

## 2. PLAN AREA AND BASIN SETTING

The Tule Subbasin (Subbasin) is in the southern portion of the San Joaquin Valley Groundwater Basin in California's Central Valley. The Subbasin is bound by the Sierra Nevada mountain range to the east, the Tulare County boundary to the west and south, and the Lower Tule River and Porterville Irrigation District boundaries to the north (see **Figure 2-1**). The California Department of Water Resources (DWR) classifies the Tule Subbasin and its neighbors as high-priority, critically overdrafted areas. As of 2026, there are thirteen Groundwater Sustainability Agencies (GSAs) within the Subbasin, including the Terra Bella Irrigation District (TBID or District) GSA, as shown in **Figure 2-2**.

Below the surface, the Tule Subbasin is divided into the Upper and Lower Aquifers, separated by the Corcoran Clay confining unit. Groundwater levels in the Upper Aquifer experienced steady declines from 1987 through 2015, and have been relatively stable since 2015. The Lower Aquifer has also experienced historical declines that vary in severity depending on the location within the Subbasin (**Appendix A**).

According to the 2024 Coordination Agreement, the cumulative change in groundwater storage within the Tule Subbasin from 1986 to 2023 was approximately -7,000,000 acre-feet (AF). The average annual change in storage is roughly -192,800 acre-feet per year (AFY).

### 2.1. Description of the Plan Area

#### 2.1.1. Area Covered by GSP

The area covered by the TBID GSA GSP (Plan Area) is a 13,962-acre region located in the southeastern portion of the Tule Subbasin (**Figure 2-3**). The TBID service area is centered on the community of Terra Bella, located roughly 7.5 miles south of Porterville. The TBID Plan Area is defined as the TBID service area. Deer Creek runs east-west through the northern part of the TBID Plan Area. State Route 65 and the Friant-Kern Canal lie to the west. The TBID Plan Area consists of one primary area, with smaller non-contiguous areas located to the northeast and northwest.

#### 2.1.2. Land Use

Land use within the Tule Subbasin is primarily agricultural with scattered urban areas, including the City of Porterville, and the Terra Bella and Alpaugh Communities. **Figure 2-4** shows the general land use designations within the TBID Plan Area. Land use within TBID is typical of the Tule Subbasin, with most of the area covered by agricultural operations and smaller areas of urban development. **Figure 2-4** breaks down the spatial distribution of agricultural land use by dominant crop type.

#### 2.1.3. Description of Beneficial Uses and Users

Agriculture is the primary land use within the TBID Plan Area. **Figure 2-4** shows the spatial distribution of cropping patterns within the TBID Plan Area. Of the roughly 14,000 acres within the TBID Plan Area, 10,560 acres are classified as agricultural use and rely primarily on imported surface water from the TBID.

The Terra Bella Community is an unincorporated community with a 2020 census population of 2,910 people. According to the *Terra Bella Community Plan (TBCP) 2015 Update* (**Appendix E-2**), 87 percent of

the community's population is Hispanic. The median household income for the community from 2015 was \$27,419, just 44.5 percent of the statewide average, which qualifies Terra Bella as a Severely Disadvantaged Community.

The primary source of water for urban use is imported water from the TBID, though some households rely on domestic wells to meet their water supply needs. The average household size in the community is 4.19 people per home (**Appendix E-2**). The 2024 Coordination Agreement estimates that 47 percent of domestic use in smaller communities is attributable to landscape irrigation.

Three hundred and twenty-eight (328) acres within the Terra Bella Urban Development Boundary (UDB) are classified as either commercial or industrial land use. The *TBCP 2015 Update* (**Appendix E-2**) does not enumerate the types of uses that currently fall under the commercial or industrial classifications.

#### 2.1.4. Existing Well Types and Well Density

According to the California Department of Water Resources, of the roughly 54,000 wells constructed in the Tulare Lake Hydrologic Region from 1977 to 2010, close to 13,000 were drilled in Tulare County. Domestic and irrigation wells accounted for 80 percent of wells constructed in the County during that period, with slightly more domestic wells than irrigation wells (California Department of Water Resources, 2016a).

Well distribution throughout the TBID Plan Area is shown in **Figure 2-5**, which was generated using DWR's *Well Completion Report Map Application* (Completion Report Map) tool. The Completion Report Map categorizes wells as either domestic, production, public supply, or unknown. **Table 2-1** below shows the frequency of wells by type in the Terra Bella Irrigation District.

**Table 2-1. Well Types Within TBID**

| Well Type     | Well Count |
|---------------|------------|
| Domestic      | 95         |
| Production    | 174        |
| Public Supply | 10         |
| <b>Total</b>  | <b>279</b> |

Well density is lowest along the southern boundary of the TBID Plan Area and increases in regions adjacent to Deer Creek and in the Terra Bella Community. **Figure 2-6** shows specific well locations within the TBID Plan Area.

##### 2.1.4.1 Well Construction, Destruction, and Abandonment

The Tulare County Environmental Health Services Division permits well construction within Tulare County. Part IV, Chapter 13 of the Tulare County Code (Tulare County Well Ordinance) outlines requirements for well construction, reconstruction, and abandonment. The Tulare County Well Ordinance establishes standards for minimum setbacks (Tulare County Code § 4-13-1035), casings (Tulare County Code §§ 4-13-1036 through 4-13-1039), annular seals (Tulare County Code §§ 4-13-1040

through 4-13-1044), and pump installation (Tulare County Code § 4-13-1049) for newly constructed and reconstructed wells. Article 7 of the Tulare County Well Ordinance requires landowners to abandon new wells (§ 4-13-1060) and sets well destruction standards (§§ 4-13-1061 through 4-13-1066). The current Tulare County Environmental Health Services Division applications for well construction and abandonment are included in this GSP as **Appendix D**.

According to § 4-13-1000, Tulare County Well Ordinance adopts the standard and any revisions set forth in:

- California DWR *Bulletin 74-81*
- California DWR *Bulletin 74-90*
- California DWR Water Wells, Monitoring Wells, Cathodic Protection Wells *Supplement to Bulletin 74-81*
- Geothermal Heat Exchange Wells (Draft April 1999)

### 2.1.5. Summary of Jurisdictional Areas and Other Features Local Agencies within Plan Area

Local agencies with jurisdiction in the Tule Subbasin are broadly characterized as counties, communities and cities, irrigation districts, community service districts, cemetery districts, public utility districts, water districts, reclamation districts, and stormwater districts. Specific agencies located within the Subbasin include:

#### Counties

- Tulare County
- Kings County

#### Communities and Cities

- Alpaugh Community
- Terra Bella Community
- City of Porterville

#### Public Utilities

- Earlimart Public Utility District
- Pixley Public Utility District
- Woodville Public Utility District
- Porter Vista Public Utility District
- Terra Bella Sewer Maintenance District

#### Community Services Districts

- Richgrove Community Services District
- Teviston Community Services District
- Tipton Community Services District
- Poplar Community Services District
- Allensworth Community Services District

#### Water Resources

- Terra Bella Irrigation District
- Porterville Irrigation District
- Saucelito Irrigation District
- Ducor Irrigation District
- Delano-Earlimart Irrigation District
- Pixley Irrigation District
- Alpaugh Irrigation District
- Lower Tule River Irrigation District
- Vandalia Irrigation District
- Angiola Water District
- Atwell Island Water District
- Teapot Dome Water District
- Pioneer Water Company
- Williams Mutual Water Company
- Shiloh Water Company
- Deer Creek Storm Water District
- WH Wilber Reclamation District

The Terra Bella Irrigation District is the local agency responsible for implementing this GSP. The District's jurisdiction is confined to its service area boundary, which is located on the eastern edge of the Tule Subbasin surrounding the community of Terra Bella. TBID provides irrigation and potable domestic water to the Community of Terra Bella and the surrounding agricultural land.

