area (CGWA) in 1962. This area was subdivided into 3 CGWAs in 1967. The West Oakley Fan area was established in 1982; it is now known simply as the Oakley Fan. The Cottonwood CGWA is located south of the Artesian City and Oakley Fan CGWAs and west of the Oakley Kenyon CGWA (Figure 1).

The aquifer in the Cottonwood CGWA is predominately limestone. There are two active IDWR monitoring wells (Figures 2 – 4). Well #1 does not have a well driller’s report. The aquifer in this well is estimated to be limestone based on a nearby well with a depth of 725 feet. Well #2 is completed in limestone as indicated by the well driller’s report. Both wells are showing annual average declines of similar magnitude (5.9 and 6.2 ft/yr), and both wells have declining trends that are statistically significant at the 95 percent confidence level. Summary statistics for the two wells provided in Table 1.

Table 1. Summary statistics for 2 wells in the Cottonwood CGWA.

Map Well Number	Station Name	Probability ¹	Mann Kendall Statistic
1	13S 21E 06DAD1	0	0.654
2	13S 21E 18BBC1	0	0.

¹Probability values less than 0.05 indicate that the trend is significant at the 95 percent confidence level.

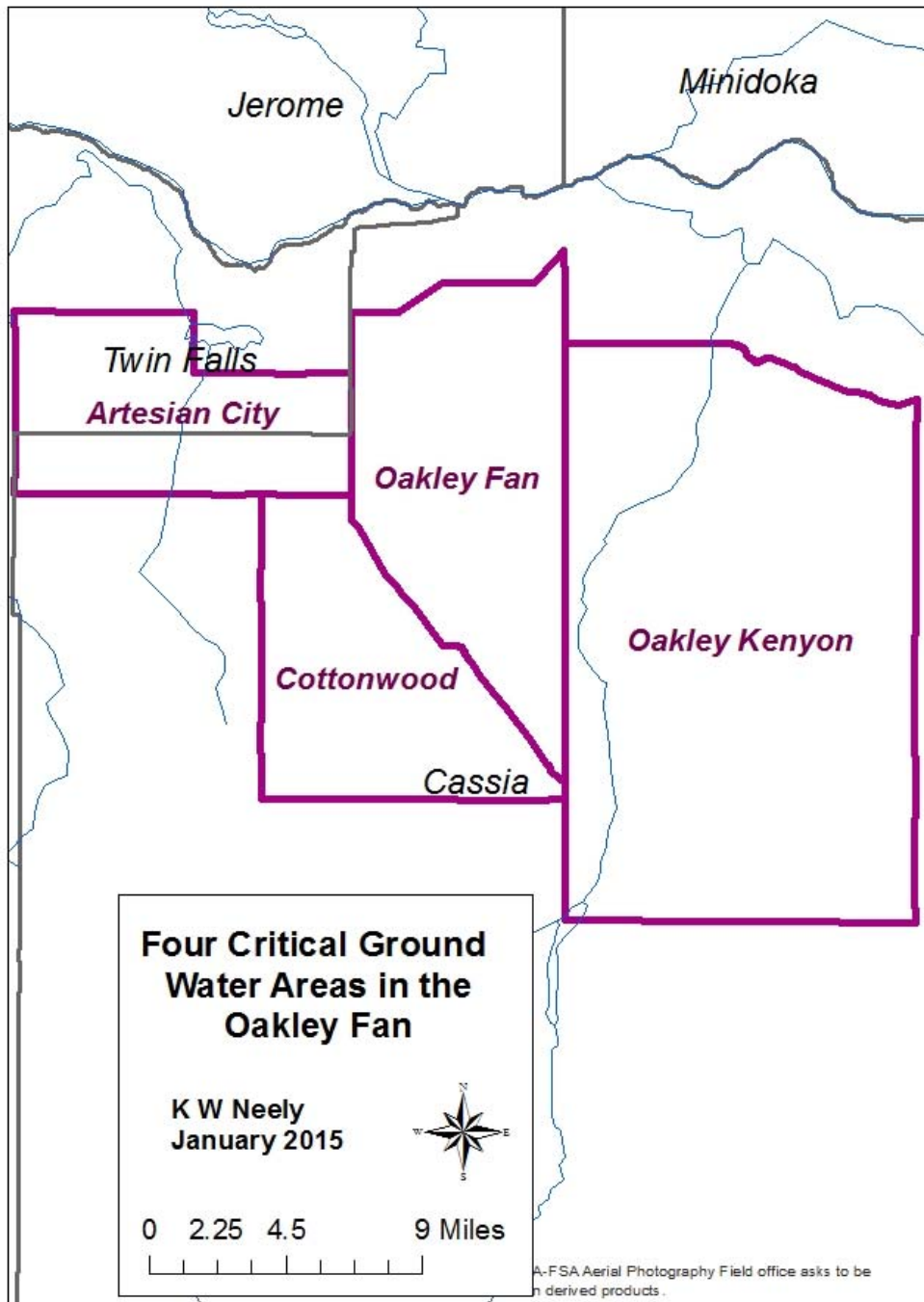


Figure 1. IDWR's four Critical Ground Water Areas in the Oakley Fan.

