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1. Introduction

The Yolo Subbasin (Subbasin) is located in the southwestern side of the Sacramento Valley Groundwater Basin and is about 27 miles wide from west to east and up to 45 miles long from north to south (Figure 1-1). The Subbasin is a result of the consolidation of portions of the Capay Valley, Colusa, and Subbasins within the Yolo Subbasin via two applications for jurisdictional modifications of the basin's boundary. The western portion of the Yolo Subbasin is bound by the west uplifted, mountainous coast range consisting of marine sedimentary rocks.

The southern Sacramento Valley, including the Yolo Subbasin, has been a tectonically subsiding sedimentary basin with accumulating nonmarine, continental deposits since middle Tertiary time (Miocene, 24 million years before present, mybp). Within these nonmarine sedimentary deposits, fresh groundwater extends to an elevation of -3,000 feet. Cache Creek enters the subbasin in the northwest portion and flows south and east through the central part of the subbasin towards the Cache Creek Settling Basin. Cache Creek is considered an intermittent stream and there is no hydraulic continuity to the Sacramento River during the summer months. In the winter months, Cache Creek flows over the Cache Creek Settling Basin weir, flow into the Yolo Bypass, and ultimately into the Sacramento River, which is the eastern boundary of the subbasin. Putah Creek forms the southern boundary from the southwestern corner of the subbasin to the City of Davis at which point, the boundary follows the county line to the south.

1.1 Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley) collectively known as the Sustainable Groundwater Management Act (SGMA). This legislation provides for the local control of groundwater while requiring the sustainable management of the groundwater resource. One of the first requirements under SGMA was to establish a local governance body, a Groundwater Sustainability Agency (GSA), with the local authority to develop, adopt, and implement a Groundwater Sustainability Plan (GSP). Further, under SGMA law, groundwater basins throughout California were classified as “high”, “medium” or “low” priority by California Department of Water Resources (DWR). The Yolo Subbasin is classified as a “medium” priority basin, which requires that the Subbasin to prepare, adopt and submit a GSP by January 31, 2022.

GSPs must document monitoring conditions and establish management criteria to avoid undesirable results and identify potential actions that will maintain and/or achieve sustainable groundwater management by 2042, or 20 years from the date of the adoption of the GSP. Through a Joint Powers Agreement (JPA), the Yolo Subbasin Groundwater Agency (YSGA) is the recognized GSA for the entire Subbasin and responsible for developing and implementing a GSP.

Under SGMA, the sustainable management of groundwater is defined as the “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results” (California Water Code (CWC) Section 10721 (v)). Undesirable

results include the significant and unreasonable lowering of groundwater levels; loss of groundwater storage and supply; degradation of water quality; land subsidence; depletion of interconnected surface waters; and seawater intrusion.

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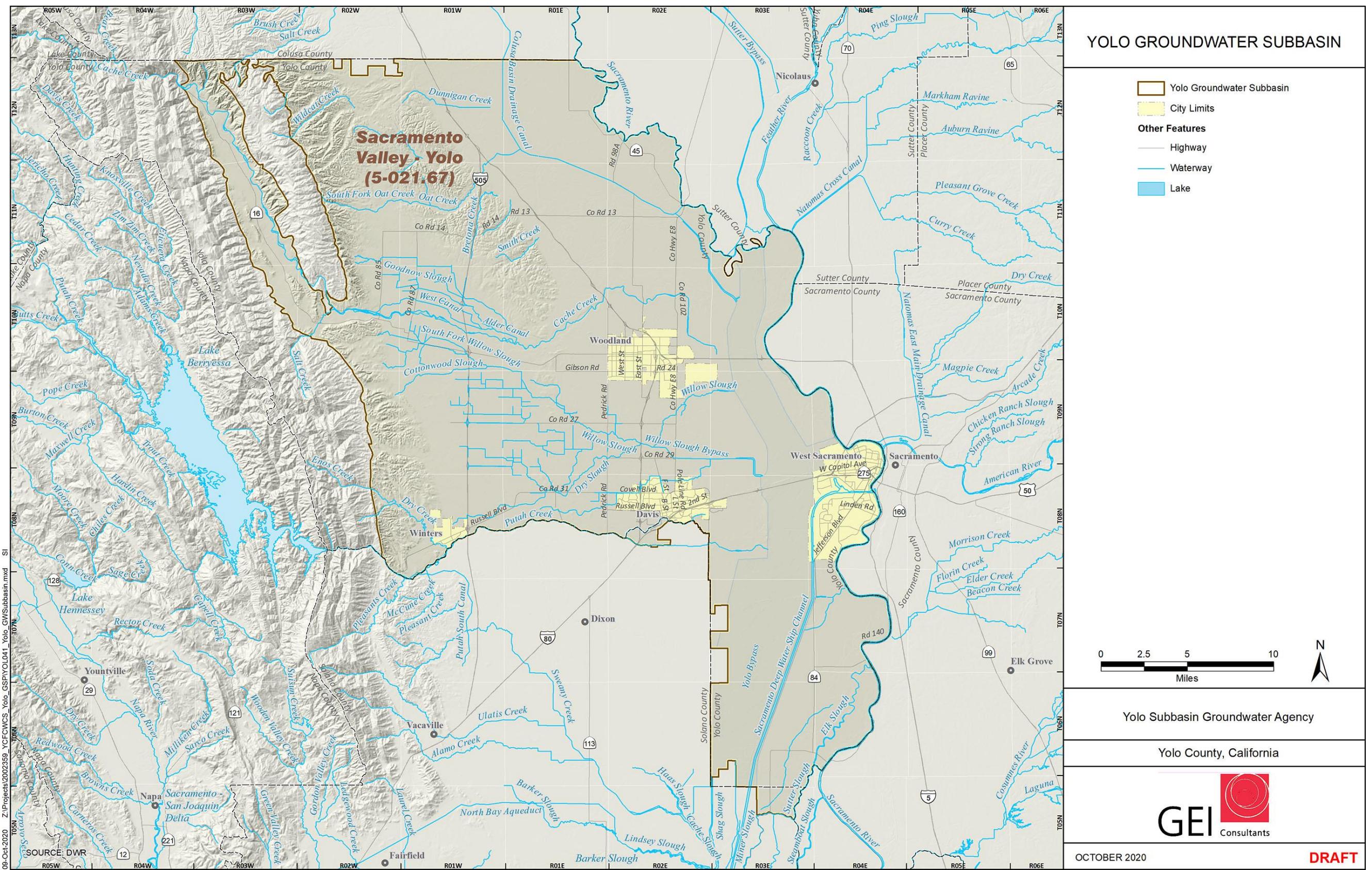


Figure 1-1. Yolo Subbasin Boundary

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1.2 Purpose of Groundwater Sustainability Plan

The purpose of this GSP is to comply with SGMA and serve as an implementation guide for groundwater management within the Subbasin (and management areas) covered by the YSGA. This plan provides information on current groundwater conditions; establishes a groundwater Sustainability Goal; identifies and describes Undesirable Results for the Sustainability Indicators set forth in SGMA as they pertain to the Yolo Subbasin; identifies and describes Minimum Thresholds and Measurable Objectives for each Sustainability Indicator; and demonstrates how sustainability will be achieved within the 20-year implementation period through implementation of the developed projects and management actions.

The Subbasin is made up of 20 members and five affiliated members under the YSGA JPA, explained in detail in Section 1.4, and a diverse set of stakeholders. This GSP represents a coordinated effort of all YSGA members to comply with the requirement of developing and utilizing consistent data and methodologies throughout the Subbasin. The members and affiliated parties of the Subbasin have worked collaboratively with beneficial users and stakeholders in the region to develop this GSP. The YSGA will implement this GSP accordingly in compliance with SGMA to achieve sustainability in the Subbasin.

1.3 Sustainability Goal

[Insert after developed]

1.4 Agency Information

In complying with Section 354.6 of the [GSP Regulations](#), the following section provides agency information, legal authority, and estimated cost of plan implementation for the YSGA and its members in the Subbasin.

Agency's Name:	Yolo Subbasin Groundwater Agency
Agency's Address:	34274 State Highway 16, Woodland, CA 95695
Agency's Phone Number:	(530) 662-3211
Agency's Website:	https://www.yologroundwater.org/
Contact Person:	Kristin Sicke
Contact Person's Title:	Executive Officer

1.4.1 GSA Formation

The Water Resources Association of Yolo County (WRA) was established in 1993 to serve as a collaborative, consensus-based regional forum to plan, coordinate, and facilitate solutions to water management issues in Yolo County. In 2014, upon legislation of SGMA, water interests in the Subbasin via the WRA and Yolo County Farm Bureau formed a Yolo SGMA Working Group to

develop an efficient and effective groundwater governance structure for complying and implementing SGMA. The Yolo SGMA Working Group proposed forming a JPA to offer economies of scale to all participants, honor the regional community, recognize the value of county partnerships, and create shared accountability for the shared water resources.

The Yolo Subbasin Groundwater Agency Joint Powers Agreement was officially executed on June 19, 2017 by 19 member agencies and five affiliated parties via memoranda of understandings. The JPA is provided in Appendix A. Since the YSGA has formed, three additional member agencies have signed onto the JPA and three other member agencies consolidated into one, which has resulted in 20 member agencies and five affiliated parties for a total of 25 YSGA members (Figure 1-2). The YSGA covers approximately 540,700 acres, spanning nearly 845 square miles. Table 1-1 includes an overview of each member agency involved in the development of this GSP.

