# 2023/2024 Annual Report Tule Subbasin

Pixley Irrigation District GSA

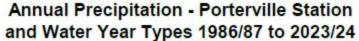


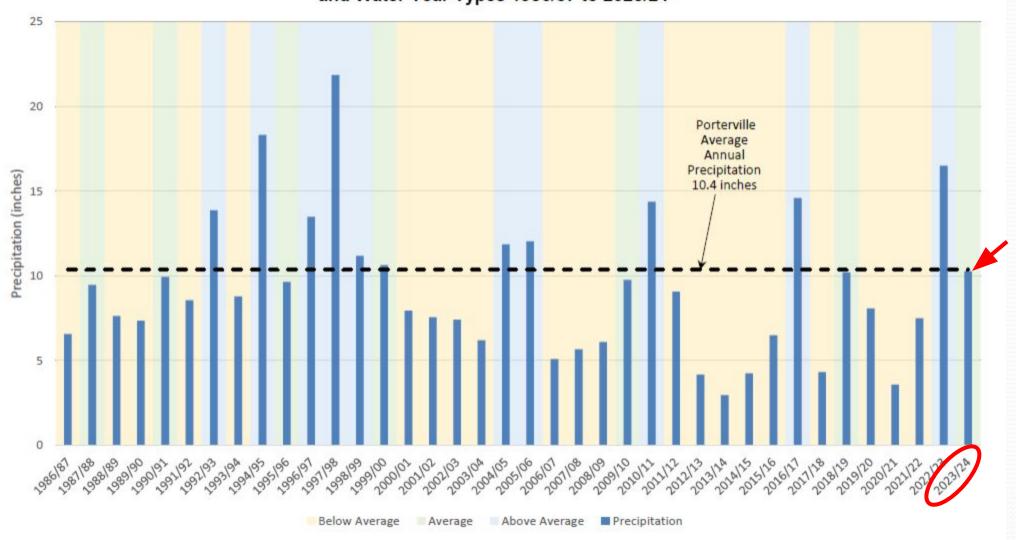
#### **Overview**

- Precipitation Data
- GSA Boundary and Groundwater Monitoring Networks
  - Groundwater Aquifer Level Contours
  - Estimated Change In Storage
- Land Surface Elevation and Subsidence Monitoring Network
  - Benchmarks and InSAR Data
- Tule Subbasin Water Supply
- Water Quality
- Data



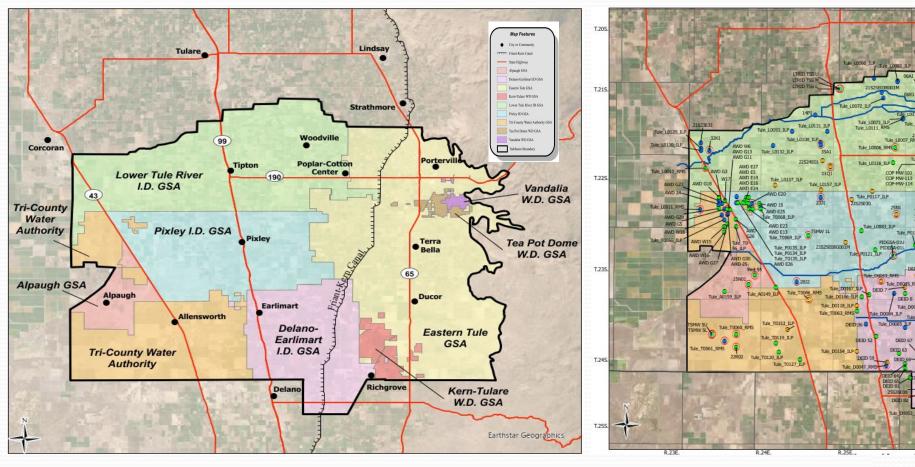
#### Precipitation for Water Year 2023/24 was Average

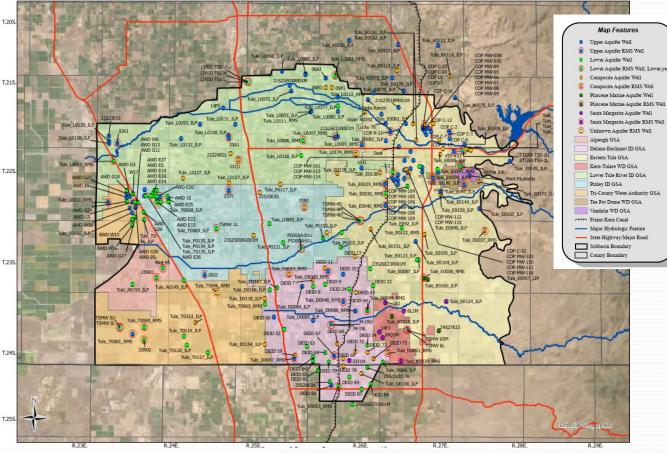






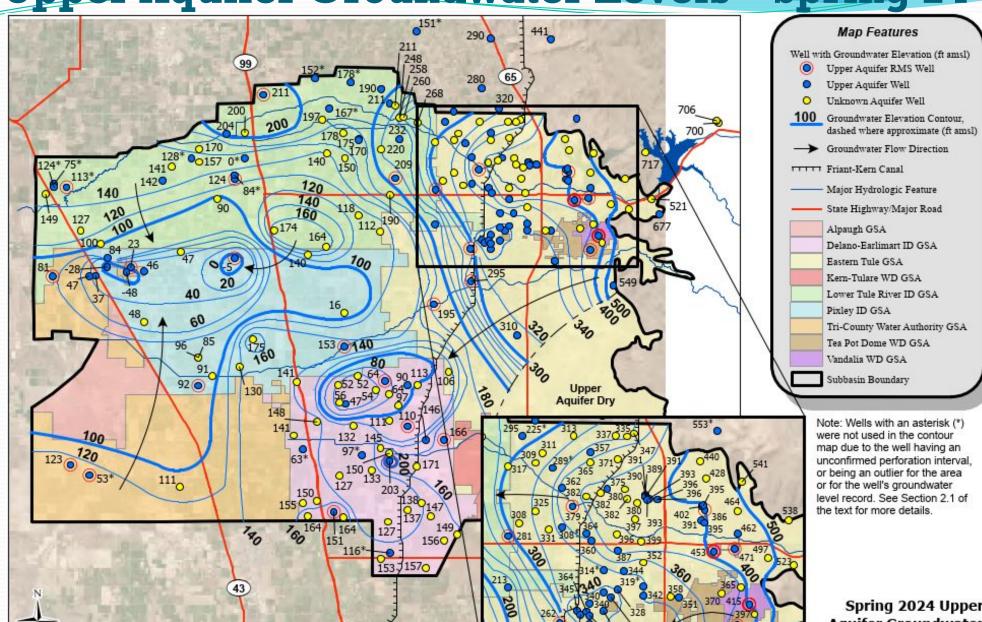
#### **GSA** Boundaries and Monitoring Network







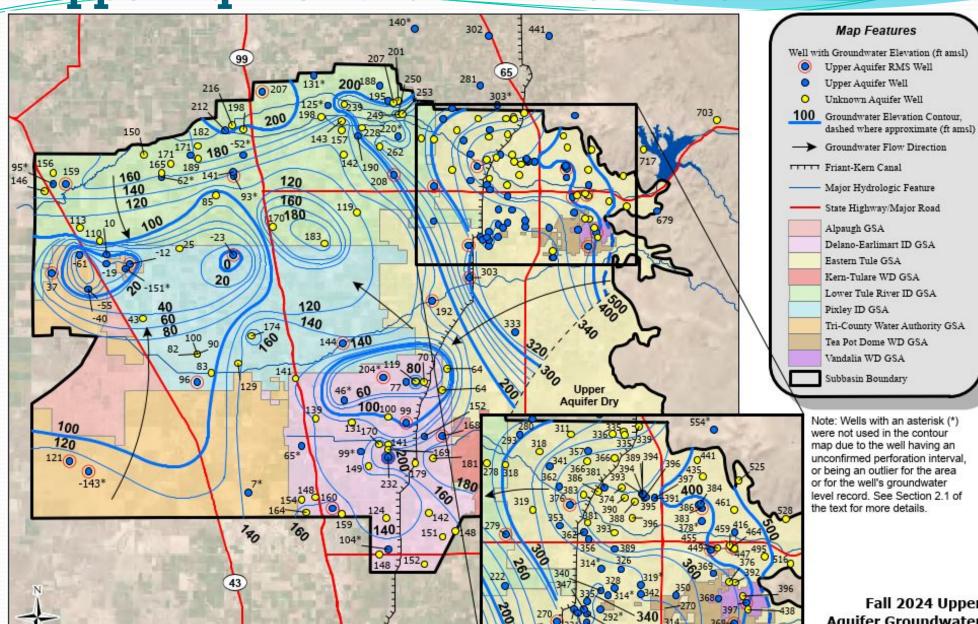
#### **Upper Aquifer Groundwater Levels – Spring 24**



