EXECUTIVE SUMMARY

Sustainability Goal:

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.

Introduction

In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California's groundwater resources. SGMA provides for local control of groundwater resources while requiring sustainable management of the state's groundwater basins. Under the provisions of SGMA, local agencies must establish governance of their subbasins by forming Groundwater Sustainability Agencies (GSAs) within the authority to develop, adopt, and implement a Groundwater Sustainability Plan (GSP or Plan) for the subbasin. Under the GSP, GSAs must adequately define and monitor groundwater conditions in the subbasin and establish criteria to maintain or achieve sustainable groundwater management within 20 years of GSP adoption. Within the framework of SGMA, sustainability is generally defined as long-term reliability of the groundwater supply and the absence of undesirable results.

Critical Dates for the Wyandotte Creek Groundwater Subbasin	
2022	By January 31, submit GSP to Department of Water Resources (DWR)
2027	Evaluate GSP and update, if warranted
2032	Evaluate GSP and update, if warranted
2037	Evaluate GSP and update, if warranted
2042	Achieve sustainability for the Wyandotte Creek Subbasin

The Wyandotte Creek Groundwater Subbasin (Wyandotte Creek Subbasin) is identified by DWR as being in a medium priority subbasin. For medium priority basins, SGMA requires preparation of the GSP by January 31, 2022. The Wyandotte Creek GSA is the only GSA in the Wyandotte Creek Subbasin. The Wyandotte Creek GSA was formed through the execution of a Joint Powers Agreement (Agreement) by the County of Butte, City of Oroville, and the Thermalito Water and Sewer District (TWSD). The GSA Board is composed of five seats, each with equal and full voting rights, including Butte County, City of Oroville, TWSD, an agricultural groundwater user, and a domestic well user (non-agricultural).

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. The focus of the Agreement is to maximize local input and decision-making and address the different water demands and sustainability considerations in the urban and rural areas of the Wyandotte Creek Subbasin.

The agreement also defines two Management Areas (MAs) within the Wyandotte Creek Subbasin: Wyandotte Creek Oroville and Wyandotte Creek South. MA refers to an area within a subbasin for which a GSP may identify different minimum thresholds (MTs), measurable objectives (MOs), monitoring, and projects and management actions based on unique local conditions or other circumstances as described in the GSP regulations. 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 of wells supplying groundwater, and to some degree the hydrogeology and mix of recharge sources.

SGMA requires development of a GSP that achieves groundwater sustainability in the Wyandotte Creek Subbasin by 2042. A pragmatic approach to achieving sustainable groundwater management requires an understanding of 1) historical trends and current groundwater conditions in the subbasin, based on evaluating six sustainability indicators (SIs) that include groundwater levels, groundwater storage, groundwater quality, land subsidence, depletion of interconnected streams, and seawater intrusion and 2) what must change in the future to ensure sustainability without causing undesirable results (described and defined in Chapter 3) or negatively impacting beneficial uses and users of groundwater, including groundwater dependent ecosystems (GDEs).

The GSP is organized as follows and the various components of each chapter are summarized further below:

1. Chapter 1: Plan Area. This chapter includes agency information, description of the Plan Area, and applicable programs and data sources used to prepare the GSP as well as a description of beneficial users and uses within the Basin and a summary of stakeholder communications and engagement.
2. Chapter 2: Basin Setting. This chapter discusses the Hydrogeologic Conceptual Model (HCM), groundwater conditions and water budget.
3. Chapter 3: Sustainable Management Criteria. This chapter discusses undesirable results, identifies the minimum thresholds, and measurable objectives for each of the six SIs.
4. Chapter 4: Monitoring Network. This chapter describes the methods used to monitor the SIs.
5. Chapter 5: Project Management Actions. This chapter describes projects and management actions that will achieve sustainability within the Subbasin.
6. Chapter 6: Plan Implementation. This chapter describes how the GSA will partner with other groundwater users to implement the GSP to achieve groundwater sustainability.

The GSP outlines the need to address overdraft and related conditions and has identified 15 projects for potential development that either replace groundwater use (offset) or supplement groundwater supplies (recharge) to meet current and future water demands. In addition, the GSP also identifies five management actions that can be implemented to focus on reduction of groundwater demand. Although current analysis indicates that groundwater pumping offsets and/or recharge on the order of 1,000 acre-feet per year (AFY) may be required to achieve

sustainability, additional efforts are needed to confirm the level of pumping offsets and/or recharge required to achieve sustainability. These efforts include collecting additional data and a review of the Wyandotte Creek Subbasin groundwater model, along with other efforts as outlined in the GSP.

GSP Area

The Wyandotte Creek Subbasin is in Butte County within the Sacramento Valley, as shown in Figure ES-1. The Wyandotte Creek GSA jurisdictional area is defined by the boundaries of the Wyandotte Creek Subbasin in DWR's 2003 Bulletin 118 as updated in 2016 and 2018. Figure ES-2 shows the boundaries of the Wyandotte Creek Subbasin and the two MAs.

Outreach Efforts

A stakeholder engagement strategy was developed to solicit and discuss the interests of all beneficial users of groundwater in the Wyandotte Creek Subbasin and Plan Area. The strategy included monthly meetings of the Wyandotte Creek GSA Management Committees (made up of staff from the member agencies) and the Wyandotte Creek Advisory Committee (WAC), and a website where all announcements, meeting dates, times, and materials were posted.

The Wyandotte Creek GSA also prepared and implemented a Communication and Engagement Plan (C&E Plan) to encourage involvement from diverse social, cultural, and economic elements of the population of the Wyandotte Creek Subbasin, in addition to meeting SGMA requirements for intrabasin coordination.

In addition, various chapters of the GSP were available for preliminary review and comment prior to the final draft version released on December 15, 2021. Comments received on preliminary draft chapters were incorporated as deemed appropriate and helped guide and shape the final draft document.

Basin Setting

The Wyandotte Creek Subbasin lies in the eastern central portion of the Sacramento Groundwater Basin. It is bounded on the west by the Feather River and Thermalito Afterbay; in the south by the Butte-Yuba County line (except for Ramirez Water District which is fully within the North Yuba Subbasin); and on the north and east by the edge of the alluvial basin as defined by DWR Bulletin 118 - Update 2003 (DWR, 2003). It is surrounded by the Butte Subbasin to the west, the Wyandotte Creek Subbasin to the north, the North Yuba Subbasin to the south and the foothills to the east (Figure ES-2). The lateral boundaries of the Wyandotte Creek Subbasin are jurisdictional in nature, and it is recognized that groundwater flows across each of the defined boundaries to some degree.