Table 1-1. Yolo Subbasin Groundwater Agency Members

Member Agencies	
City of Davis	Reclamation District 307
City of Woodland	Reclamation District 537
City of West Sacramento	Reclamation District 730
City of Winters	Reclamation District 765
County of Yolo	Reclamation District 787
Dunnigan Water District	Reclamation District 999
Esparto Community Service District	Reclamation District 1600
Madison Community Service District	Reclamation District 2035
Reclamation District 108	Yocha Dehe Wintun Nation
Reclamation District 150	Yolo County Flood Control & Water Conservation District
Affiliated Members	
California American Water Company, Dunnigan	University of California, Davis
Colusa Drain Mutual Water Company	Environmental Party Representative
Private Pumper Representative – Yolo County Farm Bureau appointed	

1.4.2 YSGA Management Structure

The YSGA was created following the enactment of SGMA with the intent of establishing a collaborative GSP for the coordinated management of the groundwater basin underlying the Subbasin. This collaborative process builds off existing relationships among the parties and the existing groundwater monitoring network that has been operating for more than 50 years. A governance structure has been developed to preserve the autonomy and authority of local agencies throughout the development and implementation of SGMA over the 20-year planning horizon. YSGA has assumed the responsibility for the development of a comprehensive GSP for an area that includes agricultural lands as well as urban and industrial development.

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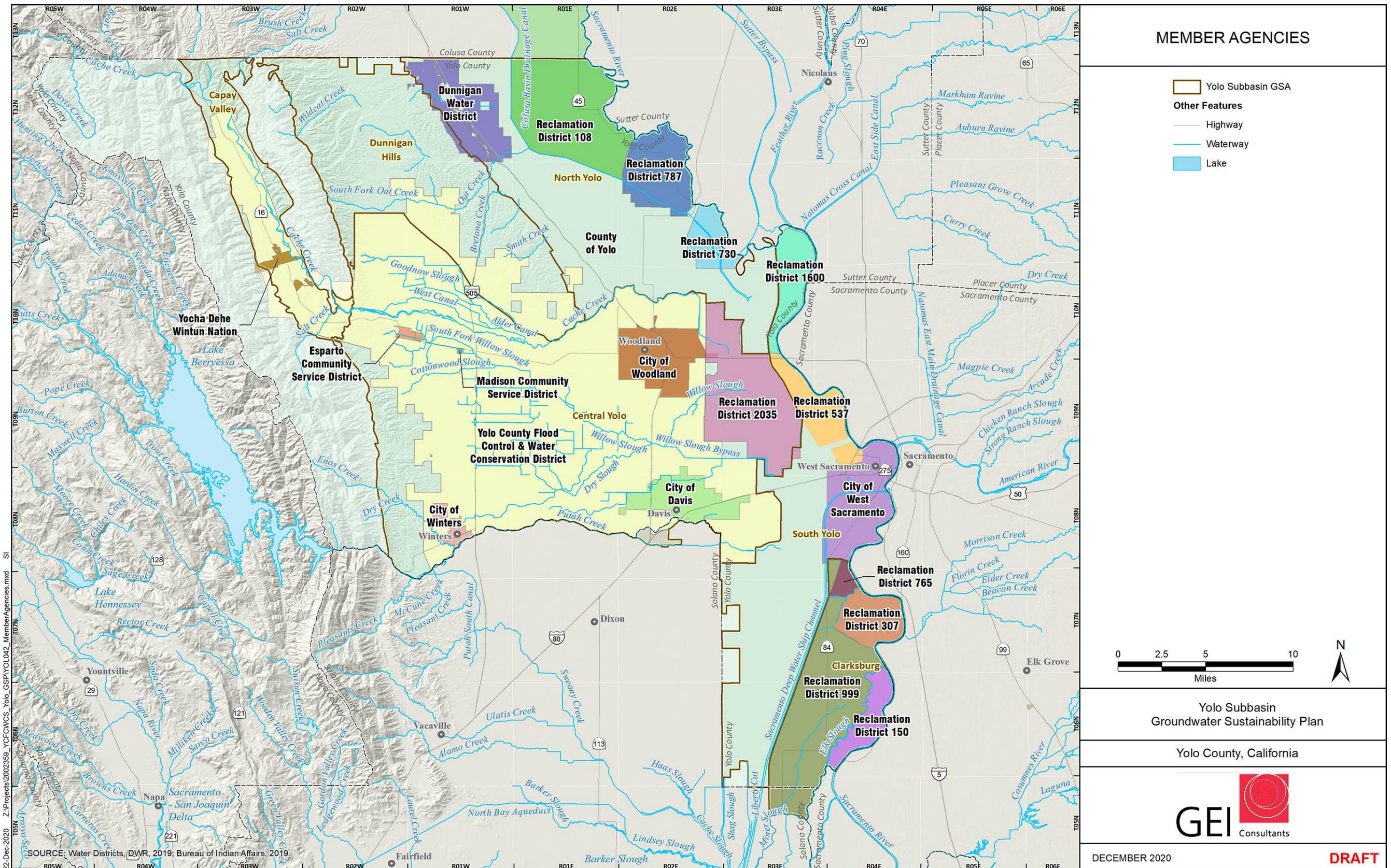


Figure 1-2. Yolo Subbasin Groundwater Agency Member Agencies

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The business of the YSGA is conducted by the Board of Directors (Directors) composed of one representative from each of the 20 member agencies and five affiliated members (parties), with one vote per board seat. Each member of the Board of Directors serves until replaced by the appointing Member or Affiliated Party. Directors' elected a chairperson, vice chairperson, secretary, and treasurer. All the powers and authority of the YSGA are exercised by the Board, subject however, to the rights reserved by the Members and Affiliated Parties.

Agency Board of Directors conduct most business by majority vote of those Directors' present. The following actions require a two-thirds vote by the Directors present:

- a. Approval of the Agency's annual budget;
- b. Decisions related to the levying, imposition or collection of taxes, fees, charges, and other levies;
- c. Decisions related to the expenditure of funds by the Agency beyond expenditures approved in the Agency's annual budget;
- d. Adoption of rules, regulations, policies, bylaws and procedures related to the function of the Agency;
- e. Decisions related to the establishment or adjustment of the Members' or Affiliated Parties' obligations for payment of the Agency's operating and administrative costs as provided in the JPA (Article 5.1);
- f. Approval of the GSP;
- g. Involuntary termination of a Member or Affiliated Party;
- h. Approval of the addition of a Member or Affiliated Party;
- i. Amendment and termination of the JPA Agreement; and
- j. Modification of the Member and Affiliated Party fees.

An Executive Committee, a Working Group, and a Technical Advisory Committee were established to develop this GSP in compliance with SGMA. To facilitate implementation of the YSGA GSP, the Subbasin jurisdictional boundary area is divided into six separate management areas.

1.4.2.1 Executive Committee

The Executive Committee was established to administer the Agency in accordance with policies and procedures as established by the Board. The Executive Committee is comprised of

- Chair,
- Vice Chair,
- Executive Officer,
- an Urban Representative, and

- an Agricultural Representative.

The main purpose of the Executive Committee is to provide direction to the Executive Officer, address administrative issues in a timely manner, and help prepare and review Board agendas.

1.4.2.2 Executive Officer

The Executive Officer administers the activities of the YSGA and is the primary point of contact with the Board Chair. Among other duties, the Executive Officer works with the Board Chair and Vice Chair to establish Board of Directors' meeting agendas, carry out the directives of the Board of Directors, and coordinate the activities of the Working Group and Technical Advisory Committee.

1.4.2.3 Working Group

The process of creating the YSGA to oversee implementation of SGMA in the Subbasin relied heavily on input and feedback from stakeholders working collaboratively in what was called the “Working Group” that proved an effective forum for vetting issues and achieving consensus. This Working Group consisted of member agency staff, policymakers, and other interested stakeholders that wished to participate. At the June 2017 Board meeting, the Working Group was established as an official subcommittee of the Agency, and was charged with developing recommendations and providing guidance to the Board on the development and implementation of the GSP and other matters related to the efficient management of the YSGA.

1.4.2.4 Technical Advisory Committee

Technical Advisory Committee (TAC) was formed to advise the Working Group and Technical Team (technical staff and consultants involved in developing the GSP) in making sound technical decisions. The TAC was involved in evaluating the process for developing the sustainable management criteria, reviewing the representative well selection process, and advising future land use projections for developing future scenarios. The TAC also reviewed draft products and materials prepared as part of the development of the Yolo Subbasin GSP.

1.4.3 Legal Authority of the GSA

The YSGA was granted legal authority of a GSA by complying with CWC Section 10723.8 through adoption of a JPA pursuant to California Government Code 6500. The YSGA held the required public hearings regarding the establishment of a GSA as stated in CWC Section 10723(b) and passed a resolution to form the YSGA. The authority granted to YSGA is to develop, adopt, and implement a GSP for the Subbasin in compliance with SGMA, subject to the limitations set forth in the JPA. At the March 19, 2018 YSGA Board meeting, the Directors adopted Resolution 2018-01 formally initiating the development of the YSGA GSP and authorized the submission of the notice of intent to DWR. The required notification of intent to prepare a GSP was submitted [to DWR on March 26, 2018](#). Under CWC Section 10723.2, the YSGA within its boundaries shall consider the interests of all beneficial uses and users of groundwater.

The YSGA was formed for the following purposes:

- To identify and address issues pertaining to sustainable groundwater management;
- To coordinate groundwater management programs and activities;
- To establish a framework for local groundwater management; and
- To develop, adopt, and implement a legally sufficient GSP for the Subbasin, subject to the limitations set forth in the JPA.