Spring 2024 Upper **Aquifer Groundwater Elevation Contours** 



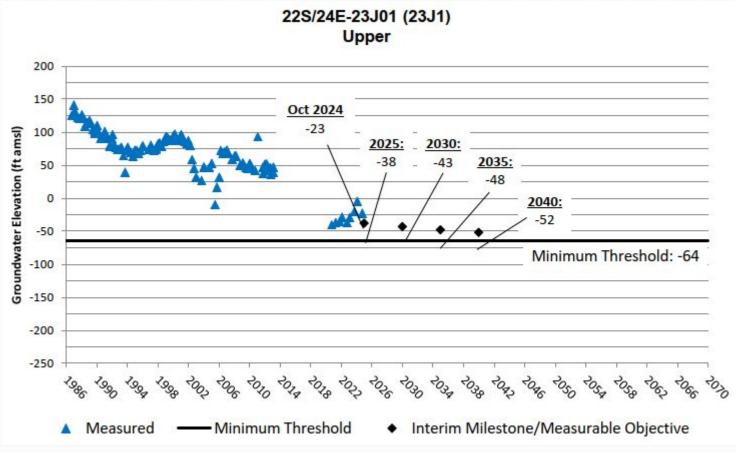
#### Upper Aquifer Groundwater Level - Fall 24

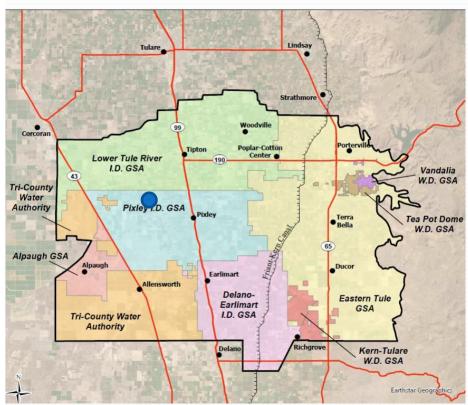


Fall 2024 Upper **Aquifer Groundwater Elevation Contours** 



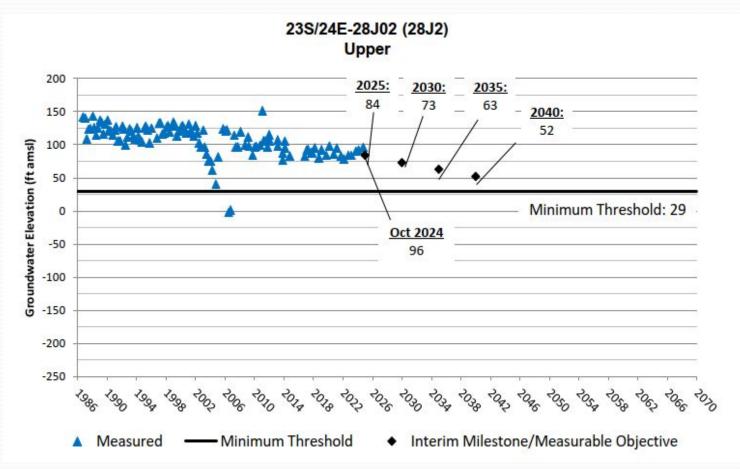
#### **Groundwater Elevation - 23J1 Upper**

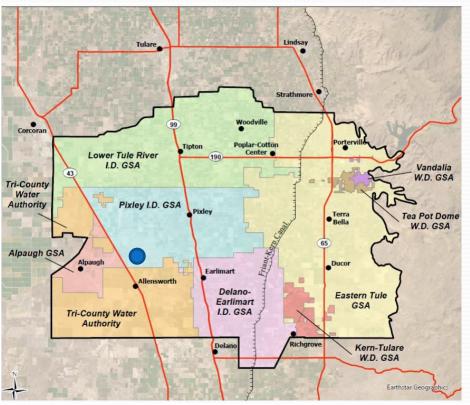






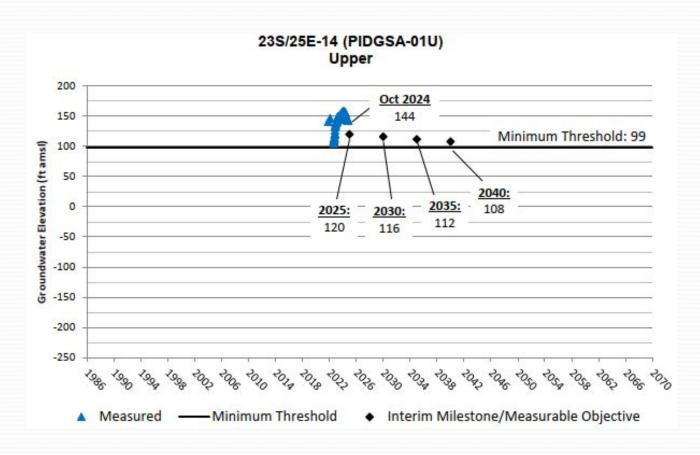
#### **Groundwater Elevation - 28J2 Upper**

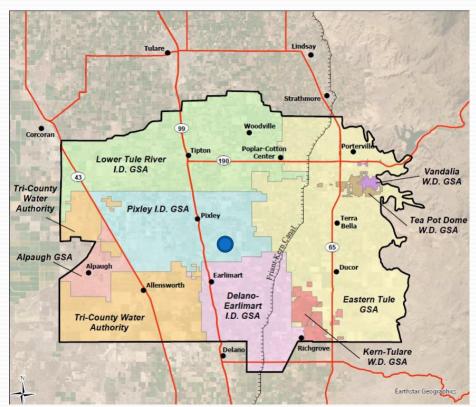






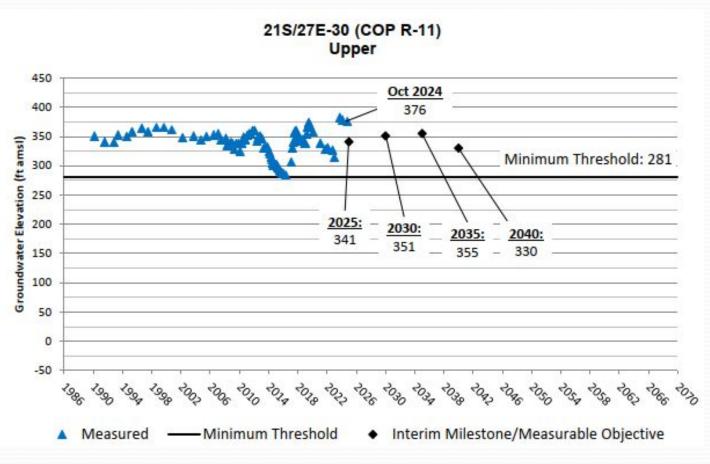
#### **Groundwater Elevation - PIDGSA-01U Upper**

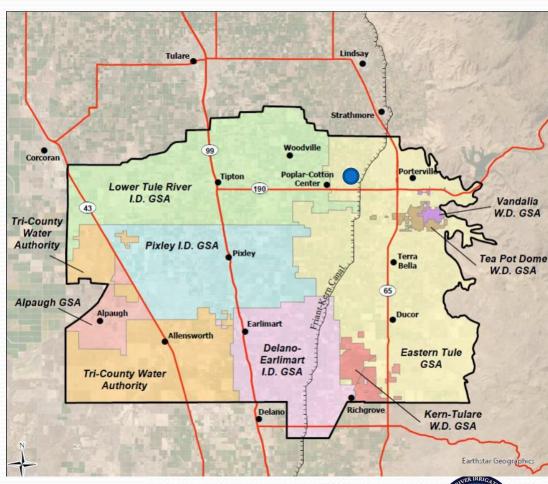




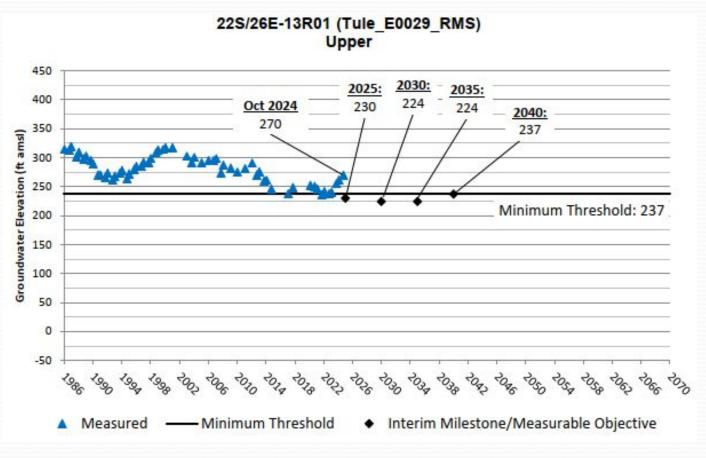


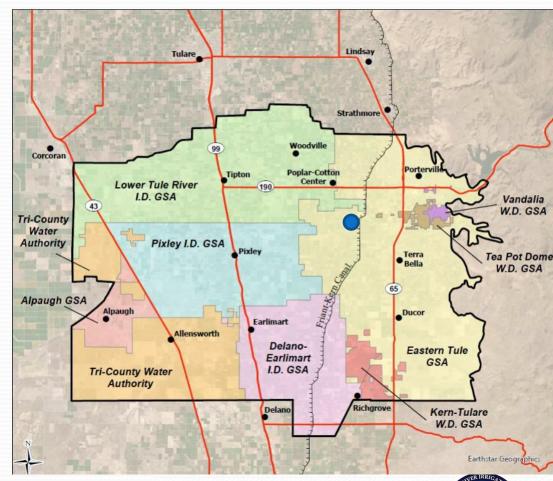
#### Groundwater Elevation Hydrographs along FKC