The TBID GSP Plan Area is located entirely within Tulare County, which retains jurisdiction over land use planning. Tulare County maintains land holdings within the County.

The Terra Bella Sewer Maintenance District (TBSMD) is managed by Tulare County. TBSMD manages wastewater collection, treatment, and a specialized reclamation program that supplies treated wastewater for agricultural use, supporting regional groundwater sustainability efforts.

#### 2.1.5.2 Federal Agencies within TBID Plan Area

Regions of the Tule Subbasin managed by federal agencies are summarized in the table below:

**Table 2-2. Federal Agency Jurisdiction in the Tule Subbasin**

| Area                                                         | Federal Jurisdiction                    |
|--------------------------------------------------------------|-----------------------------------------|
| <b>Friant-Kern Canal</b>                                     | United States Bureau of Reclamation     |
| <b>Pixley National Wildlife Refuge</b>                       | United States Fish and Wildlife Service |
| <b>Lake Success</b>                                          | United States Army Corps of Engineers   |
| <b>Sequoia National Forest Headquarters near Porterville</b> | United States Forest Service            |

TBID holds a contract with the United States Bureau of Reclamation (USBR) for 29,000 AF of Class 1 water from the Friant Division of the Central Valley Project. The water is delivered through the Friant-Kern Canal, which is operated by the Friant Water Authority.

According to land management data from the California Department of Forestry and Fire Protection (CAL FIRE), there are no federally owned or managed lands within the TBID Plan Area (CAL FIRE, 2025).

#### 2.1.5.3 State Agencies within Plan Area

The Department of Parks and Recreation and the Department of Fish and Wildlife each manage sections of the southwestern region of the Tule Subbasin. There are no state agencies with significant landholdings or water management responsibilities within the TBID Plan Area (CAL FIRE, 2025).

#### 2.1.5.4 Tribal Lands within Plan Area

There are no tribal lands within either the Tule Subbasin or the TBID Plan Area (CAL FIRE, 2025).

#### 2.1.5.5 Other Tule Subbasin GSP Plan Areas

The TBID GSA is one of thirteen GSAs within the Tule Subbasin. Each GSA within the Subbasin has exclusive jurisdiction over its plan area. The GSAs coordinate the development and implementation of

their individual GSPs in accordance with the 2024 Coordination Agreement (**Appendix A**). **Figure 2-2** shows the location of the GSAs within the Subbasin.

### 2.1.5.6 Alternative Plans

There are no alternative plans or adjudicated areas within the Tule Subbasin.

## 2.1.6. *Water Resources Monitoring Entities, Management Programs, and Data Sources*

### 2.1.6.1 Aquifer Recharge and Water Banking Programs

Local agencies within the Tule Subbasin operate aquifer recharge and groundwater banking projects to offset depletion and overdraft. This subsection highlights key projects within the Subbasin.

**Allensworth Multi-Benefit Recharge and Flood Management Project:** Angiola Water District and the Tri-County Water Authority (TCWA) collectively manage a multi-benefit project meant to augment groundwater resources and provide flood management to the Alpaugh and Allensworth communities, which are considered severely disadvantaged.

The agencies divert floodwaters from White River to an 80-acre recharge basin, with the goal of recharging up to 1,500 AF into the Upper Aquifer annually (Tri-County Water Authority, 2023).

**Turnipseed Recharge Basin Groundwater Bank:** Delano-Earlimart Irrigation District (DEID) manages a 944-acre recharge facility known as the Turnipseed Water Banking Facility. The facility has the capacity to recharge 12,928 AF per month over an average of 2.41 months each year (INTERA, 2024).

**Pixley Groundwater Bank:** The Pixley Irrigation District operates the Pixley Groundwater Bank. In 2021, Pixley Irrigation District purchased 831 acres of land to develop into recharge basins. Flood waters are diverted from the Friant-Kern Canal through a 4.5-mile pipeline to the recharge basin. The District operates sixteen recovery wells to pump banked water during times of shortage to distribute to farmers.

**Lower Tule River Irrigation District (LTRID) Recharge and Distribution Projects:** The LTRID owns 4,516 acres of land used as dedicated groundwater recharge areas. They divert unused Tule River surface water and Friant-Kern Canal water into these recharge basins. The LTRID was awarded a \$7.6 million grant in 2022 to develop recharge facilities.

**City of Porterville Groundwater Recharge:** The City of Porterville diverts treated wastewater into percolation ponds, stores local and imported surface water in recharge basins, and operates stormwater detention basins to recharge groundwater.

**Terra Bella Irrigation District Recharge and Banking:** TBID is allocated water in excess of its demand in years when Class 1 water is at 100 percent or greater allocation. They deliver an average of 1,200 AF annually from Deer Creek into recharge basins. The District pumps the stored groundwater to meet agricultural demand.

### 2.1.6.2 Surface Water Exchanges

Surface water availability fluctuates from year to year. According to the USBR (2025), Class 1 water was delivered at 100 percent allocation for the Friant Division Contractors, while Class 2 water was at 0 percent allocation in early Spring 2025. To manage for shortages, agencies within the Tule Subbasin exchange water with agencies inside and outside the Subbasin. This section summarizes key water exchanges affecting the Tule Subbasin.

**Kern-Tulare Water District:** The Kern Tulare Water District (KTWD) is involved in several multi-party exchanges to deliver water from the Friant-Kern Canal system and to recover Central Valley Project water from the West Kern and Rosedale groundwater banks.

**Pixley Lower Tule River Irrigation Districts, and Kern-Tulare Water District:** The Districts receive 3,000 AF of Central Valley Project (CVP) Friant water supplies in exchange for an equivalent amount of the Districts' CVP water to Kern County for either delivery or for banking in the Kern Water Bank.

**Delano-Earlimart Irrigation District and Kern Tulare Water District:** The Districts receive up to 20,000 acre feet from the Rosedale Groundwater Bank in exchange for surface water from the CVP Friant Division.

**Porterville and Saucelito Irrigation Districts:** Porterville and Saucelito receive Kaweah River water from private landowners in exchange for CVP Friant water.

**Terra Bella:** Terra Bella Irrigation District exchanges unused water with the Lower Tule River Irrigation District (LTRID). In exchange, the LTRID provides up to 12,000 AF from its CVP Friant-Kern supply during drought years. TBID's policies involving water exchanges are found in **Appendix E**.

### 2.1.6.3 State and Federal Monitoring and Management Agencies

The following state and federal agencies maintain public-facing databases used in subsequent sections of this GSP:

**Table 2-3. Water Management Datasets**

| Entity                                            | Dataset                                                  | Data Description                                                                                   |
|---------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| California Department of Water Resources          | Water Data Library <sup>1</sup>                          | Water quality, groundwater elevations, and continuous data                                         |
|                                                   | Well Completion Report Map Application <sup>2</sup>      | Map displaying well construction reports                                                           |
|                                                   | SGMA Data Viewer <sup>3</sup>                            | SGMA basin boundaries and characteristics, environmental data related to sustainability indicators |
|                                                   | CASGEM <sup>4</sup>                                      | Long-term groundwater elevation monitoring                                                         |
| California Water Resources Control Board          | GeoTracker <sup>5</sup>                                  | Groundwater elevation and water quality data from regulated facilities                             |
|                                                   | Electronic Data Library <sup>6</sup>                     | Water quality data and monitoring schedules for public water supply systems.                       |
| California Department of Toxic Substances Control | EnviroStor <sup>7</sup>                                  | Data related to the Hazardous Waste Management, Site Mitigation, and Restoration programs          |
| California Environmental Protection Agency        | Regulated Site Portal <sup>8</sup>                       | Data warehouse publishing data from various hazardous materials and water quality datasets.        |
| California Department of Pesticide Regulation     | CalPIP <sup>9</sup>                                      | Pesticide Use Reports, Groundwater Protection Areas, Endangered Species data                       |
| United States Geological Survey                   | National Water Information System database <sup>10</sup> | Water quality measurements, groundwater level information, and surface water flows.                |