The intent of the members under the JPA is to provide each member with the responsibility to implement SGMA and the GSP adopted by the YSGA within their respective Management Area, as delineated by this GSP. The members and affiliated parties worked collaboratively to develop this GSP for the Subbasin in compliance with SGMA.

1.4.4 GSP Implementation Costs & Funding

The YSGA, on behalf of its member agencies, will incur costs to implement the GSP and maintain the plan via annual reports and 5-year updates. The YSGA has developed these costs as shown in Table 1-2. [To be completed before finalization of GSP].

Table 1-2. Estimated Costs for GSP Implementation

Item	Description	Estimated Cost
Annual Administration	Activities for ongoing coordination among member agencies	
Sustainability Management	Implementation of sustainability management practices	
Annual Monitoring	Basin-wide coordinated monitoring activities	
Annual Report	Data collection and consolidation from member agencies to facilitate annual reporting to DWR	
5-year GSP Update	Data collection, consolidation and report preparation for YSGA 5-year GSP update	

1.5 Description of Plan Area

YSGA's jurisdictional boundary accounts for the entire Yolo Subbasin, as defined in DWR Bulletin 118, in the southern portion of the Sacramento Valley Basin primarily within Yolo County. The following section describes the area covered by the YSGA GSP.

1.5.1 Summary of Jurisdictional Areas and Other Features

As shown in Figures 1-1 and 1-2, the YSGA jurisdictional area is approximately 844 square miles. The Subbasin is located in the southwestern side of the Sacramento Valley Groundwater Basin. Following two applications for jurisdictional modifications of the basin boundary, the Subbasin resulted in the consolidation of portions of the Capay Valley, Colusa, and Solano Subbasins within the Yolo Subbasin. The Subbasin is bounded on the east by the Sacramento River and to the west by the coast range. The Sacramento River forms the eastern boundary of the Subbasin. Putah Creek forms the Southern boundary from the southwestern corner of the Subbasin to the City of Davis at which point, the boundary follows the Yolo County line to the south.

There are several incorporated cities within the YSGA jurisdictional boundary as shown in Figure 1-3 that are dependent on groundwater. Additionally, there are a number of domestic water users (what SGMA considers de minimis users) and multi-parcel water systems located within the YSGA jurisdictional area, which are also covered under this GSP.

1.5.2 Plan Area Setting

Land use designations within the YSGA jurisdictional boundary are predominately agriculture and native vegetation, accounting for approximately 60 and 31 percent, respectively (Figure 1-4). Source of water for agricultural lands is a combination of surface water and groundwater, as shown in Figure 1-5. Urban and incorporated land use areas are scattered throughout the Subbasin and account for approximately 5 percent of the Subbasin.

A theoretical well distribution, or well densities, for production, domestic, and municipal supply wells within the Subbasin are presented in Figures 1-6 through 1-8, respectively. This dataset is based on well statistics provided by DWR (2019) from the Online System for Well Completion Reports and was derived by section. This dataset is intended to be for qualitative purposes since the YSGA (or the County) does not have a master list of all wells installed in the Subbasin. Production wells includes those described in well completion reports as irrigation, municipal, public, or industrial wells. In summary, higher well densities can be seen in the central portion of the Subbasin while well densities tend to decrease in the surrounding areas.

