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Eastern Management Area Groundwater Sustainability Agency

Santa Ynez River Valley Groundwater Basin – Eastern Management Area Groundwater Sustainability Plan

~~September 8, 2021~~

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EMA

Santa Ynez River Valley Groundwater Basin
Eastern Management Area
Groundwater Sustainability Agency

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Prepared for:

Santa Ynez River Valley Groundwater Basin

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GSI Water Solutions, Inc., is pleased to submit this Groundwater Sustainability Plan (GSP) prepared in accordance with California Code of Regulations, Title 23. Water, Division 2. Department of Water Resources, Chapter 1.5. Groundwater Management, Subchapter 2. Groundwater Sustainability Plans.

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Appendices

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Abbreviations and Acronyms

µg/L	microgram per liter
ADF	average daily flow
Administrative Agreement	Intra-Basin Administrative Agreement for Implementation
AEM	airborne electromagnetic
AF	acre-feet
AFY	acre-feet per year
ANA	Above Narrows Account
AMI	automated meter infrastructure
ASR	aquifer storage and recovery
AW	applied water
Basin	Santa Ynez River Valley Groundwater Basin
BCM	Basin Characterization Model
bgs	below ground surface
BMP	best management practice
BNA	Below Narrows Account
BPA	base pumping allocation
CAG	Citizens Advisory Group
CASGEM	California Statewide Groundwater Elevation Monitoring
Casino	Chumash Casino Resort
CCR	California Code of Regulations
CCWA	Central Coast Water Authority
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGPS	Continuous Global Positioning System
City	City of Solvang
CMA	Santa Ynez River Valley Groundwater Basin – Central Management Area
COGG	California Oil, Gas, and Groundwater
Committee	EMA GSA Committee
County	Santa Barbara County
DCR	Delivery Capability Report
DDW	Division of Drinking Water
DMS	data management system
DPS	Distinct Population Segment
DRINC	Drinking Water Information Clearinghouse
DSW-MAR	distributed storm water managed aquifer recharge
DWR	California Department of Water Resources
EMA	Santa Ynez River Valley Groundwater Basin – Eastern Management Area

Ep	pan evaporation
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ET	evapotranspiration
ETAW	evapotranspiration of applied water
ETc	crop evapotranspiration
ETo	reference evapotranspiration
EVT	Existing Vegetation Type
GAMA	Groundwater Ambient Monitoring and Assessment
GCP	(Santa Ynez) Groundwater Communication Portal
GDE	groundwater dependent ecosystem
GEC	groundwater extraction credit
gpcd	gallons per capita per day
gpm	gallons per minute
Groundwater Report	2019 Santa Barbara County Groundwater Basins Status Report
GSA	Groundwater Sustainability Agency
GSI	GSI Water Solutions, Inc.
GSP	Groundwater Sustainability Plan
GWMP	Groundwater Management Plan
HCM	hydrogeologic conceptual model
HTO	Heal the Ocean
HUC	Hydrologic Unit Codes
ID No. 1	Santa Ynez River Water Conservation District, Improvement District No. 1
ILRP	Irrigated Lands Regulatory Program
InSAR	Interferometric Synthetic Aperture Radar
IRWM	Integrated Regional Water Management
JPL	Jet Propulsion Laboratory
LOCSD	Los Olivos Community Service District
LUST	leaking underground storage tank
M&I	municipal and industrial
MA	management area
MAR	managed aquifer recharge
MBAS	methylene blue active substances
MCL	maximum contaminant level
mg/L	milligrams per liter
MGD	million gallons per day
mm	milliliter
MO	measurable objective
MOA	memorandum of agreement
MOU	memorandum of understanding

MT	minimum threshold
MTBE	methyl tert-butyl ether
NASA	National Aeronautics and Space Administration
NAVD 88	North American Vertical Datum of 1988
NCCAG	Natural Communities Commonly Associated with Groundwater
NHD	National Hydrography Dataset
NMFS	National Marine Fisheries Service
NWIS	National Water Information System
OWTS	onsite wastewater treatment system
PCE	tetrachloroethylene
pCi/L	picocuries per liter
Plan	Groundwater Sustainability Plan
PMA	project or management action
QA/QC	quality assurance and quality control
RMS	representative monitoring site
RP	reference point
RWQCB	Regional Water Quality Control Board
SACV	San Antonio Creek Valley Groundwater Basin
SCH	State Clearinghouse
SGMA	Sustainable Groundwater Management Act
SMC	sustainable management criterion
SMCL	secondary maximum contaminant level
Stetson	Stetson Engineers
SWP	State Water Project
SWRCB	State Water Resources Control Board
SYCSD	Santa Ynez Community Services District
SYR	Santa Ynez River
SYRHM	Santa Ynez River Hydrologic Model
SYRWCD	Santa Ynez River Water Conservation District
TDS	total dissolved solids
TEM	transient electromagnetic
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
tTEM	towed transient electromagnetic
UC	University of California
UNAVCO	University NAVSTAR Consortium
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWCD	United Water Conservation District

