

1. AGENCY INFORMATION, PLAN AREA, COMMUNICATION

1.1 Introduction and Agency Information

1.1.1 Purpose of the Groundwater Sustainability Plan

The purpose of this Groundwater Sustainability Plan (GSP) is to meet the regulatory requirements set forth in the three-bill legislative package consisting of Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA defines sustainable groundwater management as “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results,” which are defined by SGMA as any of the following effects caused by groundwater conditions occurring throughout the basin (Department of Water Resources [DWR], 2018a):

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies
- Significant and unreasonable land subsidence that substantially interferes with surface land uses
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

The Wyandotte Creek Groundwater Subbasin (Wyandotte Creek Subbasin) has been identified by DWR as a medium priority basin. The Wyandotte Creek GSP was developed to meet SGMA regulatory requirements by the January 31, 2022, deadline for high and medium priority basins while reflecting local needs and preserving local control over water resources. Requirements for the GSP are provided in California Code of Regulations Title 23, Division 2, Chapter 1.5, Subchapter 2, Article 5. Appendix 1-A provides a checklist of where to find the information required by these regulations.

The Wyandotte Creek GSP provides a path to achieve and document sustainable groundwater management within 20 years following GSP adoption, promoting the long-term sustainability of locally managed groundwater resources now and into the future.

While the Wyandotte Creek GSP offers a new and significant approach to groundwater resource protection, it was developed within an existing framework of comprehensive planning efforts. Throughout the Wyandotte Creek Subbasin, several separate yet related planning efforts have occurred previously or are concurrently proceeding. In November 1996, the voters in Butte County approved “An Ordinance to Protect the Groundwater Resources in Butte County.” One of the stated purposes of the ordinance was that “the groundwater underlying Butte County is a

significant water resource which must be reasonably and beneficially used and conserved for the benefit of the overlying land by avoiding extractions which harm the Butte basin aquifers (includes the Wyandotte Creek Subbasin), causing exceedance of the safe yield or a condition of overdraft.” Other significant reports prepared in the Wyandotte Creek Subbasin include integrated regional water management (IRWM), urban water management, habitat conservation, basin assessment, and general planning. The Wyandotte Creek GSP fits in with these prior planning efforts, building on existing local management and basin characterization. A description of prior planning efforts can be found in Section 1.2.1 of this document.

1.1.2 Sustainability Goal

A sustainability goal is the culmination of conditions resulting in a sustainable condition (absence of undesirable results) within 20 years. The sustainability goal reflects this requirement and succinctly states the GSP’s objectives and desired conditions of the Wyandotte Creek Subbasin.

The sustainability goal for the Wyandotte Creek Subbasin is “to ensure that groundwater is managed to provide a water supply of adequate quantity and quality to support beneficial users of groundwater including but not limited to rural areas and other communities, the agricultural economic base of the region, and environmental resource uses in the Subbasin now and in the future.”

Additional discussion of the sustainability goal can be found in Section 3: Sustainable Management Criteria.

1.1.3 Contact Information

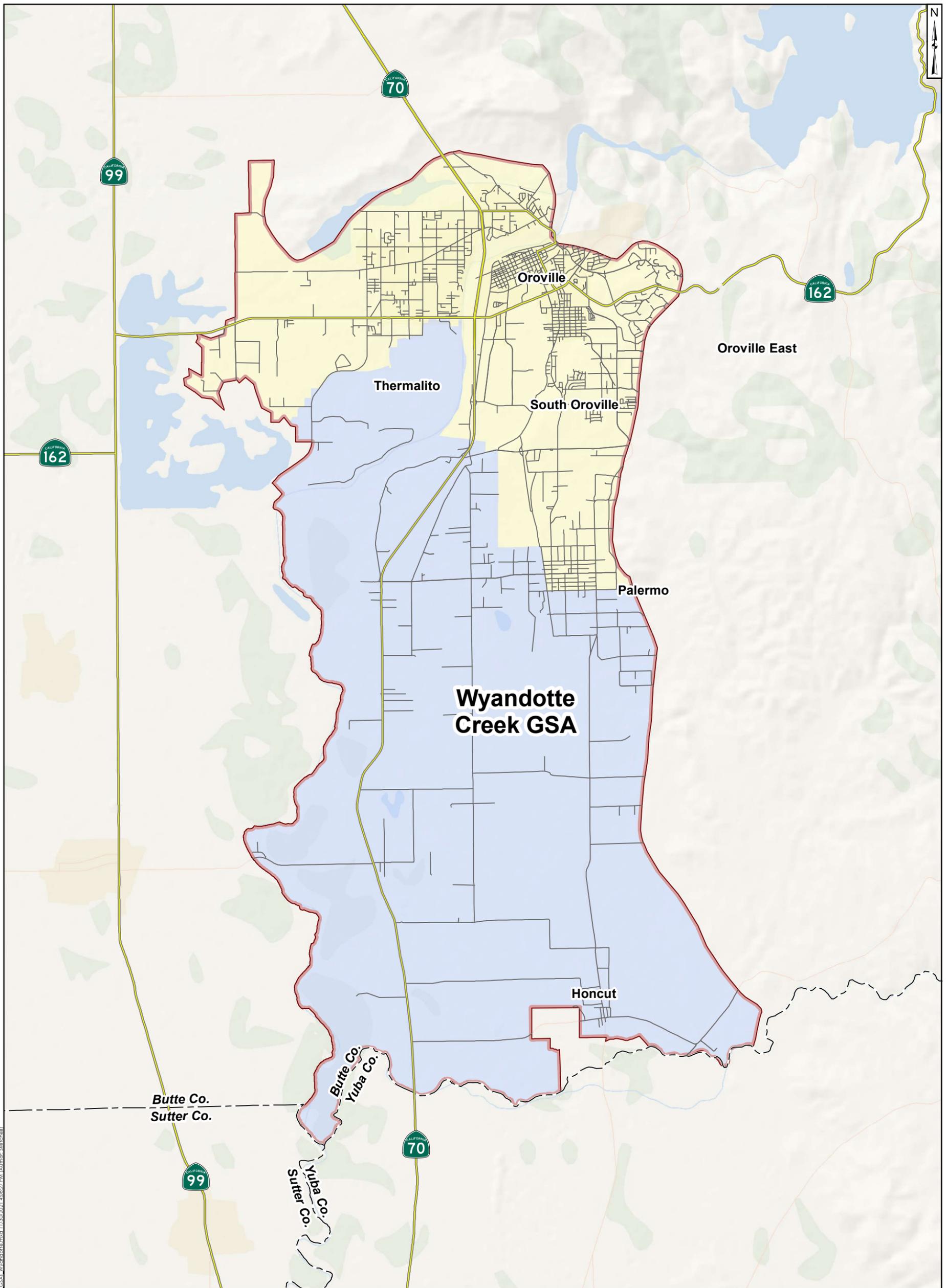
The Wyandotte Creek Groundwater Sustainability Agency (GSA) has been tasked with submitting a single, jointly composed GSP to DWR on behalf of the entire Wyandotte Creek Subbasin. Contact information for the submitting agency and Plan Manager is provided below:

Submitting Agency: Wyandotte Creek Groundwater Sustainability Agency
308 Nelson Avenue
Oroville, California 95965
(530) 552-3591

Plan Manager: Dr. Christina Buck
308 Nelson Avenue
Oroville, California 95965
530.552.3595
cbuck@buttecounty.net

1.1.4 Agency Information

The Wyandotte Creek GSA was formed through the execution of a Joint Powers Agreement (Agreement; Appendix 1-B) by the County of Butte, City of Oroville and Thermalito Water and Sewer District (TWSD; Figure 1-1).



<p>Legend</p> <p>Groundwater Sustainability Agency (GSA)¹ Wyandotte Creek Groundwater Subbasin Management Areas</p> <p>Wyandotte Creek GSA (Red outline)</p> <p>Wyandotte Creek Oroville (Yellow fill)</p> <p>Wyandotte Creek South (Blue fill)</p> <p>Roads²</p> <p>Highways (Thick green line)</p> <p>Other roads (Thin grey line)</p> <p>Boundaries²</p> <p>County boundaries (Dashed black line)</p>		<p>2 1 0 2 Miles</p> <p>Groundwater Sustainability Agencies Wyandotte Creek Subbasin GSP</p> <p>Geosyntec consultants</p> <p>Project No.: SAC282 December 2021</p>		<p>Figure 1-1</p>
<p>Notes:</p> <p>1) California Department of Water Resources (CA DWR).</p> <p>2) TIGER/Line, U.S. Census Bureau.</p>				

PAGE: SAC282 - Butte County Project 1302108 - GSP - Maps - Wyandotte Creek - GSA - Wyandotte Creek - N:\P13 - GSA - Wyandotte Creek - 11/20/2021 4:58:27 PM - Author: Mitchell

The Wyandotte Creek GSA filed to be a GSA on October 24, 2018. The purpose of the Agreement was to create the Wyandotte Creek GSA to 1) to develop, adopt, and implement a GSP for the Wyandotte Creek Subbasin to implement SGMA requirements and achieve the sustainability goals; and 2) involve the public and subbasin stakeholders through outreach and engagement in developing and implementing the GSP. At the heart of the Agreement is the focus to maximize local input and decision-making and address the different water demands and sustainability considerations in the municipal and rural areas of the Wyandotte Creek subbasin.

The Wyandotte Creek GSA Board serves as the policy-making role for SGMA implementation in the Wyandotte Creek subbasin. All GSA Board meetings are subject to the Brown Act and are noticed and open to the public. The GSA Board is composed of five seats, each with equal and full voting rights, including:

1. Butte County – one seat (Member Agency)
2. City of Oroville – one seat (Member Agency)
3. TWSD – one seat (Member Agency)
4. Agricultural groundwater user – one seat (At-large Butte County Appointed Stakeholder)
5. Domestic well user (non-agricultural) – one seat (At large Butte County Board Appointed Stakeholder)

The Wyandotte Creek GSA Board as stated in the Agreement possesses the ability to exercise those powers specifically granted by the Joint Powers Act and SGMA. Additionally, the GSA has the ability to exercise the common powers of its Members related to the purposes of the GSA, including, but not limited to, the following:

- To designate itself as the exclusive GSA for the Wyandotte Creek Subbasin pursuant to SGMA.
- To develop, adopt and implement a GSP for the Wyandotte Creek Subbasin pursuant to SGMA.
- To adopt rules, regulations, policies, bylaws, and procedures governing the operation of the GSA and adoption and implementation of a GSP for the Wyandotte Creek Subbasin.
- To adopt ordinances within the Wyandotte Creek Subbasin consistent with the purpose of the GSA as necessary to implement the GSP and otherwise meeting the requirements of the SGMA.
- To obtain legal, financial, accounting, technical, engineering, and other services needed to carry out the purposes of this Agreement.
- To perform periodic reviews of the GSP including submittal of annual reports.
- To require the registration and monitoring of wells within the Wyandotte Creek Subbasin.

- To issue revenue bonds or other appropriate public or private debt and incur debts, liabilities, or obligations.
- To exercise the powers permitted under Government Code section 6504 or any successor statute.
- To levy taxes, assessments, charges, and fees as provided in SGMA or otherwise provided by law.
- To regulate and monitor groundwater extractions within the Wyandotte Creek Subbasin as permitted by SGMA, provided that this Agreement does not extend to a Member's operation of its systems to distribute water once extracted or otherwise obtained, unless and to the extent required by other laws now in existence or as may otherwise be adopted.
- To establish and administer projects and programs for the benefit of the Wyandotte Creek Subbasin.
- To cooperate, act in conjunction and contract with the United States, the State of California, or any agency thereof, counties, municipalities, special districts, GSAs, public and private corporations of any kind (including without limitation, Public Utilities Commission regulated utilities and mutual water companies), and individuals, or any of them, for any and all purposes necessary or convenient for the full exercise of powers of the GSA.
- To accumulate operating and reserve funds and invest the same as allowed by law for the purposes of the GSA and to invest funds pursuant to California Government Code section 6509.5 or other applicable State Law.
- To apply for and accept grants, contributions, donations, and loans under any federal, state, or local programs for assistance in development or implementing any of its projects or programs for the purposes of the GSA.
- To acquire by negotiation, lease, purchase, construct, hold, manage, maintain, operate, and dispose of any buildings, property, water rights, works or improvements within and without the respective boundaries of the Members necessary to accomplish the purposes described herein.
- To sue and be sued in the GSA's own name.
- To exercise the common powers of its Members to develop, collect, provide, and disseminate information that furthers the purposes of the GSA, including but not limited to the operation of the GSA and adoption and implementation of a GSP for the Wyandotte Creek Subbasin, to the Members' legislative, administrative, and judicial bodies, as well as the public generally.
- To perform all other acts necessary or proper to carry out fully the purposes of this Agreement.

The Wyandotte Creek GSA Board aspires to seek consensus. If the Wyandotte Creek GSA Board cannot reach consensus, the Wyandotte Creek GSA Board defaults to the following voting structure.

- Quorum: A majority of the members of the Wyandotte Creek GSA Board members shall constitute a quorum for purposes of transacting business.
- Director Votes: Each member of the Wyandotte Creek GSA Board shall have one vote.
- Supermajority Voting Requirement (four affirmative votes) for the following:
 1. Bylaws adoption, modification or alteration
 2. GSP adoption, modification, alteration
 3. Adoption of assessment, charges and fees
 4. Adoptions of regulations and ordinances
 5. Adoption or modification of annual budget, including capital projects
 6. Property acquisition (excepting rights of way)
 7. Removal of Advisory Committee Members
 8. Modifications to the composition and number of Advisory Committee Members
 9. Removal of stakeholder board seats as is consistent with the Agreement

The Wyandotte Creek GSA Board does not have the authority to limit or interfere with the respective Member Agency's rights and authorities over their own internal matters, including, but not limited to, legal rights to surface water supplies and assets, groundwater supplies and assets, facilities, operations, water management and water supply matters. The Member Agencies made no commitments by entering into the Agreement to share or otherwise contribute their water supply assets as part of the development or implementation of a GSP. Nothing in the Agreement modifies or limits a Member Agency's police powers, land use authorities, or any other authority. The Member Agencies cooperate to obtain consulting, administrative and management services needed to efficiently develop a GSP and to identify mechanisms for the management and funding commitments reasonably anticipated to be necessary for the purposes of this Agreement.

Each Member Agency (Butte County, City of Oroville and TWSD) designates a staff person (in-kind support) to participate on the Wyandotte Creek GSA Management Committee. The Management Committee receives direction from the Wyandotte Creek GSA Board, makes recommendations and generates staff reports and proposals to the Wyandotte Creek GSA Board. The Management Committee staffs the Advisory Committee and reports to the Wyandotte Creek GSA Board. The Management Committee assures that staff and other resources are provided to prepare the GSP and administer the governance for the Wyandotte Creek GSA.