<sup>1</sup> <https://wdl.water.ca.gov/>

<sup>2</sup> <https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Completion-Reports>

<sup>3</sup> <https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer>

<sup>4</sup> <https://water.ca.gov/programs/groundwater-management/groundwater-elevation-monitoring--casgem>

<sup>5</sup> [https://www.waterboards.ca.gov/ust/electronic\\_submittal/](https://www.waterboards.ca.gov/ust/electronic_submittal/)

<sup>6</sup> [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/EDTlibrary.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EDTlibrary.html)

<sup>7</sup> <https://dtsc.ca.gov/your-envirostor/>

<sup>8</sup> <https://siteportal.calepa.ca.gov/nsite/map/help>

<sup>9</sup> <https://calpip.cdpr.ca.gov/main.cfm>

<sup>10</sup> <https://www.usgs.gov/tools/national-water-information-system-nwis-mapper>

### 2.1.7. Land Use Elements or Topic Categories of Applicable General Plans

California Government Code (Ca GOV) § 65300 requires each county and city to adopt a comprehensive, long-term general plan that addresses nine mandatory elements identified in Ca GOV § 65302, including Land Use, Circulation, Housing, Conservation, Open-Space, Noise, Safety, Environmental Justice, and Air Quality.

Relevant general and community plans within the TBID Plan Area include the *Tulare County General Plan 2030 Update* (**Appendix F-1**), the *TBCP 2015 Update* (**Appendix F-2**), and the *Rural Valley Lands Plan*.

The *Tulare County General Plan* and the *Terra Bella Community Plan* both recognize the need to collaborate with agencies such as the TBID to make sound land use decisions. TBID intends to play an active role in the development of land use decisions to achieve the GSP Sustainability Goal.

#### 2.1.7.1 Tulare County General Plan 2030 Update

The Tulare County Board of Supervisors adopted the *Tulare County General Plan 2030 Update* (Tulare GP) in August of 2012. The Tulare GP uses a three-part system to manage growth and resource preservation. Part I contains 14 Elements that apply to the entire County; Part II contains 3 Area Plans that cover the major geographic areas of the County; Part III includes existing planning documents that outline policies relevant to specific portions of the county.

##### 2.1.7.1.1 Land Use

The Tulare GP addresses Land Use in *Part I, Chapter 4*. The chapter is divided into two sections. The first section addresses land use designations, which are defined by the Tulare GP as applied policies on the General Plan Land Use Diagrams that define allowable uses and development standards for agricultural, residential, commercial, industrial, development, and other basic categories of land use. (**Appendix F-1**). The second section of *Chapter 4* outlines Goals, Policies, and Implementation Measures.

*Figure 4-1* of the Tulare GP shows that the TBID Plan Area is primarily designated as Valley Agricultural. The Rural Valley Lands Plan (RVLP) (*Part 2, Chapter 1* of the Tulare GP) establishes policies and implementation measures for the Central Valley in regions zoned for agriculture. The policies set forth in the RVLP establish minimum parcel sizes for the agricultural areas and provide criteria for evaluating zoning changes to non-agricultural uses.

The community of Terra Bella is the only region within the TBID Plan Area designated as Urban Land Use. Tulare County adopts UDBs for unincorporated communities to delineate the boundary between urban development and land intended for agricultural, natural, open space, or rural uses. The UDB for Terra Bella is addressed in the TBCP 2015 Update (**Appendix F-2**) and is discussed separately below.

##### 2.1.7.1.2 Population

The Tulare GP describes a rapidly growing county population. To manage the expansion, *Part I, Component B* emphasizes the need to direct new growth toward incorporated cities and existing

communities while preserving the separation between new development and natural resources, such as agriculture.

The County manages growth primarily through UDBs. *Policy PF-2.4* of the Tulare GP requires the County to develop community plans that define policies, establish boundaries, and characterize the current and future needs of the community. Specific discussion of population within the Terra Bella Community is found below.

#### **2.1.7.1.3 Water Resources and Supply**

*Part 1, Chapter 11* of the Tulare GP addresses Goals and Policies related to water resource management within the County. The Chapter acknowledges its own limitations in water resource management, and the goals it sets forth in the GP reflect the County's intent to manage water resources collaboratively with agencies such as TBID.

*Policies in this Element discussing the management of water resources are relative to the areas of water usage that the County has regulatory control, such as the approval of new land use development. The policies in this Element should not be construed to insert the County into the allocation or management of water resources. This is a complicated system over which the County does not have direct regulatory control. (Appendix F-1)*

The following is a list of Policies from *Part I* of the Tulare GP related to water resource management.

##### **WR-1.1 Groundwater Withdrawal**

*The County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply for existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on ground water resources identified during planning and approval processes.*

##### **WR-1.2 Groundwater Monitoring**

*The County shall support the collection of monitoring data for facilities or uses that are potential sources of groundwater pollution as part of project approvals, including residential and industrial development.*

##### **WR-1.3 Water Export Outside County**

*The County shall regulate the permanent export of groundwater and surface water resources allocated to users within the County to cities and service providers outside the County to the extent necessary to protect the public health, safety and welfare. The County shall strive for a no net loss where there may be water exchanges serving a public purpose.*

##### **WR-1.4 Conversion of Agricultural Water Resources**

*For new urban development, the County shall discourage the transfer of water used for agricultural purposes (within the prior ten years) for domestic consumption except in the following circumstances: 1. The water remaining for the agricultural operation is sufficient to*

*maintain the land as an economically viable agricultural use, 2. The reduction in infiltration from agricultural activities as a source of groundwater recharge will not significantly impact the groundwater basin.*

**WR-1.5 Expand Use of Reclaimed Wastewater**

*To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts*

**WR-1.6 Expand Use of Reclaimed Water**

*The County shall encourage the use of tertiary treated wastewater and household gray water for irrigation of agricultural lands, recreation and open space areas, and large landscaped areas as a means of reducing demand for groundwater resources.*

**WR-1.7 Collection of Additional Groundwater Information**

*The County shall support additional studies focused on furthering the understanding of individual groundwater source areas and basins.*

**WR-1.8 Groundwater Basin Management**

*The County shall take an active role in cooperating in the management of the County's groundwater resources.*

**WR-1.9 Collection of Additional Surface Water Information**

*The County shall support the additional collection of water quality and flow information for the County's major drainages as part of project approvals.*

**WR-1.10 Channel Modification**

*Channel modification shall be discouraged in streams and rivers where it increases the rate of flow, rate of sediment transport, erosive capacity, have adverse effect on aquatic life or modify necessary groundwater recharge.*

**WR-1.11 Groundwater Overdraft**

*The County shall consult with water agencies within those areas of the County where groundwater extraction exceeds groundwater recharge, with the goal of reducing and ultimately reversing groundwater overdraft conditions in the County.*

**WR-2.1 Protect Water Quality**

*All major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site.*

#### **WR-2.2 National Pollutant Discharge Elimination System Enforcement**

*The County shall continue to support the State in monitoring and enforcing provisions to control non-point source water pollution contained in the U.S. EPA NPDES program as implemented by the Water Quality Control Board.*

#### **WR-2.3 Best Management Practices**

*The County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board.*

#### **WR-2.4 Construction Site Sediment Control**

*The County shall continue to enforce provisions to control erosion and sediment from construction sites.*

#### **WR-2.5 Major Drainage Management**

*The County shall continue to promote protection of each individual drainage basin within the County based on the basins unique hydrologic and use characteristics.*