UWMP	Urban Water Management Plan
VIC	variable infiltration capacity
Water Agency	Santa Barbara County Water Agency
WMA	Santa Ynez River Valley Groundwater Basin – Western Management Area
WQ Basin Plan	Water Quality Control Plan for the Central Coastal Basin
WQO	water quality objective
WRP	water reclamation plant
WWTF	wastewater treatment facility
WWTP	wastewater treatment plant
WY	water year

Definitions

California Water Code

Sec. 10721

Unless the context otherwise requires, the following definitions govern the construction of this part:

- (a) Adjudication action means an action filed in the superior or federal district court to determine the rights to extract groundwater from a basin or store water within a basin, including, but not limited to, actions to quiet title respecting rights to extract or store groundwater or an action brought to impose a physical solution on a basin.
- (b) Basin means a groundwater basin or subbasin identified and defined in Bulletin 118 or as modified pursuant to Chapter 3 (commencing with Section 10722).
- (c) Bulletin 118 means the department's report entitled California's Groundwater: Bulletin 118 updated in 2003, as it may be subsequently updated or revised in accordance with Section 12924.
- (d) Coordination agreement means a legal agreement adopted between two or more groundwater sustainability agencies that provides the basis for coordinating multiple agencies or groundwater sustainability plans within a basin pursuant to this part.
- (e) De minimis extractor means a person who extracts, for domestic purposes, two acre- feet or less per year.
- (f) Governing body means the legislative body of a groundwater sustainability agency.
- (g) Groundwater means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water, but does not include water that flows in known and definite channels.
- (h) Groundwater extraction facility means a device or method for extracting groundwater from within a basin.
- (i) Groundwater recharge or recharge means the augmentation of groundwater, by natural or artificial means.
- (j) Groundwater sustainability agency means one or more local agencies that implement the provisions of this part. For purposes of imposing fees pursuant to Chapter 8 (commencing with Section 10730) or taking action to enforce a groundwater sustainability plan, groundwater sustainability agency also means each local agency comprising the groundwater sustainability agency if the plan authorizes separate agency action.
- (k) Groundwater sustainability plan or plan means a plan of a groundwater sustainability agency proposed or adopted pursuant to this part.
- (l) Groundwater sustainability program means a coordinated and ongoing activity undertaken to benefit a basin, pursuant to a groundwater sustainability plan.
- (m) In-lieu use means the use of surface water by persons that could otherwise extract groundwater in order to leave groundwater in the basin.

- (n) Local agency means a local public agency that has water supply, water management, or land use responsibilities within a groundwater basin.
- (o) Operator means a person operating a groundwater extraction facility. The owner of a groundwater extraction facility shall be conclusively presumed to be the operator unless a satisfactory showing is made to the governing body of the groundwater sustainability agency that the groundwater extraction facility actually is operated by some other person.
- (p) Owner means a person owning a groundwater extraction facility or an interest in a groundwater extraction facility other than a lien to secure the payment of a debt or other obligation.
- (q) Personal information has the same meaning as defined in Section 1798.3 of the Civil Code.
- (r) Planning and implementation horizon means a 50-year time period over which a groundwater sustainability agency determines that plans and measures will be implemented in a basin to ensure that the basin is operated within its sustainable yield.
- (s) Public water system has the same meaning as defined in Section 116275 of the Health and Safety Code.
- (t) Recharge area means the area that supplies water to an aquifer in a groundwater basin.
- (u) Sustainability goal means the existence and implementation of one or more groundwater sustainability plans that achieve sustainable groundwater management by identifying and causing the implementation of measures targeted to ensure that the applicable basin is operated within its sustainable yield.
- (v) Sustainable groundwater management means the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.
- (w) Sustainable yield means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus that can be withdrawn annually from a groundwater supply without causing an undesirable result.
- (x) Undesirable result means one or more of the following effects caused by groundwater conditions occurring throughout the basin:
- (1) Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.
 - (2) Significant and unreasonable reduction of groundwater storage.
 - (3) Significant and unreasonable seawater intrusion.
 - (4) Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.