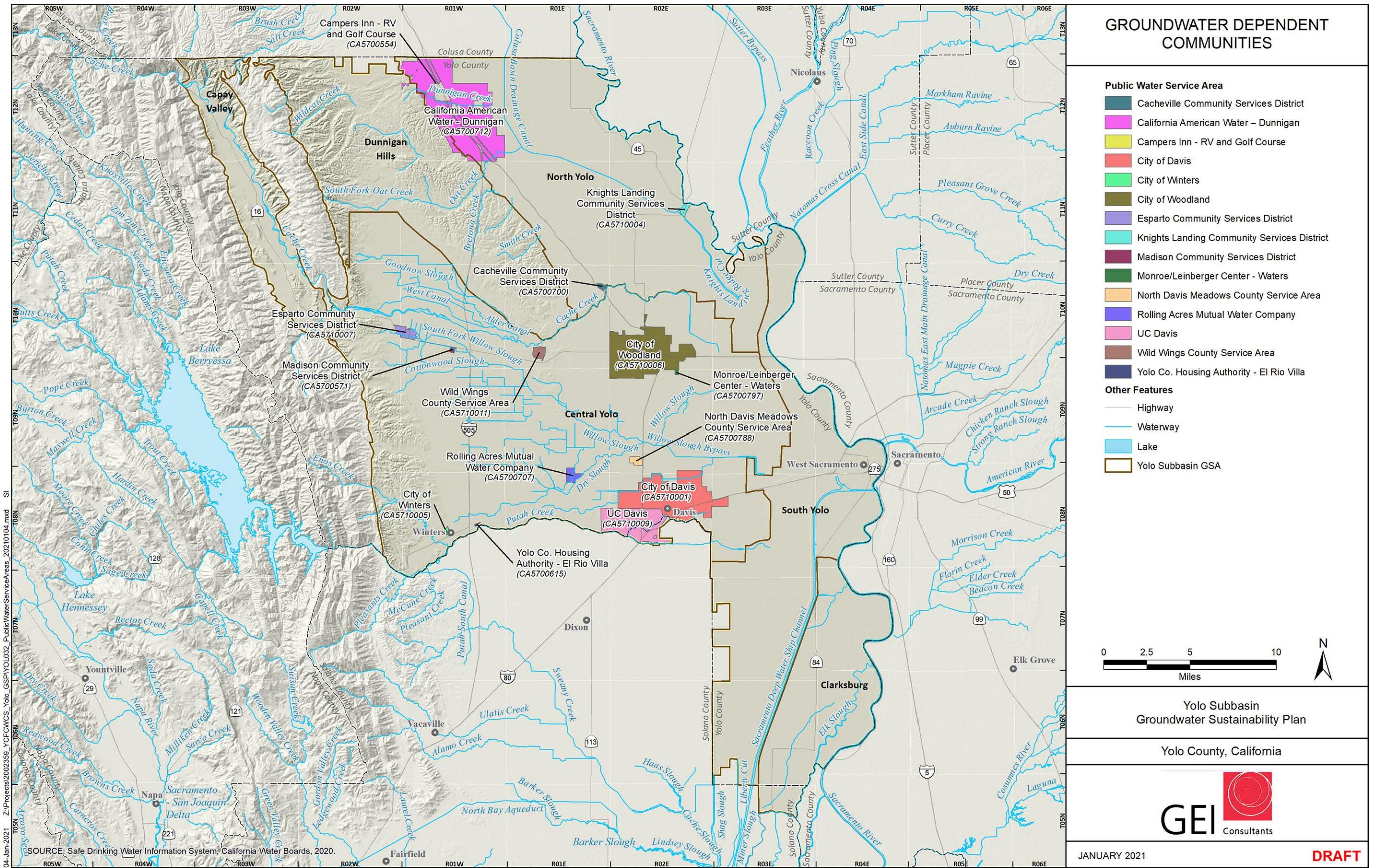


Figure 1-3. Groundwater Dependent Communities

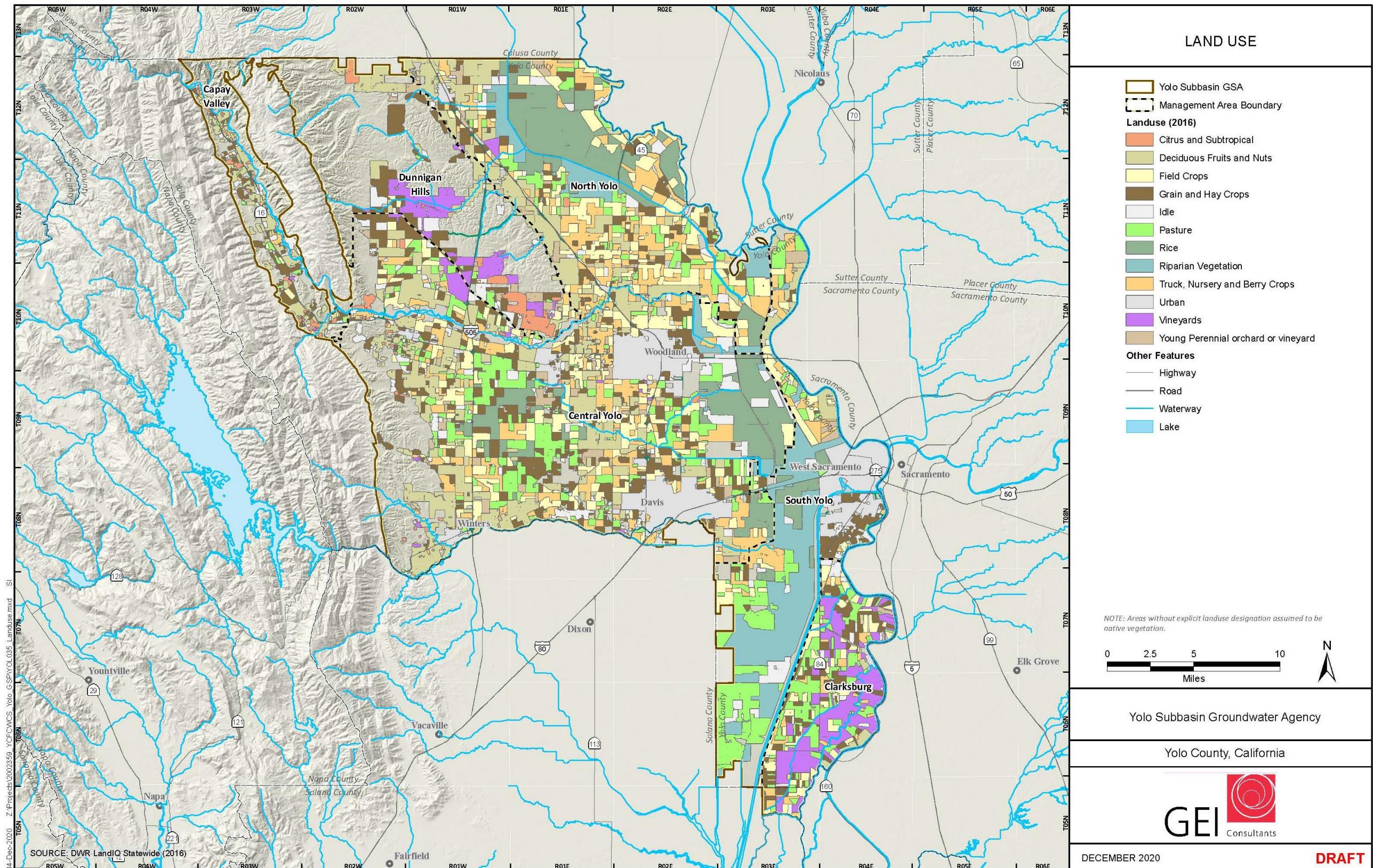


Figure 1-4. Yolo Subbasin Land Use

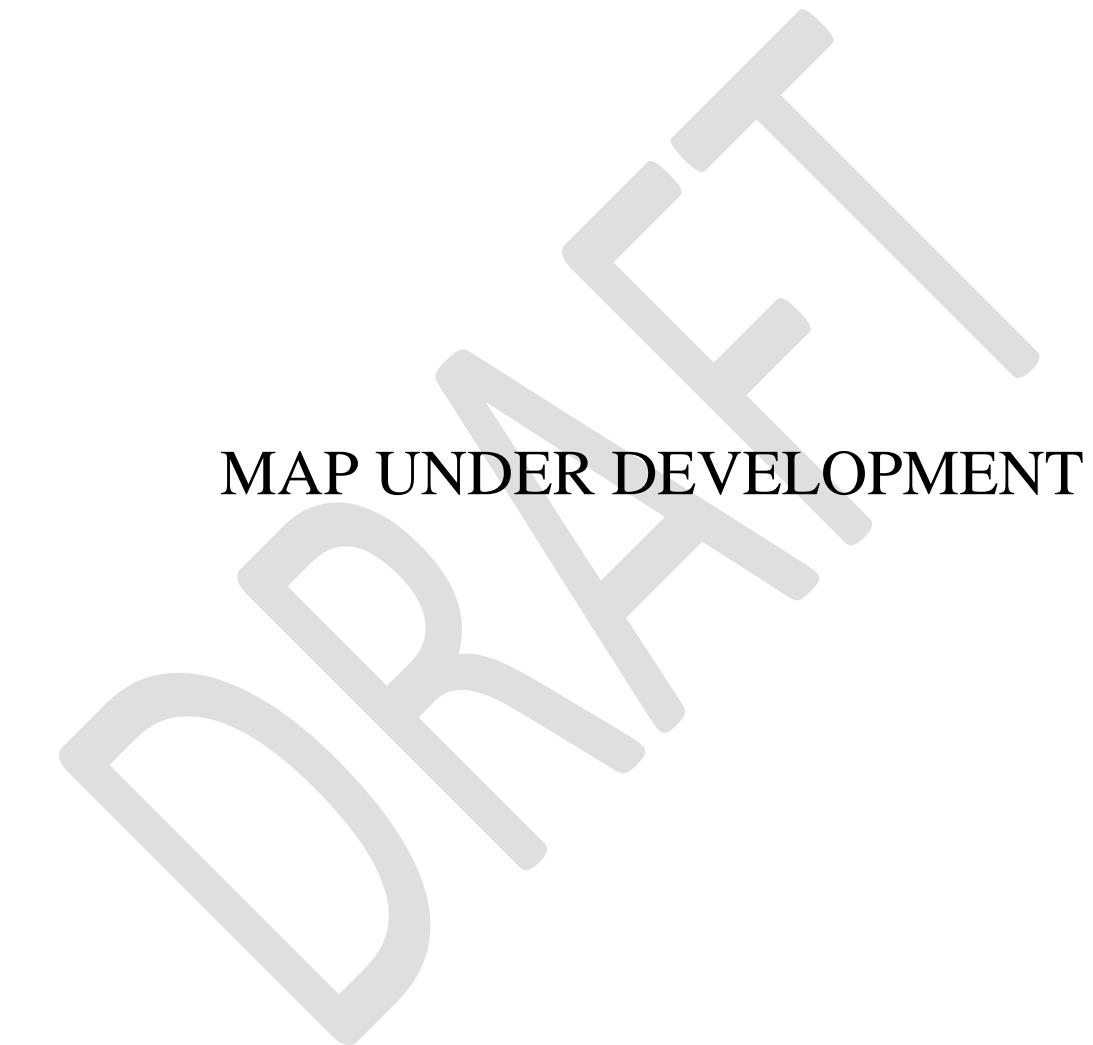
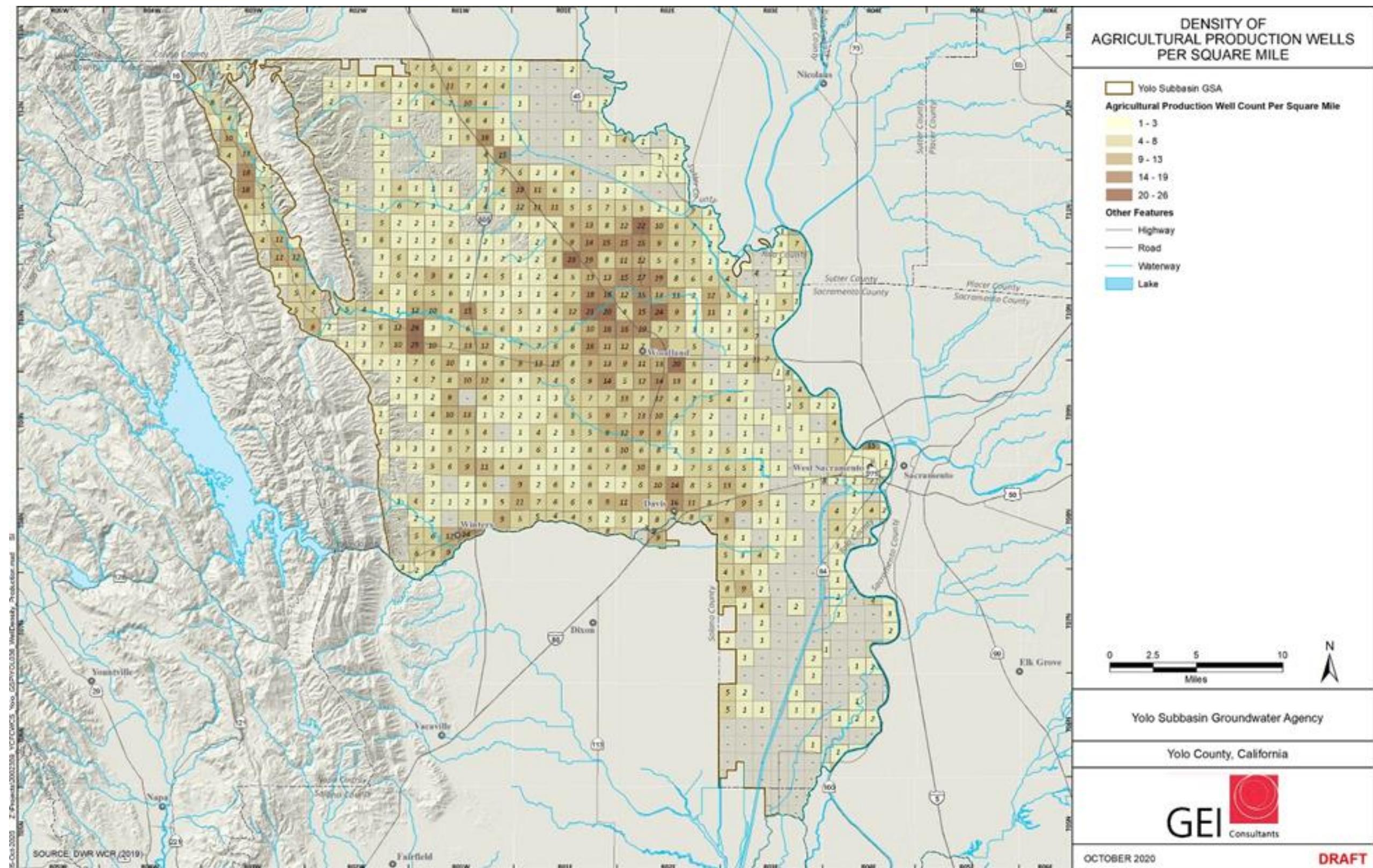
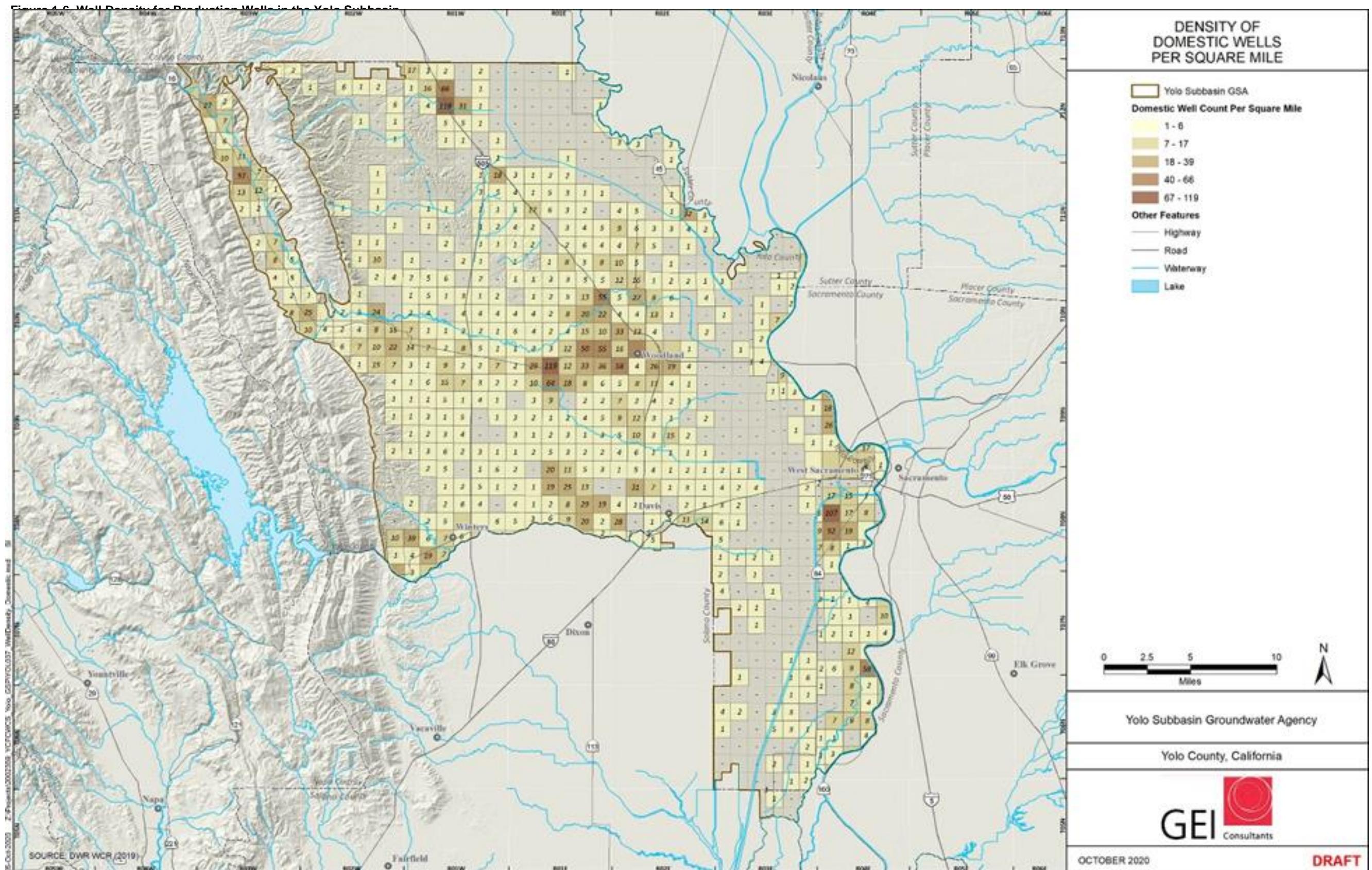