#### **WR-2.6 Degraded Water Resources**

*The County shall encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.*

#### **WR-2.7 Industrial and Agricultural Sources**

*The County shall work with agricultural and industrial concerns to ensure that water contaminants and waste products are handled in a manner that protects the long-term viability of water resources in the County.*

#### **WR-2.8 Point Source Control**

*The County shall work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the California Environmental Quality Act review and project approval process) and monitored to ensure long-term compliance.*

#### **WR-2.9 Private Wells**

*The County shall ensure that private wells are adequately constructed to provide protection from bacteriological and chemical contamination and do not provide a hazard as to contaminate the aquifer.*

#### **WR-3.1 Develop Additional Water Sources**

*The County shall encourage, support and, as warranted, require the identification and development of additional water sources through the expansion of water storage reservoirs, development of groundwater banking for recharge and infiltration, and promotion of water conservation programs, and support of other projects and programs that intend to increase*

*the water resources available to the County and reduce the individual demands of urban and agricultural users.*

### **WR-3.2 Develop an Integrated Regional Water Management Plan**

*The County will participate with other agencies and organizations that share water management responsibilities in the County to enhance modeling, data collection, reporting and public outreach efforts to support the development and implementation of appropriate Integrated Regional Water Management Plans (IRWMP) within the County.*

### **WR-3.3 Adequate Water Availability**

*The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process, and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement.*

### **WR-3.4 Water Resource Planning**

*The County shall continue participation in State, regional, and local water resource planning efforts affecting water resource supply and quality.*

### **WR-3.5 Use of Native and Drought Tolerant Landscaping**

*The County shall encourage the use of low water consuming, drought-tolerant and native landscaping and emphasize the importance of utilizing water conserving techniques, such as night watering, mulching, and drip irrigation.*

### **WR-3.6 Water Use Efficiency**

*The County shall support educational programs targeted at reducing water consumption and enhancing groundwater recharge.*

### **WR-3.7 Emergency Water Conservation Plan**

*The County shall develop an emergency water conservation plan for County operated water systems to identify appropriate conservation policies that can be implemented during times of water shortages caused by drought, loss of one or more major sources of supply, contamination of one or more sources of supply, or other natural or man-made events.*

### **WR-3.8 Educational Programs**

*The County shall encourage the development of educational programs, both by water purveyors and public agencies, in order to increase public awareness of water conservation opportunities and the potential benefits of implementing conservation measures and programs including water quality.*

### **WR-3.9 Establish Critical Water Supply Areas**

*The County shall designate Critical Water Supply Areas to include the specific areas used by a municipality or community for its water supply system, areas critical to groundwater recharge,*

*and other areas possessing a vital role in the management of the water resources in the County, including those areas with degraded groundwater quality.*

#### **WR-3.10 Diversion of Surface Water**

*Diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge.*

#### **WR-3.11 Policy Impacts to Water Resources**

*The County shall monitor actions taken at the federal and State level which impact water resources in order to evaluate the effects of these actions on the County's resources.*

#### **WR-3.12 Joint Water Projects with Neighboring Counties**

*Tulare County will work with neighboring counties to promote development of joint water projects, such as a cross-valley canal, and other efforts to expand water supply.*

#### **WR-3.13 Coordination of Watershed Management on Public Land**

*The County shall work cooperatively with State and federal land managers to coordinate watershed management on public land.*

#### **PF-5.2 Criteria for New Towns**

*When evaluating proposals for New Town development, the County shall require all of the following...9. That adequate and sustainable water supplies be documented.*

#### **AG-1.13 Agriculture Related Land Uses**

*The County shall allow agriculturally-related uses, including value-added processing facilities by discretionary approvals in areas designated Valley or Foothill Agriculture, subject to the following criteria... 3. The operational or physical characteristics of the use shall not have a significant adverse impact on water resources or the use or management of surrounding agricultural properties within at least one-quarter (1/4) mile radius*

#### **AG-1.17 Agricultural Water Resources**

*The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture.*

#### **HS-2.7 Subsidence**

*The County shall confirm that development is not located in any known areas of active subsidence. If urban development may be located in such an area, a special safety study will be prepared and needed safety measures implemented. The County shall also request that developments provide evidence that its long-term use of ground water resources, where applicable, will not result in notable subsidence attributed to the new extraction of groundwater resources for use by the development.*

#### HS-5.4 Flood Hazards

*The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.*

#### HS-6.7 Water Supply System

*The County shall require that water supply systems be adequate to serve the size and configuration of land developments, including satisfying fire flow requirements. Standards as set forth in the subdivision ordinance shall be maintained and improved as necessary.*

### 2.1.7.2 Terra Bella Community Plan 2015 Update

The TBCP (**Appendix F-2**) is a component of *Part III* of the Tulare GP. The TBCP characterizes Terra Bella's land use patterns and establishes policies to achieve community-specific goals.

#### 2.1.7.2.1 Land Use

As of the 2015 TBCP, land use within the Terra Bella UDB was divided as shown below:

**Table 2.4. Land Uses Within the Terra Bella UDB**

| Land Use             | Acres |
|----------------------|-------|
| Residential          | 608   |
| Commercial           | 50    |
| Industrial           | 288   |
| Agricultural         | 196   |
| Public/Institutional | 101   |
| Rights-of-Way        | 139   |
| Total                | 1,393 |

#### 2.1.7.2.2 Population

Development within the Terra Bella UDB is governed by the Tulare GP and the TBCP, both of which address planning challenges for the growing population within the region. Despite a community population decline from 3,466 to 2,910 between 2000 and 2020, the TBCP anticipates 1.3 percent annual growth in the unincorporated areas of the county through 2030. The TBCP also notes that median household income for the community is about 44.5 percent of the statewide average, qualifying it as a Severely Disadvantaged Community per California Public Resources Code (Ca PRC) § 75005(g).

### 2.1.7.2.3 Water Resources and Supply

The TBID provides water to the Terra Bella Community for domestic and irrigation purposes. According to TBCP, TBID operates separate water systems for each use. The Terra Bella Community relies on treated surface water as its primary source of domestic water supply. Groundwater is used sparingly as a backup source from two wells. The domestic system has the capacity to support an additional 600-700 connections beyond 2015 service levels.

While the TBCP does not explicitly address water resource management, the following goals, objectives, and policies of the TBCP demonstrate a reliance on agencies such as the TBID to provide insight to inform planning decisions within the Terra Bella UDB.

#### **Community Development – Goal IV:**

*Coordinate Community Development Decisions with the Terra Bella Irrigation District & Terra Bella Sewer Maintenance District*

#### **Objective:**

*Ensure that all development can be served by the Terra Bella Irrigation District & Terra Bella Sewer Maintenance District during the planning period.*

#### **Policy:**

*(3) Before the issuance of any land use permit, the Tulare County Resource Management Agency must receive confirmation from Terra Bella Irrigation District & Terra Bella Sewer Maintenance District.*

### 2.1.7.3 Rural Valley Lands Plan

Tulare County adopted the Rural Valley Lands Plan (RVLP) in 1975. The RVLP pertains to the regions of the Central Valley below the 600-foot elevation contour outside urban areas (i.e., Urban Development Boundaries, Hamlet Development Boundaries, and Urban Area Boundaries). The RVLP defines minimum parcel sizes for areas zoned as agriculture and establishes criteria for evaluating zoning changes to non-agricultural uses. The provisions of the RVLP are incorporated into *Part II, Chapter 1* of the Tulare GP.

### 2.1.7.4 Effect of Implementation of Land Use Plans

The goals and policies of the three land use plans are generally consistent with the goals of this GSP. The plans outline a framework for managing new development sustainably, preserving water resources, providing public education, and encouraging the exploration of new sources of water.

The Tulare GP policies related to this GSP can be categorized into three broad groups:

1. Policies intended to conserve existing water resources.
2. Policies meant to preserve groundwater recharge.
3. Policies intended to prevent unsustainable development.