- (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.
- (y) Water budget means an accounting of the total groundwater and surface water entering and leaving a basin including the changes in the amount of water stored.
- (z) Watermaster means a watermaster appointed by a court or pursuant to other law.
- (aa) Water year means the period from October 1 through the following September 30, inclusive.
- (ab) Wellhead protection area means the surface and subsurface area surrounding a water well or well field that supplies a public water system through which contaminants are reasonably likely to migrate toward the water well or well field.

Official California Code of Regulations (CCR)

Title 23. Waters

Division 2. Department of Water Resources

Chapter 1.5. Groundwater Management

Subchapter 2. Groundwater Sustainability Plans

Article 2. Definitions

23 CCR § 351

§ 351. Definitions.

The definitions in the Sustainable Groundwater Management Act, Bulletin 118, and Subchapter 1 of this Chapter, shall apply to these regulations. In the event of conflicting definitions, the definitions in the Act govern the meanings in this Subchapter. In addition, the following terms used in this Subchapter have the following meanings:

- (a) “Agency” refers to a groundwater sustainability agency as defined in the Act.
- (b) “Agricultural water management plan” refers to a plan adopted pursuant to the Agricultural Water Management Planning Act as described in Part 2.8 of Division 6 of the Water Code, commencing with Section 10800 et seq.
- (c) “Alternative” refers to an alternative to a Plan described in Water Code Section 10733.6.
- (d) “Annual report” refers to the report required by Water Code Section 10728.
- (e) “Baseline” or “baseline conditions” refer to historic information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin.
- (f) “Basin” means a groundwater basin or subbasin identified and defined in Bulletin 118 or as modified pursuant to Water Code 10722 et seq.
- (g) “Basin setting” refers to the information about the physical setting, characteristics, and current conditions of the basin as described by the Agency in the hydrogeologic conceptual model, the groundwater conditions, and the water budget, pursuant to Subarticle 2 of Article 5.

- (h) “Best available science” refers to the use of sufficient and credible information and data, specific to the decision being made and the time frame available for making that decision, that is consistent with scientific and engineering professional standards of practice.
- (i) “Best management practice” refers to a practice, or combination of practices, that are designed to achieve sustainable groundwater management and have been determined to be technologically and economically effective, practicable, and based on best available science.
- (j) “Board” refers to the State Water Resources Control Board.
- (k) “CASGEM” refers to the California Statewide Groundwater Elevation Monitoring Program developed by the Department pursuant to Water Code Section 10920 et seq., or as amended.
- (l) “Data gap” refers to a lack of information that significantly affects the understanding of the basin setting or evaluation of the efficacy of Plan implementation, and could limit the ability to assess whether a basin is being sustainably managed.
- (m) “Groundwater dependent ecosystem” refers to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.
- (n) “Groundwater flow” refers to the volume and direction of groundwater movement into, out of, or throughout a basin.
- (o) “Interconnected surface water” refers to surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted.
- (p) “Interested parties” refers to persons and entities on the list of interested persons established by the Agency pursuant to Water Code Section 10723.4.
- (q) “Interim milestone” refers to a target value representing measurable groundwater conditions, in increments of five years, set by an Agency as part of a Plan.
- (r) “Management area” refers to an area within a basin for which the Plan may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.
- (s) “Measurable objectives” refer to specific, quantifiable goals for the maintenance or improvement of specified groundwater conditions that have been included in an adopted Plan to achieve the sustainability goal for the basin.
- (t) “Minimum threshold” refers to a numeric value for each sustainability indicator used to define undesirable results.
- (u) “NAD83” refers to the North American Datum of 1983 computed by the National Geodetic Survey, or as modified.
- (v) “NAVD88” refers to the North American Vertical Datum of 1988 computed by the National Geodetic Survey, or as modified.
- (w) “Plain language” means language that the intended audience can readily understand and use because that language is concise, well-organized, uses simple vocabulary, avoids excessive acronyms and technical language, and follows other best practices of plain language writing.