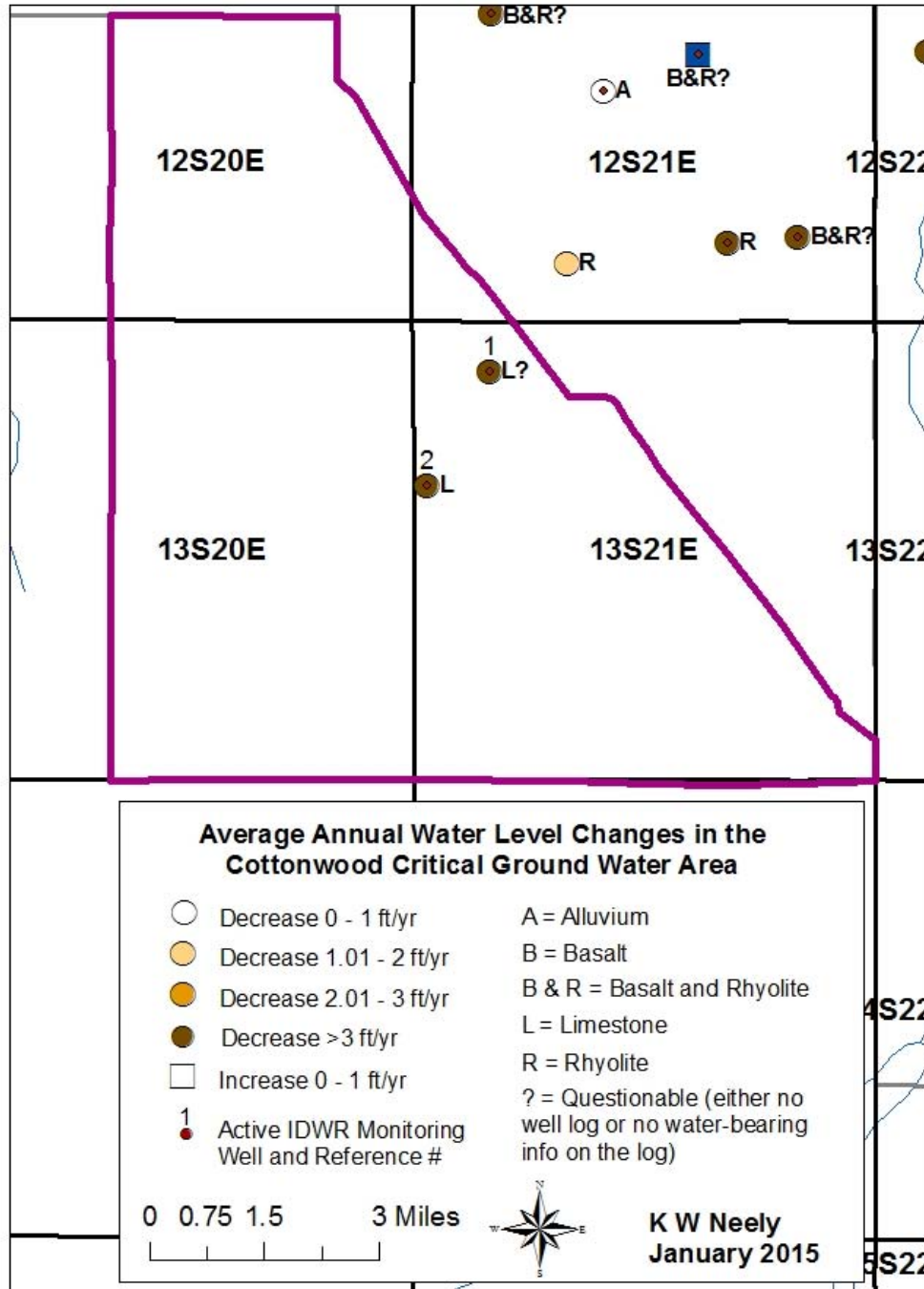


Figure 2. Location of key ground water level wells in the Cottonwood Critical Ground Water Area.