Continental sediments of the Tuscan and Laguna Formation compose the major fresh groundwater-bearing formations in the Wyandotte Creek Subbasin. The base of these continentally derived formations is generally accepted as the base of fresh water in the northern Sacramento Valley. Locally, the base of fresh groundwater fluctuates depending on local changes in the subsurface geology and geologic formational structure. The base of fresh water is known to be shallower along the eastern portion of the basin.

Shasta Co.
Lassen Co.
Bend Subbasin
Antelope Subbasin
Red Bluff Subbasin
Plumas Co.
Trinity Co.
Tehama Co.
Los Molinos Subbasin
Corning Subbasin
Vina Subbasin
Chico
Mendocino Co.
Butte Co.
Glenn Co.
Wyandotte Creek Subbasin
Sierra Co.
Butte Subbasin
Yuba Co.
Colusa Subbasin
Colusa Co.
North Yuba Subbasin
Nevada Co.
South Yuba Subbasin
Sutter Subbasin
Lake Co.
Placer Co.
Sutter Co.
Yolo Co.
North American Subbasin
El Dorado Co.
Sonoma Co.
Yolo Subbasin
Sacramento
Napa Co.
South American Subbasin
Amador Co.
Sacramento Co.
Solano Subbasin
Solano Co.
Calaveras Co.
San Joaquin Co.
Stockton
Contra Costa Co.
Stanislaus Co.
California
Inset
Butte Co.
Legend
Groundwater Basin[1]
Sacramento Valley Groundwater Basin
Groundwater Subbasins[1]
Wyandotte Creek Groundwater Subbasin
Other Sacramento Valley Groundwater Subbasins
Roads[2]
Highways
Boundaries[2]
County boundaries
Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.
20 10 0 20 Miles
Sacramento Valley Groundwater Basin
Wyandotte Creek Subbasin GSP
Geosyntec consultants
Project No.: SAC282
December 2021
Figure
ES-1
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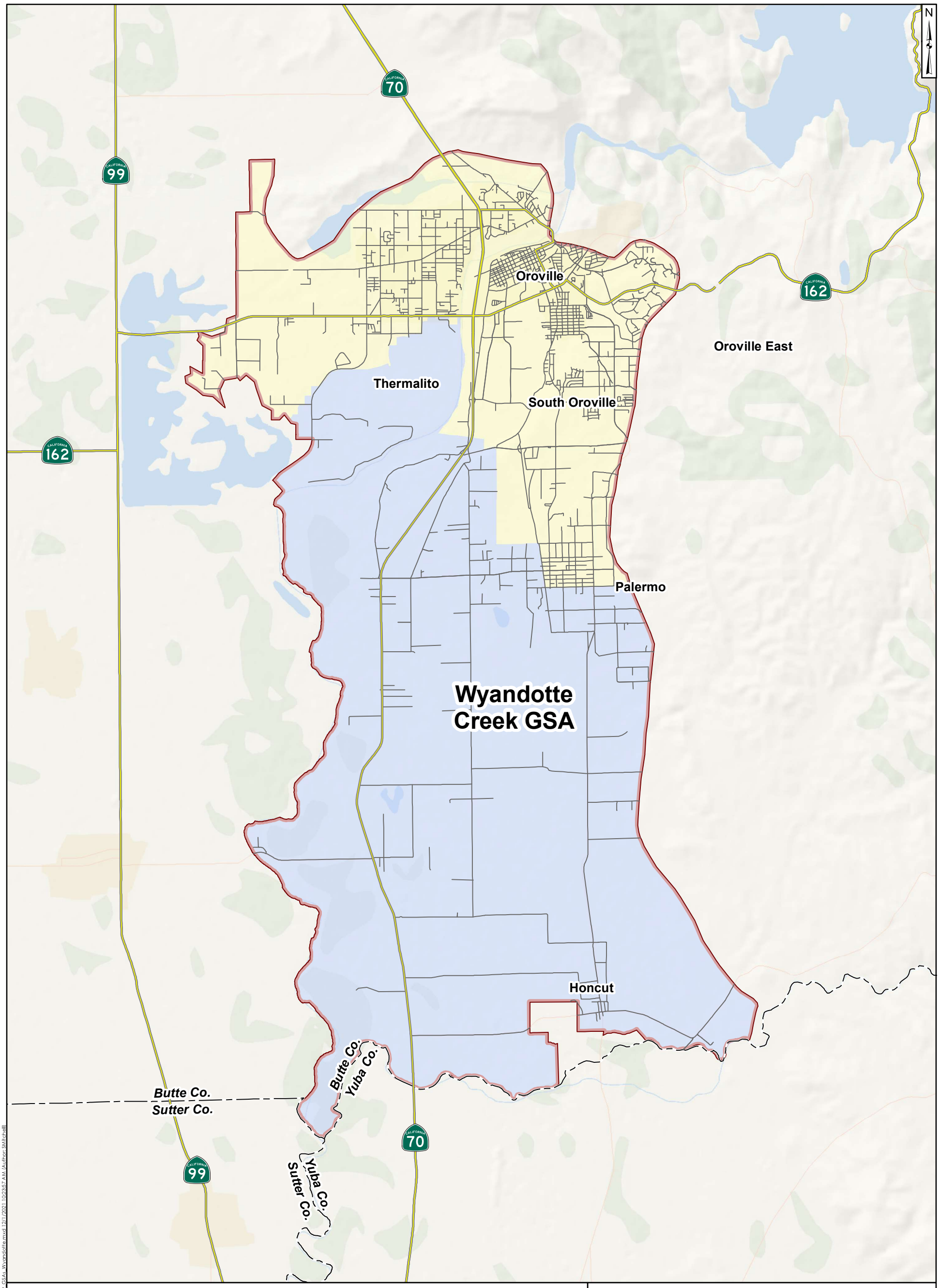

Legend

Groundwater Sustainability Agency (GSA)[1]

- Wyandotte Creek GSA

Roads[2]

- Highways
- Other roads

Wyandotte Creek Groundwater Subbasin Management Areas

- Wyandotte Creek Oroville
- Wyandotte Creek South

Boundaries[2]

- County boundaries

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

2 1 0 2 Miles

Groundwater Sustainability Agencies
Wyandotte Creek Subbasin GSP

Geosyntec consultants

Project No.: SAC282 | December 2021

Figure **ES-2**

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Groundwater flows from the north and from foothill recharge areas in the east toward the subbasin's southeastern corner. Because of the influence of Thermalito Afterbay and the Feather River, groundwater elevations in the north are generally stable between the spring and fall observation periods, while elevations in the south tend to be lower in the fall than the spring, a pattern typical of valley floor locations distant from major sources of recharge. The location of the Wyandotte Creek Subbasin along with surface water features is shown in Figure ES-3.