To conserve existing water resources, Tulare County plans to regulate water exports to areas outside the County (*WR-1.3*) and reuse treated wastewater for irrigation (*WR-1.6*). The County recognizes that, to preserve existing resources, it must identify new sources of water (*WR-3.1*) and work with other counties to develop new water projects (*WR-3.12*). The County recognizes that it must work collaboratively with local water agencies to prevent overdraft (*WR-1.11*) and plan for shortages (*WR-3.7*). They also identify a need for public education (*WR-3.6 & 3.8*).

The Tulare GP discusses potential management strategies for preserving and augmenting groundwater recharge within the basin. The plan takes a twofold approach. First, the County seeks to prevent activities that reduce natural recharge. For instance, they want to minimize the loss of recharge from converting agricultural land to urban development (*WR-1.4*), prevent stream channel modifications that reduce recharge (*WR-1.10*), and prevent new diversions of surface water that would result in less recharge (*WR-3.10*). The second approach is to augment recharge (*WR-1.5*) through projects such as water banking (*WR-3.1*).

Finally, the County proposes to preserve water resources by preventing unsustainable development. They require the use of Best Management Practices (*WR-2.3*) and adopt domestic well construction standards (*WR-2.9*) to prevent contamination of the resource. They require new developments (*WR-3.3*) and new towns (*PF-5.2*) to document the adequacy of water supply during the planning process. The County also evaluates the impact of new agricultural uses in the Valley and Foothill Agriculture regions on water resources prior to their approval.

Taken as a whole, the County's policies appear to complement the goals of this GSP. The County seeks to work with agencies such as TBID GSA to make informed land use decisions. They intend to keep apprised of relevant legislation, and work with other counties and agencies to promote research on water resources in the region.

#### 2.1.7.5 Effect of Implementation on Water Supply Assumptions

Water supply assumptions built into the Tulare GP are based on the *Phase 1 – Water Supply Evaluation* (Tully & Young, 2009). The report estimates that conversion of agricultural land to urban use and conservation measures adopted by water users have the potential to reduce future county-wide demand from 2,700,000 AF to 2,545,000 AF annually.

The Terra Bella community and surrounding agricultural land rely primarily on imported surface water from the TBID for domestic and irrigation use. The management actions proposed in this GSP do not affect the permissible land use designations as outlined in the relevant land use plans discussed above. The common goals of TBID and Tulare County emphasize water conservation and preservation of groundwater recharge.

#### 2.1.8. Additional GSP Elements

##### 2.1.8.1 Groundwater Dependent Ecosystems

23 California Code of Regulations (CCR) § 351(m) defines Groundwater Dependent Ecosystems (GDEs) as ecological communities or species that depend on groundwater emerging from the aquifers or on

groundwater occurring near the groundwater surface. **Figure 2-7** portrays GDEs within the TBID Plan Area. GDEs are unlikely throughout most of the TBID Plan Area due to the depth to groundwater. However, *Figure 2-34* demonstrates that certain regions adjacent to Deer Creek have shallow groundwater that supports GDEs.

### ***2.1.9. Notice and Communication***

The TBID GSA encourages the public to engage in water resource management. The TBID Board holds meetings on the second Wednesday of each month at 9:00 AM. Meetings are held at the TBID district office and are open to the public. Notice of upcoming meetings, past meeting minutes, and District policies are available online at [www.terrabelloid.org](http://www.terrabelloid.org).

TBID GSA holds public hearings prior to adopting new fees, ordinances, or GSP elements. They hold public workshops to teach interested stakeholders about SGMA, the GSA, GSP elements, and Subbasin conditions.