The Wyandotte Creek GSA does not and will not have any employees. However, the Wyandotte Creek GSA has the power to employ consultants to fulfill the objectives and purposes of SGMA and complete a GSP. Butte County is leading the development of technical aspects of the GSP

including contracting for professional services in coordination with the Management Committee and the Wyandotte Creek GSA Board. The Management Committee may form ad hoc technical working groups to provide input on technical matters pertaining to the GSP. Preparation of the Wyandotte Creek GSP and carrying out governance requires various administrative activities such as meeting management, website development and maintenance, public outreach and communication.

The Wyandotte Creek Advisory Committee (WAC) provides input and recommendations to Wyandotte Creek GSA Board on GSP development and implementation as well as other items outlined in their Charter. At the time of GSP submittal, the Advisory Committee members included:

- California Water Service (Cal Water) – One representative
- Tribal representative(s) – Vacant
- South Feather Water and Power Agency(SFWPA) – One representative
- At-large agricultural groundwater users – Three representatives
- At-large domestic well users – Vacant
- At-large environmental – Vacant
- At-large business – Vacant

The Wyandotte Creek GSA Board appointed at-large members to fill Advisory Committee seats. Interested individuals from the community or organizations applied to the Wyandotte Creek GSA. At-large members must live, farm or be employed by a firm operating in the Wyandotte Creek subbasin. To inform the Wyandotte Creek GSA Board and assist in decision-making, the Advisory Committee provides recommendations that were included in Management Committee reports. The recommendations identified areas of agreement and disagreement. The Advisory Committee strived for consensus when possible, but reaching consensus is not necessary. Consensus means that everyone can at least “live with” the recommendation. When unable to reach consensus on recommendations, the Advisory Committee outlined the areas in which it does not agree, providing some explanation to inform the Wyandotte Creek GSA Board decision-making. The Wyandotte Creek GSA Board considered Advisory Committee recommendations when making decisions. If that Board does not agree with the recommendations of the Advisory Committee, the Wyandotte Creek GSA Board states the reasons for its decision. The Advisory Committee is staffed by one member of each of the Member Agencies. All Advisory Committee meetings are subject to the Brown Act and are noticed and open to the public.

1.2 Groundwater Sustainability Plan Area

This section provides a detailed description of the Wyandotte Creek Subbasin, including major streams and creeks, institutional entities, agricultural and urban land uses, locations of groundwater wells, and locations of state lands. The GSP Area document also describes existing surface water and groundwater monitoring programs, existing water management programs, and general plans in the GSP Area.

1.2.1 Summary of Jurisdictional Areas and Other Features

The Wyandotte Creek Subbasin falls within the larger Sacramento Valley Groundwater Basin (Figure 1-2). Basin designations by DWR were first published in 1952 in Water Quality Investigations Report No. 3, Ground Water Basins in California, and subsequently updated in Bulletin 118 in 1975, 1980, 2003 and draft update in 2020. As shown in Figure 1-3, the Wyandotte Creek Subbasin (Bulletin 118 Basin Number 5-021.69) is bordered to the north by the Vina Subbasin (Bulletin 118 Basin Number 5-021.57), the Butte Subbasin (Bulletin 118 Basin Number 5-021.70) to the west; to the south by the North Yuba Subbasin (Bulletin 118 Basin Number 5-021.60) and Sutter Subbasin (Bulletin 118 Basin Number 5-021.62); and to the east by the Sierra Nevada geomorphic province.

The Wyandotte Creek Subbasin is located within Butte County. Geologic units in the Wyandotte Creek Subbasin consist of consolidated rocks and unconsolidated deposits as discussed in detail in Section 2. No adjudicated areas or areas covered by an alternative to a GSP exist within the Wyandotte Creek Subbasin.

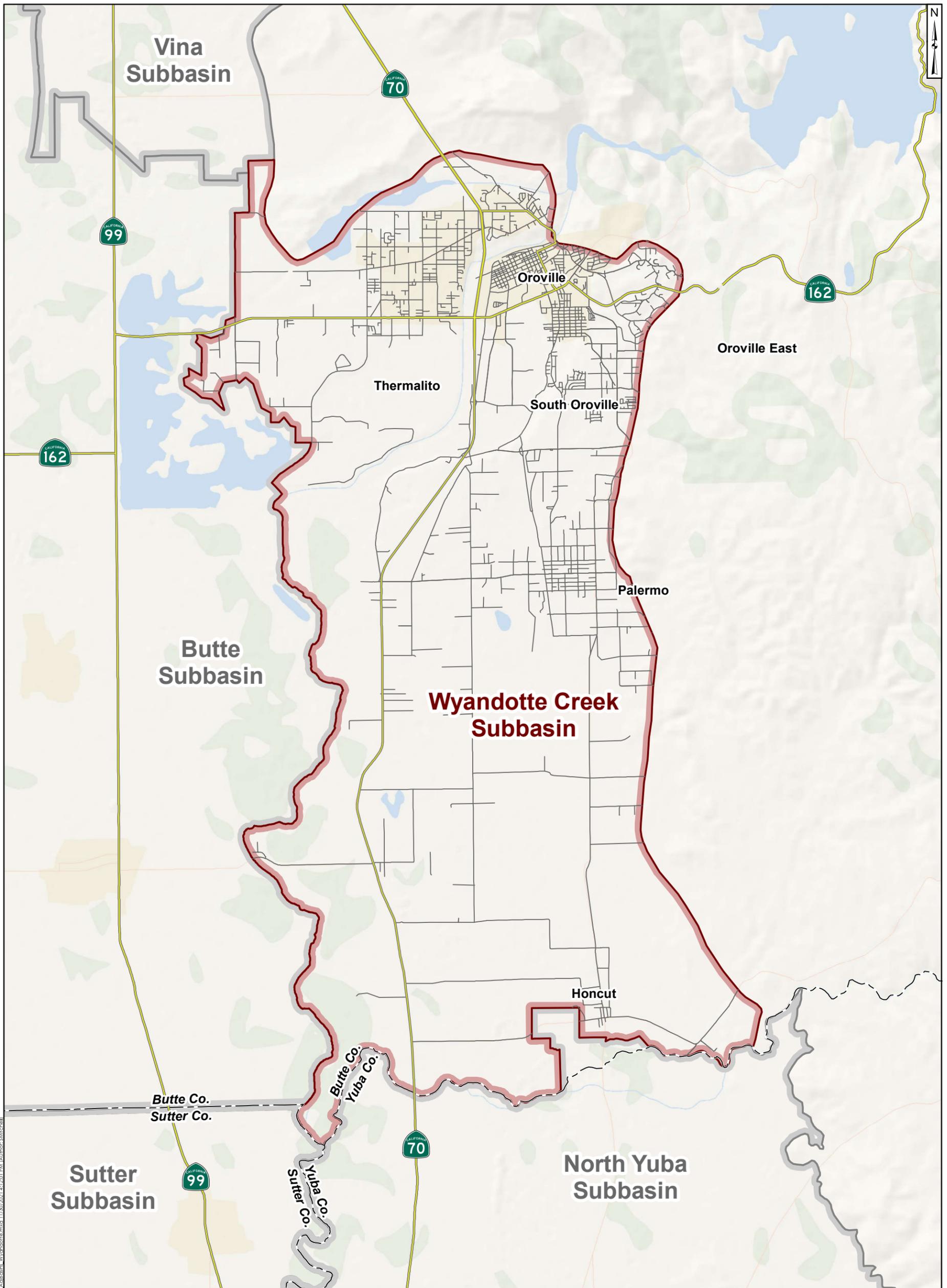
Figure 1-4 shows the Wyandotte Creek Subbasin's key geographic features. The Wyandotte Creek Subbasin encompasses an area of about 59,382 acres. There are two entities within the Wyandotte Creek Subbasin with land use jurisdiction: Butte County and the City of Oroville.

Figure 1-5 shows the tribal areas within in the Wyandotte Creek Subbasin that includes portions of the Berry Creek Off-Reservation Trust Land, Mooretown Off-Reservation Trust Land, and Mooretown Rancheria. Figure 1-6 shows the spatial extent of Disadvantaged Communities (DACs) and Severely Disadvantaged Communities (SDACs) in the Wyandotte Creek Subbasin. DWR defines DACs as census geographies (census tracts, census block groups, and census-designated places) with an annual median household income (MHI) that is less than 80% of the statewide annual MHI. SDACs are defined as census geographies with an MHI less than 60% of the statewide annual MHI. DWR uses the most recently available 5-year American Community Survey (ACS) dataset to identify these areas. For this GSP, the 2012-2016 ACS dataset was used, establishing statewide MHI as \$63,783 (CA DWR, Mapping Tools).

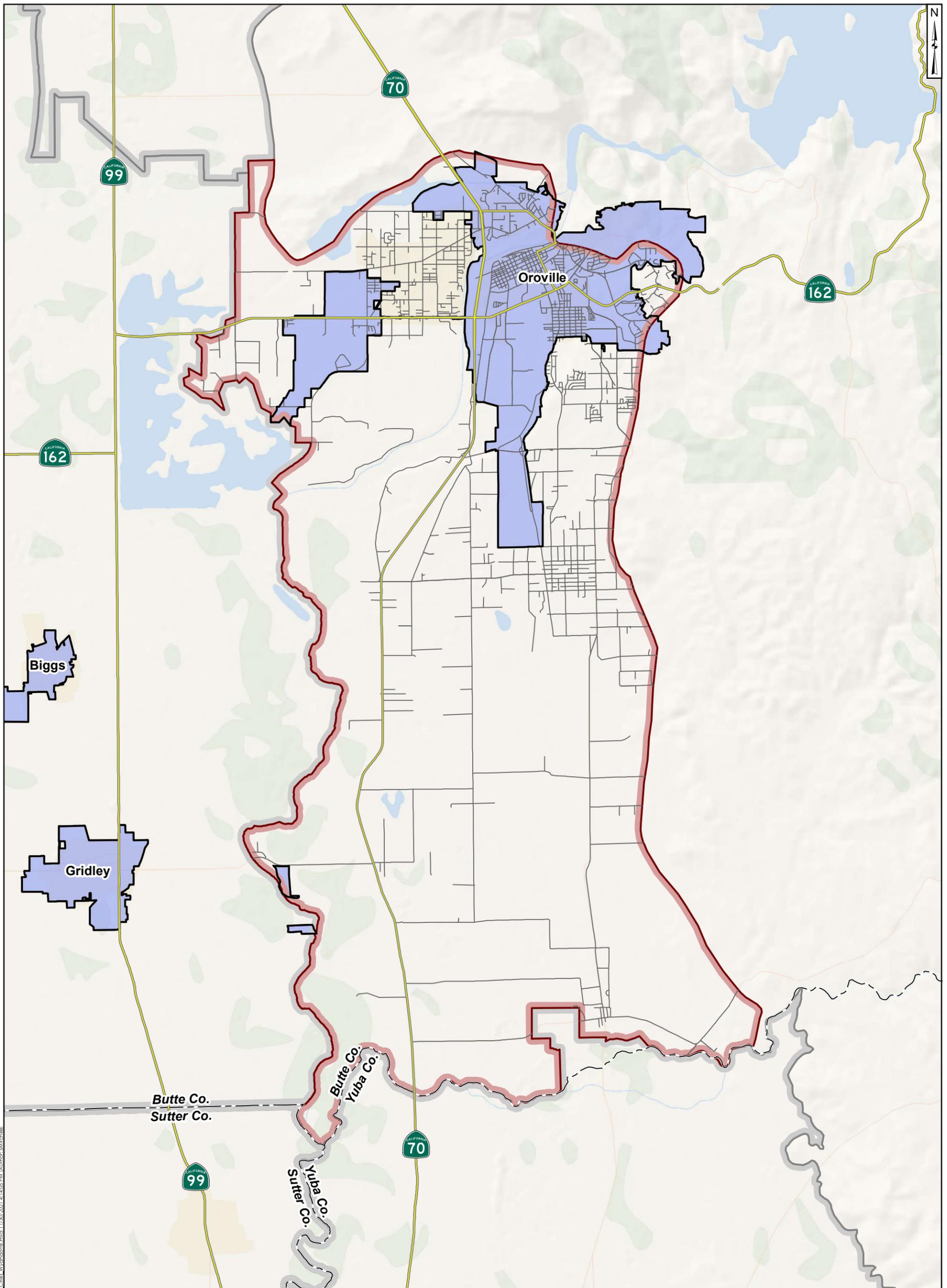
Figure 1-7 shows a map of land use in the Wyandotte Creek Subbasin across four general categories: cropland, industrial, undeveloped, and urban. These categories were mapped based on categories provided by 2015 land use from the United States Department of Agriculture's (USDA) CropScape 2015 dataset.

Land use patterns in the Wyandotte Creek Subbasin are dominated by agricultural uses, including nut and fruit trees, vineyards, row crops, grazing, and forage. Throughout the Wyandotte Creek Subbasin both agricultural and urban land use rely on a combination of surface water and groundwater. Land use is primarily controlled by local agencies. Land use patterns in the low foothills to the east are dominated by native vegetation and unirrigated pasture lands (USDA, 2020).

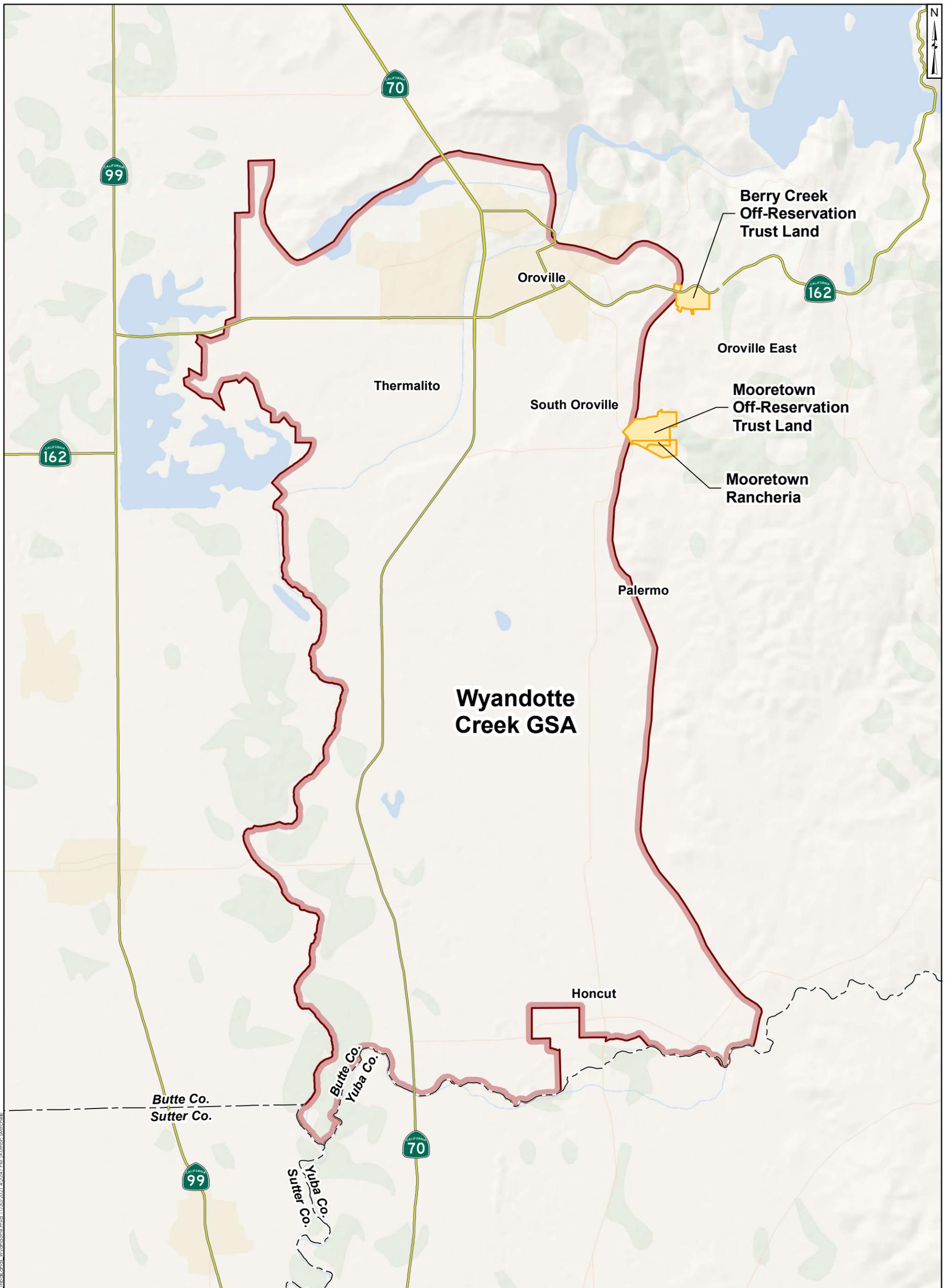
Crop type varies by region, with fruit and nut trees and rice fields comprising the majority of agriculture in the Wyandotte Creek Subbasin (Figure 1-8). Figure 1-9 shows a map with boundaries of federal and state public lands within the region that includes the Wyandotte Creek Subbasin.