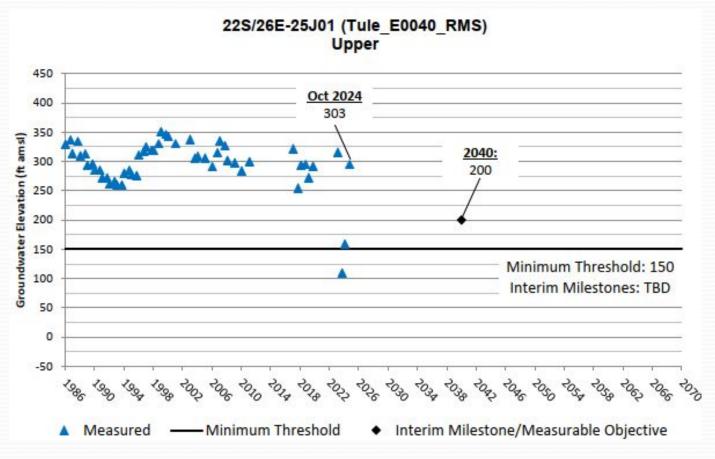


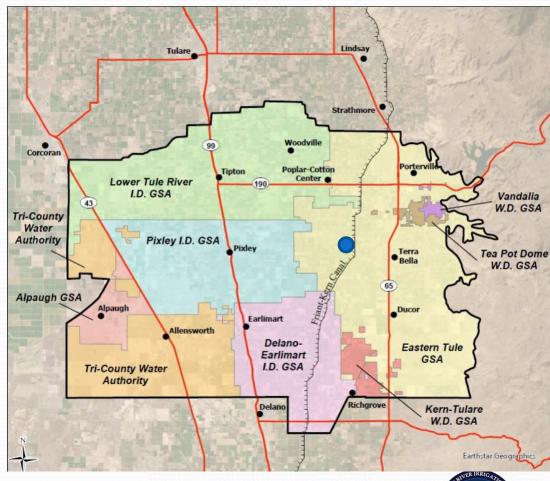
#### Groundwater Elevation Hydrographs along FKC



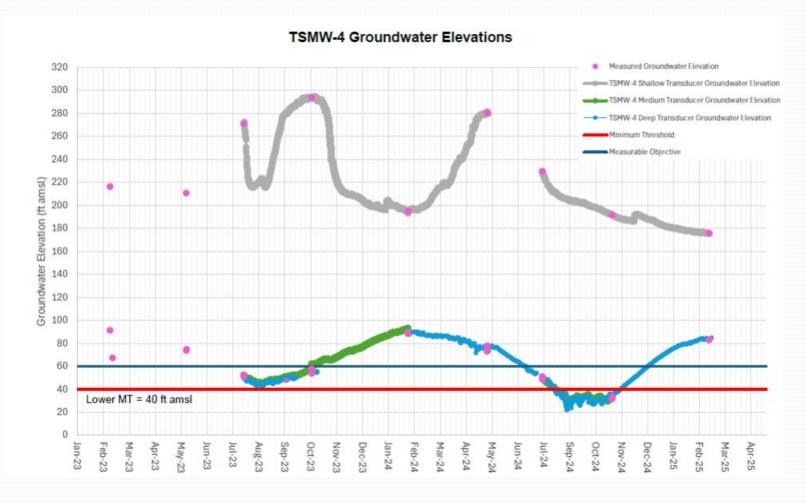


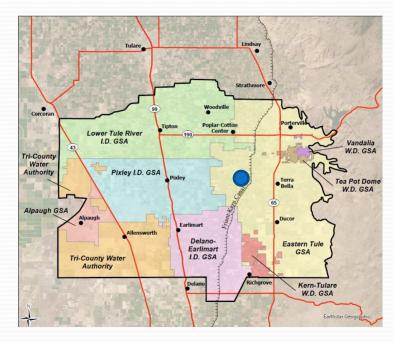
#### Groundwater Elevation Hydrographs along FKC





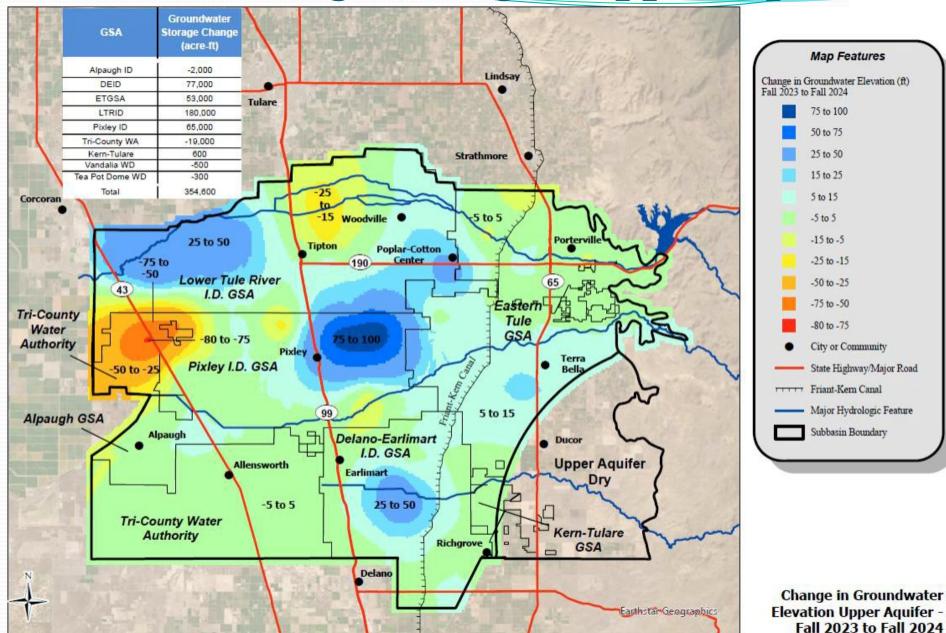
#### **Groundwater Elevation Changes – TSMW-04 RMS**