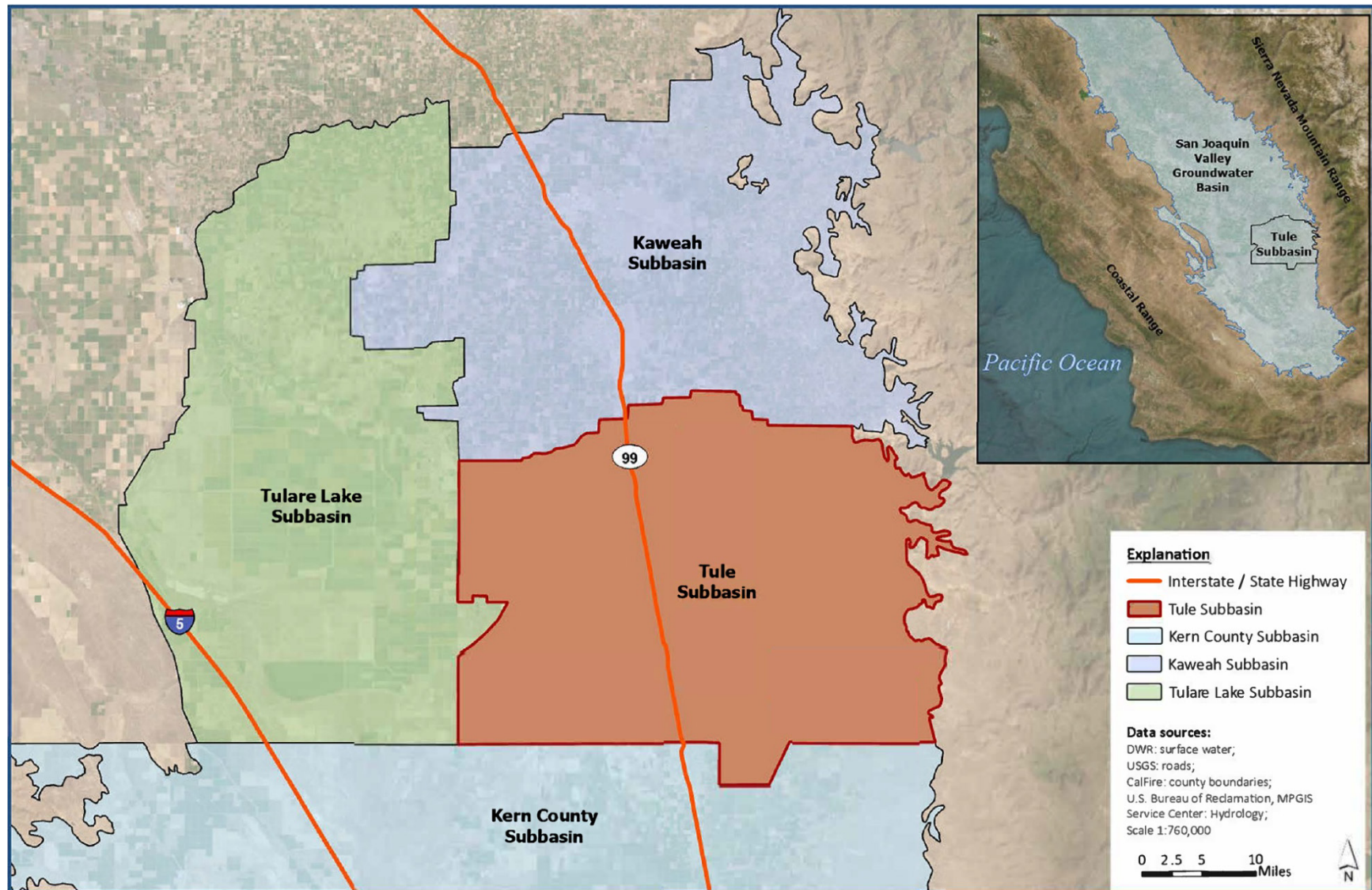


Figure 2-1. Tule Subbasin Location Map

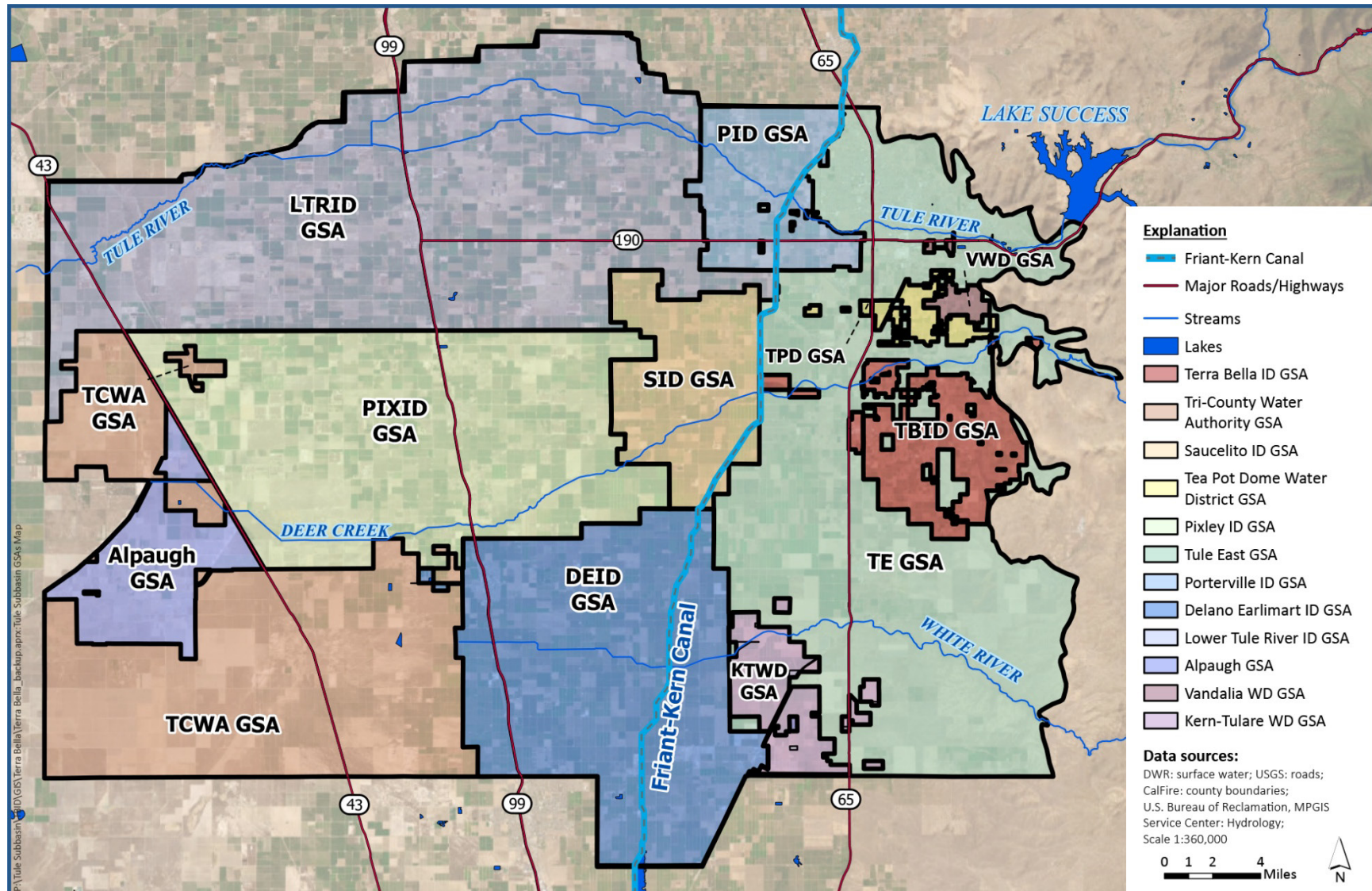


Figure 2-2. Tule Subbasin GSAs Location Map

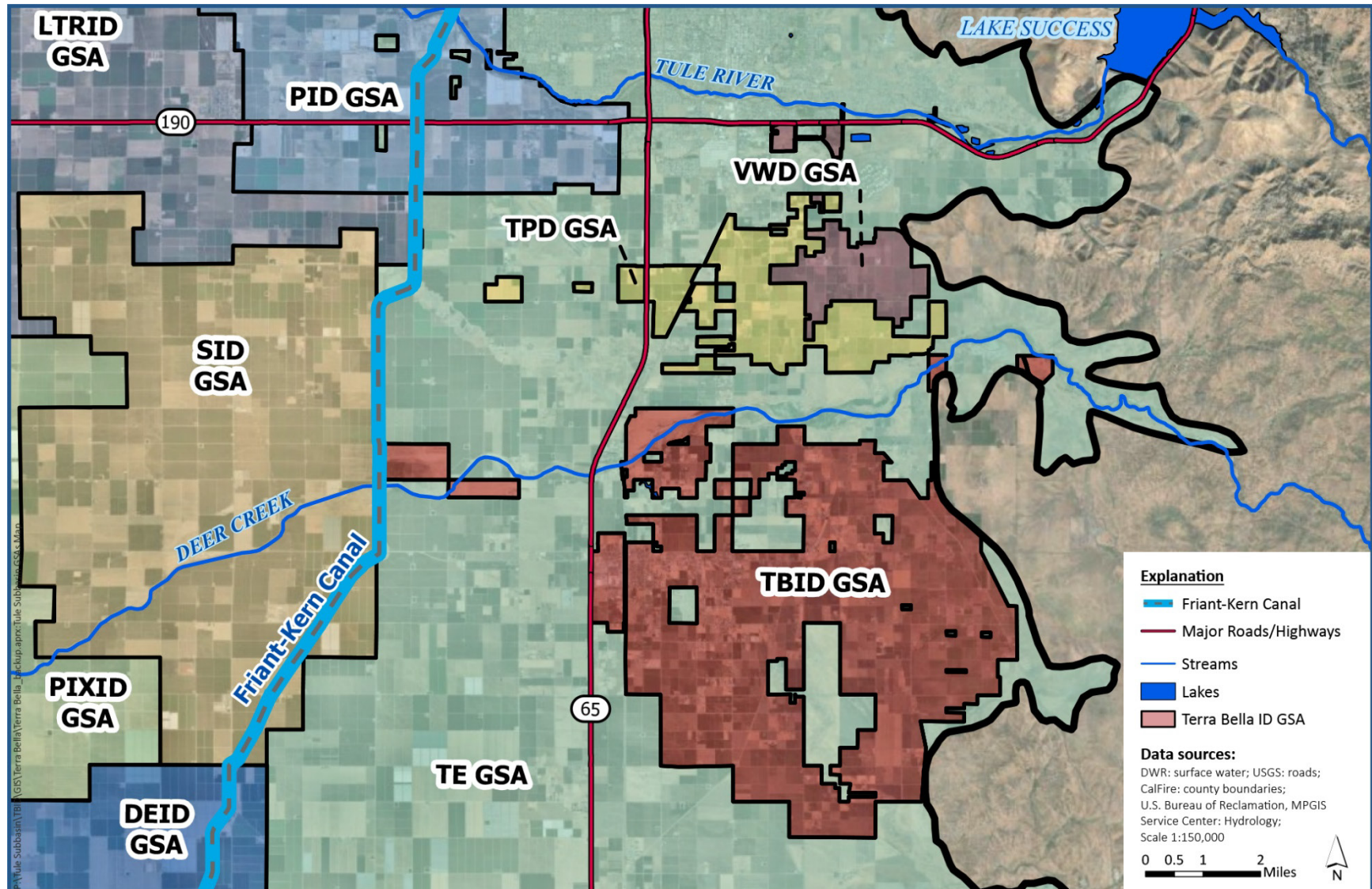