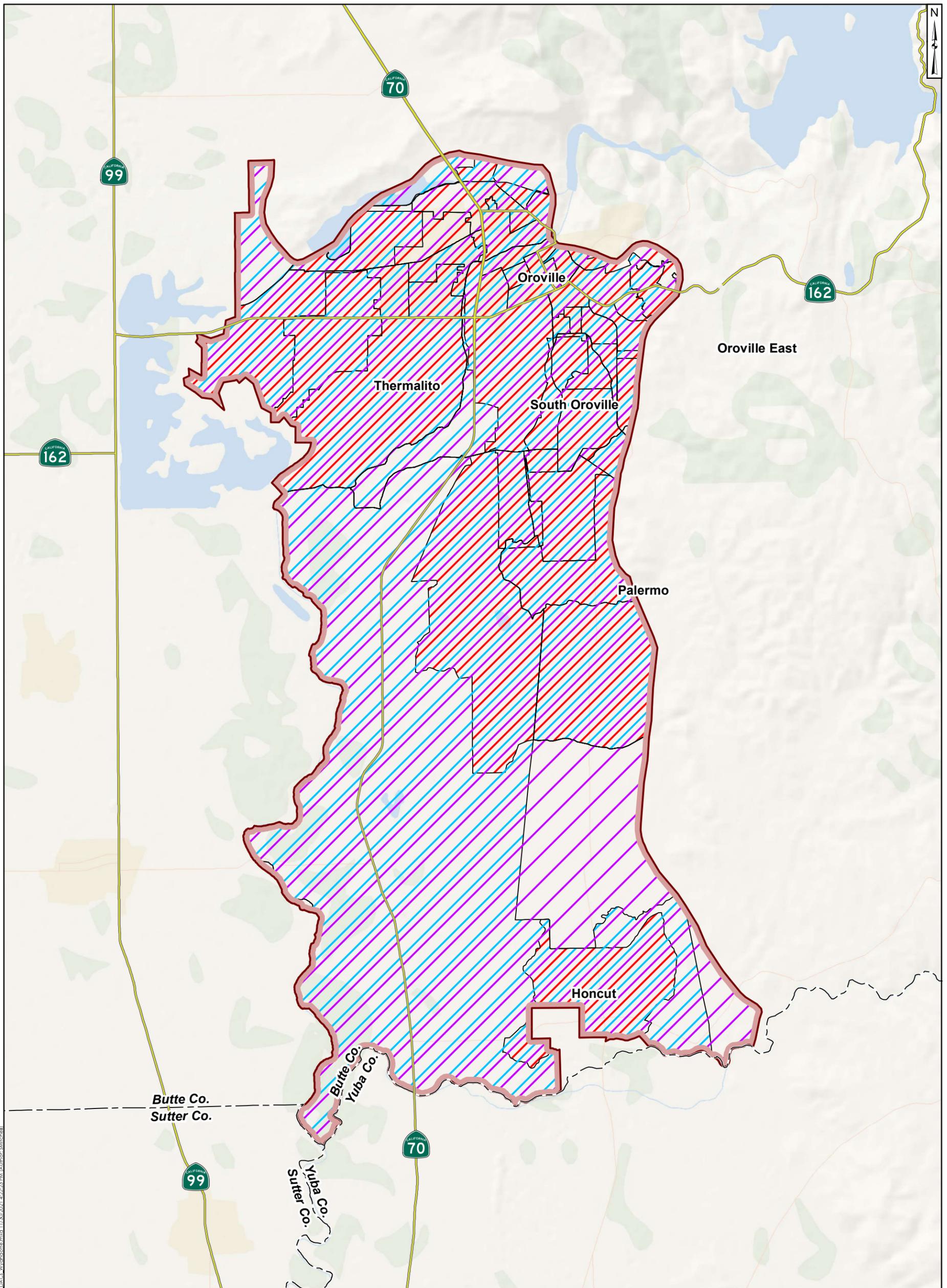
Legend Groundwater Subbasins¹ Wyandotte Creek Subbasin Neighboring Subbasins		Roads² Highways Other roads		Boundaries² County boundaries			
Neighboring Groundwater Subbasins Wyandotte Creek Subbasin GSP							
Notes: 1) California Department of Water Resources (CA DWR). 2) TIGER/Line, U.S. Census Bureau.				Project No.: SAC282		December 2021	
Figure 1-3							



<p>Legend</p> <ul style="list-style-type: none">  Incorporated cities²  Wyandotte Creek Groundwater Subbasin  Neighboring Subbasins  Roads²  Highways  Other roads  Boundaries²  County boundaries 		<p>2 1 0 2 Miles</p> 	
<p>Cities Wyandotte Creek Subbasin GSP</p>		<p>Geosyntec consultants</p>	
<p>Notes: 1) California Department of Water Resources (CA DWR). 2) TIGER/Line, U.S. Census Bureau.</p>		<p>Project No.: SAC282</p>	<p>December 2021</p>
			<p>Figure 1-4</p>

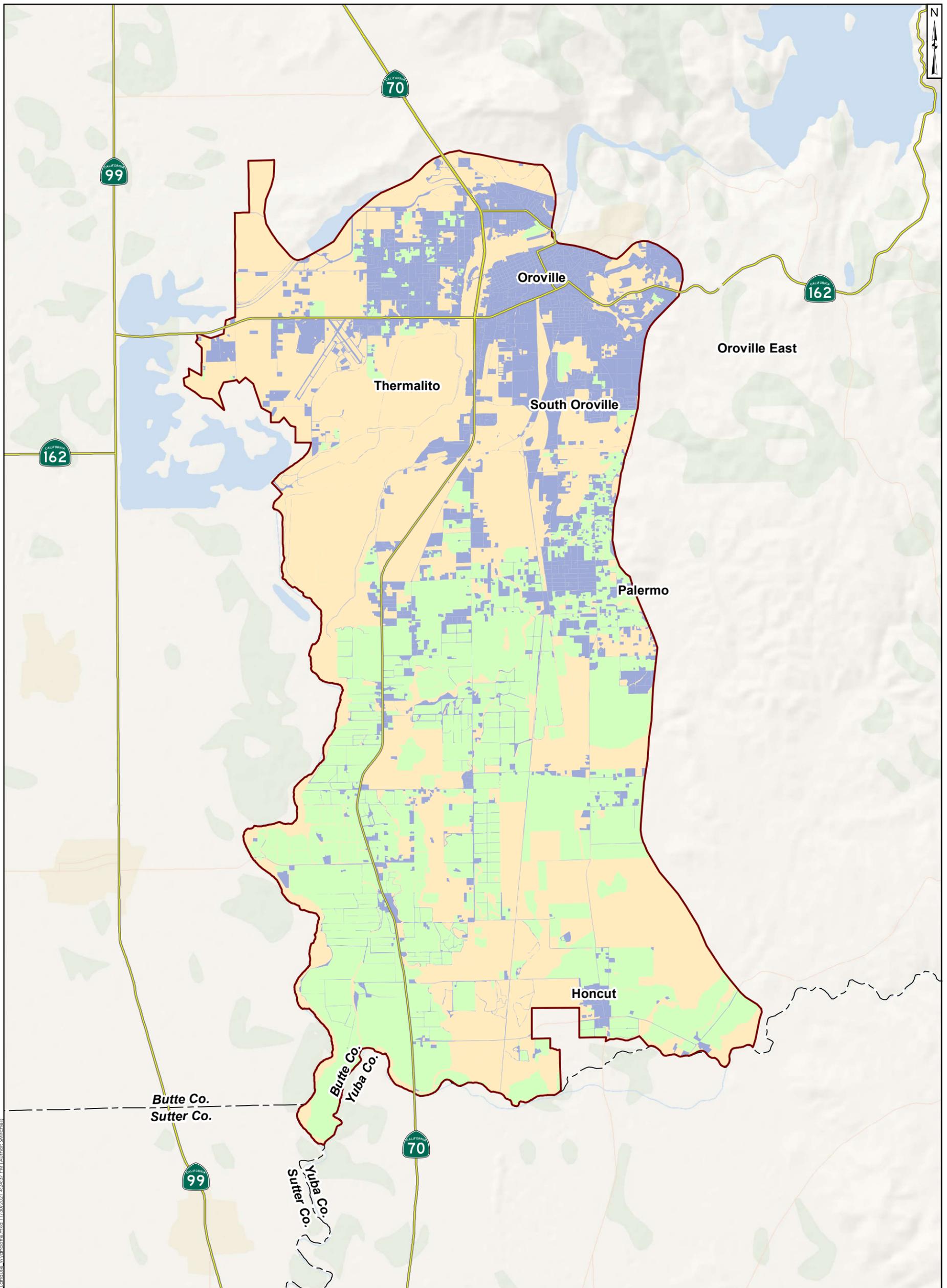


<p>Legend</p> <ul style="list-style-type: none">  Wyandotte Creek Subbasin¹  Tribal Designated Statistical Areas (TDSAs)  Roads²  Highways  Boundaries²  County boundaries 		<p>2 1 0 2 Miles</p> 	
<p>Notes:</p> <ol style="list-style-type: none"> 1) California Department of Water Resources (CA DWR). 2) TIGER/Line, U.S. Census Bureau. 		<p>Tribal Areas Wyandotte Creek Subbasin GSP</p>	
		<p>Geosyntec consultants</p>	
		<p>Project No.: SAC282</p>	<p>December 2021</p>
			<p>Figure 1-5</p>



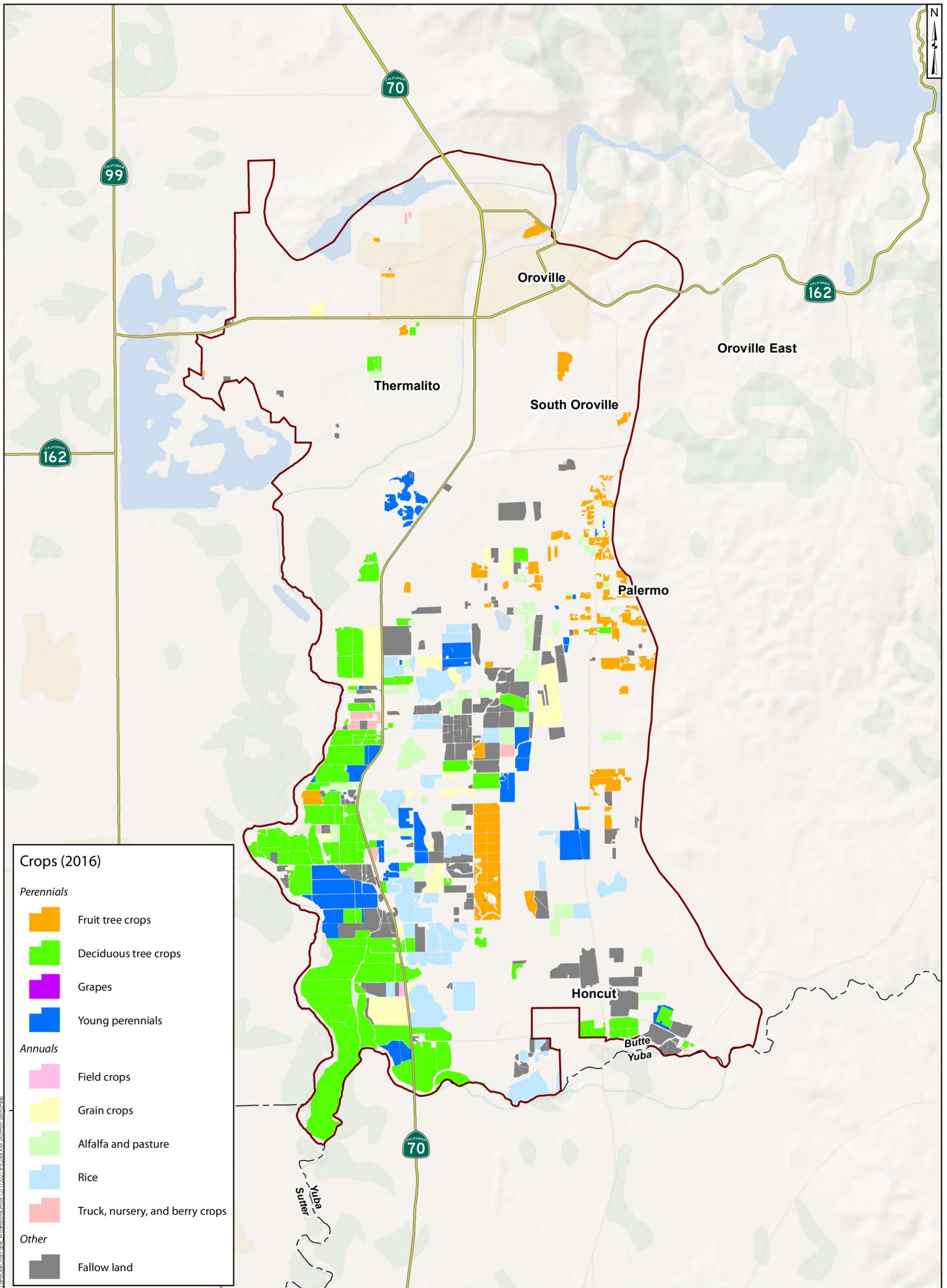
<p>Legend</p> <ul style="list-style-type: none"> Wyandotte Creek Subbasin¹ Roads² Disadvantaged Communities (2018)² <ul style="list-style-type: none"> By census tract By block group By place Highways Boundaries² <ul style="list-style-type: none"> County boundaries 		<p>2 1 0 2 Miles</p>	
<p>Disadvantaged Communities (2018) Wyandotte Creek Subbasin GSP</p>		<p>Geosyntec consultants</p>	
<p>Notes: 1) California Department of Water Resources (CA DWR). 2) TIGER/Line, U.S. Census Bureau.</p>		<p>Project No.: SAC282</p>	<p>December 2021</p>
			<p>Figure 1-6</p>