- (x) “Plan” refers to a groundwater sustainability plan as defined in the Act.
- (y) “Plan implementation” refers to an Agency's exercise of the powers and authorities described in the Act, which commences after an Agency adopts and submits a Plan or Alternative to the Department and begins exercising such powers and authorities.
- (z) “Plan manager” is an employee or authorized representative of an Agency, or Agencies, appointed through a coordination agreement or other agreement, who has been delegated management authority for submitting the Plan and serving as the point of contact between the Agency and the Department.
- (aa) “Principal aquifers” refer to aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems.
- (ab) “Reference point” refers to a permanent, stationary and readily identifiable mark or point on a well, such as the top of casing, from which groundwater level measurements are taken, or other monitoring site.
- (ac) “Representative monitoring” refers to a monitoring site within a broader network of sites that typifies one or more conditions within the basin or an area of the basin.
- (ad) “Seasonal high” refers to the highest annual static groundwater elevation that is typically measured in the Spring and associated with stable aquifer conditions following a period of lowest annual groundwater demand.
- (ae) “Seasonal low” refers to the lowest annual static groundwater elevation that is typically measured in the Summer or Fall, and associated with a period of stable aquifer conditions following a period of highest annual groundwater demand.
- (af) “Seawater intrusion” refers to the advancement of seawater into a groundwater supply that results in degradation of water quality in the basin, and includes seawater from any source.
- (ag) “Statutory deadline” refers to the date by which an Agency must be managing a basin pursuant to an adopted Plan, as described in Water Code Sections 10720.7 or 10722.4.
- (ah) “Sustainability indicator” refers to any of the effects caused by groundwater conditions occurring throughout the basin that, when significant and unreasonable, cause undesirable results, as described in Water Code Section 10721(x).
- (ai) “Uncertainty” refers to a lack of understanding of the basin setting that significantly affects an Agency's ability to develop sustainable management criteria and appropriate projects and management actions in a Plan, or to evaluate the efficacy of Plan implementation, and therefore may limit the ability to assess whether a basin is being sustainably managed.
- (aj) “Urban water management plan” refers to a plan adopted pursuant to the Urban Water Management Planning Act as described in Part 2.6 of Division 6 of the Water Code, commencing with Section 10610 et seq.
- (ak) “Water source type” represents the source from which water is derived to meet the applied beneficial uses, including groundwater, recycled water, reused water, and surface water sources identified as Central Valley Project, the State Water Project, the Colorado River Project, local supplies, and local imported supplies.

(a) “Water use sector” refers to categories of water demand based on the general land uses to which the water is applied, including urban, industrial, agricultural, managed wetlands, managed recharge, and native vegetation.

(am) “Water year” refers to the period from October 1 through the following September 30, inclusive, as defined in the Act.

(an) “Water year type” refers to the classification provided by the Department to assess the amount of annual precipitation in a basin.

Executive Summary ~~§354.4(a)~~

ES-1 ~~ES-1~~ Introduction

The Sustainable Groundwater Management Act (SGMA), effective as of January of 2015, created a new statewide framework for managing California's groundwater at the local level. SGMA empowers local agencies to form groundwater sustainability agencies (GSAs) tasked with developing groundwater sustainability plans (GSPs), such as this document. A GSP is a detailed road map for maintaining or bringing a designated groundwater basin into a sustainable condition within the next 20 years. When a basin is managed sustainably, groundwater conditions are maintained in a manner that avoids undesirable results caused by groundwater conditions occurring throughout the basin, such as chronic lowering of groundwater levels, or significant and unreasonable depletion of supply, reduction of groundwater storage, degraded water quality, land subsidence, or depletions of interconnected surface waters.

In his signing statement, Governor Brown emphasized that "groundwater management in California is best accomplished locally." The Santa Ynez River Valley Groundwater Basin (Basin) is divided into three management areas: the Western Management Area (WMA), the Central Management Area (CMA), and the Eastern Management Area (EMA), each with its own GSA and GSP. In 2017, the Santa Ynez River Water Conservation District (SYRWCD), Santa Barbara County Water Agency, the City of Solvang, and the SYRWCD, Improvement District No. 1 (ID No. 1) signed a Memorandum of Agreement (MOA) to form the EMA GSA. This GSP describes the pathway to groundwater sustainability for the EMA.

This GSP describes the EMA physical setting, quantifies, presents historical, present, and future water budgets, develops quantifiable management objectives that account for the interests of the EMA's beneficial groundwater uses and users, and identifies a group of projects and management actions that will allow the EMA to maintain or achieve sustainability within 20 years of plan adoption. This document also includes the list of references and technical studies, documentation of the stakeholder engagement process used in the development of this plan, and several supporting appendices. The EMA GSA has taken many steps, starting with stakeholder engagement, to complete the GSP in accordance with the requirements of SGMA and related SGMA regulations.