Figure 2-3. TBD GSA Location Map

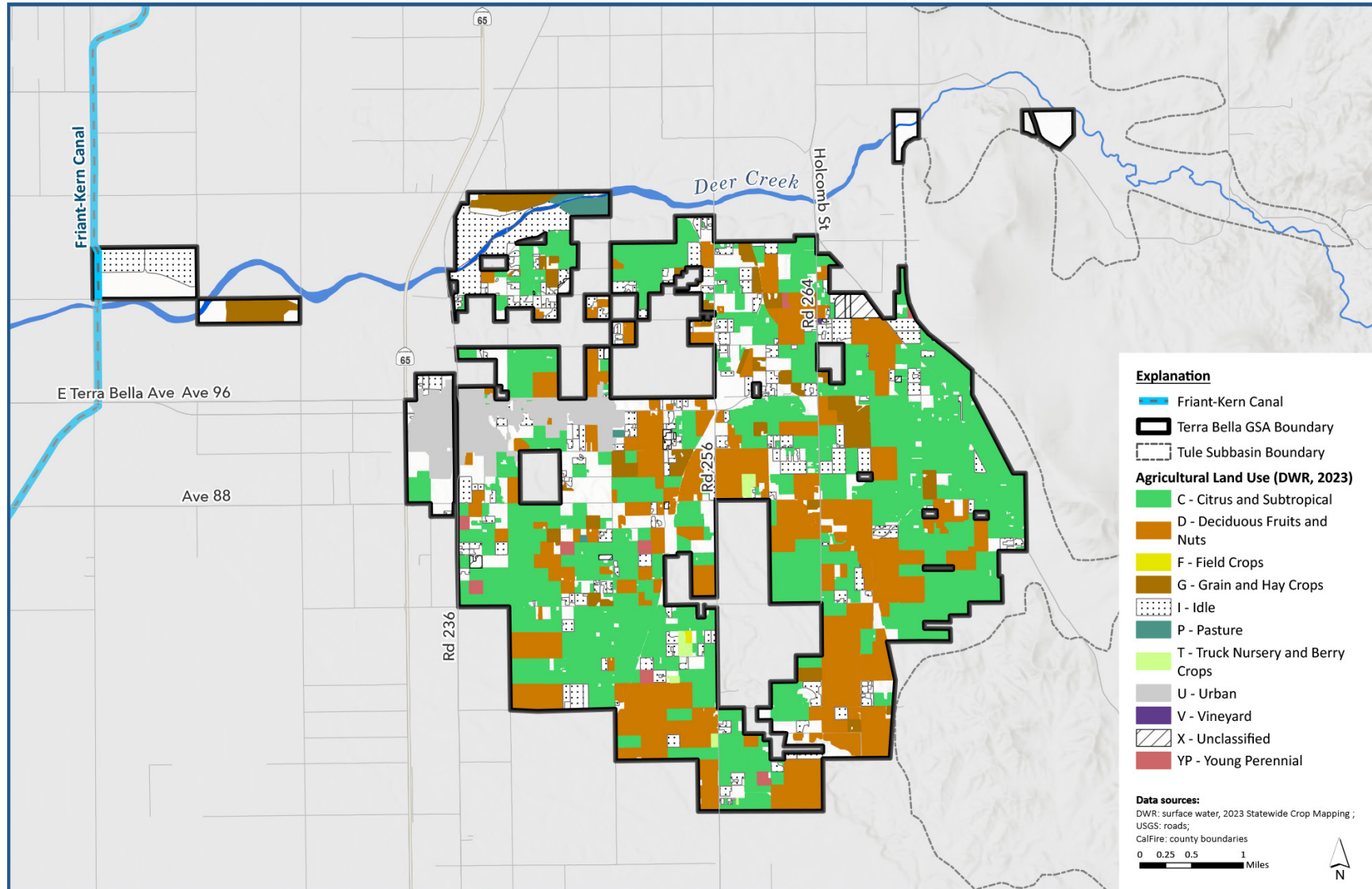


Figure 2-4. 2023 General Plan Land Use Designations

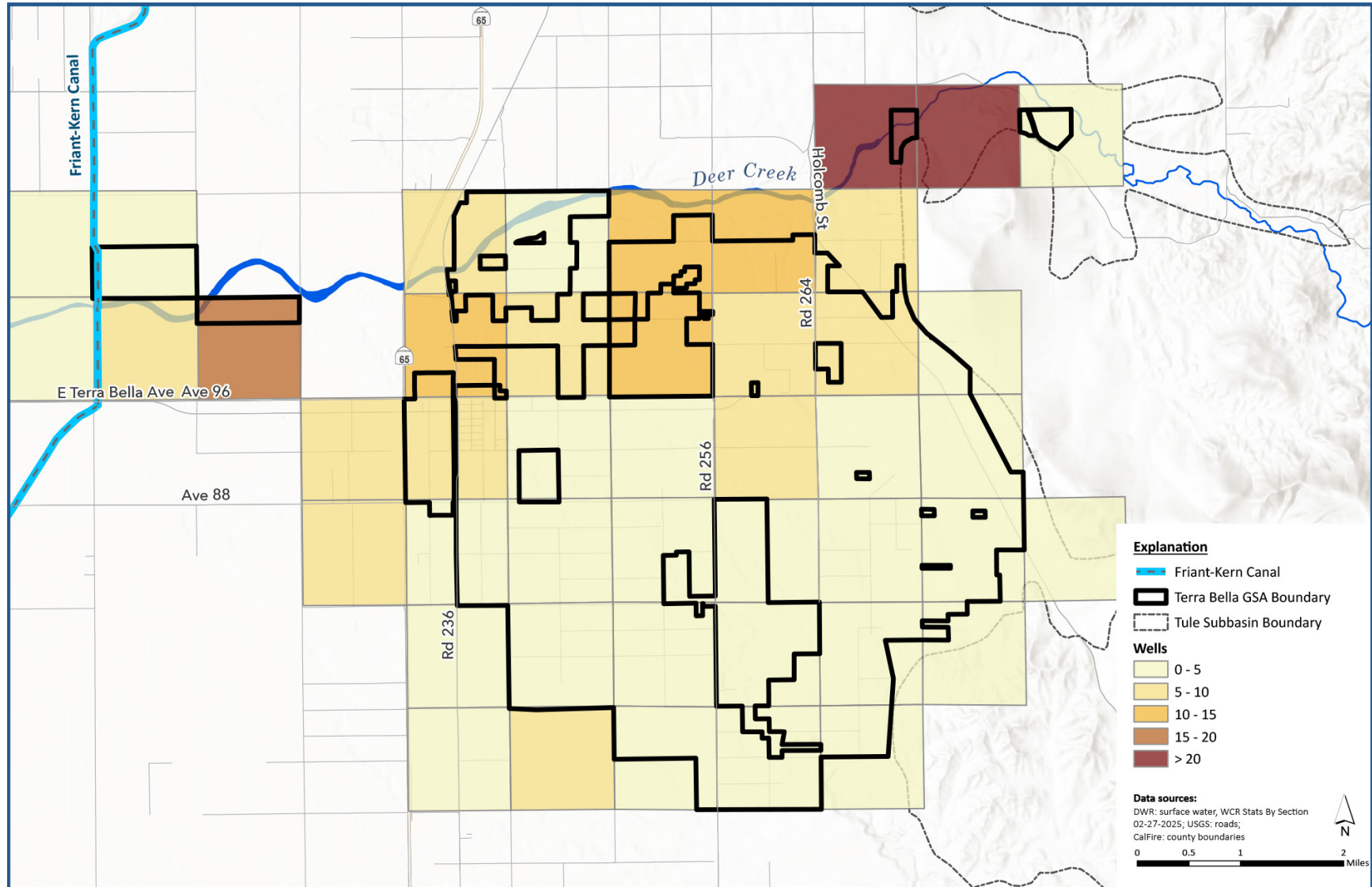