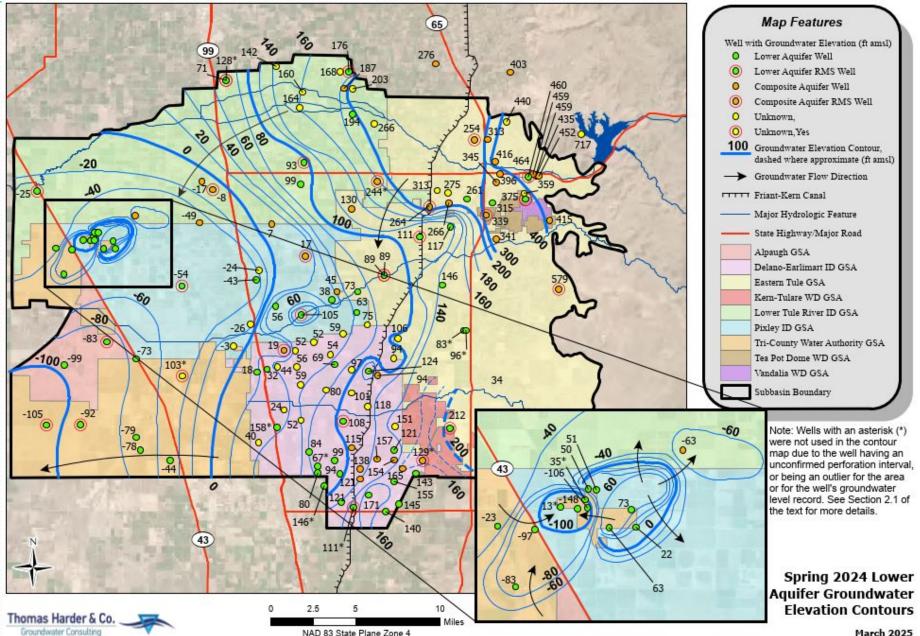


#### Estimated Storage change - Upper Aquifer



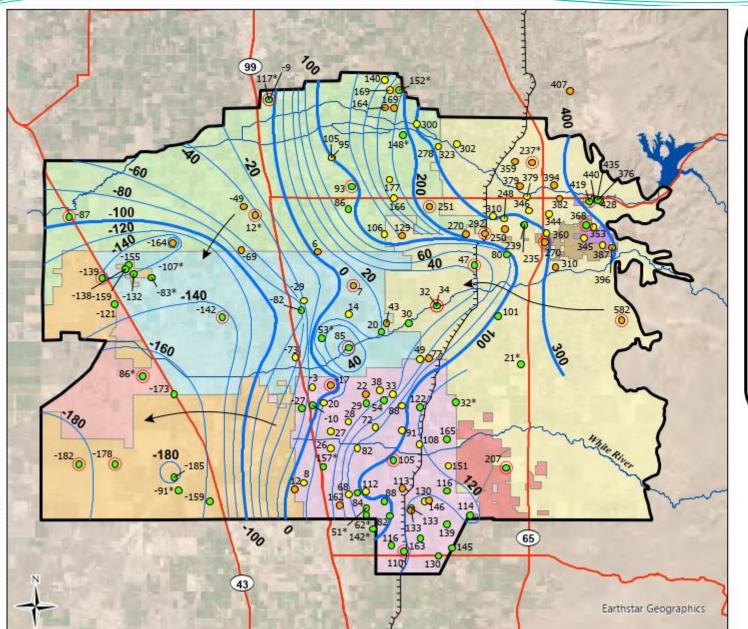


#### Lower Aquifer Groundwater Level - Spring 24





#### Lower Aquifer Groundwater Level - Fall 24



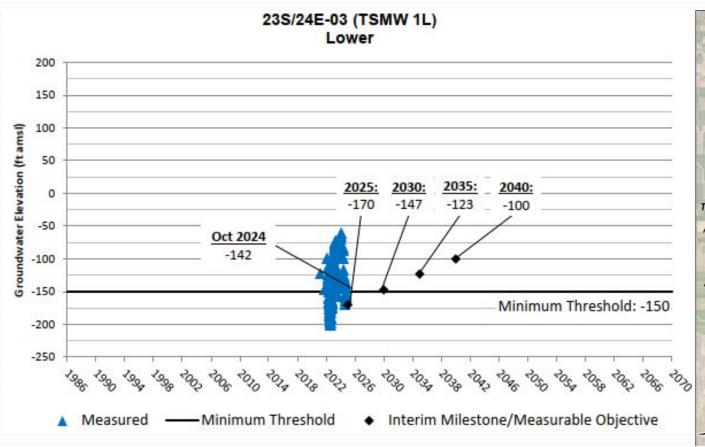
#### Map Features Well with Groundwater Elevation (ft amsl) Lower Aquifer RMS Well Lower Aquifer Well Composite Aquifer RMS Well Composite Aquifer Well Unknown Aquifer Well Groundwater Elevation Contour. dashed where approximate (ft amsl) → Groundwater Flow Direction Friant-Kern Canal Major Hydrologic Feature State Highway/Major Road Alpaugh GSA Delano-Earlimart ID GSA Eastern Tule GSA Kern-Tulare WD GSA Lower Tule River ID GSA Pixley ID GSA Tri-County Water Authority GSA Tea Pot Dome WD GSA Vandalia WD GSA Subbasin Boundary

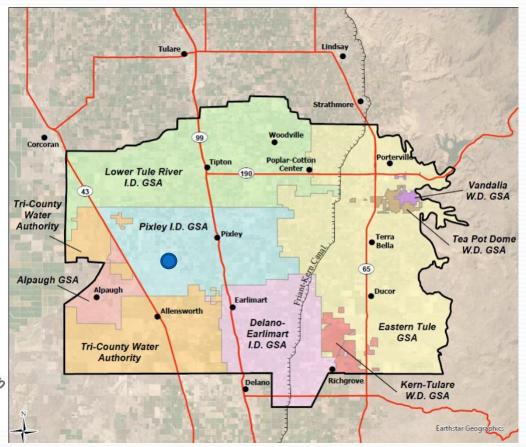
Note: Wells with an asterisk (\*) were not used in the contour map due to the well having an unconfirmed perforation interval, or being an outlier for the area or for the well's groundwater level record. See Section 2.1 of the text for more details.

Fall 2024 Lower Aquifer Groundwater Elevation Contours



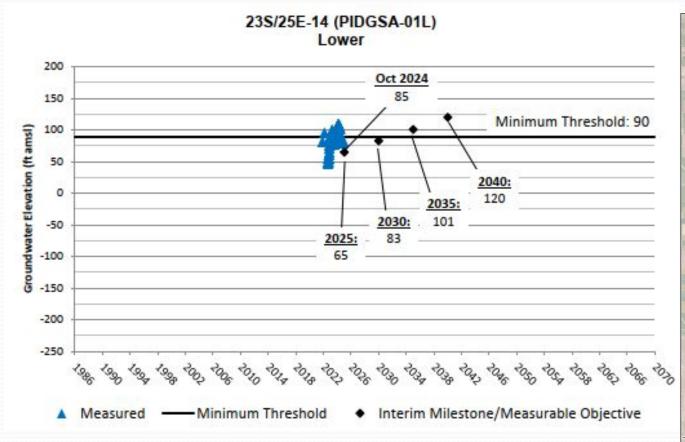
# Groundwater Level Measurement – TSMW-1L Lower

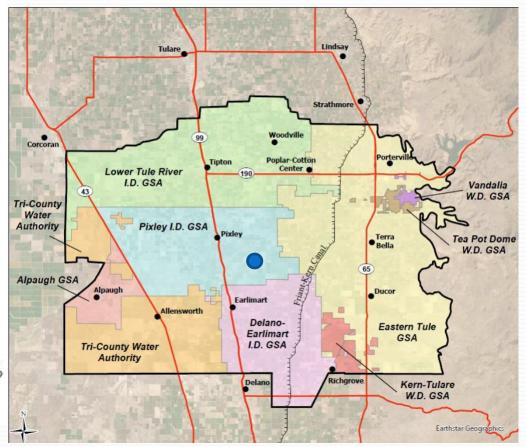






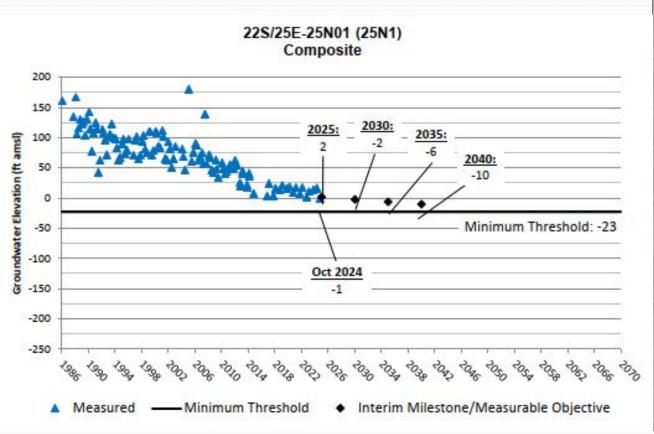
# Groundwater Level Measurement - PIDGSA-01L Lower

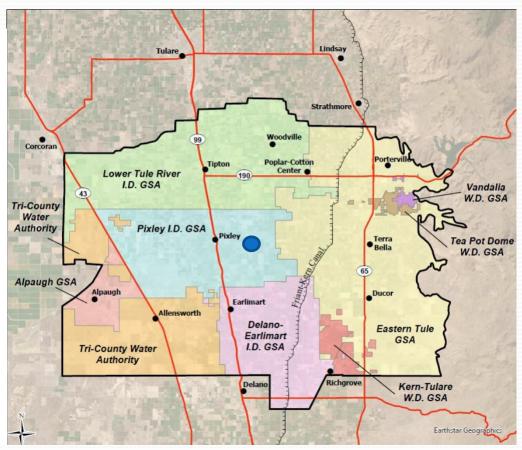






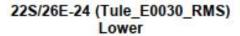
#### Groundwater Level Measurement – 25N1 Composite