Existing Groundwater Conditions

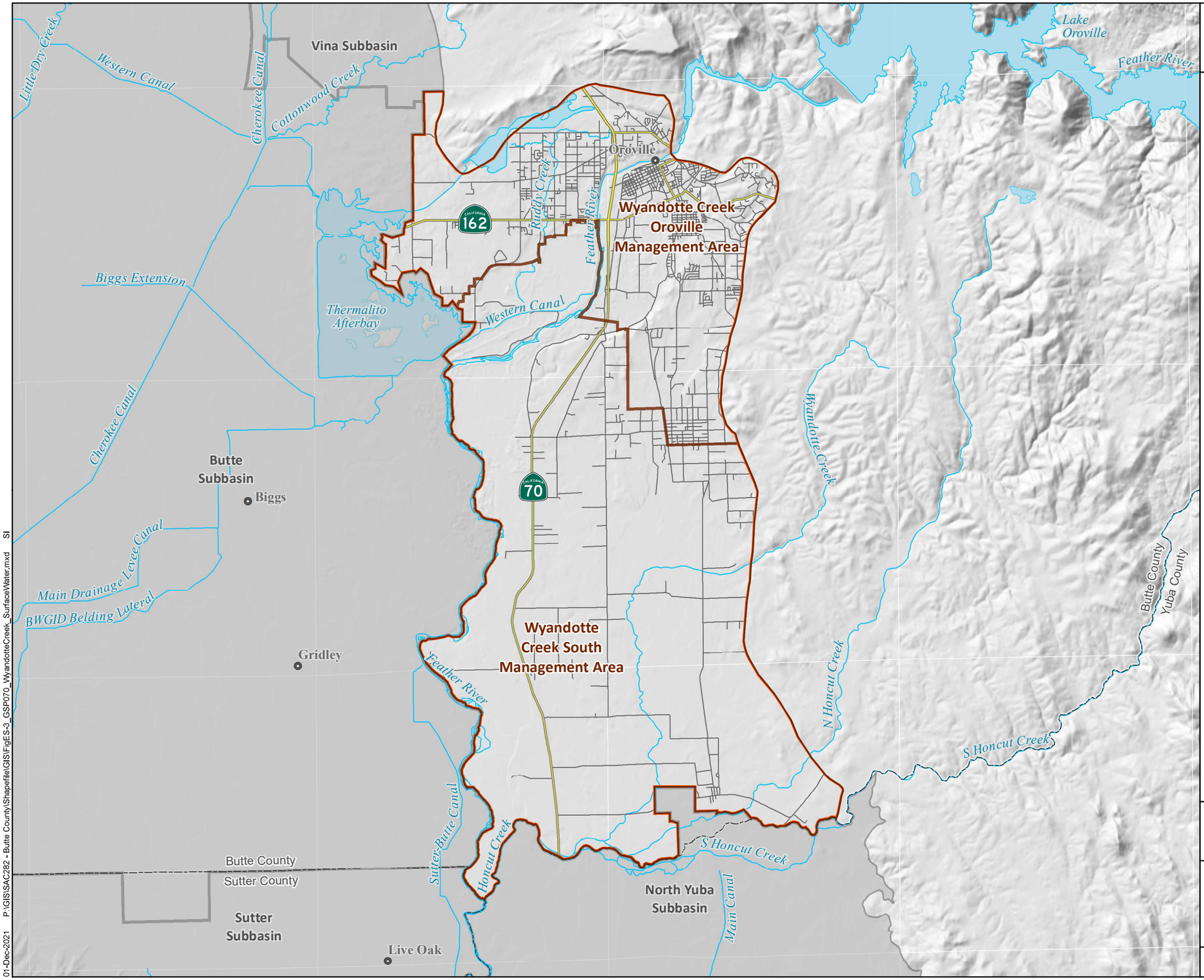
Groundwater conditions in the Wyandotte Creek Subbasin are regularly monitored and are described in reports produced by Butte County since 2001. These documents and other reports portray a subbasin that has adequate groundwater resources to meet demands under most hydrologic conditions. However, comparison of the reports illustrates how in the period between their issuance, groundwater conditions have tightened, and as forces ranging from population growth to climate change play out, the value of well-informed water management policies and practices is likely to increase. In short, while groundwater conditions in the Wyandotte Creek Subbasin remain stable, maintaining this posture in the future may become less the result of a state of nature and more the reward for thoughtful management.

Groundwater levels in the Wyandotte Creek Subbasin indicate that groundwater elevations are relatively stable. Groundwater quality in the basin is good except in areas where anthropogenic sources have impacted the groundwater. Figure ES-4 shows the locations of known impacted groundwater from these sources.

Groundwater storage in Wyandotte Creek Subbasin is relatively stable. The Feather River and Thermalito Afterbay stabilize storage volumes by providing recharge to the Wyandotte Creek Subbasin. The total fresh groundwater in storage was estimated at about 2.1 million-acre-feet (MAF) in 2018. The amount of groundwater in storage has decreased by approximately 0.14 percent per year between 2000 and 2018. As such, it is highly unlikely the Wyandotte Creek Subbasin will experience conditions under which the volume of stored groundwater poses a concern. However, the depth to access that groundwater across the Wyandotte Creek Subbasin may pose a concern.

Land subsidence has not historically been an area of concern in the Wyandotte Creek Subbasin and there are no records of land subsidence caused by groundwater pumping in the Wyandotte Creek Subbasin. Seawater intrusion is not applicable to the Wyandotte Creek Subbasin due to distance from the Delta and Pacific Ocean.

Surface waters can be hydraulically interconnected with the groundwater system, where the stream baseflow is either derived from the aquifer (gaining stream) or recharged to the aquifer (losing stream). If the water table beneath the stream lowers as a result of groundwater pumping, the stream may disconnect entirely from the underlying aquifer. Within the floodplain of the Feather River there is a continuous saturated zone that connects the shallowest aquifer to the river. The connectivity between shallow and deeper aquifer zones will dictate the overall connectivity to the River.