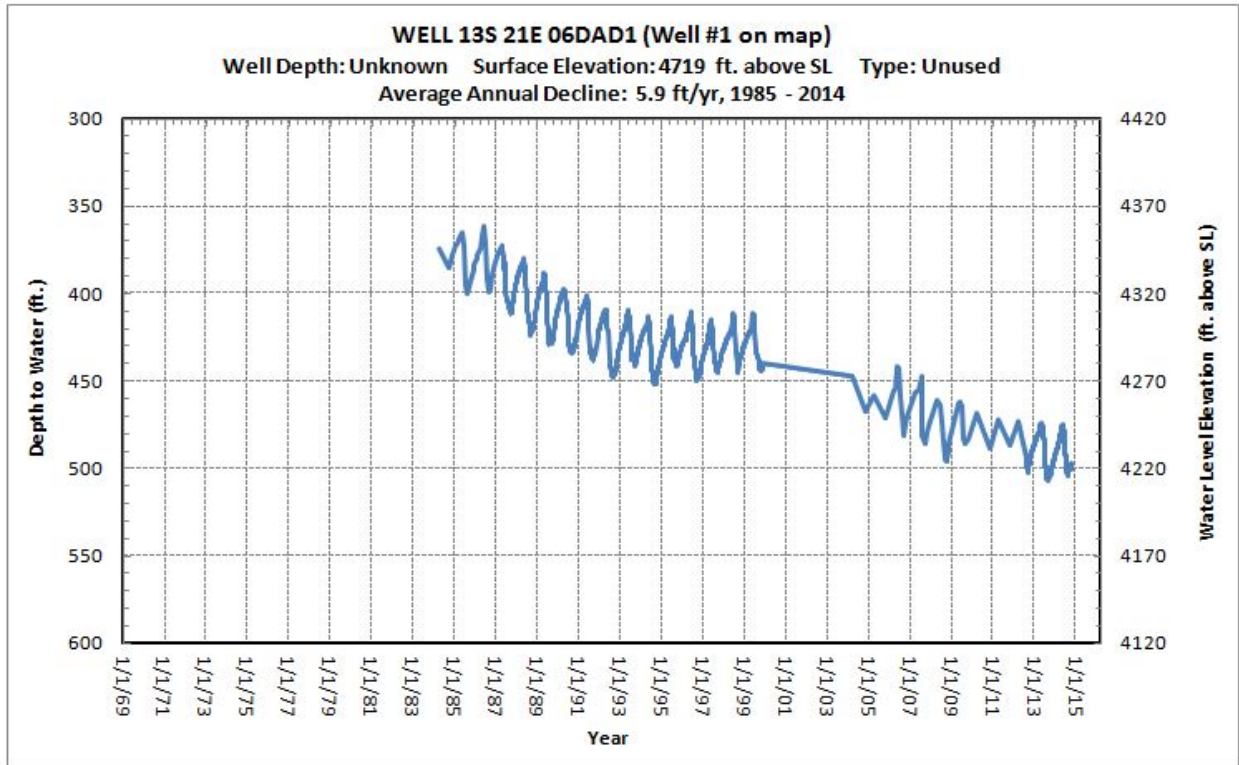


Figure 3. Ground water level hydrograph for 13S 21E 06DAD1, 1984 – 2014.