PAGE: SAC282 - Butte County Project 1302108 - GSP - Maps - Wyandotte Creek - N.Final - D:\CS - Wyandotte.mxd 11/30/2021 4:22:23 PM Avilator, Mitchell



<p>Legend</p> <p> Wyandotte Creek Subbasin¹ Roads² </p> <p> Land Use Agricultural areas Developed areas Other land use </p> <p> Highways Boundaries² County boundaries </p>		<p>2 1 0 2 Miles</p>	
<p>Notes:</p> <p>1) California Department of Water Resources (CA DWR). 2) TIGER/Line, U.S. Census Bureau.</p>		<p align="center"> Land Use Wyandotte Creek Subbasin GSP </p> <p align="center"> </p>	
		<p>Project No.: SAC282</p>	<p>December 2021</p>
			<p>Figure 1-7</p>

PAGE: SAC282 - Butte County Project 1302108 - GSP - Maps - Wyandotte Creek - Land Use - Logfile - 11/30/2021 4:24:57 PM (Author: Mitchell)



Crops (2016)

Perennials

- Fruit tree crops
- Deciduous tree crops
- Grapes
- Young perennials

Annuals

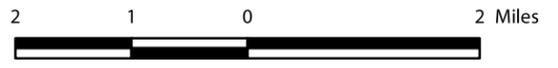
- Field crops
- Grain crops
- Alfalfa and pasture
- Rice
- Truck, nursery, and berry crops

Other

- Fallow land

Legend

- Wyandotte Creek Subbasin¹
- Roads*
- Highways²
- Boundaries*
- County boundaries²



Land Use by Crop Type
Wyandotte Creek Subbasin GSP



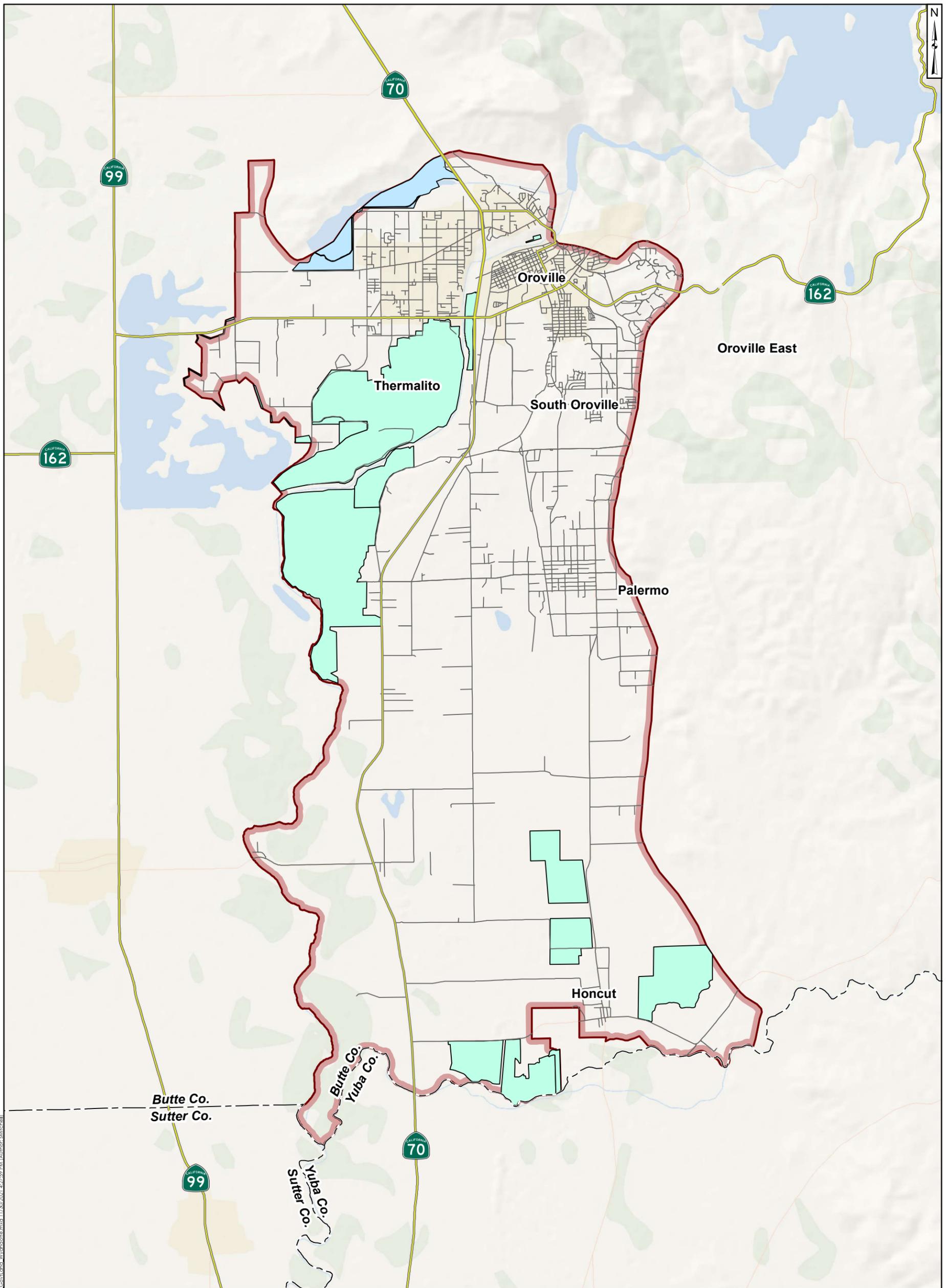
Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.

Project No.: SAC282

December 2021

Figure
1-8

PAGE: SAC282 - Butte County Project 1202108 - GSP - Maps - Wyandotte - 12/17/2021 10:52:48 AM - Author: SMitchell



Legend Wyandotte Creek Subbasin ¹ California Dept. of Fish and Wildlife lands ² California State Parks ³ Highways Other roads Boundaries ⁴ County boundaries			
Notes: 1) California Department of Water Resources (CA DWR). 2) California Department of Fish and Wildlife (CDFW). 3) California Department of Parks and Recreation (CDPR). 4) TIGER/Line, U.S. Census Bureau.		State and Federal Lands Wyandotte Creek Subbasin GSP Project No.: SAC282 December 2021	
			Figure 1-9

Figure 1-10 to Figure 1-13 shows the density of domestic, public, industrial, and irrigation wells per square mile in the Wyandotte Creek Subbasin, as classified by the DWR Online System for Well Completion Reports (OSWCR), which is discussed in Section 1.3.5. Though there are overlaps and discrepancies in the designation of wells, domestic wells are largely private residential wells, public wells are municipal operated wells, and production wells are for irrigation, municipal, public, and industrial purposes (DWR, 2019b). Areas with few wells exist in the Wyandotte Creek Subbasin as shown in Figures 1-10 through 1-13. Wells containing groundwater level data are described further in Section 1.3.5. Community water systems, as defined by the State Water Resources Control Board (SWRCB), are wells serving 15 or more connections or more than 25 people per day.

Figure 1-14 shows locations of major rivers, streams, and creeks within the Wyandotte Creek Subbasin. The Feather River enters the subbasin in the northeast and then borders the subbasin on its western side. Other large surface water bodies bordering the subbasin include components of the Oroville Reservoir Complex including the Forebay and Thermalito Afterbay. The North, Middle, West, and South Forks of the Feather River originate outside the subbasin and together supply water to Lake Oroville with a portion of flow routed through the Thermalito Forebay and Afterbay facilities to generate hydropower and deliver irrigation water supply to the Butte Subbasin, with the remaining water returning to the Feather River. The Feather River serves as a source of municipal and irrigation supply in the subbasin through diversions by the TWSD and SFWPA.

Smaller local or ephemeral streams entering and traversing the subbasin include North Honcut Creek, Wyandotte Creek, Wyman Ravine and numerous unnamed waterways.

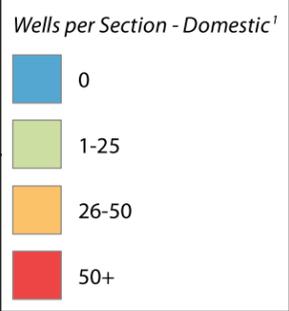
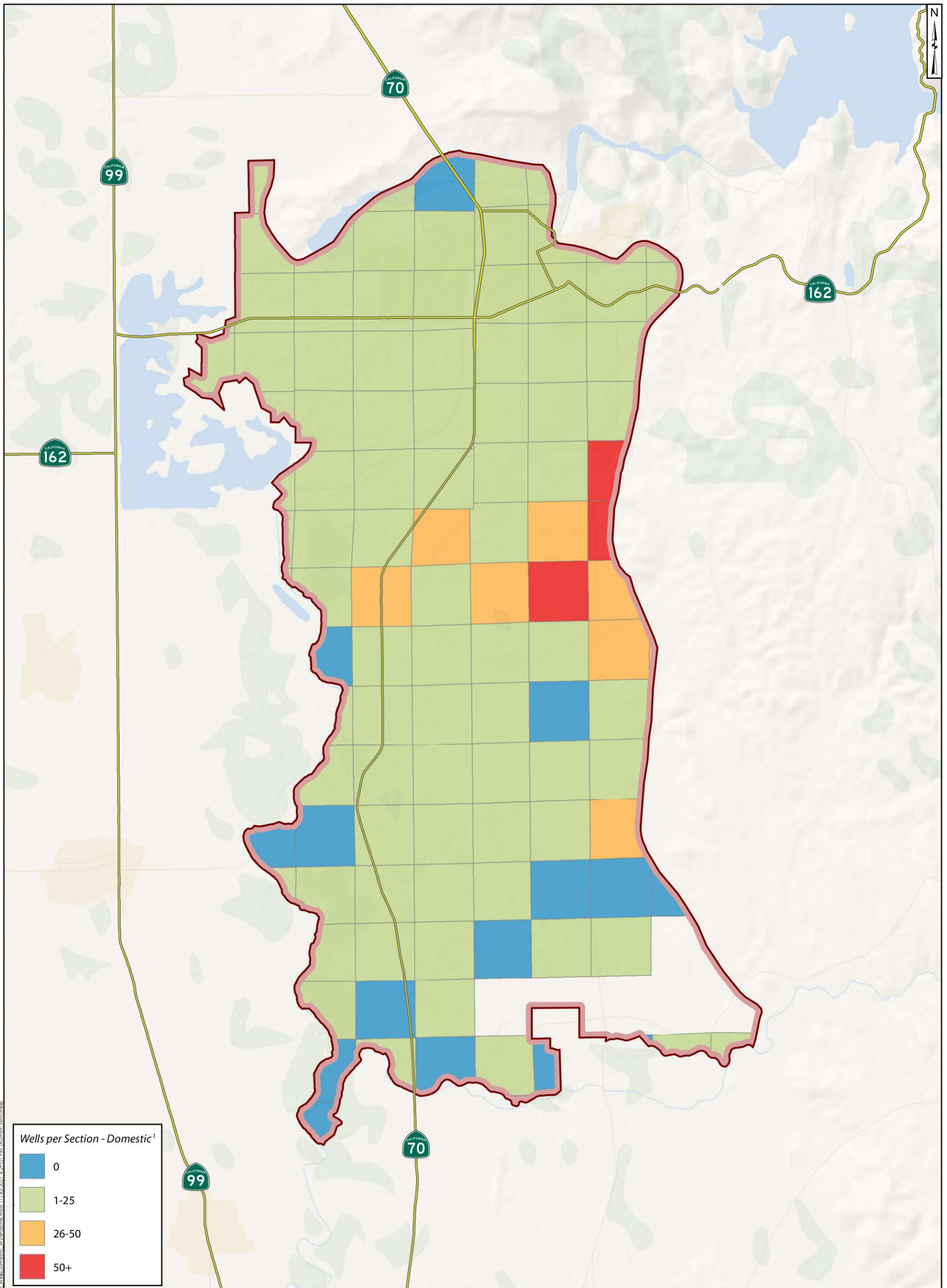
1.2.2 Management Areas

A Management Area (MA) refers to an area within a basin for which a GSP may identify different minimum thresholds (MTs), measurable objectives (MOs), monitoring, and projects and actions based on unique local conditions or other circumstances as described in the GSP regulations. The GSP must describe each MA, including rationale for approach and demonstrate it can be managed without causing undesirable results within or outside the MA. Two MAs, Wyandotte Creek Oroville and Wyandotte Creek South (Figure 1-1) are defined in the Wyandotte Creek Subbasin by the joint powers agreement forming the Wyandotte Creek GSA.

1.2.2.1 Definition and Reason for Creation

The Wyandotte Creek Oroville MA encompasses the area that overlies the municipal area within and adjacent to the City of Oroville. The Wyandotte Creek South MA overlies the areas of the Wyandotte Creek Subbasin south of the City of Oroville. The Wyandotte Creek GSA is the exclusive GSA for these two MAs.

Although all stakeholders have a shared interest in sustainable management of groundwater in this predominantly groundwater dependent subbasin, the landscape of beneficial users varies between MAs. Wyandotte Creek Oroville is predominantly an urban area with Cal Water providing groundwater supplies for residential and municipal use. To a very limited extent, private domestic wells provide the primary source of water to households or in some cases provide a secondary supply for outdoor water use. The Feather River enters the subbasin in the northeast and crosses this MA through the central portion.