Figure 2-5. Well Density Map

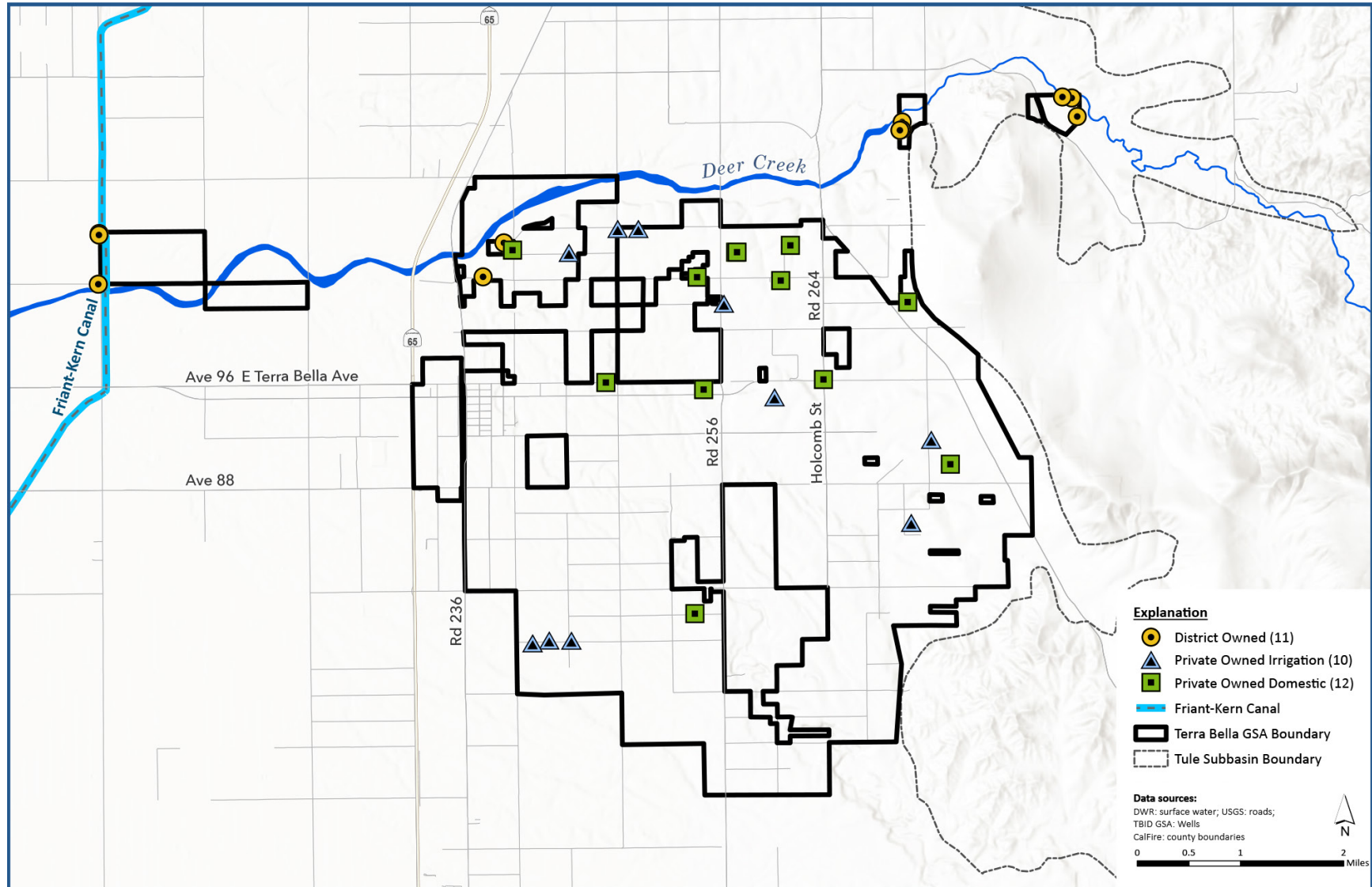


Figure 2-6. Well Locations Map

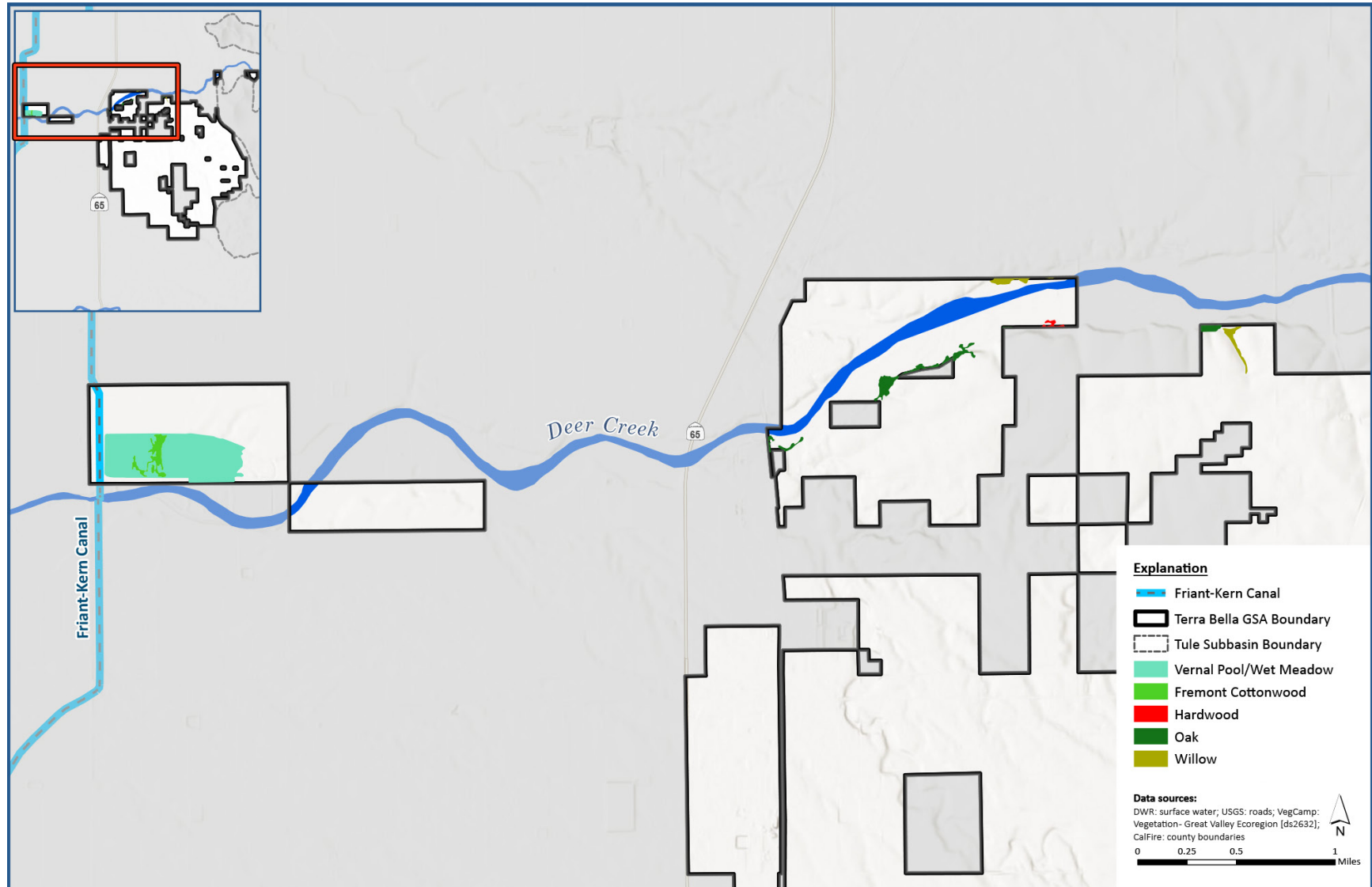


Figure 2-7. Groundwater Dependent Ecosystems