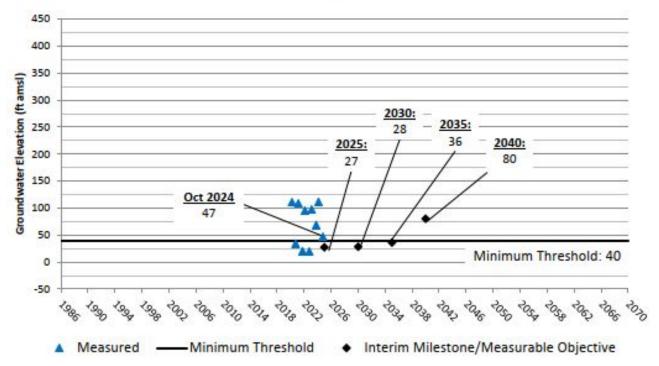


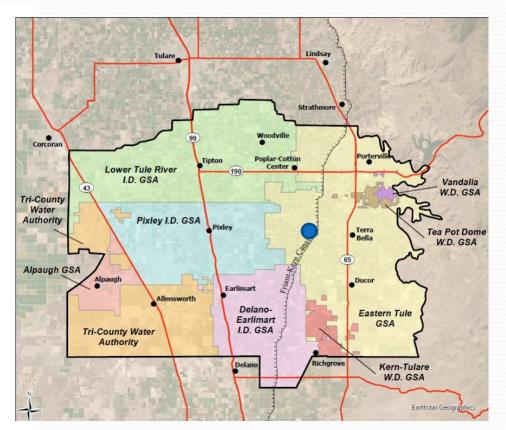




#### **Groundwater Elevation Changes – FKC**

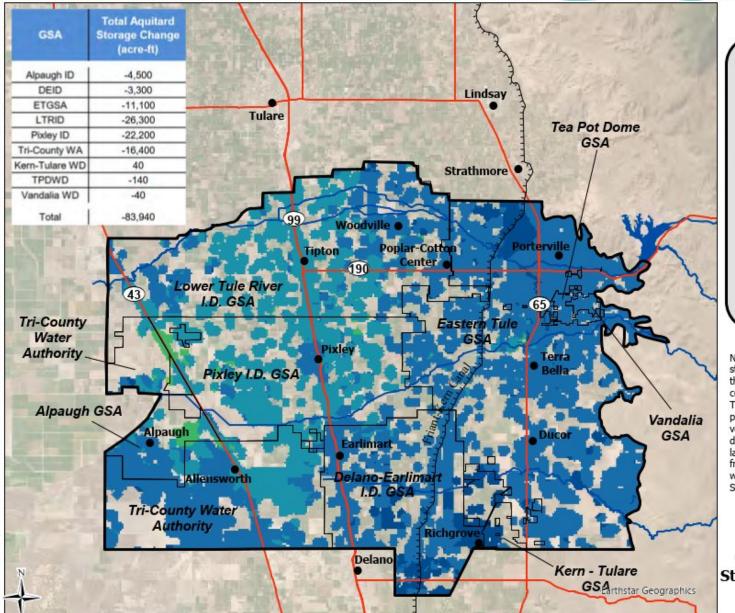


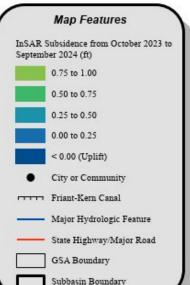






#### Estimated Storage change - Lower



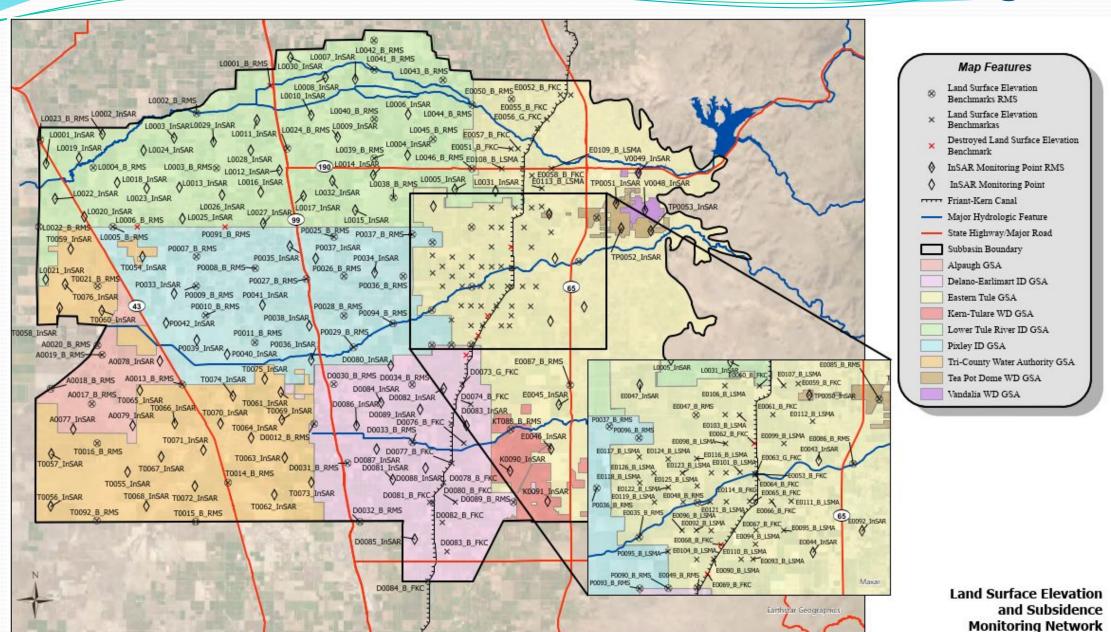


Note: For this annual report, the change in storage for the Lower Aquifer was equated to the volume of water associated with compression of aquitards for the water year. This approximation was based on the premise that this volume is equal to the volume of land subsidence that occurred during this time. The areal distribution of land subsidence was based on InSAR data from October 1 (Fall) at the beginning of the water year to October 1 (i.e. through September) at the end of the water year.

Change in Lower Aquifer Storage as Estimated from Land Subsidence Fall 2023 to Fall 2024