Legend

- Wyandotte Creek Subbasin¹
- Roads**
- Highways²



Density of Domestic Wells per Section
Wyandotte Creek Subbasin GSP



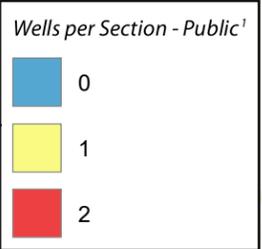
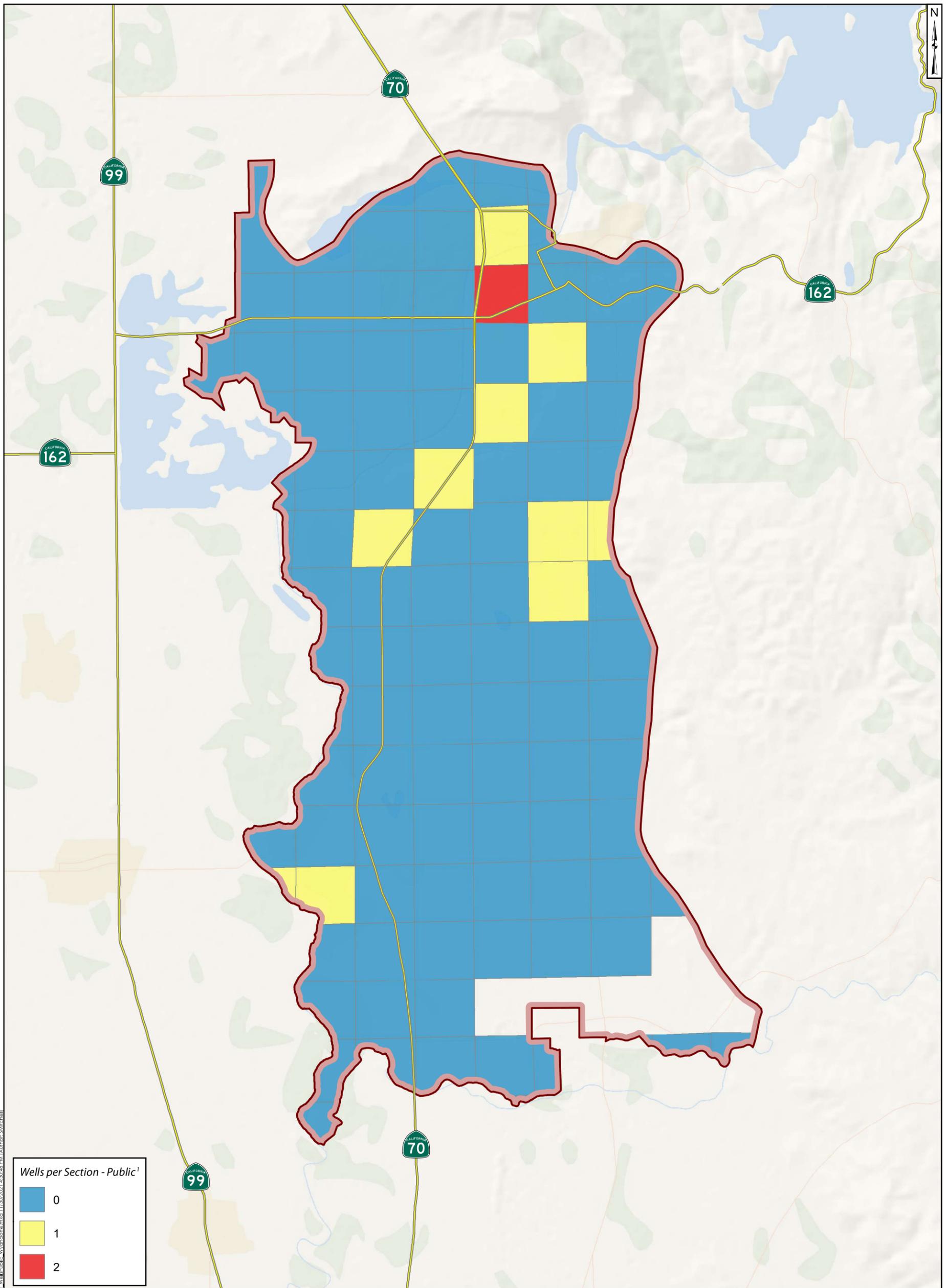
Figure
1-10

Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.

Project No.: SAC282

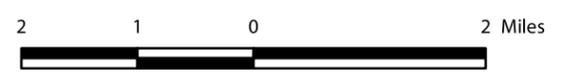
December 2021

PAGE: SAC282 - Butte County Project 1302108 - GSP - Maps - Wyandotte Creek - 11/25/2021 4:29:50 PM - Avilon - SWI/peh



Legend

- Wyandotte Creek Subbasin¹
- Roads²
- Highways



Density of Public Wells per Section
Wyandotte Creek Subbasin GSP



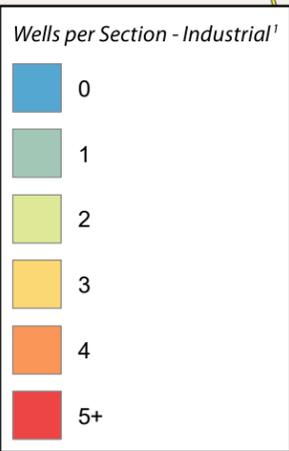
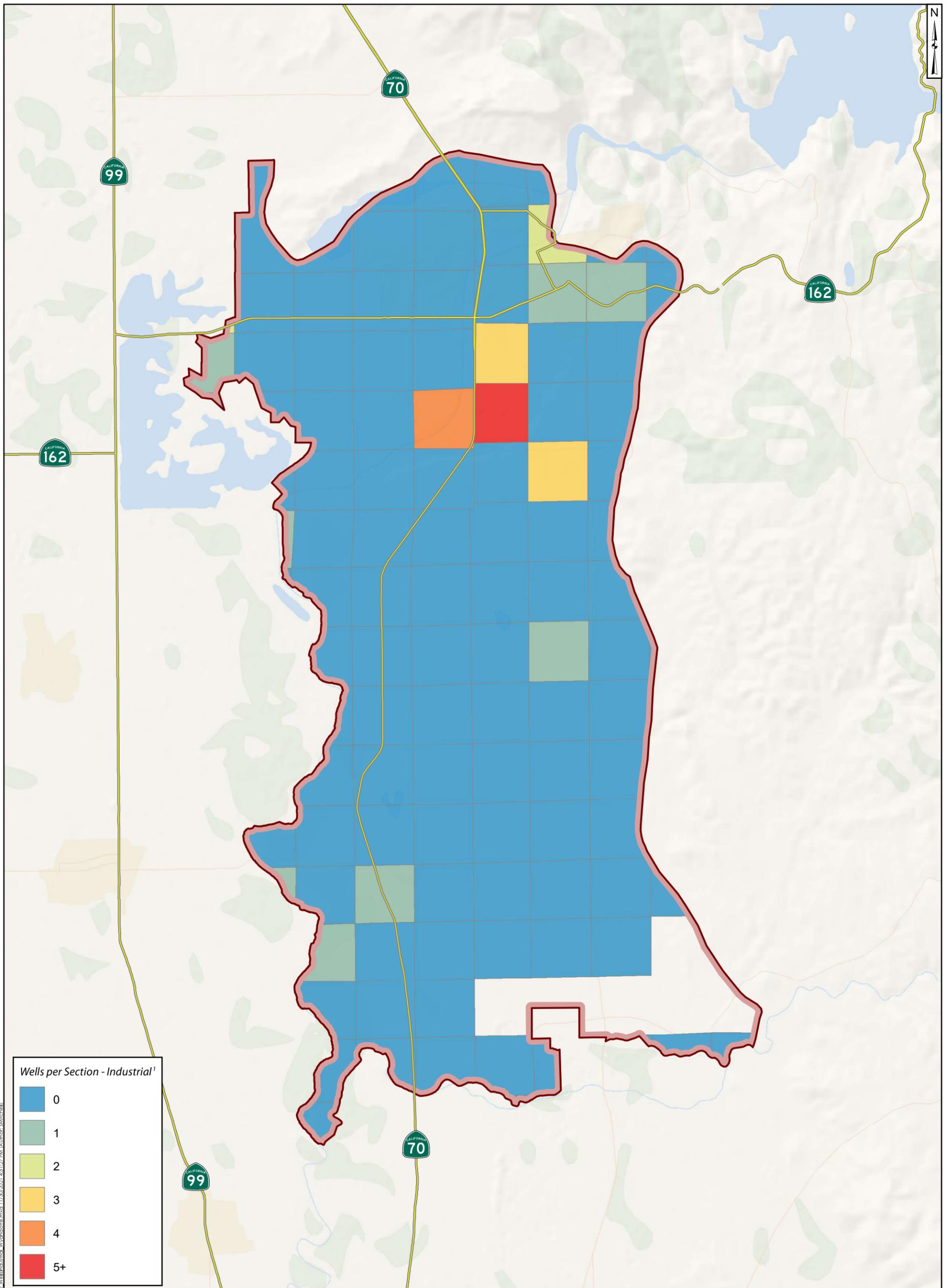
Figure
1-11

Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.

Project No.: SAC282

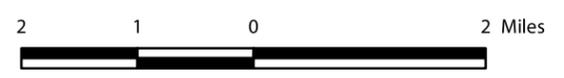
December 2021

PAGE: SAC282 - Butte County Project 1302108 - GSP - Maps - Wyandotte Creek Subbasin - 11/23/2021 4:30:48 PM - Author: SMitchell



Legend

-  Wyandotte Creek Groundwater Subbasin¹
-  Roads²
-  Highways



Density of Industrial Wells per Section
Wyandotte Creek Subbasin GSP



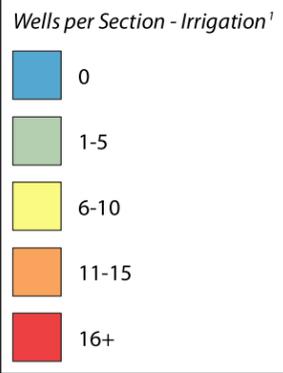
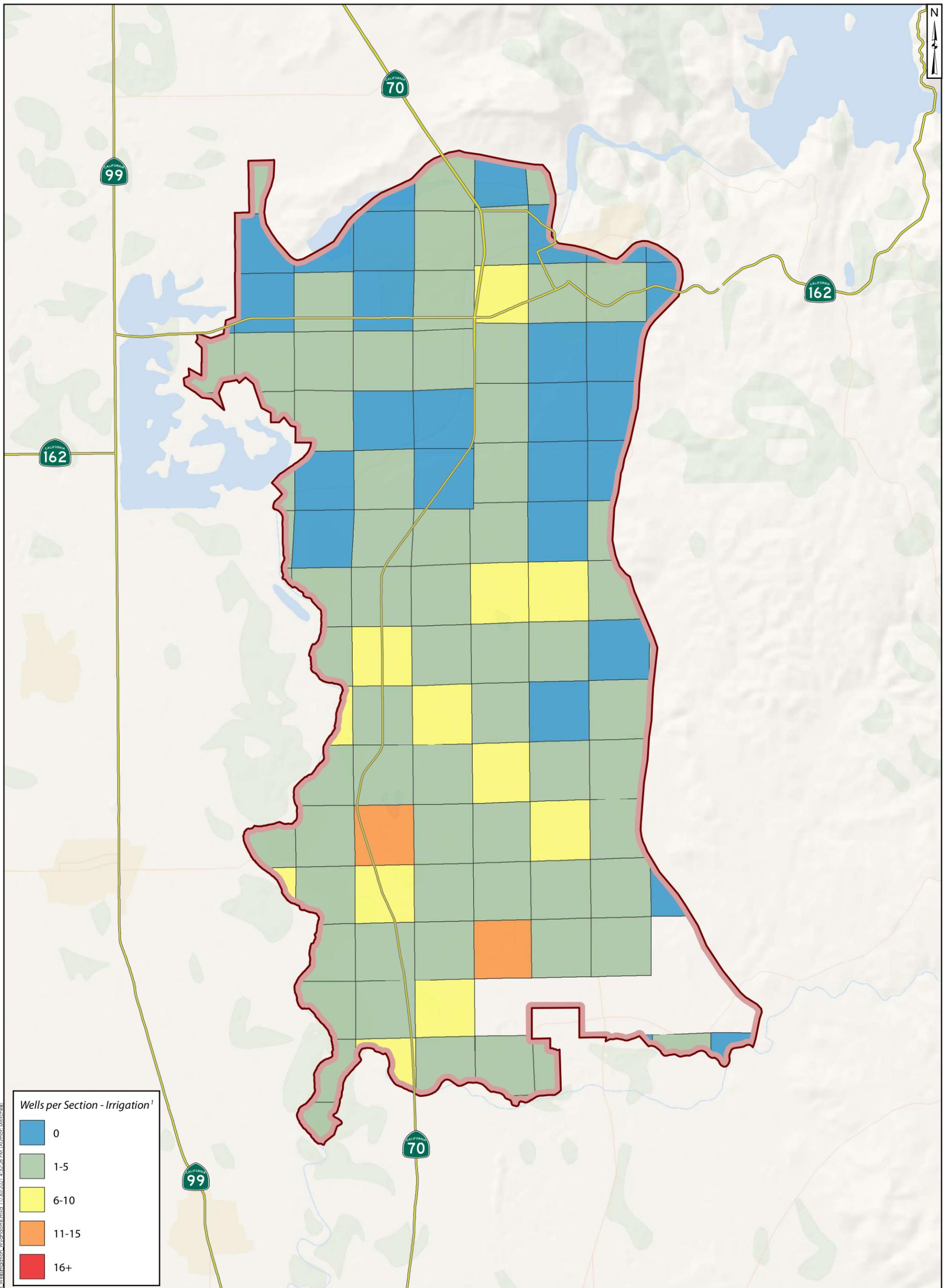
Figure
1-12

Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.

Project No.: SAC282

December 2021

PAGE: SAC282 - Butte County Project 1202108 - GSP - Maps - Wyandotte Creek - 11/29/2021 4:51:27 PM - Author: SMiscell



Legend

-  Wyandotte Creek Subbasin¹
- Roads²**
-  Highways



Density of Irrigation Wells per Section
Wyandotte Creek Subbasin GSP

Geosyntec
consultants

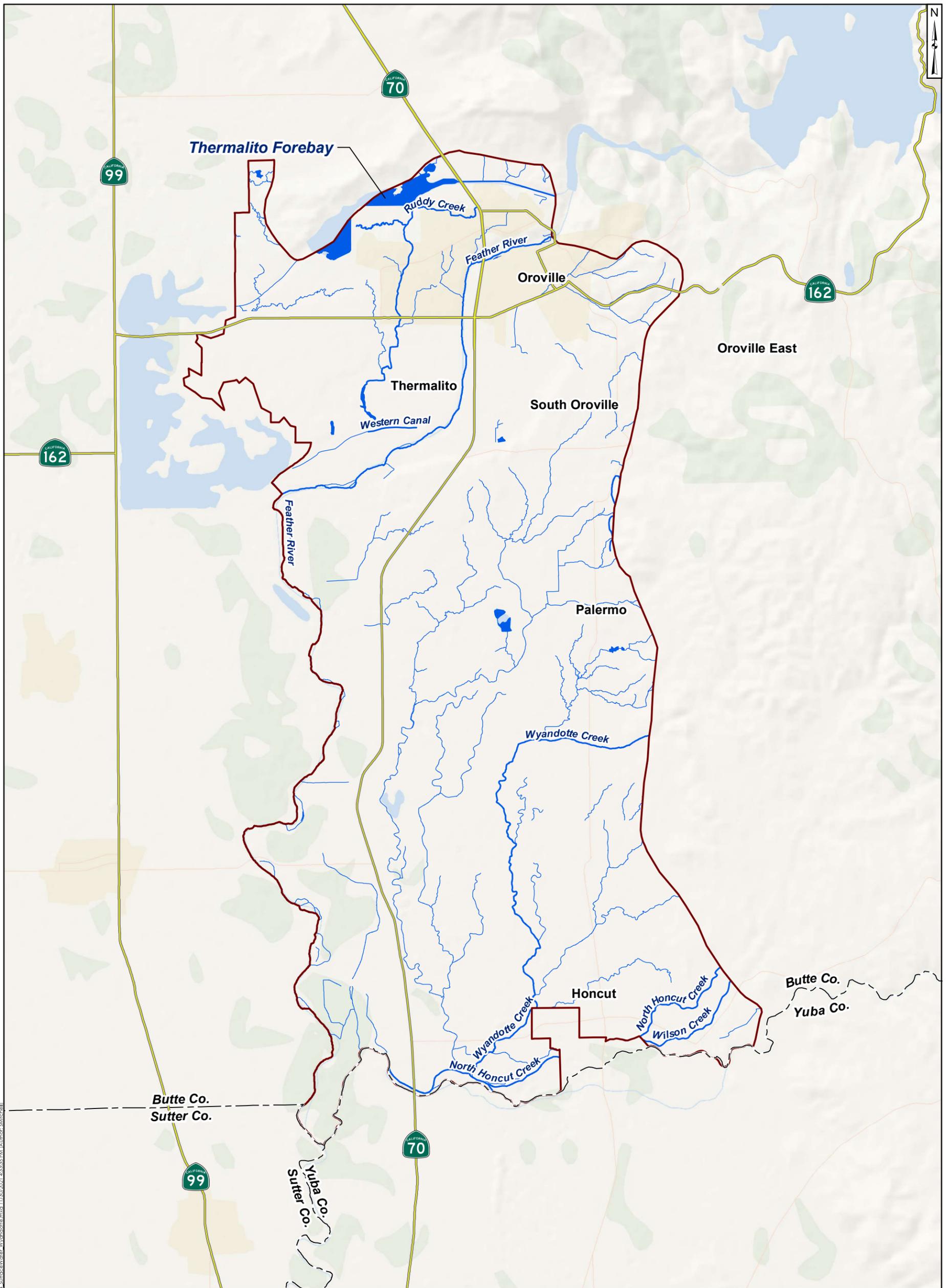
Figure
1-13

Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.