SURFACE WATER FEATURES

- Waterway
- Lake
- Wyandotte Creek Subbasin
- Neighboring Subbasin
- Highways
- Other roads

0 2 4
Miles

N

WYANDOTTE CREEK SUBBASIN GSP

DECEMBER 2021 FIGURE ES-3

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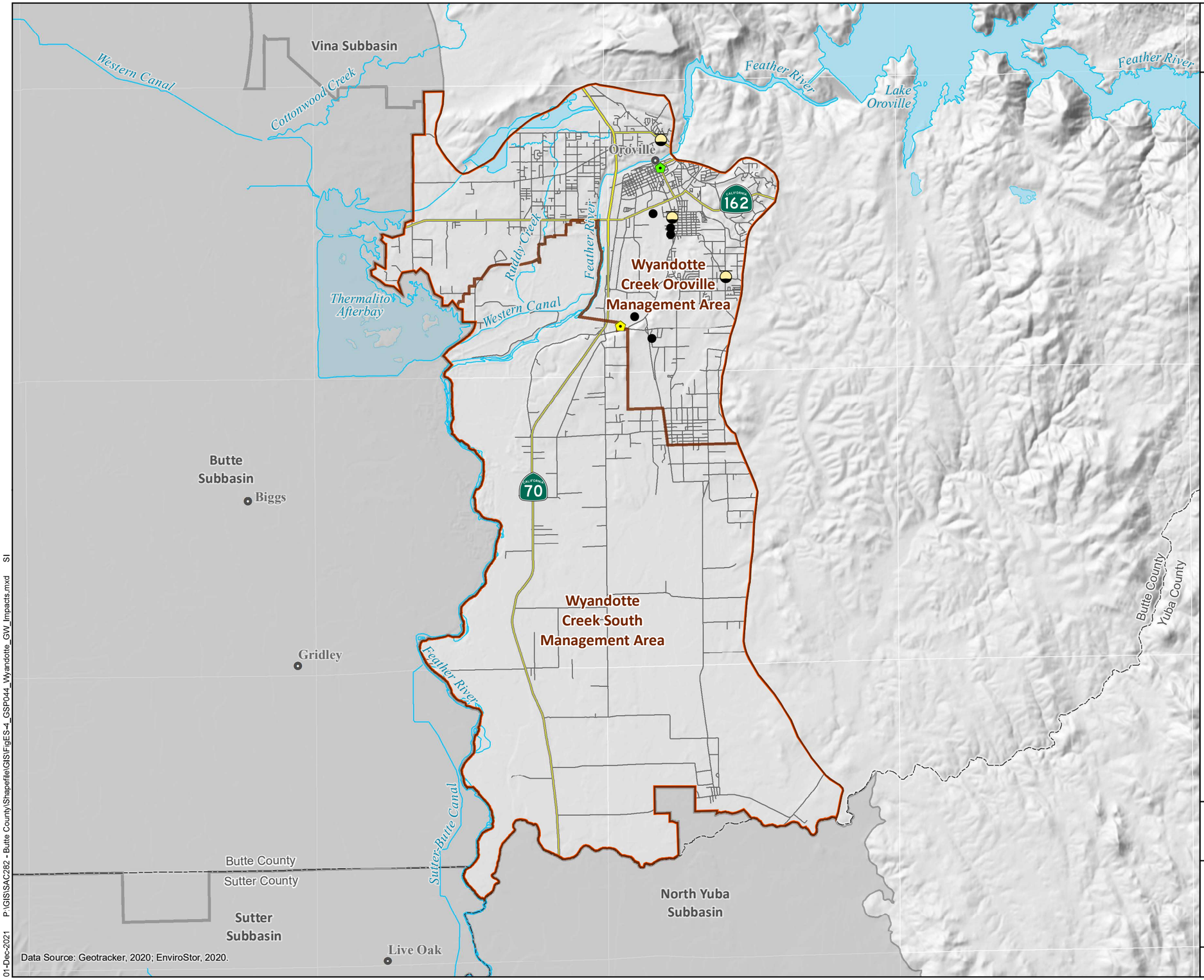

ACTIVE CONTAMINATION REMEDIATION SITES

Geotracker Sites

- Cleanup Program Site
- LUST Cleanup Site

EnviroStor Sites

- State Response Cleanup
- Voluntary Cleanup
- Waterway
- Lake
- Wyandotte Creek Subbasin
- Neighboring Subbasin
- Highways
- Other roads

0 2 4
Miles

N

WYANDOTTE CREEK SUBBASIN GSP

DECEMBER 2021 FIGURE ES-4

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In the upland areas outside of the Feather River floodplain, there are creeks that flow seasonally and dry up in late summer or are dry for an entire year during dry conditions. In this case, the upland creeks may not be influenced by "high groundwater connectivity" and the presence of an undesirable result is not clear cut with respect to surface water depletion. The streams dry up regardless of the groundwater condition, and streams that are already dry are not considered interconnected surface water. However, the upland streams are an important source of recharge to the aquifer, so the health of these stream channels and their adjacent riparian zones is important to groundwater sustainability. This has been identified as a data gap and will be addressed as part of the GSP implementation.

Potential impacts of the depletion of interconnected surface water were discussed by stakeholders during technical discussions covering the fundamentals of groundwater-surface water interactions and mapping analysis of potential groundwater dependent ecosystems (iGDEs) prepared by Butte County Department of Water and Resource Conservation (BCDWRC). Potential impacts identified by stakeholders were:

- Disruption to GDEs
- Reduced flows in rivers and streams supporting aquatic ecosystems and water right holders
- Streamflow changes in upper watershed areas outside of the Wyandotte Creek GSA boundary
- Water table depth dropping below the maximum rooting depth of Valley Oak (*Quercus lobata*) or other deep-rooted tree species
- Cumulative groundwater flow moving toward the Feather River from both the Wyandotte Creek Subbasin and surrounding GSAs on both the east and west side of the river

The Wyandotte Creek Subbasin acknowledges that overall function of the riparian zone and floodplain is dependent on multiple components of the hydrologic cycle that may or may not have relationships to groundwater levels in the principal aquifer. For example, hydrologic impacts outside of the Wyandotte Creek Subbasin, such as upper watershed development or fire-related changes in run-off, could result in impacts to streamflow, riparian areas, or GDEs that are completely independent of any connection to groundwater use or conditions within the Wyandotte Creek Subbasin.

Sustainable Management Criteria

SGMA introduces several terms to measure sustainability. The sustainability goal is the culmination of conditions resulting in a sustainable condition (absence of undesirable results) within 20 years. 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.*

SIs refer to any of the effects caused by groundwater conditions occurring throughout the Wyandotte Creek Subbasin that, when significant and unreasonable, cause undesirable results. The six SIs identified by DWR are:

1. Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon
2. Significant and unreasonable reduction of groundwater storage
3. Significant and unreasonable seawater intrusion
4. Significant and unreasonable degraded water quality
5. Significant and unreasonable land subsidence that substantially interferes with surface land uses
6. Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

Undesirable results are the significant and unreasonable occurrence of conditions that adversely affect groundwater use in the Wyandotte Creek Subbasin, including reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses of the Wyandotte Creek Subbasin's groundwater. Categories of undesirable results are defined through the SIs.