Figure 1-5. Water Sources and Locations of Use for the Yolo Subbasin





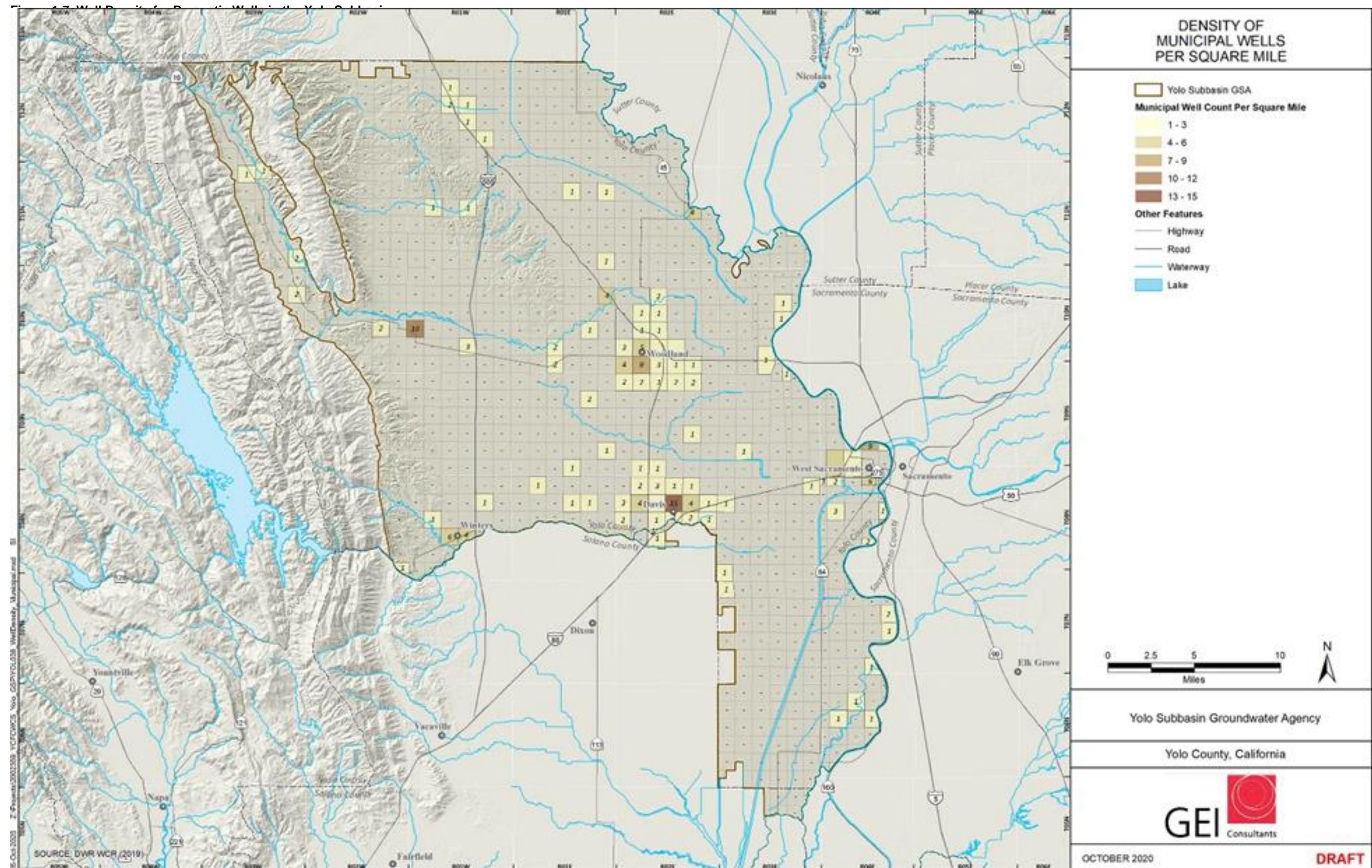


Figure 1-8. Well Density for Municipal Wells in the Yolo Subbasin

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1.5.3 Existing Plans in Plan Area

Within the YSGA jurisdictional boundaries, there are multiple plans (e.g., the Yolo County General Plan) that provide goals, policies, and implementation measures that are complimentary to sustainable groundwater management set forth in this GSP relative to future land use development and conservation. Below is a list of existing general plans within the Subbasin. The agencies that have developed and adopted these general plans have retained their jurisdiction over land use and zoning as well as the elements included in their respective plans.

2030 Countywide General Plan – This plan was adopted in 2009 by the Yolo County Board of Supervisors. This document provides a comprehensive overview of long-term policies for the physical development of the unincorporated areas of the county. Plan goals are geared toward long-term sustainability that focuses on the development of successful agriculture; preserving open space and natural areas; accounting for community values and safety; and developing a sustainable economy (County of Yolo, 2009).

City of Davis General Plan – This plan was adopted in May 2001 and has been amended through January 2007. Development of this plan was focused on preserving the economic and social wellbeing of the community. A few goals of the plan include preserving quality of life; natural resource protection and restoration; and agriculture (City of Davis, 2007).

City of West Sacramento 2035 General Plan – This plan was adopted on November 1, 2016 by City of West Sacramento's City Council. Through 2035, this plan will steer the development of land use, transportation improvements, new parks and open spaces, and other public infrastructure.

City of Winters General Plan – This plan was originally adopted on May 19, 1992 and has been amended since to meet state and local needs. The City Council passed a resolution to extend the 1992 plan's planning horizon from 2010 to 2018; and staff is currently working on a plan update.

Implementation of this GSP will help to ensure the sustainable management of groundwater in the Subbasin. Existing policies will continue to be implemented and are expected to be compatible with strategies under this GSP to achieve groundwater sustainability. While existing general plans in the Subbasin are concurrently updated, it is assumed that future planning will account for this GSP and its intent to manage groundwater effectively to maintain the social and economic viability of the Subbasin.

The Subbasin accounts for a diverse set of land use planning that varies between each area, as member agencies implement policies to serve their communities. Since implementation of land use plans outside of the Subbasin could potentially affect the ability of the YSGA to achieve sustainable groundwater management, future activities of the YSGA will include increased coordination with neighboring land use planning to assess overlaps and impacts, if any.