Project No.: SAC282

December 2021

PAGE: SAC282 - Butte County Project 1302108 - GSP - Maps - Wyandotte Creek - 11/29/2021 4:52:28 PM Author: SMitsnell



<p>Legend</p> <p> Wyandotte Creek Subbasin¹</p> <p>Surface Water</p> <p> Water bodies²</p> <p> Named streams</p> <p> Other streams</p> <p> Roads³</p> <p> Highways</p> <p> Boundaries³</p> <p> County boundaries</p>		<p>2 1 0 2 Miles</p> <p>Surface Water Bodies Wyandotte Creek Subbasin GSP</p> <p>Geosyntec consultants</p> <p>Project No.: SAC282 December 2021</p>	
<p>Notes:</p> <p>1) California Department of Water Resources (CA DWR).</p> <p>2) California Department of Fish and Wildlife (CDFW).</p> <p>3) TIGER/Line, U.S. Census Bureau.</p>		<p>Figure 1-14</p>	

The Oroville Reservoir Complex including the Forebay and Thermalito Afterbay border this MA (Figure 1-13). The Feather River serves as a source of municipal and irrigation supply in the subbasin through diversions by the TWSD and SFWPA.

Wyandotte Creek South is dominated by irrigated agriculture dependent on groundwater and surface water diversions from the Feather River. Significant numbers of rural residents and ranchettes depend on groundwater typically from relatively shallow domestic wells interspersed with agricultural land uses. The Feather River enters this MA in the northeast then flows along the western boundary (Figure 1-14). Both perennial and ephemeral streams traverse Wyandotte Creek South including Honcut Creek and Wyandotte Creek.

The interests and vulnerability of stakeholders and groundwater uses in these MAs vary based on the nature of the water demand (agricultural, domestic, municipal), numbers and characteristics (i.e., depth) of wells supplying groundwater, and to some degree the hydrogeology and mix of recharge sources. The reason for creating these MAs in the Wyandotte Creek subbasin is to focus development of MTs, MOs, monitoring, and projects and actions in a way that best meets the mix of needs of the uses and users of groundwater unique to the MA. The defined MAs also allow Member Agencies to focus efforts and staff resources on development of portions of the GSP most relevant to stakeholders within their jurisdiction. These established MAs facilitate successful development and long-term implementation of the GSP by effectively targeting the needs, vulnerabilities, and opportunities of local conditions in these areas.

1.3 Management Programs

Existing management programs within the Wyandotte Creek Subbasin are described below.

1.3.1 Groundwater Management Plan

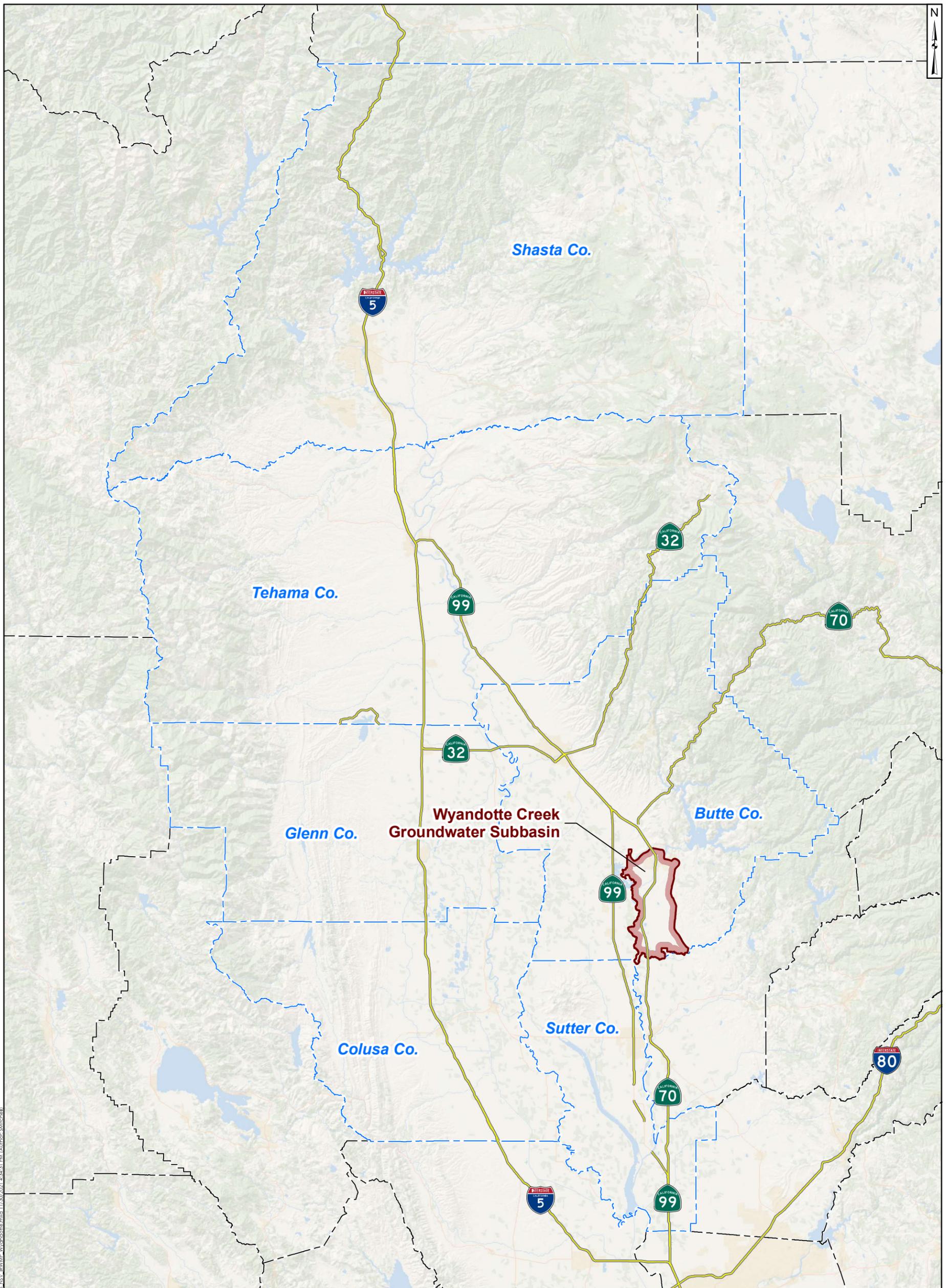
The County of Butte has a Groundwater Management Plan that covers the entire County except for areas covered by Urban Water Management Plans (UWMPs). The Butte County Groundwater Management Plan can be found at <http://www.buttecounty.net/waterresourceconservation/groundwatermanagementplan>

1.3.2 Urban Water Management Plans

TWSD, Cal Water, and SFWPA have prepared UWMPs.

1.3.2.1 Northern Sacramento Valley Integrated Regional Water Management Plan

Six counties, including Butte, Shasta, Tehama, Glenn, Colusa, and Sutter counties (Figure 1-15), of the Northern Sacramento Valley have been working together for over 10 years to lay the foundation for an integrated regional plan to address water-related issues such as economic health and vitality; water supply reliability; flood, stormwater, and flood management; water quality improvements; and ecosystem protection and enhancement. The counties have completed the development of a valley-wide IRWM Plan and have committed to continuing the efforts of regional water management through this plan. IRWM is a collaborative effort to enhance coordination of the water resources in a region. IRWM involves multiple agencies, stakeholders, tribes, individuals and groups to address water-related issues and offer solutions which can provide multiple benefits to the region.



<p>Legend</p> <ul style="list-style-type: none">  Wyandotte Creek Groundwater Subbasin¹  Counties within the IRWMP  Roads²  Highways  Boundaries²  County boundaries 		<p>20 10 0 20 Miles</p> 	
<p>Northern Sacramento Valley Integrated Regional Water Management Plan (NSV IRWMP) Wyandotte Creek Subbasin GSP</p>			
<p>Geosyntec consultants</p>		<p>Figure 1-15</p>	
<p>Notes: 1) California Department of Water Resources (CA DWR). 2) TIGER/Line, U.S. Census Bureau.</p>		<p>Project No.: SAC282 December 2021</p>	

Representatives of the six counties are working in partnership with community stakeholders, tribes and the public to identify the water-related needs of the region. This information was used to develop goals and objectives of the IRWM Plan, and the identification of projects and programs to be included in the IRWM Plan. The IRWM Plan was adopted in April 2014 and will better position the region and local partners to receive funding for high-priority projects.

1.3.3 Drought Management Plans

The Butte County Drought Preparedness and Mitigation Plan (Drought Plan) was adopted in 2004 and was developed to protect the County from the effects of a drought. The Drought Plan includes: an overview of Butte County’s drought background; institutional framework to approach drought; a monitoring plan; a response and mitigation plan; and a discussion of water transfers during a drought. The purpose of the Drought Plan is to provide an efficient and systematic process for Butte County that results in a short- and long-term reduction in drought impacts to the citizens, economy, and environment.

1.3.4 Conjunctive Use Programs

There are no conjunctive use programs in the Wyandotte Creek Subbasin.

1.3.5 General Plans in the Plan Area

The Wyandotte Creek Subbasin is subject to the Butte County General Plan 2030 and the City of Oroville General Plan. In 2018, the Camp Fire destroyed 18,000 structures in Butte County displacing over 27,000 residents. In 2020, the North Complex Fire destroyed homes in Berry Creek, Feather Falls and other areas. While the Town of Paradise, Concow, Berry Creek and other impacted areas rebuild, many residents have relocated to other parts of Butte County. The existing General Plans may not fully account for the relocation of Camp Fire survivors. A focused accounting of changes to residential land use as a result of the Camp Fire should be conducted.

1.3.5.1 Butte County General Plan 2030

The Butte County General Plan 2030 was adopted by the Butte County Board of Supervisors in October 2010. The General Plan 2030 identifies the goals, policies and actions governing land use in the unincorporated portions of Butte County. The General Plan 2030 reflects the community desire to conserve and enhance the legacy of their forebears, namely, sustainable development. To this end, the General Plan 2030 envisions and supports a Butte County in 2030 where:

- Urban development will be primarily centralized within and adjacent to the existing municipal limits and larger unincorporated communities. Urban development will have efficient, reliable public facilities and infrastructure. Employment centers and a range of services will be located near residential areas so that people spend less time in their cars. Residential communities will be walkable, bicycle facilities will be provided, and there will be access to public transit.
- Small unincorporated areas will be well-planned through community-driven planning processes so that community character is preserved, and adequate public services and facilities are provided. Rural residential development will be limited and will strive to be

compatible with agricultural and environmental uses and will address wildfire risks and public service's needs.

- Agriculture and open space will continue to dominate Butte County's landscape and be an important part of the County's culture and economy. Existing agricultural areas will be maintained, and an array of agricultural services will support agriculture while providing new jobs to Butte County residents.

The General Plan 2030 includes an optional Water Resources Element in addition to the mandatory elements of Land Use, Housing, Economic Development, Agriculture, Circulation, Conservation and Open-space, Health and Safety and Public Facilities and Services. In adopting the Water Resources Element, the General Plan 2030 recognized the importance and interrelationship between land use and water resources management. The General Plan 2030 Water Resources Element has six goals:

- Maintain and enhance water quality.
- Ensure an abundant and sustainable water supply to support all uses in Butte County.
- Effectively manage groundwater resources to ensure a long-term water supply for Butte County.
- Promote water conservation as an important part of a long-term and sustainable water supply.
- Protect water quality through effective storm water management.
- Improve stream bank stability and protect riparian resources.

Key Water Resources Element policies include:

- W-P1.4: Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices (BMPs).
- W-P2.1: The County supports solutions to ensure the sustainability of community water supplies.
- W-P2.3: Water resources shall be planned and managed in a way that relies on sound science and public participation.
- W-P2.5: The expansion of public water systems to areas identified for future development on the General Plan land use map is encouraged.
- W-P2.6: The County supports water development projects that are needed to supply local demands.
- W-P2.8: The County supports Area of Origin water rights, the existing water right priority system and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy and environment.

- W-P2.9: Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment.
- W-P3.1: The County shall continue to ensure the sustainability of groundwater resources, including groundwater levels, groundwater quality and avoidance of land subsidence, through a basin management objective program that relies on management at the local level, utilizes sound scientific data and assures compliance.
- W-P3.2: Groundwater transfers and substitution programs shall be regulated to protect the sustainability of the County’s economy, communities and ecosystem, pursuant to Chapter 33 of the Butte County Code.
- W-P3.3: The County shall protect groundwater recharge and groundwater quality when considering new development projects.
- W-P4.1: Agricultural and urban water use efficiency shall be promoted.
- W-P4.2: Water conservation efforts of local Resource Conservation Districts, the Natural Resource Conservation Service and irrigation districts should be coordinated.
- W-P4.3: The County shall work with municipal and industrial water purveyors to implement water conservation policies and measures.
- W-P4.4: Opportunities to recover and utilize wastewater for beneficial purposes shall be promoted and encouraged.
- W-P4.5: The use of reclaimed wastewater for non-potable uses shall be encouraged, as well as dual plumbing that allows graywater from showers, sinks and washers to be reused for landscape irrigation in new developments.
- W-P4.6: New development projects shall adopt BMPs for water use efficiency and demonstrate specific water conservation measures.
- W-P5.2: New development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff.
- W-P5.3: Pervious pavements shall be allowed and encouraged where their use will not hinder mobility.