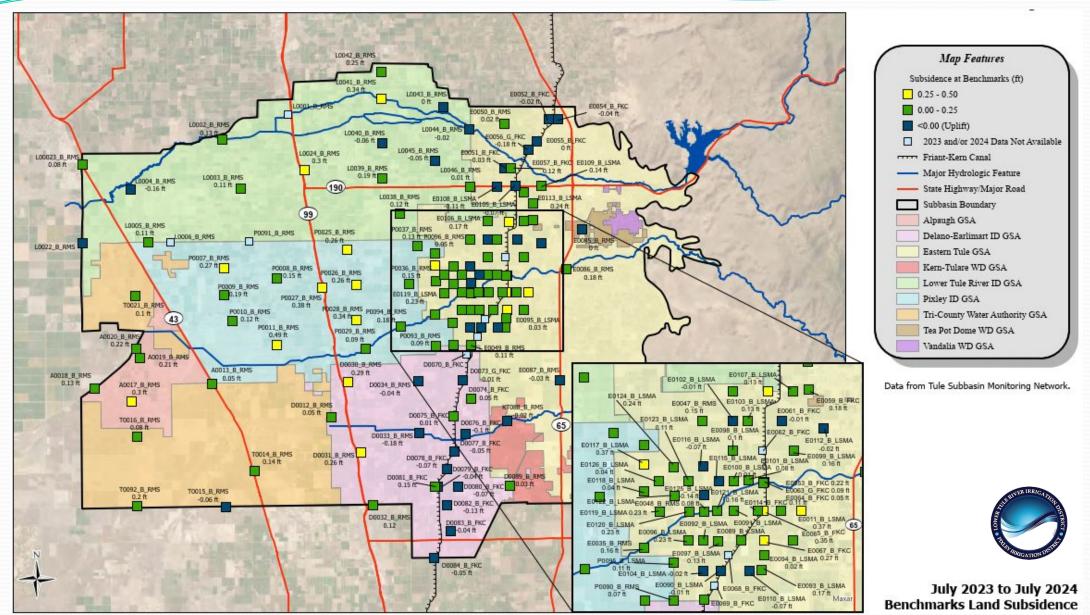


#### Land Surface Elevation and Subsidence Monitoring Network

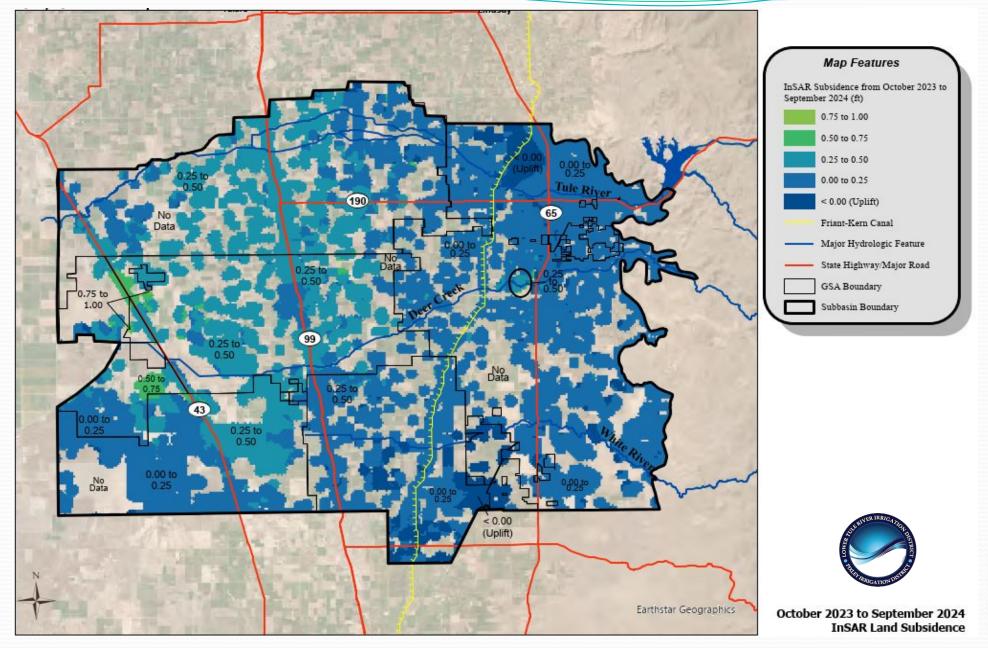




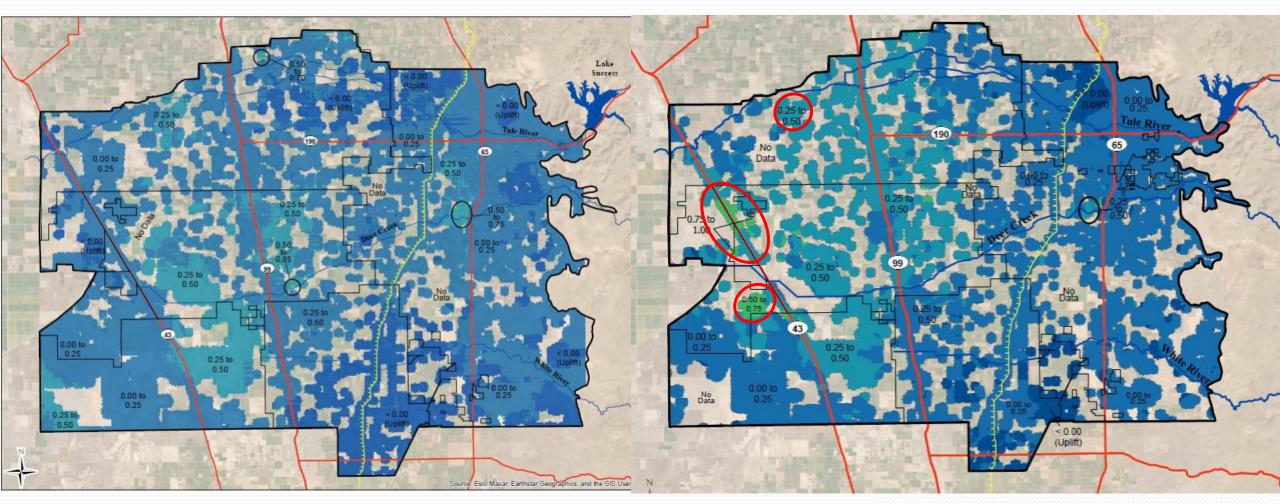
#### Land Subsidence Benchmarks



#### InSAR Land Subsidence (Oct 23-Sept 24)

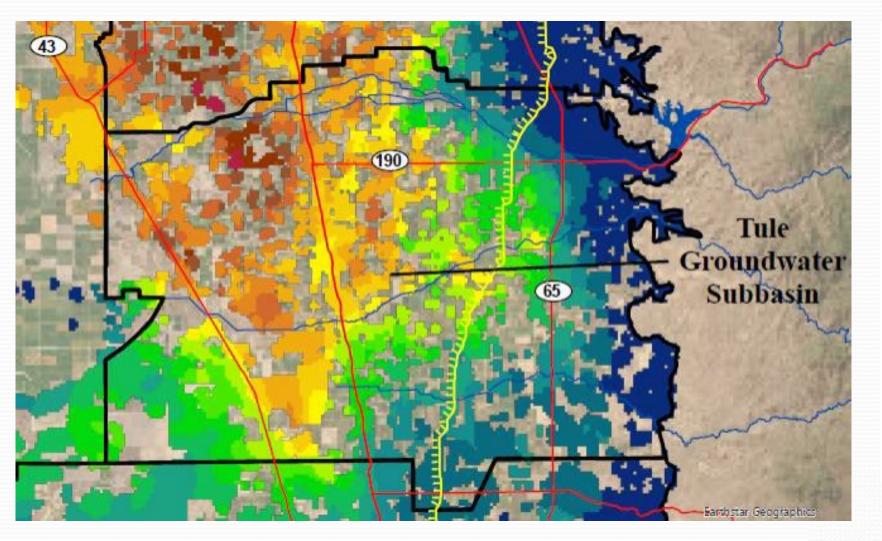


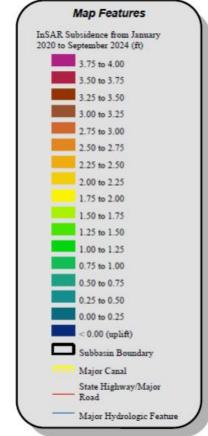
#### Comparison of Subsidence Rates Between 2022/23 and 2023/24





#### Cumulative Land Subsidence Jan. 2020 - Sept 2024







#### Tule Subbasin Groundwater Extraction 23/24

| Groundwater              | Management            | Groundwate   | Groundwater Extraction Sector |            |         |  |  |  |
|--------------------------|-----------------------|--------------|-------------------------------|------------|---------|--|--|--|
| Sustainability<br>Agency | Area                  | Agricultural | Urban                         | For Export | Total   |  |  |  |
|                          | Agricultural          | 127,000      | 0                             | 0          | 127,000 |  |  |  |
| LTDID                    | Municipal             | 0            | 1,350                         | 0          | 1,350   |  |  |  |
| LTRID                    | Tulare County MOU     | 2,000        | 0                             | 0          | 2,000   |  |  |  |
|                          | Total                 | 129,000      | 1,350                         | 0          | 130,350 |  |  |  |
|                          | Greater Tule          | 154,100      | 0                             | 0          | 154,100 |  |  |  |
|                          | Porterville Community | 17,700       | 10,580                        | 0          | 28,280  |  |  |  |
| ETGSA                    | Ducor Community       | 0            | 90                            | 0          | 90      |  |  |  |
|                          | Terra Bella Community | 0            | 402                           | 0          | 402     |  |  |  |
|                          | Total                 | 171,800      | 11,072                        | 0          | 182,872 |  |  |  |
|                          | DEID                  | 44,000       | 0                             | 0          | 44,000  |  |  |  |
| DEID                     | Richgrove CSD         | 0            | 870                           | 0          | 870     |  |  |  |
| DEID                     | Earlimart PUD         | 0            | 2,930                         | 0          | 2,930   |  |  |  |
|                          | Total                 | 44,000       | 3,800                         | 0          | 47,800  |  |  |  |
|                          | Pixley ID             | 108,300      | 0                             | 0          | 108,300 |  |  |  |
| Pixley ID                | Pixley PUD            | 0            | 560                           | 0          | 560     |  |  |  |
| Fixley ID                | Teviston CSD          | 0            | 80                            | 0          | 80      |  |  |  |
|                          | Total                 | 108,300      | 640                           | 0          | 108,940 |  |  |  |
|                          | North                 | 2,800        | 0                             | 8,500      | 11,300  |  |  |  |
| TCWA                     | Southeast             | 60,200       | 100                           | 0          | 60,300  |  |  |  |
|                          | Total                 | 63,000       | 100                           | 8,500      | 71,600  |  |  |  |
| Alpaugh ID               | Total                 | 14,800       | 280                           | 0          | 15,080  |  |  |  |
| KTWD                     | Total                 | 700          | 0                             | 0          | 700     |  |  |  |
| Tea Pot Dome             | Total                 | 600          | 0                             | o          | 600     |  |  |  |
| Vandalia                 | Total                 | 1,800        | 0                             | o          | 1,800   |  |  |  |
|                          | Grand Total           | 534,000      | 17,242                        | 8,500      | 559,742 |  |  |  |



#### Tule Subbasin Surface Water Supplies 2023/2024

| GSA          | Management<br>Area    | Central<br>Valley<br>Project | Managed<br>Local<br>Supplies | Recycled<br>Water | Reused<br>Water | Precip-<br>itation | Total     |
|--------------|-----------------------|------------------------------|------------------------------|-------------------|-----------------|--------------------|-----------|
|              | Agricultural          | 162,000                      | 120,800                      | 200               | o               | 73,000             | 356,000   |
| LTRID        | Municipal             | 0                            | 0                            | 180               | 0               | 0                  | 180       |
| LIKID        | Tulare County MOU     | 0                            | 0                            | 0                 | 0               | 500                | 500       |
|              | Total                 | 162,000                      | 120,800                      | 380               | 0               | 73,500             | 356,680   |
|              | Greater Tule          | 104,900                      | 31,900                       | 0                 | o               | 99,900             | 236,700   |
|              | Porterville Community | 0                            | 8,000                        | 4,800             | 0               | 14,200             | 27,000    |
| ETGSA        | Ducor Community       | 0                            | 0                            | 0                 | 0               | 0                  | 0         |
|              | Terra Bella Community | 1,300                        | 0                            | 0                 | 0               | 0                  | 1,300     |
|              | Total                 | 106,200                      | 39,900                       | 4,800             | 0               | 114,100            | 265,000   |
|              | DEID                  | 178,800                      | 0                            | 0                 | 0               | 38,200             | 217,000   |
| DEID         | Richgrove CSD         | 0                            | 0                            | 0                 | 0               | 0                  | 0         |
| DEID         | Earlimart PUD         | 0                            | 0                            | 0                 | 0               | 0                  | 0         |
|              | Total                 | 178,800                      | 0                            | 0                 | 0               | 38,200             | 217,000   |
|              | Pixley ID             | 40,200                       | 3,100                        | 0                 | 0               | 43,800             | 87,100    |
| Pixley ID    | Pixley PUD            | 0                            | 0                            | 0                 | 0               | 0                  | 0         |
| rixiey ib    | Teviston CSD          | 0                            | 0                            | 0                 | 0               | 0                  | 0         |
|              | Total                 | 40,200                       | 3,100                        | 0                 | 0               | 43,800             | 87,100    |
|              | North                 | 0                            | 3,500                        | 0                 | 0               | 5,000              | 8,500     |
| TCWA         | Southeast             | 0                            | 0                            | 0                 | 0               | 30,500             | 30,500    |
|              | Total                 | 0                            | 3,500                        | 0                 | 0               | 35,500             | 39,000    |
| Alpaugh ID   | Total                 | 500                          | 1,000                        | 0                 | 0               | 8,300              | 9,800     |
| KTWD         | Total                 | 13,800                       | 0                            | 0                 | 1,200           | 6,100              | 21,100    |
| Tea Pot Dome | Total                 | 6,800                        | 0                            | 0                 | 0               | 2,500              | 9,300     |
| Vandalia     | Total                 | 0                            | 2,800                        | 0                 | 0               | 1,200              | 4,000     |
|              | Grand Total           | 508,300                      | 171,100                      | 5,180             | 1,200           | 323,200            | 1,008,980 |



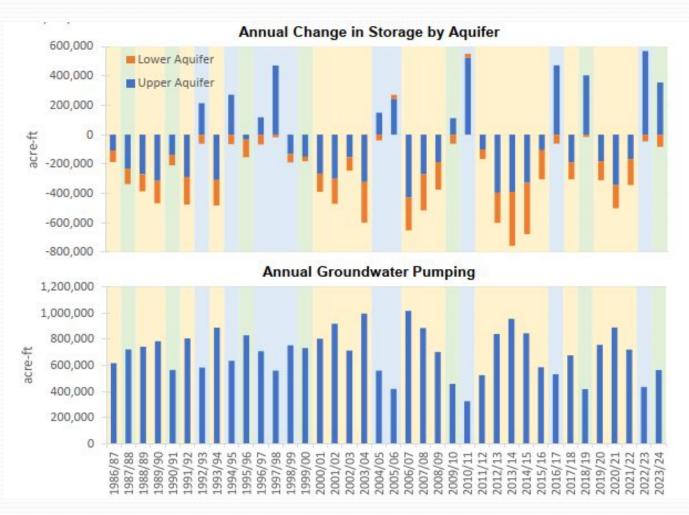
#### Tule Subbasin Total Water Use 23/24