MT are numeric values for each SI and are used to define when undesirable results occur. Undesirable results occur if MTs are exceeded in an established percentage of sites in the Wyandotte Creek Subbasin's representative monitoring network. MO are a specific set of quantifiable goals for the maintenance or improvement of groundwater conditions. The margin of operational flexibility is the range of active management between the MT and the MO. Interim milestones (IM) are targets set in 5-year increments over the implementation period of the GSP offering a path to sustainability. Figure ES-5 illustrates these terms using the groundwater level SI.

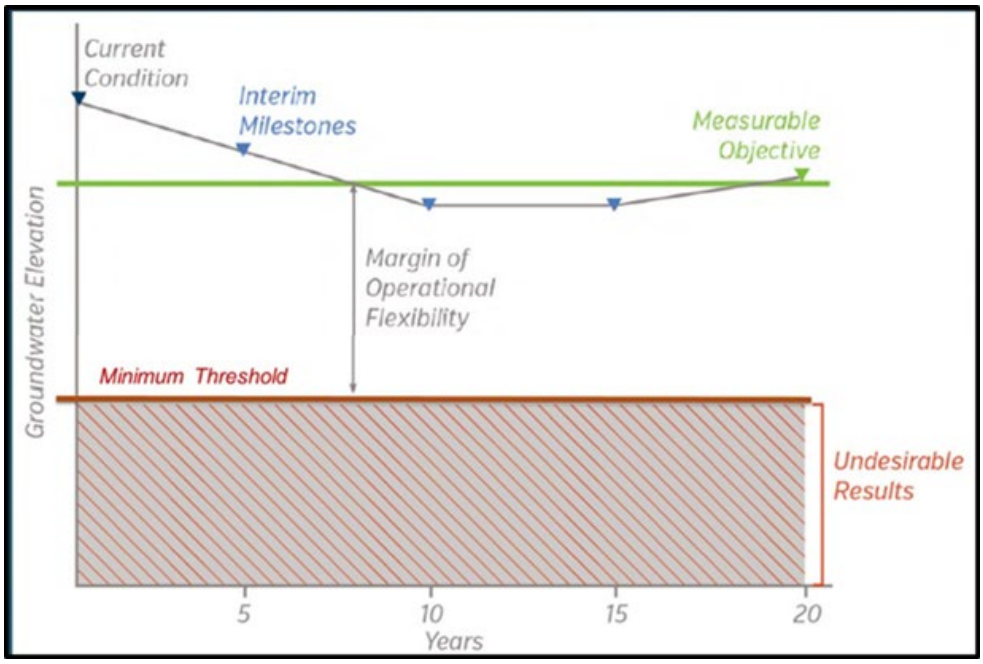


Figure ES-5: Illustration of Terms Used for Describing Sustainable Management Criteria Using the Groundwater Level Sustainability Indicator

A total of nine representative wells were identified for measurement of groundwater levels in the Wyandotte Creek Subbasin and six representative wells were identified for groundwater quality monitoring. The GSP uses groundwater quality data as a basis for evaluating conditions from saline water below the fresh water and uses groundwater level data as the basis for evaluating conditions for groundwater levels, groundwater storage, and subsidence. The GSP has identified a data gap for development of sustainable management criteria (SMC) for depletion of interconnected surface waters and has provided a framework for evaluation of this SI. However, for this GSP, the SMC developed for groundwater levels are used as a proxy for interconnected surface water in an interim manner until data gaps are addressed. As such, the representative monitoring wells described above provide the basis for measuring the five relevant SIs across the Wyandotte Creek Subbasin.

MTs and MOs were developed for each of the representative wells. Figure ES-6 shows a typical relationship of the MTs, MOs, and historical groundwater level data for a sample groundwater level representative monitoring well.

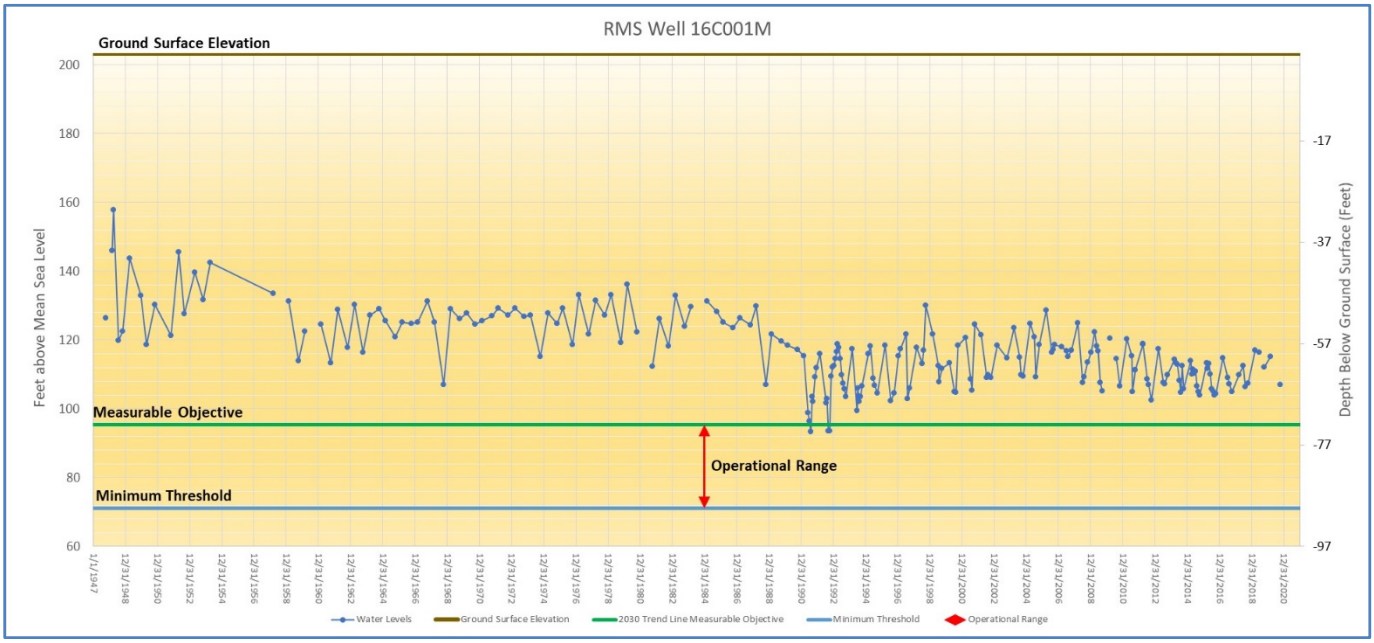


Figure ES-6: Representative Monitoring Site for Groundwater Levels with Relationship of Measurable Objectives, Minimum Thresholds, and Operational Range

MTs for groundwater levels were developed with reference to domestic well depths. The MT for all representative monitoring site (RMS) wells was based on the 15th percentile of total well depth for domestic wells completed after 1980. The DWR database used for information on total depths of the domestic wells is not always accurate or precise, nor is it known which of the wells in the database are in use or have been abandoned or replaced. As such, the GSP has identified these data as a data gap that will be further investigated as part of the GSP implementation.