Implementation of the Wyandotte Creek GSP will provide for sustainable groundwater management and is not anticipated to affect water supply assumptions in the General Plans. Information on the Butte County General Plan 2030 and related documents can be found at www.buttegeneralplan.net.

1.3.5.2 City of Oroville

The Oroville City Council adopted the Oroville 2030 General Plan in June 2009. In March 2015, the City Council adopted a targeted update to the 2030 General Plan referred to as the “Oroville Sustainable Code Updates,” which included an expansion of Mixed-Use zoning within the city, resource-efficient design to the City’s Design Guidelines, and a new Climate Action Plan. This

targeted update sought to strengthen the environmental, community, and economic sustainability of the community. The Oroville General Plan’s goals, policies and actions are intended to work together to achieve the long-term vision for the city.

The Oroville General Plan seeks to promote high quality residential and commercial growth, support infill development, preserve and provide access to nature, create an appropriate transition between the urban and rural environment, and create a place people are proud to call home. To achieve the implementation of the Oroville General Plan, eight guiding principles have been adopted: livability; enhanced mobility; a vibrant local economy; natural resources and the environment; recreation; community infrastructure; health and safety; and an involved citizenry.

The State General Plan Guidelines call for the Oroville General Plan to address all land within the City limits, land within the City’s designated Sphere of Influence (SOI), and other land in unincorporated Butte County which relates to the City’s planning efforts.

Oroville General Plan Organization

State law requires the General Plan to address the subjects of land use, circulation, housing, noise, safety, conservation, and open space. Additional topics (or “elements”) may be covered at the discretion of the jurisdiction, provided that they are consistent with one another. Oroville’s General Plan includes the following optional elements: community design; economic development; and public facilities and services.

Parks, Public Facilities, and Services Element

The Oroville 2030 General Plan Public Facilities and Services Element mentions that:

“The City of Oroville does not provide water service directly. Oroville is served by three local domestic water providers: Cal Water, South Feather Power and Water, and the Thermalito Water and Sewer.” The service breakdown in the General Plan for each water provider is as follows:

- “Cal Water Oroville supplies water to a large extent of Oroville south of the Feather River, including the Historic Downtown, the closest portion of the eastern foothills and South Oroville. Currently, Cal Water Oroville has a production potential of 10.7 million gallons per day (MGD), an amount more than adequate to meet the current maximum daily water demand of 6.3 MGD for the Cal Water Oroville area. Approximately 30 percent of their water supply is drawn from groundwater pumped from four wells, with the rest coming from surface water sources including the west fork of the Feather River.”
- “South Feather Water and Power Agency supplies water to the eastern and southern portions of the City and SOI.” The agency has approximately 171,500-thousand-acre feet (TAF) of storage capacity “sourced from the South Fork of the Feather River and from the Yuba River system, and is stored in reservoirs at Little Grass Valley, Sly Creek, Lost Creek, Ponderosa, Miner’s Ranch, and Lake Wyandotte. South Feather Water and Power Agency delivers approximately 28,000 TAF of water annually and has the capacity to treat approximately 14.5 MGD.”
- “Thermalito Water and Sewer District (TWSD) serves areas of the City of Oroville to the north and west of the Feather River as well as adjacent unincorporated areas of Butte County. TWSD has rights to approximately 8,200-acre feet of surface water from

Concow Lake/Wilnore Reservoir with a 3.0 MGD backup supply coming from four wells, as needed. Total water consumption is currently 2.5 MGD annually for the TWSD and is expected to grow to just over 5.0 MGD by 2025. The District’s water supply is sufficient to meet this future demand as it has secured water rights to 7.3 MGD annually.”

Relevant Goals, Policies, Actions relating to water supply is provided below:

- Goal PUB-6: Provide sufficient supplies of high-quality water to City residents and businesses to serve the City in the most efficient and financially-sound manner.
- Policy P6.1: Ensure that Oroville’s potable water distribution and storage system is adequately sized to serve development allowed by the General Plan, without providing excess capacity.
- Policy P6.9: Support water conservation measures by working with the water districts and water companies to implement water conservation policies and measures.
- Policy P6.10: Encourage the use of drought-resistant landscaping and the use of reclaimed wastewater for agriculture and landscape irrigation supply water. Ensure that all reclaimed wastewater complies with State wastewater treatment and reclamation regulations and standards.
- Policy P6.11: Support all efforts to encourage water conservation by Oroville residents and businesses, and public agencies, including working with water providers, to implement water conservation programs and incentives that facilitate conservation efforts.
- Policy P6.12: Continue to participate in regional groundwater basin planning efforts to determine the carrying capacity of the groundwater aquifer and ensure that future demand for water does not overdraft the groundwater supply.
- Action A6.1: Conduct a study of using reclaimed wastewater for irrigation of public landscaping and for agriculture.
- Policy P8.6: Implement all necessary measures to regulate runoff from urban uses to protect the quality of surface and groundwater.
- Action A8.6: Prepare a stormwater management plan for the City to improve the quality of surface and groundwater. The Plan should include, but not be limited to, well-defined goals, policies, and actions to:
 - Create effective partnerships with special districts, County, State and federal agencies, as well as non-profit organizations, in all aspects of plan development and implementation.
 - Ensure the long-term financial viability of the plan through appropriate budgeting and allocation of financial and staff resources towards implementation of the plan.
 - Identify clear criteria and an effective process to periodically review and evaluate the achievements of the plan and make amendments to it as needed.

Oroville Open Space, Natural Resources, and Conservation Element

The Oroville 2030 General Plan Open Space, Natural Resources, and Conservation Element acknowledges:

“Water quality is intimately tied to water supply, since adequate uncontaminated flows significantly mitigate the presence of contaminated flows, through dilution, flushing and general availability of alternate sources.” Water quality is more greatly discussed in the Public Safety and Services Element of the General Plan, however, there are still relevant goals, policies, and actions discussed in this element relevant to surface and groundwater.

Relevant Goals, Policies, Actions relating to water quality is provided below:

- Goal OPS-11: Protect water quality and quantity in creeks, lakes, natural drainages, and groundwater basins.
- Policy P11.1: Maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water supply where feasible, given flood control requirements.
- Policy P11.2: Minimize impermeable paving that negatively impacts surface water runoff and groundwater recharge rates.
- Policy P11.3: Protect surface and groundwater resources from contamination from runoff containing pollutants and sediment, through implementation of the Central Valley Regional Water Quality Control Board’s (CVRWQCB) BMPs.
- Action A11.1: Create a comprehensive mapping of groundwater resources in the Planning Area based on existing groundwater management studies and maps and, where necessary, new groundwater mapping studies to result in comprehensive coverage of the Planning Area.

Information on the City of Oroville 2030 General Plan and related documents can be found at

<https://www.cityoforoville.org/services/planning-development-services-department/planning-division/planning-documents>

1.3.6 Permitting of New Wells

The construction, repair or destruction of wells is subject to permitting by the Butte County Division of Environmental Health pursuant to Chapter 23B of the Butte County Code, Water Wells. The chapter provides minimum procedures for the proper construction of water wells and for the proper destruction of abandoned wells in order to ensure that water obtained from wells within the County of Butte will be suitable for the purposes for which used and that wells constructed or abandoned pursuant to this chapter will not cause pollution or impairment of the quality of the groundwater within the county. An additional purpose is to reduce potential well interference problems to existing wells and potential adverse impacts to the environment which could be caused by the construction of new wells or the repair or deepening of existing wells where a permit is required. Important provisions of the chapter include:

- The construction, repair, reconstruction, deepening, abandonment and destruction of wells in Butte County must follow the standards in Bulletin 74-81 and its supplement bulletin 74-90, Water Well Standards, State of California.
- After July 25, 1996, the pumping capacity of a new well cannot be greater than 50 gallons per minute per acre to reasonably serve the overlying land, including contiguous parcels of land under the same ownership as the land upon which the well is located.
- Wells can only be drilled by a person licensed to drill water wells pursuant to the provisions of Business and Professions Code section 7000 et seq. possessing a C-57 water well contractor’s license required by section 13750.5 of the California Water Code.
- Domestic well owners are required to ensure that a new well will operate properly assuming a repeat of the groundwater conditions experienced during the period 1987 through 1994 in the area in which the new well is located.
- Well drillers reports must be filed with Butte County as well as with DWR.
- Notification of well permit applications are required in specific instances to adjoining landowners and/or local agencies with an adopted groundwater management plan pursuant to part 2.75 of division 6 of the California Water Code (commencing at section 10750). Landowners and/or local agencies are provided 30 days to provide comments prior to permit issuance.
- Wells with a casing diameter greater than 8 inches are required to be drilled at specific distances away from existing wells.
- In addition to well sealing requirements specified within state well standards bulletin 74-81 and bulletin 74-90, the seal shall be extended 5 feet into the first consolidated formation encountered below 15 feet to a maximum required sealing depth of 50 feet.

1.3.7 Land Use Plans Outside of the Wyandotte Creek Subbasin

The Yuba County General Plan and zoning ordinance is the only land use plan adjacent to the Wyandotte Creek subbasin. The Yuba County General Plan will not have any impact on the Wyandotte Creek GSP to achieve sustainable groundwater management. The Wyandotte Creek GSA will continue to monitor amendments to the Yuba County General Plan.

1.4 Groundwater Level Monitoring and Data Sources

Groundwater level programs predominantly used for development of the GSP include Butte County Department of Water and Resource Conservation (BCDWRC), Cal Water, California Statewide Groundwater Elevation Monitoring (CASGEM), and the California Department of DWR Water Data Library (WDL). Each of these programs are discussed below.

1.4.1 Butte County Department of Water and Resource Conservation

As discussed above, in November 1996, the voters in Butte County approved “AN ORDINANCE TO PROTECT THE GROUNDWATER RESOURCES IN BUTTE COUNTY.” The ordinance is now codified as Chapter 33 of the Butte County Code relating to groundwater conservation. Section 3.01 of this code, Groundwater Planning Process, requires the preparation

of a groundwater status report based upon the data gathered and analyzed pursuant to Section 3.02, Groundwater Monitoring. In 2000, the Butte County Board of Supervisors amended Chapter 33, the Groundwater Conservation Ordinance, to require the delivery of the Groundwater Status Report by February of each year. In 2010, the Water Commission designated the BCDWRC as the entity responsible for creating and submitting the annual report.

In February 2004, the Butte County Board of Supervisors adopted the Groundwater Management Ordinance, which was codified as Chapter 33A of the Butte County Code. Chapter 33A calls for the establishment of a monitoring network and Basin Management Objectives (BMOs) for groundwater elevation, groundwater quality related to saline intrusion and land subsidence. The BMO concept was incorporated into California Water Code §10750 et. seq., as a component of AB 3030 Groundwater Management Plans. On September 28, 2004, the Butte County Board of Supervisors formally approved Resolution 04-181 adopting the countywide AB 3030 Groundwater Management Plan that includes components of the BMO program. In 2011, Chapter 33A was amended and retitled to “Basin Management Objectives” requiring a report each February describing conditions in the basin relative to established BMOs. The foregoing actions by the Board allow the consolidation of reporting of groundwater conditions from both Chapter 33 and 33A into a single report submitted by the Department on an annual basis in February. Considering new requirements of SGMA, revisions to Chapter 33A were approved in 2019 to continue the transition of groundwater management in Butte County from the BMO program to implementation of SGMA in each of the three subbasins in Butte County, including the Wyandotte Creek Subbasin. Groundwater level measurements occur 4 times per year following this program. Appendix 1-C provides the Groundwater Status Report for the 2020 Water Year following this program.

1.4.2 California Statewide Groundwater Elevation Monitoring

DWR maintains several groundwater level monitoring programs, tools, and resources covering California. The CASGEM Program is DWR’s primary resource for groundwater level data and has been used extensively in the development of this GSP. The CASGEM Program was authorized in 2009 by SB X7-6 to establish collaboration between local monitoring parties and DWR to collect and make public statewide groundwater elevation data. The program provides the framework for local agencies or other organizations to “assume responsibility for monitoring and reporting groundwater elevations in all or part of a basin or subbasin” (Water Code §10927). The BCDWRC is the CASGEM monitoring entity for the Wyandotte Creek Subbasin. The groundwater monitoring program discussed above for BCDWRC complies with the reporting requirements of the CASGEM program.

1.4.3 Water Data Library

DWR’s WDL contains measurements of groundwater elevations from water supply and monitoring wells monitored by numerous entities, such as DWR and local agencies. Groundwater level measurements available from the WDL are either continuously or periodically measured. Continuous measurements are provided by automatic water level measuring devices that take readings at wells; periodic measurements are manual recordings typically occurring at monthly or semi-annual time intervals. Measurements displayed through the WDL are taken through other programs, such as CASGEM. The WDL lists the organization

responsible for collecting each water level measurement. The WDL water level measurements are available through the California Natural Resources Agency (CNRA) Open Data website as a bulk download, or through the WDL website on a per station basis.

1.4.4 Online System for Well Completion Reports

The OSWCR is a DWR program used to document and compile boring or well completion records throughout California. There are as many as 2 million domestic, irrigation, and monitoring water wells in California included in this dataset, including more than 4,000 domestic wells located in the Wyandotte Creek Subbasin. However, as discussed in Section 3, Sustainable Management Criteria, the well characteristics in this database are not always accurate or precise, and, unfortunately, it is not known which of the wells in the database are in use or have been abandoned or replaced. When a well is constructed, modified, or destroyed, drilling contractors are required to submit a Well Completion Report to DWR for upload to the interactive OSWCR web site. OSWCR is used as a data source for wells identified for monitoring. In this GSP, the OSWCR database was used to describe the GSP area and identify sustainable management criteria (SMC).

1.5 Groundwater Quality Monitoring and Data Sources

Groundwater quality programs predominantly used for development of the GSP include BCDWRC, Sacramento Valley Water Quality Coalition (SVWQC), SWRCB Geotracker/ Groundwater Ambient Monitoring and Assessment Program (GAMA) and the DWR WDL. Each of these programs are discussed below.

1.5.1 Butte County Department of Water and Resource Conservation

As discussed in Section 1.3.4, the BMO program developed by Butte County includes groundwater quality monitoring that is presented annually in the Groundwater Status Reports. Appendix 1-C provides the Water Year 2020 Groundwater Status Report summarizing the results of this groundwater quality monitoring.

1.5.2 Sacramento Valley Water Quality Coalition

Because irrigated agriculture is the predominant land use in the Wyandotte Creek Subbasin, monitoring of the groundwater quality data developed through the Groundwater Quality Trend Monitoring Work Plan (GQTMWP) being implemented by the SVWQC for compliance with the Central Valley Regional Board's Irrigated Lands Regulatory Program (ILRP) is an important source of information to GSAs in the Wyandotte Creek Subbasin. This program is implemented by California Rice Commission (CRC) that submits annual reports on groundwater quality throughout the region.