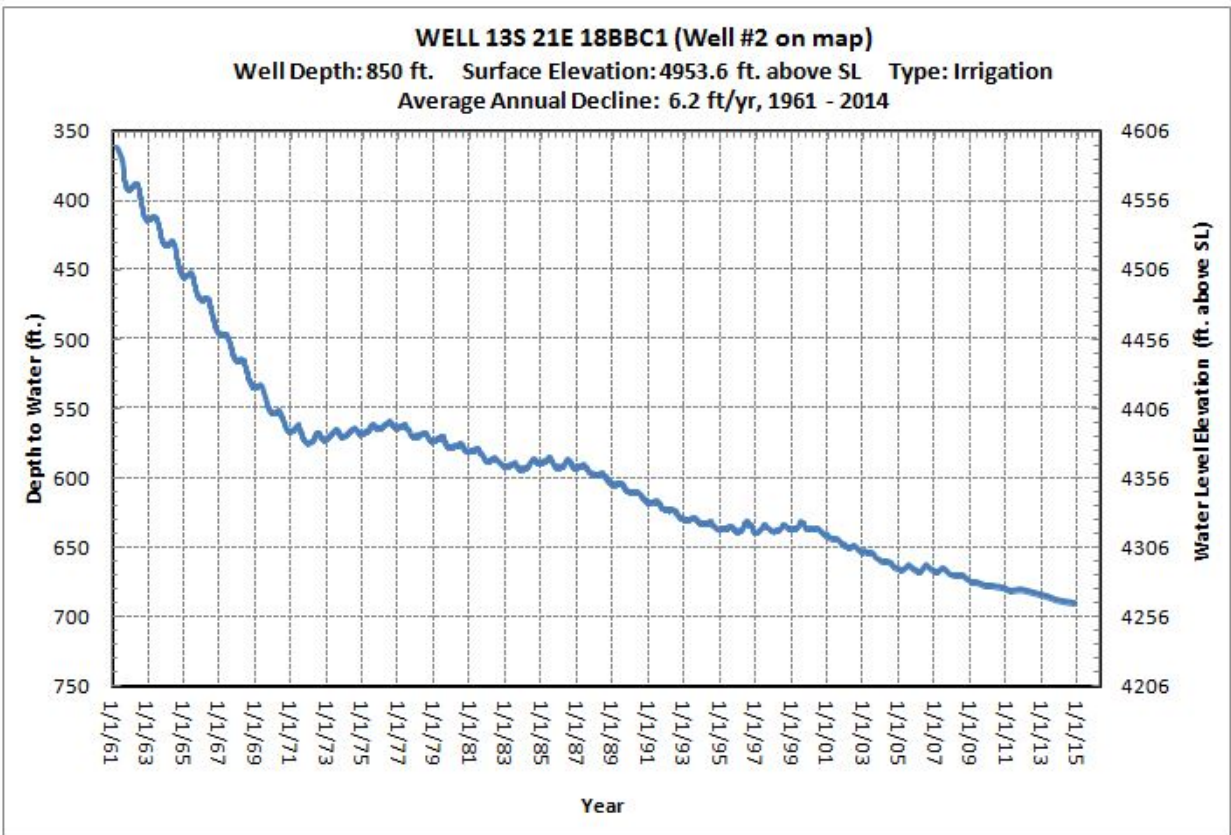


Figure 4. Ground water level hydrograph for 13S 21E 18BBC1, 1961 – 2014.