To establish the MO, the water-level hydrograph of observed groundwater levels at each RMS well was evaluated. The historical record at these locations shows cyclical fluctuations of groundwater level over a four- to seven-year cycle. The MO for groundwater levels at each RMS well was set at the trend line for the dry periods (since 2000) of observed short-term climatic cycles extended to 2030. Figure ES-7 shows an example of this trend line for an RMS well. Table ES-1 shows the MTs and MOs for groundwater levels at each of the RMS wells.

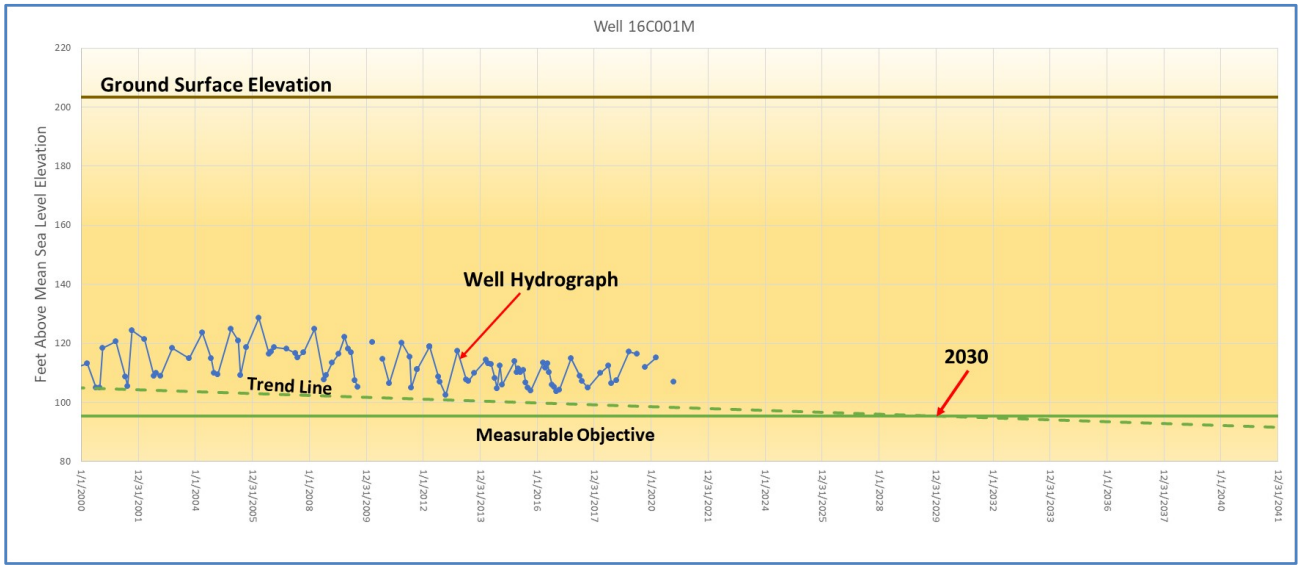


Figure ES-7: Illustration of Long-Term Trend Using Historical Water Levels Extended to 2030 for Development of Measurable Objective

Table ES-1: Groundwater Levels Sustainable Management Criteria by Representative Monitoring Site in Feet Above Mean Sea Level

RMS Well ID	MT	MO	IM		
			2027	2032	2037
Wyandotte Creek Subbasin – Oroville Management Area					
16Q001M	85	133	134	133	133
32P001M	78	107	108	106	106
CWS-03	102	133	135	132	132
Wyandotte Creek Subbasin – South Management Area					
13B002M	35	47	48	46	46
09N002M	35	49	51	47	47
25N001M	37	52	53	52	52
08M001M	59	86	87	85	85
16C001M	71	95	96	95	95
31F001M	76	99	101	98	98

MTs and MOs for water quality were defined by considering two primary beneficial uses at risk of undesirable results related to salinity: drinking water and agriculture uses. MTs are 1,600 micro-siemens per centimeter (µS/cm) for each representative monitoring well, consistent with the upper limit of the California Secondary Maximum Contaminant Level (MCL) for electrical conductivity. MOs are 900 µS/cm for each representative monitoring well, consistent with the California Secondary MCL for electrical conductivity.

Data needed to develop the SMC for interconnected surface waters includes definition of stream reaches and associated priority habitat, streamflow measurements to develop profiles at multiple time periods, and measurements of groundwater levels directly adjacent to stream channels, first

water bearing aquifer zone, and deeper aquifer zones. These data are not available and are a data gap for the GSP. Further evaluation of this SMC is needed to avoid undesirable results to aquatic ecosystems and GDEs. To that end, an Interconnected Surface Water SMC framework has been developed for the GSP. As such, for this GSP the groundwater levels SMC are used by proxy and the MT and MO for interconnected surface water is the same as for groundwater levels.

The MTs and MOs for groundwater levels are also used for the land subsidence and groundwater storage SIs, as both are strongly linked to groundwater levels. The groundwater levels MTs are found to be protective of land subsidence and groundwater storage.

Water Budgets

The groundwater evaluations conducted as a part of GSP development have provided estimates of the historical, current, and projected groundwater budget conditions. The current analysis was prepared using the best available information and through use of the Butte Basin Groundwater Model (BBGM). The BBGM began in 1992 and has been updated over time to simulate historical conditions through 2018. To prepare water budges for this GSP, historical BBGM results for water years 2000 to 2018 have been relied upon and four additional baseline scenarios have been developed to represent current and projected conditions utilizing 50 years of hydrology. It is anticipated that as additional information becomes available, the model will be updated, and more refined estimates of annual pumping and overdraft can be developed.

Based on these analyses, at projected groundwater pumping levels, the long-term groundwater pumping offset and/or recharge required for the Wyandotte Creek Subbasin to achieve sustainability is approximately 1,000 AFY. Groundwater levels are expected to continue to decline based on projections of current land and water uses. Projects that offset groundwater pumping and/or increase recharge will help the Wyandotte Creek Subbasin reach sustainability.

The projected Wyandotte Creek Subbasin water budget was also evaluated under climate change conditions, which simulate higher demand requiring increased groundwater pumping despite more precipitation and streamflows. The climate change scenario used for the analysis was based on the 2030 and 2070 central tendency climate change datasets provided by DWR to support GSP development. The overdraft modeled under climate change conditions is simulated to increase above projected conditions without climate change. Figure ES-8 illustrates the cumulative change in groundwater storage for current and future conditions.