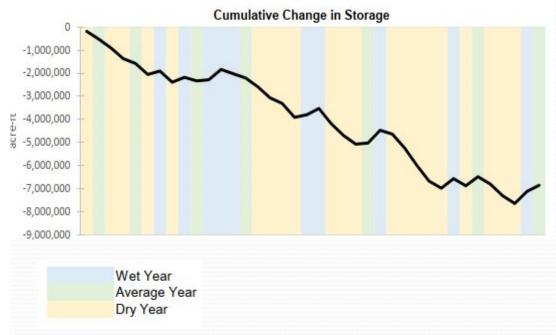
| GSA        | Management<br>Area    | Groundwater<br>Extraction | Surface Water<br>Supplies                | Recycled<br>Water | Reused<br>Water | Total            |
|------------|-----------------------|---------------------------|--|-------------------|-----------------|------------------|
|            |                       |                           |  |                   |                 |                  |
|            | Agricultural          | 127,000                   | 355,800                                  | 200               | 0               | 483,000          |
| LTRID      | Municipal             | 1,350                     | 0  | 180               | 0               | 1,530            |
| LIKID      | Tulare County MOU     | 2,000                     | 500                                      | 0                 | 0               | 2,500            |
|            | Total                 | 130,350                   | 356,300                                  | 380               | 0               | 487,030          |
|            | Greater Tule          | 154,100                   | 236,700                                  | o                 | 0               | 390,800          |
|            | Porterville Community | 28,280                    | 22,200                                   | 4,800             | 0               | 55,280           |
| ETGSA      | Ducor Community       | 90                        | 0  | 0                 | 0               | 90               |
|            | Terra Bella Community | 402                       | 1,300                                    | 0                 | 0               | 1,702            |
|            | Total                 | 182,872                   | 12.000112.00142.00                       | 4,800             | 0               | 447,872          |
|            | DEID                  | 44,000                    | 217,000                                  | ol                | 0               | 261,000          |
|            | Richgrove CSD         | 870                       | 0  | 0                 | 0               | 870              |
| DEID       | Earlimart PUD         | 2,930                     | 0  | 0                 | 0               | 2,930            |
|            | Total                 | 47,800                    |  | 0                 | 0               | 264,800          |
|            | Lance                 |                           | D 02229000000000000000000000000000000000 |                   |                 | 2000 C 100 C 200 |
|            | Pixley ID             | 108,300                   | 87,100                                   | 0                 | 0               | 195,400          |
| Pixley ID  | Pixley PUD            | 560                       | 0  | 0                 | 0               | 560              |
|            | Teviston CSD          | 80                        | 0  | 0                 | 0               | 80               |
|            | Total                 | 108,940                   | 87,100                                   | 0                 | 0               | 196,040          |
|            | North                 | 11,300                    | 8,500                                    | 0                 | 0               | 19,800           |
| TCWA       | Southeast             | 60,300                    | 30,500                                   | 0                 | 0               | 90,800           |
|            | Total                 | 71,600                    | 39,000                                   | 0                 | 0               | 110,600          |
| Alpaugh ID | Total                 | 15,080                    | 9,800                                    | o                 | 0               | 24,880           |
| KTWD       | Total                 | 700                       | 19,900                                   | o                 | 1,200           | 21,800           |
| ea Pot Dom | Total                 | 600                       | 9,300                                    | o                 | 0               | 9,900            |
| Vandalia   | Total                 | 1,800                     | 4,000                                    | 0                 | 0               | 5,800            |
|            | Grand Total           | 559,742                   | 1,002,600                                | 5,180             | 1,200           | 1,568,722        |

Note: All values are in acre-ft.



#### Tule Subbasin Groundwater Use and Change in Storage







## **Water Quality**

#### RMS Groundwater Quality in Drinking Water Designated Wells – Upper Aquifer

|             |                                   |             | Constituents of Concern |            |                    |                 |            |                     |                       |                    |                                  |                   |
|-------------|-----------------------------------|-------------|-------------------------|------------|--------------------|-----------------|------------|---------------------|-----------------------|--------------------|----------------------------------|-------------------|
| GSA         | SGMA ID                           | Sample Date | Nitrate as N<br>(mg/L)  | TDS (mg/L) | Chloride<br>(mg/L) | DBCP (µg/l)     | PCE (µg/l) | 1,2,3-TCP<br>(µg/l) | Perchlorate<br>(µg/l) | Uranium<br>(pCi/L) | Hexavalent<br>Chromium<br>(µg/l) | Arsenic<br>(µg/l) |
|             | 21S/27E-08 (Tule_K0170_ILP)       | 6/18/2024   | NM <sup>1</sup>         | NM¹        | NM1                | NM1             | NM1        | NM¹                 | NM1                   | NM1                | NM <sup>1</sup>                  | NM1               |
|             | 21S/26E-24 (Tule_E0081_ILP)       | 7/1/2024    | 8                       | 390        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/26E-36 (Tule_E0082_ILP)       | 6/12/2024   | 2.9                     | 230        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
| ETGSA       | 22S/27E-11 (Tule_E0094_ILP)       | 6/12/2024   | 16                      | 410        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
| EIGSA       | 22S/27E-23 (Tule_E0098_ILP)       | 6/19/2024   | 1.6                     | 670        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 22S/28E-11 (Tule_E0145_ILP)       | 6/26/2024   | ND                      | 91         | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 22S/28E-17 (Tule_E0171_ILP)       | 6/12/2024   | 26                      | 460        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 23S/26E-03 (TSMW-4S)              | 8/28/2024   | ND                      | 250        | NS                 | ND              | ND         | ND                  | ND                    | ND                 | ND                               | 8.2               |
| VWD         | 22S/28E-06 (ETGSA TSS-1U)         | 8/21/2024   | ND                      | 170        | NS                 | ND              | ND         | ND                  | ND                    | 1.4                | ND                               | ND                |
| TPDWD       | 22S/28E-19 (Tule_E0147_ILP)       | 6/12/2024   | 10                      | 310        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/26E-32B02<br>(Tule_L0007_RMS) | 6/19/2024   | 6                       | 300        | NS                 | ND              | ND         | ND                  | ND                    | 6.9                | 0.36                             | ND                |
|             | 21S/25E-06 (LTRID TSS U)          | 6/25/2024   | 2.9                     | 250        | NS                 | ND              | ND         | ND                  | ND                    | 3                  | 2                                | 15                |
|             | 21S/25E-13 (Tule_L0071_ILP)       | 6/24/2024   | 15                      | 320        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/25E-11 (Tule_L0072_ILP)       | 6/24/2024   | 8.1                     | 240        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/25E-12 (Tule_L0073_ILP)       | 6/17/2024   | 2.3                     | 230        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
| LTRID       | 21S/26E-05 (Tule_L0074_ILP)       | 6/17/2024   | 2.6                     | 240        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/26E-17 (Tule_L0080_ILP)       | 6/17/2024   |                         | 430        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 20S/25E-33 (Tule_L0090_ILP)       | 6/17/2024   | 30                      | 710        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/24E-28 (Tule_L0093_ILP)       | 6/10/2024   | 31                      | 650        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 21S/24E-26 (Tule_L0108_ILP)       | 6/10/2024   | 5.6                     | 260        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 22S/28E-03<br>(Tule_L0174_RMS)    | 6/18/2024   | 16                      | NS         | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 23S/25E-08G01<br>(Tule_P0021_RMS) | 6/17/2024   | 2.8                     | 380        | NS                 | ND              | ND         | 0.033               | ND                    | 1.9                | 1.4                              | 3.2               |
| PIXID       | 22S/25E-22 (Tule_P0117_ILP)       | 6/24/2024   | 19                      | 550        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 22S/23E-27 (Tule_P0133_ILP)       | 7/15/2024   | 0.99                    | 660        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
|             | 23S/25E-14 (PIDGSA-01U)           | 6/25/2024   | 3.4                     | 260        | NS                 | ND              | ND         | ND                  | ND                    | 3                  | 0.75                             | 3.7               |
|             | 24S/23E-17 (TSMW 5U)              | 8/24/2024   | ND                      | 600        | NS                 | ND              | ND         | ND                  | ND                    | 0.91               | ND                               | ND                |
| <b>TCWA</b> | 22S/23E-33 (AWD W14)              | 6/15/2024   | NM¹                     | NM¹        | NM1                | NM <sup>1</sup> | NM¹        | NM¹                 | NM1                   | NM1                | NM <sup>1</sup>                  | NM¹               |
|             | 24S/24E-29 (Tule_T0089_ILP)       | 6/20/2024   | ND                      | 210        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
| DEID        | 23S/25E-36 (Tule_D0084_ILP)       | 6/18/2024   | 12                      | 330        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |
| DEID        | 24S/25E-13 (Tule_D0085_ILP)       | 6/19/2024   | 6.6                     | 370        | NS                 | NS              | NS         | NS                  | NS                    | NS                 | NS                               | NS                |