1.5.4 Existing and Ongoing Water Resources Programs

Per Section 354.8(c) of the GSP Regulations, this section identifies and describes existing water resource programs in the YSGA jurisdictional Area. This section provides an overview of each program being implemented within the YSGA. Table 1-3 provides a matrix showing which programs are being implemented for each member agency and affiliated members.

1.5.4.1 Management Plans

Prior to SGMA, the State of California developed programs for the management of groundwater supply and quality. These programs are managed at various levels of government. The following section provides an overview of these management programs and the elements addressed in each.

Groundwater Management Plans

The Groundwater Management Act (AB 3030) was passed by the State of California in 1992. Guidelines for agencies and districts under this legislation are intended to provide planned and coordinated monitoring, operation, and administration of groundwater basins with the goal of long-term sustainability.

[Additional details to be added regarding types of groundwater management plans applicable to subbasin, e.g., SB 1938, 359].

Integrated Regional Water Management Plans

The Integrated Regional Water Management Planning Act of 2002 (SB 1672) created the Integrated Regional Water Management (IRWM) Program in 2002. The IRWM Program is geared toward a collaborative effort to identify and implement water management solutions at a regional level that will increase self-reliance; reduce conflict between agencies and users; and manage water to concurrently achieve social, environmental, and economic objectives. By collaboratively developing and implementing projects, participants in the IRWM Program can provide these benefits to meet their water supply and quality goals. The WRA resolved in 2001 to examine existing local water supplies in terms of quantity, quality, and the environment to develop the county's first IRWMP. The Plan describes water supply projects, and outlines comprehensive programs that encompass flood management, project water quality, enhance aquatic and riparian habitat, and improve recreational opportunities.

Prior to receiving any IRWM funding through DWR's IRWM Grant Program, the WRA was required to participate in the Region Acceptance Process (RAP), which allowed DWR to evaluate whether the Yolo County planning boundary was sufficient for the State's IRWM planning program. Unfortunately, DWR requested a larger watershed planning area be created; and the Yolo County territory was merged with portions of Lake, Napa, Solano, and Colusa Counties to create the Westside Sacramento Integrated Regional Water Management region. The Westside Sacramento IRWMP contains four watersheds within the region: Cache and Putah Creek watersheds and portions of the Sacramento-Stone Corral and Lower Sacramento watersheds. The Westside

IRWMP was developed in 2013 and updated in 2019 to comply with updated DWR Guidelines and the passing of AB 1249 and SB 985.

Irrigated Lands Regulatory Program

The Sacramento River Watershed General Order (Order R5-2014-0030-R1) was passed by the Regional Water Quality Control Board (RWQCB) in 2006. This order requires that any irrigated land having the potential to discharge to surface water or groundwater must comply with the requirements set by the RWQCB. Compliance includes membership in a Coalition or obtaining coverage through an individual order through the RWQCB. Several member agencies in the YSGA jurisdiction are members of the Sacramento Valley Water Quality Coalition, which was formed in 2003.

Groundwater Export Ordinance

The County of Yolo has a Groundwater Ordinance that came into effect from December 26, 1996 and can be found under Title 10, Chapter 7, at the following location:

<https://www.yolocounty.org/home/showdocument?id=1899>. In the Ordinance, the County Board of Supervisors' recognize the importance of groundwater to the County and the public benefit it provides. The Ordinance reviews regulation of the extraction and exportation of groundwater from Yolo County; describes the permit process for exporting water outside of the County and drilling a new groundwater well; and explains the County's inspection process and civil penalty violations.

The County's export permit process is currently very streamlined and processed in the County Administrator's Office.

Other County Groundwater Programs

Yolo County offers a Groundwater Assistance Program to assist Yolo County property owners affected by a dry household well; the County provides water supplies to property owners while they wait for the drilling of a new well. More information on this program can be found at the following location: <https://www.yolocounty.org/home/showdocument?id=30909>.

As discussed in the County's Groundwater Ordinance, a permit is required to be submitted to the County prior to drilling a new well in the County. County of Yolo's Division of Environmental Health staff respond to well drilling permit applications within 10 business days and the review process consists of complying with DWR's water well standards (Bulletin 74:

<https://water.ca.gov/Programs/Groundwater-Management/Wells>).

Title 22 Drinking Water Program

The Division of Drinking Water (DDW) regulates public drinking water supplies, which include municipal and state small water systems. There are currently 83 public water systems that are identified through the Groundwater Ambient Monitoring and Assessment Program (GAMA) and State Drinking Water Information System (SDWIS). These systems are required to comply with the standards outlined in Title 22 of the California Code of Regulations.

1.5.4.2 Conjunctive Use Programs

Historically, in Yolo County, there have been many studies and reports completed considering the feasibility of a conjunctive water use project. Many of the YSGA members have established and maintained conjunctive use programs for the sustainable management of water resources in the Subbasin. Conjunctive use refers to the coordinated use of surface water and groundwater to maximize efficient use of available resources. The primary considerations for successfully implementing a conjunctive use program include examining: 1) availability and storage; 2) access and distribution; 3) quality and treatment; 4) legal rights; 5) costs; and 6) reliability and local control¹.

Since the formation of the Yolo County Flood Control & Water Conservation District (YCFC&WCD), conjunctive water use has been a fundamental concept and program throughout the greater Yolo County region. Groundwater monitoring and reporting efforts have allowed for YCFC&WCD and other water resource entities to understand more about the success of groundwater recharge activities and efficient use of water supplies, or optimal conjunctive use.

A few notable conjunctive use programs exist within the Subbasin and are described below.

YCFC&WCD Conjunctive Use Programs – The YCFC&WCD delivers surface water from Clear Lake and Indian Valley Reservoirs to farmers in Yolo County. The YCFC&WCD's Capay Diversion Dam allows for surface water to be distributed throughout the YCFC&WCD's 160-mile unlined canal system. Approximately, 25% of surface water diversions at Capay Dam are naturally recharged throughout the earthen canal system every irrigation season. On average, approximately 40,000 acre-feet of natural recharge to the aquifer occurs every year. During wet years, excess water traveling throughout the Subbasin via sloughs, irrigation canals, farmer drains, and Cache Creek is captured to recover lost groundwater in the aquifer by either pumping water back into the aquifer or providing additional area for the water to permeate down into the aquifer. Since development of this project, YCFC&WCD has focused efforts collecting data through their Foundational Actions: Flow Monitoring Network, Monitoring Program, and Groundwater Surface Modeling; these programs facilitate policy development and management practices. These efforts ensure reliable water supplies, which is essential to the economic viability of the region.

The YCFC&WCD has participated in the State Water Resources Control Board's temporary permitting program for diverting excess storm flows to recharge the groundwater. On November 13, 2015, the Governor signed Executive Order B-36-15, which directed State Water Resources Control Board staff to prioritize temporary water rights permits to accelerate approvals for projects that enhance the ability of local agencies to capture high precipitation events for local storage or recharge and later beneficial uses. For the past five years, the YCFC&WCD has applied for a temporary 180-day water permit to divert excess storm flows via the unlined canal system. The YCFC&WCD has successfully diverted storm flows in three of the five years for a total of 21,000 acre-feet groundwater replenished. The YCFC&WCD anticipates participating in the temporary permit program in the winter/spring of 2021 and in the near future, receiving a 5-year and long-term

¹ Conjunctive Use Without Management, Mimi Jenkins, 1992
<http://www.dcn.davis.ca.us/dcn/projects/conjunctiveuse/chapt4.html>

permit for groundwater recharge activities. Excess storm flows from Cache Creek are a huge asset in the conjunctive management options available to the YCFC&WCD and YSGA, and as long as permitting constraints are not an obstacle in the future, these excess storm flows will continue to provide a public benefit to the region.

In 2008, the YCFC&WCD implemented and managed this program to lift capacity constraints and provide delivery flexibility to farmers. This program is an incentive-based conjunctive use program where well water is pumped into canals to reduce effects by upstream capacity constraints. The intent of this program is to improve water delivery flexibility to minimize the waiting list period for farms, which can last up to six weeks during peak irrigation season in an allocation year. By participating in this program, farmers who enroll wells will receive priority for water deliveries and a standard YCFC&WCD rate for all water delivered, including groundwater. Additionally, the YCFC&WCD now owns one agricultural production well that can also be used to assist with any capacity constraints within the YCFC&WCD customer base or service area.

Davis-Woodland Water Supply Project – The Woodland-Davis Clean Water Agency completed the Davis-Woodland Water Supply Project in July 2016. This project diverts up to 45,000 acre-feet of water per year from the Sacramento River to serve as drinking water for Woodland, Davis, and UC Davis. When water diversions are limited during summer or other dry periods, the City of Davis uses groundwater when demand for water cannot be met with surface water supplies alone. Additionally, the City of Woodland relies on aquifer storage recovery wells to meet peak demand. By conjunctively managing water from the Sacramento River and existing groundwater resources, these three entities can provide safe drinking water to community residents.