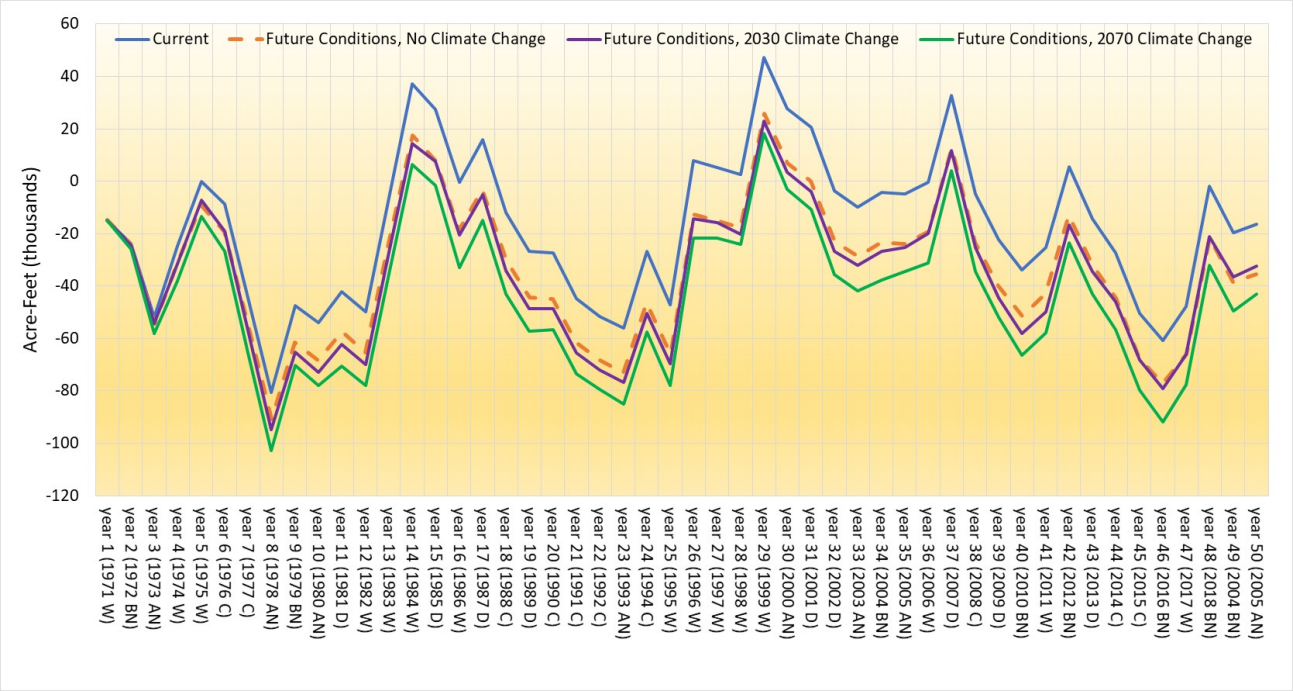


Figure ES-8: Cumulative Change in Groundwater Storage for Current and Future Conditions Baseline Scenarios

Monitoring Networks

The GSP outlines the monitoring networks for the six SIs. The objective of these monitoring networks is to monitor conditions across the Wyandotte Creek Subbasin and to detect trends toward undesirable results. Specifically, the monitoring network was developed to do the following:

- Monitor impacts to the beneficial uses or users of groundwater
- Monitor changes in groundwater conditions relative to MOs and MTs
- Demonstrate progress toward achieving MOs described in the GSP

There are five monitoring networks in the Wyandotte Creek Subbasin: a representative network for water levels; a broad network for water levels; a representative network for water quality; a broad network for water quality; and a broad network for land subsidence. Representative networks are used to determine compliance with the MTs, while the broad networks collect data for informational purposes to identify trends and fill data gaps. The two monitoring networks for water quality will additionally be used to develop an electrical conductivity isocontour to monitor for potential intrusion for underlying saline waters and water levels data will inform depletions of interconnected surface water.

The monitoring networks were designed by evaluating data from Butte County's existing Basin Management Objective (BMO) program, the United States Geological Survey (USGS), and participating GSAs. The monitoring network consists largely of wells that are already being used

for monitoring in the Wyandotte Creek Subbasin. Figure ES-9 shows the location of groundwater monitoring wells for the representative monitoring networks.

Wells in the monitoring networks will be measured on a semi-annual schedule. Historical measurements will be entered into the Wyandotte Creek Subbasin Data Management System (DMS), and future data will also be stored in the DMS. A summary of the wells in the monitoring networks is shown in the table below. There are also three stream gauges monitored within the Wyandotte Creek Subbasin

Summary of Monitoring Network Wells	
Representative Networks	**Well Count**
Groundwater Level	9
Groundwater Quality	8
Broad Network	
Groundwater Levels	13
Groundwater Quality	2
Subsidence	6