Not pumping

## **Water Quality**

#### RMS Groundwater Quality in Drinking Water Designated Wells - Lower Aquifer

|                      |                             |             |                        | 10. 0.0    |                    |             | Constituents | s of Concern        |                       |                    | He .                             |                 |
|----------------------|-----------------------------|-------------|------------------------|------------|--------------------|-------------|--------------|---------------------|-----------------------|--------------------|----------------------------------|-----------------|
| GSA                  | SGMA ID                     | Sample Date | Nitrate as N<br>(mg/L) | TDS (mg/L) | Chloride<br>(mg/L) | DBCP (µg/l) | PCE (µg/l)   | 1,2,3-TCP<br>(µg/l) | Perchlorate<br>(µg/l) | Uranium<br>(pCi/L) | Hexavalent<br>Chromium<br>(µg/l) | Arsenic (µg/l)  |
|                      | 23S/27E-21 (Tule_E0123_ILP) | 6/25/2024   |                        | NS         | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 23S/26E-09 (Tule_E0140_ILP) | 7/15/2024   | 0.36                   | 260        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 22S/27E-20 (Tule_E0142_ILP) | 6/12/2024   | 0.47                   | 230        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| ETGSA                | 23S/27E-27 (Tule_E0160_ILP) | 6/17/2024   | ND                     | 400        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 22S/28E-06 (Tule_E0165_ILP) | 7/16/2024   | 3.3                    | 340        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 23S/26E-03 (TSMW-4D)        | 8/28/2024   | 1                      | 150        | NS                 | ND          | ND           | ND                  | ND                    | ND                 | 0.35                             | ND              |
|                      | 24S/27E-23 (Tule_E0038_RMS) | 7/17/2024   | ND                     | 300        | NS                 | ND          | ND           | ND                  | ND                    | ND                 | ND                               | 21              |
| VWD                  | 22S/28E-06 (ETGSA TSS-1L)   | 8/21/2024   | ND                     | 230        | NS                 | ND          | ND           | ND                  | ND                    | 2.5                | ND                               | ND              |
|                      | 21S/25E-36 (Tule_L0006_RMS) | 6/18/2024   | 5.4                    | 210        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| LTRID                | 21S/25E-06 (LTRID TSS M)    | 6/25/2024   | 1.9                    | 270        | NS                 | ND          | ND           | ND                  | ND                    | 3.2                | 2.1                              | 13              |
|                      | 23S/25E-04 (Tule_L0083_ILP) | 7/1/2024    | 1                      | 170        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| PIXID                | 23S/25E-10 (Tule_P0121_ILP) | 6/19/2024   | 5.5                    | 240        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| The same of the same | 24S/24E-27 (Tule_T0127_ILP) | 6/11/2024   | 1.1                    | 200        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| TCWA                 | 22S/23E-26 (Tule_T0135_ILP) | 6/17/2024   | ND                     | 160        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 22S/23E-33 (Tule_T0148_ILP) | 6/20/2024   | ND                     | 210        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 23S/25E-33 (Tule_D0166_ILP) | 6/20/2024   | 4.5                    | 270        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| DEID                 | 24S/26E-36 (Tule_D0168_ILP) | 6/20/2024   | 1.6                    | 670        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
|                      | 25S/26E-08 (Tule_D0173_RMS) | 6/20/2024   | 17                     | 780        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |
| KTWD                 | 24S/27E-20 (TSMW 6L)        | 6/15/2024   | NM <sup>1</sup>        | NM¹        | NM <sup>3</sup>    | NM¹         | NM¹          | NM1                 | NM¹                   | NM¹                | NM¹                              | NM <sup>1</sup> |
| KTWD                 | 24S/27E-18 (Tule_KT155_ILP) | 6/27/2024   | NM¹                    | NM¹        | NM3                | NM¹         | NM1          | NM <sup>3</sup>     | NM¹                   | NM¹                | NM¹                              | NM <sup>1</sup> |
| Alpaugh              | 23S/23E-34 (Tule_A0159_ILP) | 6/16/2024   | ND                     | 370        | NS                 | NS          | NS           | NS                  | NS                    | NS                 | NS                               | NS              |



#### **Water Quality**

RMS Groundwater Quality in Drinking Water Designated Wells – Public Supply Wells

|         |                   |             |                        | Constituents of Concern |                    |             |            |                     |                       |                    |                                  |                   |                |                |
|---------|-------------------|-------------|------------------------|-------------------------|--------------------|-------------|------------|---------------------|-----------------------|--------------------|----------------------------------|-------------------|----------------|----------------|
| GSA     | GM_Well_ID        | Sample Date | Nitrate as N<br>(mg/L) | TDS (mg/L)              | Chloride<br>(mg/L) | DBCP (µg/l) | PCE (µg/l) | 1,2,3-TCP<br>(µg/l) | Perchlorate<br>(μg/l) | Uranium<br>(pCi/L) | Hexavalent<br>Chromium<br>(µg/l) | Arsenic<br>(µg/l) | PFOS<br>(ng/L) | PFOA<br>(ng/L) |
| Alpaugh | CA5410050_004_004 | 7/8/2024    | NS                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | 2.3               | NS             | NS             |
|         | CA5400544_002_002 | 3/27/2024   | NS                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | 5.5               | NS             | NS             |
| TCWA    | CA5403039_001_001 | 3/6/2024    | 14.2                   | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| ICWA    | CA5403053_002_002 | 7/11/2024   | 13                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5403139_003_003 | 4/18/2024   | 6.1                    | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5400810_001_001 | 4/1/2024    | 12.8                   | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5400886_001_001 | 7/29/2024   | 2.6                    | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| DEID    | CA5400964_001_001 | 12/7/2023   | ND                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5403204_001_001 | 11/2/2023   | ND                     | NS                      | NS                 | ND          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5410021_001_001 | 3/27/2024   | NS                     | NS                      | NS                 | NS          | NS         | 0.0044              | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5400604_003_003 | 11/28/2023  | ND                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5400769_001_001 | 12/4/2023   | 14.1                   | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| ETGSA   | CA5400884_003_003 | 12/13/2023  | 1.1                    | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| EIGSA   | CA5400935_001_001 | 12/13/2023  | NS                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
|         | CA5410010_015_015 | 5/8/2024    | NS                     | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | ND             | ND             |
|         | CA5410801_006_006 | 5/6/2024    | 2.6                    | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| LTRID   | CA5403007_001_001 | 5/1/2024    | 26.2                   | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| LIKID   | CA5410025_002_002 | 2/21/2024   | 6.5                    | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |
| PIXID   | CA5403139_003_003 | 4/18/2024   | 6.1                    | NS                      | NS                 | NS          | NS         | NS                  | NS                    | NS                 | NS                               | NS                | NS             | NS             |



#### Pixley ID GSA Data - ET

| Evapotranspiration (acre-feet) |                  |                     |                     |                     |            |  |  |  |
|--------------------------------|------------------|---------------------|---------------------|---------------------|------------|--|--|--|
| Management Area                | 2019/20 WY       | 2020/21 WY          | 2021/22 WY          | 2022/23 WY          | 2023/24 WY |  |  |  |
| Pixley ID                      | 158,322          | 149,200             | 140,418             | 163,462             | 140,972    |  |  |  |
| Pixley PUD                     | 4,847            | 4,665               | 4,480               | 4,724               | 3,644      |  |  |  |
| Teviston CSD                   | 2,656            | 1,966               | 1,940               | 2,475               | 2,078      |  |  |  |
|                                |                  |                     |                     |                     |            |  |  |  |
|                                | 165,825          | 155,831             | 146,838             | 170,661             | 146,694    |  |  |  |
| TOTAL (acre-feet)              | Annual Δ in ET:  | -9,994 <sup>1</sup> | -8,993 <sup>2</sup> | 23,823 <sup>3</sup> | -23,9674   |  |  |  |
|                                | Average Δ in ET: |                     | -4                  | ,783 <sup>5</sup>   |            |  |  |  |



#### Pixley ID GSA Data – GW Extraction

| Groundwater Extraction (acre-feet)     |                    |                      |                      |                     |  |  |  |  |
|--|--------------------|----------------------|----------------------|---------------------|--|--|--|--|
| 2019/20 WY                             | 2020/21 WY         | 2021/22 WY           | 2022/23 WY           | 2023/24 WY          |  |  |  |  |
| 157,000                                | 165,500            | 137,000              | 90,100               | 108,940             |  |  |  |  |
| Annual Δ in Groundwater<br>Extraction: | 8,500 <sup>1</sup> | -28,500 <sup>2</sup> | -46,900 <sup>3</sup> | 18,840 <sup>4</sup> |  |  |  |  |

Average Δ in Groundwater Extraction:

**-12,015**<sup>5</sup>



## **Pixley ID Implementation**

Water Recharged around communities (direct and in-lieu)

| Water Recharge around Community (direct and in-lieu), amount in Acre-feet |      |        |       |  |  |  |  |  |
|---|------|--------|-------|--|--|--|--|--|
| Community   | 2022 | 2023   | 2024  |  |  |  |  |  |
| Pixley  | 474  | 9,250  | 1,621 |  |  |  |  |  |
| Teviston  | 279  | 6,649  | 1,185 |  |  |  |  |  |
| TOTAL   | 753  | 15,900 | 2,806 |  |  |  |  |  |