1.5.3 Geotracker/Groundwater Ambient Monitoring and Assessment

GeoTracker, operated by the SWRCB, contains records for sites that require cleanup, such as leaking underground storage tank sites, Department of Defense sites, and cleanup program sites. GeoTracker also contains records for various unregulated projects as well as permitted facilities including: ILRP, future CV-SALTS, oil and gas production, operating permitted underground storage tanks, and land disposal sites. GeoTracker receives records and data from SWRCB programs and other monitoring agencies.

The Geotracker System also contains links to GAMA. The GAMA Program is California's comprehensive groundwater quality monitoring program that was created by the SWRCB in 2000. It was later expanded by AB 599 - the Groundwater Quality Monitoring Act of 2001. AB 599 required the State Water Board, in coordination with an Interagency Task Force (ITF) and Public Advisory Committee (PAC) to integrate existing monitoring programs and design new program elements as necessary, resulting in a publicly accepted plan to monitor and assess groundwater quality in basins that account for 95% of the state's groundwater use. The GAMA Program is based on interagency collaboration with the State and Regional Water Boards, DWR, Department of Pesticide Regulations, United States Geological Survey (USGS), and Lawrence Livermore National Laboratory, and cooperation with local water agencies and well owners.

1.5.4 Water Data Library

DWR's WDL contains groundwater quality data in addition to the groundwater level records described previously. This information includes data from discrete groundwater quality samples collected by DWR and other cooperating entities. These water quality data list the entity responsible for taking the sample but do not specify what program the sample was taken under. The WDL water quality measurements are available through the CNRA Open Data website as a bulk download, or through the WDL website on a per-station basis. WDL water quality measurements in this GSP are utilized for basin characterization but are acquired from the other programs.

1.6 Subsidence

To determine whether subsidence is occurring, a subsidence monitoring network has been established throughout Butte County consisting of observation stations and extensometers managed by DWR. The observation stations are a result of DWR's efforts to establish a subsidence monitoring network across the valley to capture changes in the ground surface elevation. The observation stations are established monuments with precisely surveyed land surface elevations. They are distributed throughout the valley such that the entire county is well represented. In 2008, DWR along with numerous partners performed the initial GPS survey of the observation stations to establish a baseline measurement for future comparisons. The network was resurveyed in 2017 using similar methods and equipment as those used in the 2008 survey and results were analyzed to depict the change in elevation at each station between those years. Results of the survey are available here,

<https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#landsub>

Extensometers are installed in wells or boreholes and are a more site-specific method of measuring land subsidence as they can detect changes in the thickness of the sediment surrounding the well due to compaction or expansion. These instruments can detect very slight changes in land surface elevation on a continuous basis with an accuracy of +/- 0.01 feet or approximately 3 millimeters. The three extensometers in Butte County have a period of record beginning in 2005 and were chosen by DWR based on a high likelihood of seeing subsidence in these areas if it were to occur, based on the presence of known clay and other fine-grained deposits in these areas. Data are available through July 2020 from the DWR WDL. A summary of the historic information within the Wyandotte Creek Subbasin obtained from these networks

is presented in Section 2, Basin Setting, and the monitoring network for implementation of the GSP is discussed in Section 4, Monitoring Networks.

1.7 Interconnection of Databases

Several of the databases discussed above utilize the same water level or water quality data. These records often specify the monitoring entity responsible for the measurement. Although these data overlap between databases, the correlation between databases is not specified. For example, water level data in the WDL are also in CASGEM, but this link is not mentioned in WDL records. This lack of connection poses problems for gathering water level and quality data throughout California. Efforts have been made in the development of this GSP to overcome the issue related to overlap and poor correlation between databases, but the issue remains. It is recommended that agencies work together to utilize a common unique identifier to ease use of multiple datasets.

1.8 Notice and Communication (23 California Code of Regulations § 354.10)

1.8.1 Notice of Intent to Adopt GSP

A notice of intent (NOI) to adopt a GSP was signed by the GSAs and distributed on June 28, 2021. The hard copies of the NOI were mailed to cities and counties within the Wyandotte Creek Subbasin including the following:

- Butte County
- City of Oroville

Copies of the NOI are provided in Appendix 1-B.

1.8.2 Overview

California's SGMA of 2014 requires broad and diverse stakeholder involvement in GSA activities and during the development and implementation of GSPs for groundwater basins around the state, including the Wyandotte Creek Subbasin. The intent of SGMA is to ensure successful, sustainable management of groundwater resources at the local level, success of GSP development and implementation will require cooperation by all beneficial users (defined below). Therefore, coordinated communication and consistent messaging of valid information and facilitation of opportunities for the involvement of beneficial users will guide the path forward.

To facilitate stakeholder involvement in the GSA process, a Communication and Engagement Plan (C&E Plan) (Appendix 1-D) was created for the Wyandotte Creek GSA. The desired outcomes and goals of the C&E Plan were to achieve understanding and support for GSP adoption and implementation in consideration of the people, economy, and environment within the subbasin and in coordination with adjacent subbasins.

Plan Goals:

1. Enhance understanding and inform the public about water and groundwater resources in the Wyandotte Creek Subbasin, the purpose and need for sustainable groundwater

- management, the benefits of sustainable groundwater management, and the need for a GSP.
2. Engage diverse interested parties and stakeholders and promote informed feedback from stakeholders, the community, and groundwater-dependent users throughout the GSP preparation and implementation process.
 3. Coordinate communication and involvement between the GSA (Board, Stakeholder Advisory Committee and Management Committee), and other local agencies, elected and appointed officials, and the public.
 4. Rely on the WAC to facilitate a comprehensive public engagement process.
 5. Employ a variety of outreach methods that make public participation accessible and that encourage broad participation.
 6. Respond to public concerns.
 7. Provide accurate and up-to-date information.
 8. Create public value and use GSA resources wisely by managing communications and engagement in a manner that is resourceful and efficient.

1.8.3 Description of Beneficial Uses and Users in the Wyandotte Creek Subbasin

SGMA calls for consideration of all interested parties that the GSA must consider when developing and implementing the GSP. GSAs must encourage the active involvement of diverse social, cultural, and economic elements of the population. Therefore, stakeholders or beneficial users are any stakeholders who have an interest in groundwater use and management in the Wyandotte Creek Subbasin. Their interest may be related to GSA activities, GSP development and implementation, and/or water access and management in general.

To assist in identifying categories of beneficial users in the Wyandotte Creek Subbasin, the C&E Plan listed broad categories of interested parties to be considered during development and implementation of the GSP. These include, but are not limited to:

- General public
- Agricultural users of water
- Domestic well owners
- Municipal well operators
- Public water systems
- Land use planning agencies
- Environmental users of groundwater
- Surface water users
- The federal government
- California Native American tribes

- DACs and historically underrepresented groundwater users (including those served by private domestic wells or small community water systems)

Table 1-1 further identifies potential stakeholder groups and engagement purpose.

Table 1-1: Stakeholder Engagement Chart for Groundwater Sustainability Plan Development

Category of Interest	Examples of Stakeholder Groups	Engagement purpose
General Public	<ul style="list-style-type: none"> • Citizens groups • Community leaders • Service clubs and professional organizations 	Inform to improve public awareness of sustainable groundwater management
Private/Other users	<ul style="list-style-type: none"> • Private pumpers • Domestic users • School/College systems • Hospitals: Oroville Hospital 	Inform and involve to minimize negative impact to these users
Urban/Agriculture users	<ul style="list-style-type: none"> • Water agencies: Cal Water • Colleges/Universities • Water associations • Commissions: SC-OR Sewerage Commission - Oroville Region • Water districts: TWSD; SFWPA • Mutual water companies • Resource conservation districts • Farm Bureau: Butte County Farm Bureau • Parks: Feather River Recreation and Park District 	Collaborate to ensure sustainable management of groundwater
Industrial users	<ul style="list-style-type: none"> • Commercial and industrial self-supplier • Local trade association or group 	Inform and involve to avoid negative impact to these users
Land Use Planning Agencies	<ul style="list-style-type: none"> • Municipalities (City, County planning departments): City of Oroville, Butte County • Regional land use agencies 	Consult and involve to ensure land use policies are supporting GSPs
Environmental and Ecosystem	<ul style="list-style-type: none"> • Regional agencies: Butte County Resource Conservation District • Federal and State agencies: California Department of Fish and Wildlife (CDFW) • Environmental groups: Butte Environmental Council, The Nature Conservancy (TNC) 	Inform and involve to sustain a vital ecosystem
Economic Development	<ul style="list-style-type: none"> • Chambers of commerce: City of Oroville • Business groups/associations • Elected officials (Board of Supervisors, City Council) • State Assembly members • State Senators 	Inform and involve to support a stable economy
Human right to water	<ul style="list-style-type: none"> • DACs • Small community systems • Environmental Justice Groups: Leadership Council for Justice and Accountability, Self-Help Enterprises, Community Water Center 	Inform and involve to provide a safe and secure groundwater supplies to all communities reliant on groundwater

Category of Interest	Examples of Stakeholder Groups	Engagement purpose
Tribes	<ul style="list-style-type: none"> Federally Recognized Tribes and non-federally recognized Tribes with Lands or potential interests in Wyandotte Creek Subbasin: Concow-Maidu Tribe of the Mooretown Rancheria, Tyme Maidu Tribe of the Berry Creek Rancheria 	Inform, involve and consult with tribal government
Federal lands	<ul style="list-style-type: none"> United States Bureau of Reclamation (USBR) Bureau of Land Management 	Inform, involve and collaborate to ensure basin sustainability
Integrated Water Management	<ul style="list-style-type: none"> Regional water management groups (IRWM regions); Upper Feather River IRWM and the North Sacramento Valley (NSV) IRWM group Flood agencies 	Inform, involve and collaborate to improve regional sustainability

1.8.4 Communications

1.8.4.1 Decision-making Processes

As noted above, the Wyandotte Creek Subbasin consists of one GSA for GSP development, the Wyandotte Creek GSA.

The Wyandotte Creek GSA Board is the final decision-maker for the Wyandotte Creek Subbasin. To assist in GSP development, the Wyandotte Creek GSA convened a WAC in 2020. The composition of the WAC is intended to represent the beneficial uses and users of groundwater in the Wyandotte Creek GSA. The WAC was originally organized to comprise seven at-large members appointed by the GSA Board and one member representing Cal Water Oroville, one member representing SFWPA, and tribal representatives. The at-large positions include three agricultural groundwater users, two domestic well users, and one environmental and one business association representative. During the GSP preparation there were three agricultural members, one member from Cal Water and one member from SFWPA on the WAC. The WAC is charged with actively engaging with the public for input and feedback. The WAC has been meeting approximately monthly since its formation in December of 2020.

The representatives attending the GSA Management Committee meetings are designated staff from the member agencies; City of Oroville, Butte County, and TWSD. In addition to coordinating the WAC and GSA Board business, the GSA Management Committee assists the WAC in identifying and clarifying recommendations for GSP development which were presented to the GSA Board in public meetings as well as at subbasin-wide public meetings.

1.8.4.2 Public Engagement Opportunities

There were a number of different meetings at which the public had the opportunity to engage during the GSP development process:

- GSA Board meetings: The Wyandotte Creek GSA Board held regular public meetings, including joint meetings, to facilitate public input.
- WAC meetings.
- Public Workshops.

- Subbasin-wide Technical Advisory Committee meetings.
- Farm Bureau Water Forum meetings.
- City of Oroville.
- Regional Water Management Group.

1.8.4.3 Encouraging Active Involvement

The GSA carried out community engagement during the development of the GSP, which included meetings and presentation materials to inform the public. The GSP has been revised to incorporate public feedback. There were also activities related to encouraging involvement and building capacity for engagement. The GSA Management Committee used a variety of tools to solicit input, including maintaining an up-to-date website with announcements, calendar of events and meetings, and links to draft chapters of the GSP; establishing an interested parties list; email newsletters; and public notices. These documents encouraged and prepared community members to participate in GSP development by providing technical information as well as information about opportunities for engagement.

As part of the 40-day public review period initiated on September 9, 2021, the GSA Management Committee worked with the numerous entities to inform them about the plan and encourage their involvement. Appendix 1-D lists the SGMA public meetings that were held throughout the GSA formation and GSP preparation process.

1.8.4.4 Soliciting Written Comments

In addition to soliciting feedback at GSA meetings, opportunities were provided to offer written comments on the various chapters of the GSP as draft versions became available. Stakeholders could provide comments via an online comment form, letter, or email. An informal comment period began when the draft of the first chapter of the GSP was released in April 2019, and another public comment period began on the date the full draft of the GSP was released, in September 2021. In addition, a Public Workshop was held on October 20, 2021, to solicit written comments. All comments received via the comment form, letter, or email were provided to the WAC and Wyandotte Creek GSA Board in agenda packets for review.

The written comments and responses can be found in Appendix 1-E.

1.8.5 Informing the Public about Groundwater Sustainability Plan Development Progress

1.8.5.1 Interested Parties List

An email distribution list of subbasin-wide stakeholders and beneficial users was developed for outreach throughout the GSP planning process. The list was maintained and updated by the Wyandotte Creek GSA Management Committee. Any interested member of the public could request to be signed up via this link: [Contact Us - Wyandotte Creek GSA](#) (wyandottecreekgsa.com)

1.8.5.2 Distribution of Flyers

Typically, before a public meeting in the Wyandotte Creek Subbasin, an email flyer was created with key information provided. The flyer was emailed out to the Interested Party list as well as posted on Member Agency websites and various places throughout the subbasin.

1.8.5.3 Press Outreach

Press releases were issued at key junctures and decision-making points for the Wyandotte Creek Subbasin.

1.8.5.4 A Centralized Wyandotte Creek GSA Website

Throughout the planning process (and beyond) the Wyandotte Creek GSA has maintained a website with information about subbasin-wide planning efforts related to SGMA.

The Wyandotte Creek Subbasin website contains:

- Homepage with links to key pages within the site including a link to draft copies of the GSP
- About Us with an overview of the Wyandotte Creek GSA and SGMA
- Governance that describes the structure of the GSA, Board Members, WAC Members, Meeting Dates and Agendas, and Transparency Documents
- SGMA Overview
- Calendar of Board and WAC Meetings and Workshops
- Contact Us page for email correspondence and to register for the email list

1.8.5.5 Stakeholder Input and Responses

The engagement opportunities described above provided various avenues for stakeholders to provide input on GSP development. The matrix in Appendix 1-E summarizes the public comments received, organized by commenter, organization, chapter/section/line of comment location, comment, and location of where the comment was addressed or changed within the final draft document, as applicable.

1.9 Human Right to Water

Not formerly included in DWR's GSP checklist, but still important to address, is human right to clean water. California Water Code Section 106.3, Human Right to Water, states that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." Private domestic well groundwater pumper representation on the Advisory Committee and community engagement via public workshops and outreach are venues through which those potentially most vulnerable to loss of clean drinking water are able to share information and concerns throughout the GSP development and implementation. During preparation of this GSP public meetings were held at times, locations, and in a manner, both in-person and remotely online that supported and allowed for effective engagement of all stakeholders.