Table 1-3. Water Resources Programs Implemented by YSGA Member Agencies (This table is incomplete, and could use some help in updating as needed)

Yolo Subbasin GA Groundwater Sustainability Plan	Other	Groundwater Management Plans			Water Management Programs							
		Pre-SB 1938 Plans (AB 3030?)	SB 1938 Plans	AB 359 Plans	IRWM	UBSR Water Management Plan	Irrigated Lands Regulatory Program	Storm Water Management Plan	Urban Water Management Plan	Title 22 Drinking Water Program	Agricultural Water Management Plan	Flood Management Plans
Members Agencies												
City of Davis	X	X			X			X	X	X		X
City of Woodland	X				X			X	X	X		X
City of West Sacramento	X				X			X	X	X		X
City of Winters	X				X			X		X		
County of Yolo*	X				X			X				X
Dunnigan Water District		X	X		X	X						
Esparto Community Services District										X		
Madison Community Services District								X		X		
Reclamation District 108		X	X							X		X
Reclamation District 150												X
Reclamation District 307												X
Reclamation District 537												X
Reclamation District 730												X

Yolo Subbasin GA Groundwater Sustainability Plan	Other	Groundwater Management Plans			Water Management Programs							
		Pre-SB 1938 Plans (AB 3030?)	SB 1938 Plans	AB 359 Plans	IRWM	UBSR Water Management Plan	Irrigated Lands Regulatory Program	Storm Water Management Plan	Urban Water Management Plan	Title 22 Drinking Water Program	Agricultural Water Management Plan	Flood Management Plans
Members Agencies												
Reclamation District 765												X
Reclamation District 787		X	X	X								X
Reclamation District 999												X
Reclamation District 1600												X
Reclamation District 2035		X									X	X
Yocha Dehe Wintun Nation					X			X				
Yolo County Flood Control & Conservation District		X	X		X			X			X	
Affiliated Members												
California American Water, Dunnigan												
Colusa Drain Mutual Water Company										X		
Environmental Representative	-	-	-	-	-	-	-	-	-	-	-	

Yolo Subbasin GA Groundwater Sustainability Plan	Other	Groundwater Management Plans			Water Management Programs							
		Pre- SB 1938 Plans (AB 3030?)	SB 1938 Plans	AB 359 Plans	IRWM	UBSR Water Management Plan	Irrigated Lands Regulatory Program	Storm Water Management Plan	Urban Water Management Plan	Title 22 Drinking Water Program	Agricultural Water Management Plan	Flood Management Plans
Members Agencies												
University of California, Davis		X			X			X		X		
Yolo County Farm Bureau							X					

*The County of Yolo also has a Habitat Conservation, or Creek Restoration, Plan known as the Cache Creek Resources Management Plan (CCRMP): <https://www.yolocounty.org/general-government/general-government-departments/county-administrator/county-administrator-divisions/natural-resources/cache-creek-area-plan-ccap/cache-creek-resources-management-plan-ccrmp>

1.5.4.3 Well Permitting Process

The County of Yolo Department of Community Services Environmental Health Division (YCEH) has an established well permitting program that requires final approval prior to final implementation for water use. A permit must be acquired prior to the installation, modification, or abandonment of wells. Additionally, a permit is required for test holes, cathodic protection wells, geothermal heat exchange wells, and monitoring wells. Construction of wells are required to follow guidance of DWR well standards and all well contractors are required to submit a Well Completion Report (WCR) to DWR.

Before implementation for water use, the well must demonstrate an adequate annular seal, pass the required water quality analysis, and meet the current standards of aboveground features. All wells require final inspection prior to implementation. For abandoned wells, a permit must be acquired, and proper abandonment procedures must be followed. Additional well abandonment procedures are included in the following section.

The YSGA is currently working with the County to establish a well permit notification process to enhance information management as part of the groundwater management program.

1.5.4.4 Plan Elements from CWC Section 10727.4

Per Section 354.8(g) of the GSP Regulations, additional plan elements pertaining to California Water Code (CWC) Section 10727.4 shall be included in order to comply with SGMA. This section provides a general overview of plan elements with reference to sections included throughout this GSP for further details. Plan elements from CWC Section 10727.4 include the following:

A. Control of Saline Water Intrusion

Seawater intrusion is not considered an issue in the Subbasin since the Subbasin is located approximately 50 miles from the coastal region. Refer to Section 2.2.3 of the Basin Setting for additional details.

B. Wellhead Protection Areas

Permits are issued by YCEH for the construction, reconstruction, and destruction of water wells. This program includes overview of and guidance for wellhead protection.

YCEH regulates setback distances to maintain a zone of protection around water wells and preserve water quality. Activities such as animal enclosures, hazardous materials storage, septic tanks, and sewer lines must be located a minimum distance away from the wellhead. Setback distances vary from 50-150 ft. based on the activity impact level and well type (<https://www.yolocounty.org/home/showdocument?id=35584>).

C. Recharge Areas

California Resource Lab at University of California, Davis developed a Soil Agricultural Groundwater Banking Index (SAGBI) for groundwater recharge on agricultural land. As shown in Figure 1-9, approximately 20% of the subbasin has moderately good to excellent rating whereas approximately 63% of the area has poor to very poor rating.

D. Migration of Contaminated Groundwater

As further discussed in Section X.X, groundwater quality in the Subbasin varies both spatially and with depth. Water quality in the upper aquifer is generally of poorer quality, which is likely due to proximity to contamination sites as identified in Section X.X. As depth increases, groundwater quality generally increases.

E. Well Abandonment and Well Destruction Program

The YCEH has established and maintains a Water Well Abandonment Program in accordance with California Well Standards 74-81 and 74-90. An abandoned well is a well that is considered permanently inactive if it has not been in use for one year, unless intention of use is demonstrated by the owner. In order to abandon a well, a permit must be acquired through the County. Yolo County's Well Abandonment Program provides guidance and requirements for destroying wells, which include the following elements:

- Preliminary Work
- Filling and Sealing Conditions
- Placement of Material
- Descriptions of sealing and fill materials
- Additional Requirements for Wells in Urban Areas
- Temporary cover

If intent of use is provided, the owner must maintain the inactive well in accordance with Section 115700 if the California Health and Safety Code. In addition to providing instruction for proper covering of the well, the well shall "not allow impairment of the quality of water within the well and groundwater encountered by the well" as stated in Section 115700.

Unfortunately, there are various constraints involved in successfully implementing the well abandonment and well destruction program, such as financial, managerial, and technical complications. The YSGA intends to work with YCEH on the implementation of this program and will investigate state funding opportunities to assist with the financial component.

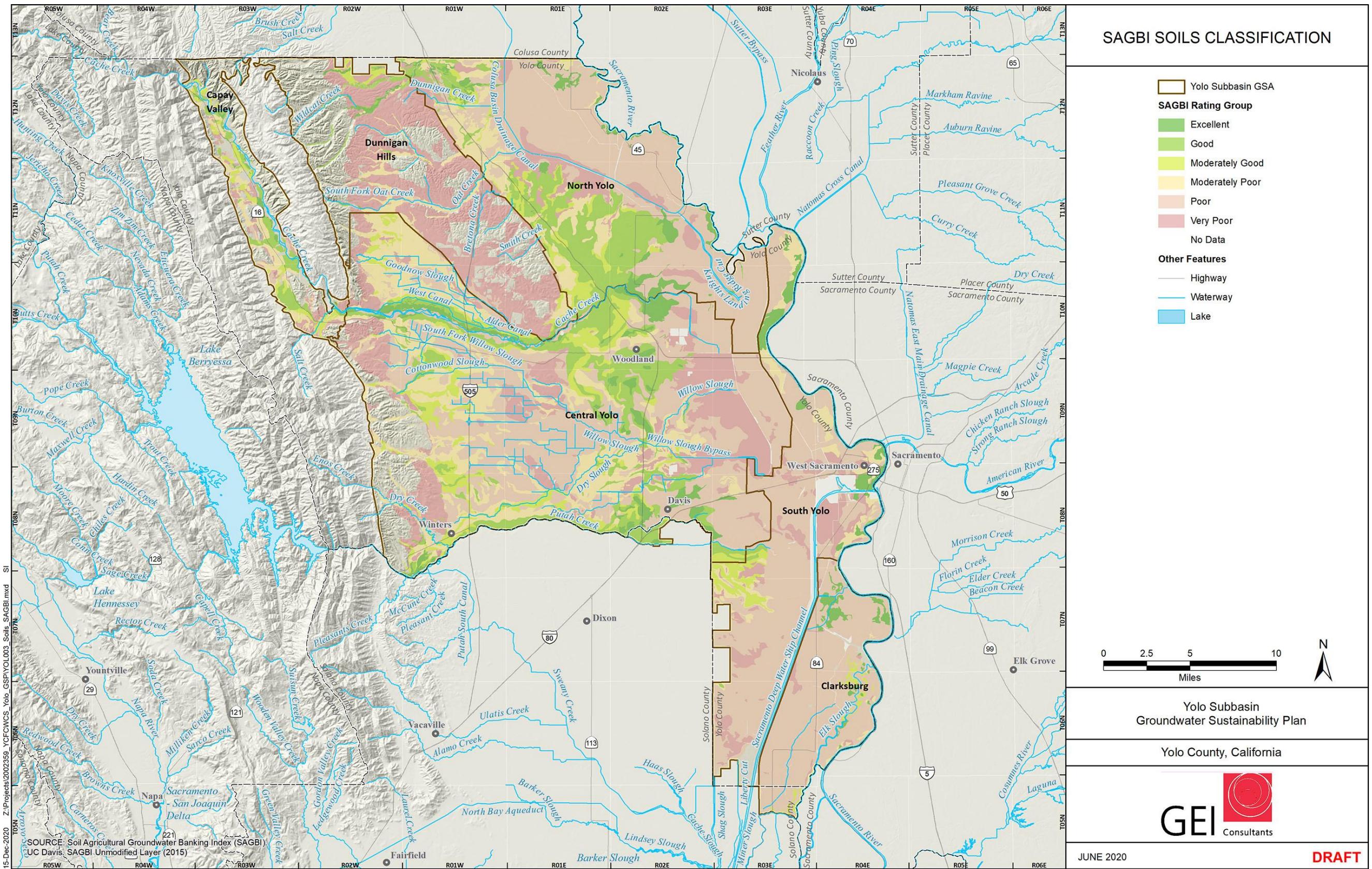


Figure 1-9. Soil Agricultural Groundwater Banking Index for Yolo Subbasin

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F. Replenishment of Groundwater Extractions

As previously mentioned, there are multiple conjunctive use programs ongoing in the Subbasin to efficiently manage groundwater replenishment. Refer to Section 1.5.4.2 for additional details. In addition to these efforts, the YSGA will work with the member agencies and affiliated members to implement additional projects to bring more water into the Subbasin to maintain sustainable groundwater.