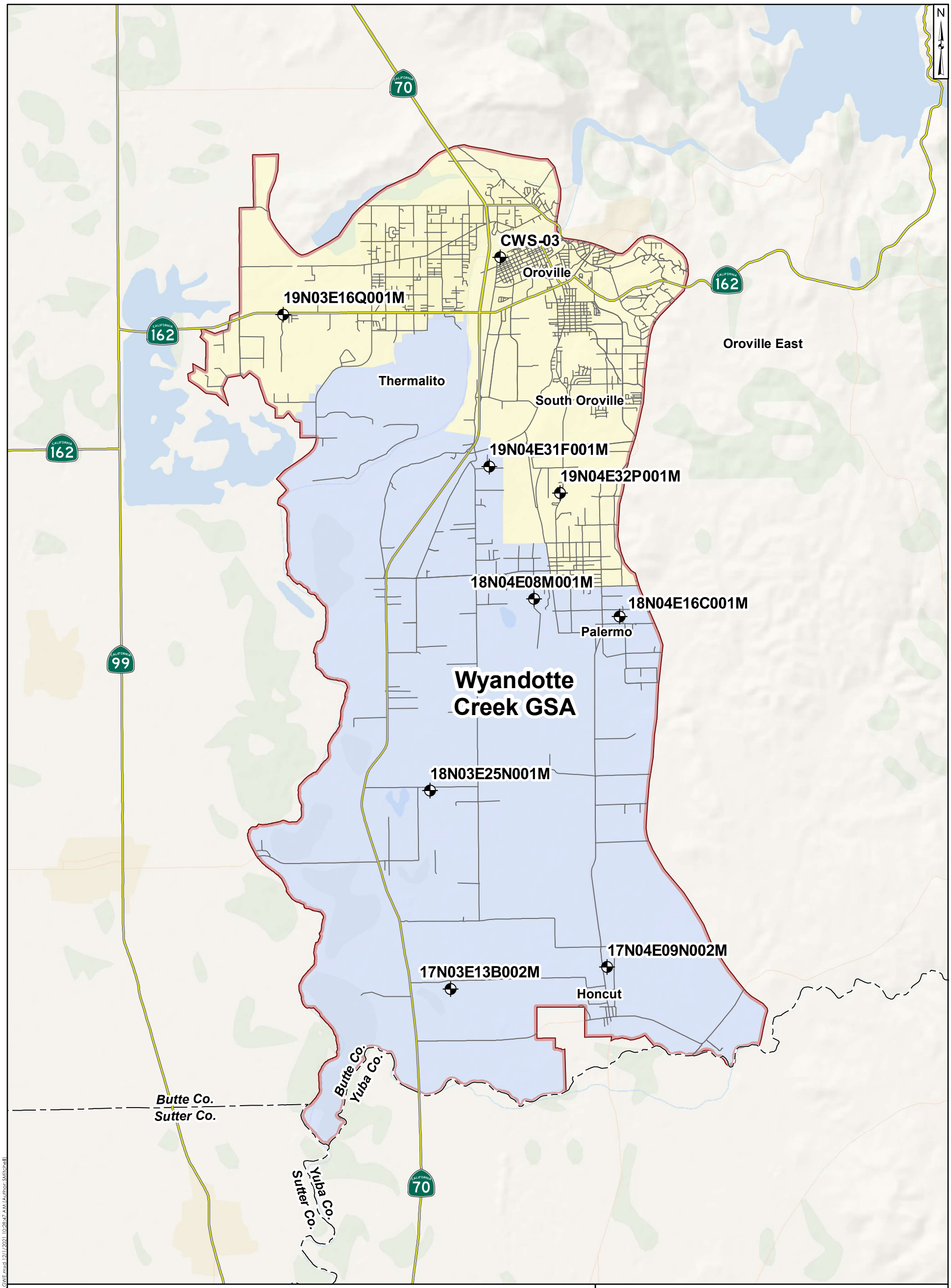
Data Management System

The DMS that will be used is a geographical relational database that will include information on water levels, land elevation measurements, and water quality testing. The DMS will allow the GSAs to share data and store the necessary information for annual reporting.

The DMS will be on local servers and data will be transmitted annually to form a single repository for data analysis for the Wyandotte Creek Subbasin's groundwater, as well as to allow for preparation of annual reports. GSA representatives have access to data and will be able to ask for a copy of the regional DMS. The DMS currently includes the necessary elements required by the regulations, including:

- Well location and construction information for the representative monitoring points (where available)
- Water level readings and hydrographs including water year type
- Land based measurements
- Water quality testing results
- Estimate of groundwater storage change, including map and tables of estimation
- Graphs with Water Year type, Groundwater Use, Annual Cumulative Storage Change

Additional items may be added to the DMS in the future as required. Data will be entered into the DMS by the GSA.


N
70
162
162
99
70
CWS-03
Oroville
19N03E16Q001M
Oroville East
Thermalito
South Oroville
19N04E31F001M
19N04E32P001M
18N04E08M001M
18N04E16C001M
Palermo
Wyandotte
Creek GSA
18N03E25N001M
17N04E09N002M
17N03E13B002M
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Butte Co.
Sutter Co.
Yuba Co.
Sutter Co.
Legend
Groundwater Sustainability Agency (GSA)[1]
Wyandotte Creek GSA
Wyandotte Creek Subbasin Management Areas
Wyandotte Creek Oroville
Wyandotte Creek South
Roads[2]
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Other roads
RMS GWE Monitoring Wells
Well
Boundaries[2]
County boundaries
Notes:
1) California Department of Water Resources (CA DWR).
2) TIGER/Line, U.S. Census Bureau.
2 1 0 2 Miles
Groundwater Level RMS Wells
Wyandotte Creek Subbasin GSP
Geosyntec consultants
Project No.: SAC282
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Figure
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Projects and Management Actions

Each of the projects are in various stages of development ranging from planned to those still in the conceptual phase. Thus, each of the projects have a different level of development. The GSA will maintain a list of proposed projects and track their development status. The GSA will use this list to help secure funding as opportunities become available. Projects presented in this Plan will remain a part of the potential projects that the GSA may choose to implement, however as other projects are identified, those will be added to the list. The projects currently being considered are listed below and are listed from planned to conceptual.

Planned:

- Residential Conservation
- Agricultural Irrigation Efficiency
- FloodMAR
- Oroville Wildlife Area Robinson's Riffle Project
- Streamflow Augmentation
- TWSD Water Treatment Plant Capacity Upgrade
- Water Loss Monitoring
- Palermo Clean Water Consolidation Project

Potential:

- Intra-Basin Water Transfer
- Agricultural Surface Water Supplies
- Well Upgrades
- Fuels Management for Watershed Health
- Removal of Invasive Species

Conceptual:

- Recharge Well (Injection Well)
- Extend Orchard Replacement

Management Actions

GSAs have a variety of tools to use to achieve sustainable groundwater management. Projects focus primarily on capture, use, and recharge of surface water supplies while management actions focus on groundwater demand.

Section 5.3 presents several management actions that the GSA may consider during GSP implementation. It is expected that the GSA will further develop and modify management

actions in response to stakeholder input and available information. The management actions identified in this GSP include:

- General Plans Updates
- Domestic Well Mitigation
- Well Permitting Ordinance
- Landscape Ordinance
- Expansion of Water Purveyors' Service Area

Plan Implementation

The adoption of the GSP is official start of plan implementation for the Vina Subbasin. The GSAs will continue their public outreach efforts and work to secure funding to implement projects and management actions. The estimated budgets and implementation schedule for the proposed projects and management actions are presented in Chapter 6.

Implementing the Wyandotte Creek Subbasin GSP will require numerous management activities that will be undertaken by the GSAs, including:

- Monitoring conditions relative to applicable SIs at specified frequency and timing
- Entering updated monitoring data into the Wyandotte Creek Subbasin DMS
- Refining the Wyandotte Creek Subbasin model and water budget planning estimates
- Preparing annual reports summarizing the conditions of the Wyandotte Creek Subbasin and progress towards sustainability and submitting them to DWR
- Updating the GSP once every five years
- Overseeing and monitoring projects, management actions, and collection of data identified as "data gaps" within the GSP
- Identify funding sources
- Coordinating with neighboring subbasins