G. Conjunctive Use or Underground Storage

As previously discussed in Section 1.5.4.2, there are many ongoing conjunctive use programs in the YSGA jurisdictional area. Efforts throughout implementation of SGMA will focus on expanding and capitalizing on those programs to ensure groundwater sustainability in the Subbasin.

H. Well Construction Policies

Policies on well construction are provided by the YCEH. All wells are to be constructed according to DWR Bulletin 74-90 water well standards (California Well Standards). Before a well can be implemented for use, a final inspection is required.

Specific construction requirements are provided by Yolo County which outline that a well must meet the required standards before final approval by the YCEH. As outlined in the YCEH “Water Well Requirements for Building Projects”, construction requirements include the following:

- Adequate annual seal (i.e., sanitary seal) must be demonstrated
- Water quality analysis required (e.g., Total Coliform/*E. coli* and Nitrate)
- Aboveground features must meet current standards

I. Efficient Water Management Practices

As previously discussed, conjunctive use and land use planning is an integral component for sustainably managing water resources in the Subbasin. Many land use planning activities such as those established under groundwater management plans, the Yolo County IRWMP, and conjunctive use programs have been developed and implemented to support efficient water management practices. This GSP has accounted for and will build off such activities and further implement such practices to support the sustainable management of groundwater in the Subbasin.

J. Relationships with State and Federal Regulatory Agencies

Many of the member agencies of the YSGA hold state and federal water contracts as well as work closely with DWR on projects and management practices. For example, the previously discussed Yolo County IRWMP has been developed and implemented with oversight from DWR to support water supply and quality goals in the region. Additionally, multiple members of the YSGA are Reclamation Districts formed by the State Lands Commission to provide drainage, levee

maintenance, or irrigation services. These districts are formed to optimize water use practices in the region by reclaiming and repurposing land for water use efficiency purposes.

K. Land Use Planning and Coordination Efforts

As previously discussed, the Subbasin contains various land use plans, which were accounted for throughout the development of this GSP. For additional details, refer to Sections 1.5.3 and 1.5.4.

L. Impacts on Groundwater Dependent Ecosystems

[additional information being developed or will be referenced in other sections]

1.5.5 Notice and Communication

Per Section 354.10 of the GSP Regulations, the following sections discuss the notice and communication processes conducted by YSGA with other agencies and interested parties. A list of public outreach meetings and workshops for the YSGA's beneficial water uses and users and other interested parties is provided, along with a brief overview of their respective purposes. All agencies/interested parties listed in Section 1.5.1 were included in the notice and communication process.

1.5.5.1 Beneficial Uses and Users in the Subbasin

As required by Section 354.10(a) of the GSP Regulations, beneficial use and users in the Subbasin have been identified. The beneficial uses of groundwater in the Plan Area, consistent with the uses defined in DWR Bulletin 118, are:

- Agricultural
- Municipal and Industrial
- Domestic
- Environmental

Users of groundwater have been identified as [Summary of beneficial users will be inserted here after Basin Setting is complete].

1.5.5.2 Communication

As previously mentioned, the YSGA was formed by a JPA for development and implementation of SGMA. The JPA is written to provide open and transparent communication to all beneficial users; thus, the YSGA's decision-making process consists of several public meeting opportunities, which include the following:

- YSGA Board of Directors (Board) – YSGA Board meetings are held five times a year: January, March, June, September, and November. These meetings are meant to update the

Board of Directors on YSGA activities. All meetings are open to the public and properly noticed in accordance with the Brown Act.

- YSGA Executive Committee – The Executive Committee meets at least twice per quarter. These meetings are a forum to provide directions to the Executive Officer of the YSGA, address administrative issues, and help prepare and review Board agendas. All meetings are open to the public and properly noticed in accordance with the Brown Act.
- YSGA Working Group – Working Group meetings are held once every quarter. As mentioned previously, the Working Group was established to guide the development and implementation process of this GSP. Through collaboration and feedback from stakeholders, the Working Group was an effective forum for vetting GSP-related issues and achieving consensus. The Working Group worked to develop recommendations and provide guidance to the Board for this GSP as well as other matters related to the efficient management of the YSGA. All meetings were open to the public and properly noticed in accordance with the Brown Act.
- YSGA Technical Advisory Group – Technical Advisory Group meetings were held as needed throughout the development of this GSP. These meetings were used to review the representative well selection process, to evaluate the analysis or process for developing the sustainable management criteria, and to advise future land use projections for developing future scenarios.
- YSGA Public Meetings – Public meetings were held as needed throughout the development of this GSP. All meetings were open to the public and properly noticed in accordance with the Brown Act.

Public Engagement Opportunities

In addition to routinely schedule YSGA meetings, further outreach and engagement opportunities were conducted, which included special workshops and outreach meetings. Details of additional public engagement opportunities are included in the following section.

1.5.5.3 Informing Public and GSP Development Progress

During the formation of the YSGA, a Board of Directors was created consisting of Members and Affiliated Parties (as listed in Section 1.4.1). Throughout the development of this GSP, public meetings were held to coordinate and engage with the beneficial users within the Subbasin boundaries regarding the planning and implementation of SGMA. Table 1-4 provides a list of public meetings held by the YSGA.

Table 1-4. Public Meetings and Workshops (This table will be updated as we go)

Date	Meeting	Purpose
June 19, 2017	YSGA Board of Directors	General board administrative information and update on GSP development

September 11, 2017	YSGA Working Group	Update on GSP development including groundwater monitoring, sustainable management criteria, and scheduling of management area workshops
September 18, 2017	YSGA Board of Directors	General board administrative information and update on GSP development
October 16, 2017	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
October 30, 2017	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
November 13, 2017	YSGA Board of Directors	General board administrative information and update on GSP development
December 14, 2017	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
January 25, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
February 7, 2018	YSGA Working Group	Update on GSP development including groundwater monitoring, sustainable management criteria, and scheduling of management area workshops
March 7, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
March 19, 2018	YSGA Board of Directors	General board administrative information and update on GSP development
April 26, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
May 3, 2018	YSGA Working Group	Update on GSP development including groundwater monitoring, sustainable management criteria, and scheduling of management area workshops
May 29, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
June 18, 2018	YSGA Board of Directors	General board administrative information and update on GSP development
August 2, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
September 17, 2018	YSGA Board of Directors	General board administrative information and update on GSP development
October 23, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
December 11, 2018	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
January 14, 2019	YSGA Board of Directors	General board administrative information and update on GSP development
February 27, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
April 3, 2019	YSGA Working Group	Update on GSP development including groundwater monitoring, sustainable management criteria, and scheduling of management area workshops
April 3, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
April 22, 2019	YSGA Board of Directors	General board administrative information and update on GSP development
June 3, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
June 17, 2019	YSGA Board of Directors	General board administrative information and update on GSP development

July 22, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
August 26, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
September 5, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
September 16, 2019	YSGA Board of Directors	General board administrative information and update on GSP development
October 15, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
November 7, 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
December 10 2019	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
February 18, 2020	YSGA Executive Committee	Public forum on overview of YSGA and update on YSGA activities including GSP development
March 9, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
March 16, 2020	YSGA Board of Directors	General board administrative information and update on GSP development
April 13, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
May 6, 2020	YSGA Working Group	Update from DWR and overview of GSP Development including groundwater monitoring, water budgets, and sustainable management criteria development
May 18, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
June 15, 2020	YSGA Board of Directors	General board administrative information and update on GSP development
July 8, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
August 10, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
September 10, 2020	YSGA Working Group	Update on GSP development including groundwater monitoring, sustainable management criteria, and scheduling of management area workshops
September 14, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
September 21, 2020	YSGA Board of Directors	General board administrative information and update on GSP development
October 29, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development
November 16, 2020	YSGA Board of Directors	General board administrative information and update on GSP development
December 16, 2020	YSGA Executive Committee	Public forum opportunity and update on YSGA activities including GSP development

All applicable meeting materials can be found on the meeting section of the governance portal on the YSGA's website, which is provided in Section 1.4. This portal is used to communicate all information on YSGA's outreach and communication as well as the development and implementation of SGMA. This platform allows interested parties to register to receive updates on upcoming events including board meetings and working group meetings to stay informed of YSGA activities and GSP implementation.

1.5.5.4 Public Comments Received

[Comments will be summarized here with all comments/responses provided in Appendix]

1.6 GSP Organization

The YSGA GSP provides SGMA coverage for all Subbasin lands covered in the management areas. This GSP has been developed in compliance with SGMA law and, as such, is organized as follows:

1. Introduction
2. Basin Setting
3. Sustainable Management Criteria
4. Projects and Management Actions
5. References
6. Attachments

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