The EMA GSA has provided multiple venues for stakeholder engagement to encourage interested parties and the public to provide input based on their perspectives and priorities and to enable the GSA to provide updates to the public in a timely manner. The GSA created a Citizen Advisory Group (CAG) representing a variety of water user groups in the EMA to capture perspectives of all stakeholders throughout the development of the GSP. Numerous presentations and workshops were given to inform EMA groundwater users and the public about the plan and plan elements, and to solicit input. In addition, many of the key GSP sections were posted on the EMA website for public review. Numerous other meetings, educational flyers, mailers, and postings to social media were done to provide outreach in accordance with the Communication and Engagement Plan (see Appendix B). Comments were received through email, letters, and posts to the EMA groundwater communications portal. Each of these comments have been responded to and the locations where the comments are addressed in the GSP (if changes were warranted) are recorded in the response to comment log in Appendix J.

This plan considers the sources and uses of water in the EMA and the changes that might occur due to population growth, potential expansion of irrigated agriculture, and changes in rainfall, streamflow, and evapotranspiration due to climate change. This plan also considers groundwater dependent ecosystems, or (GDEs), which are habitats in which plants and animals rely ecological communities or species that depend on groundwater for survival emerging from aquifers or on groundwater occurring near the ground surface.

The EMA GSA ~~established~~establishes sustainable management criteria (SMCs) to avoid significant and unreasonable conditions caused by groundwater use that could lead to undesirable results for ~~a number~~five sustainability indicators listed in SGMA. As indicated above, the sustainability indicators include (1) chronic lowering of groundwater levels, (2) indicating a significant and unreasonable depletion of supply, (3) significant and unreasonable reduction of groundwater storage, (4) degraded water quality, (5) land subsidence, and (6) depletion of interconnected surface water. Basin stakeholders helped to define the sustainability goal, what constitutes undesirable results, and appropriate SMCs for each sustainability indicator. SGMA also requires that GSAs identify GDEs and assess the effects of changing groundwater levels on GDEs. The GSP includes a robust groundwater monitoring program and defines projects and management actions that have been developed to maintain long-term groundwater sustainability.

The organization of this plan is as follows:

- **Section 1 – Introduction to Plan Contents:** An introduction to the GSP, including a description of its purpose and a brief description of the EMA.
- **Section 2 – Administrative Information:** Includes the following:
 - Information on the EMA GSA as an organization and a brief description of the agencies participating in the GSA, including information on the legal authority of the GSA to plan and coordinate groundwater sustainability for the EMA.
 - An overview description of the EMA, including land use and agencies with jurisdiction, a description of the existing groundwater management plans and regulatory programs, any programs for conjunctive use, and urban land use programs that might have an effect on, or be affected by, this GSP.
 - The EMA GSA's ~~communications~~communication and engagement planning and implementation, public feedback and stakeholder comments on the plan, how feedback was incorporated into the GSP, and responses to comments received ~~(Note: comments and responses to comments will be included in the final draft of the GSP, once all public comments have been received)~~
- **Section 3 – Basin Setting:** Includes the following:
 - An explanation of the hydrogeologic conceptual model developed for the EMA that includes descriptions of the regional hydrology and geology, principal aquifers and aquitards, and a description of the data gaps in the current model.
 - A detailed description of the groundwater conditions, including groundwater elevations and changes in storage, groundwater quality for drinking water and agricultural irrigation and trends over time, an evaluation of land subsidence, locations where surface water and groundwater are interconnected, and the identification and distribution of groundwater-dependent ecosystems.
 - A presentation of the historical, current, and projected future water budgets for the EMA; how the water budgets were developed; an estimate of sustainable yield for the EMA; and the effects of climate change using the California Department of Water Resources (DWR) climate change assumptions.
- **Section 4 – Monitoring Networks:** A detailed description of the monitoring objectives and monitoring in the EMA for groundwater levels, storage, water quality, land subsidence, interconnected surface water, representative monitoring sites, and a description of the data management and reporting system.
- **Section 5 – Sustainable Management Criteria:** Defines the sustainability goal for the EMA; describes the process through which the SMCs were established; describes significant and unreasonable effects that could lead to undesirable results as a result of groundwater ~~use;~~conditions occurring throughout the

EMA describes and defines SMCs regarding chronic lowering of groundwater levels, significant and unreasonable reduction in groundwater storage, ~~seawater intrusion~~, degraded groundwater quality, land subsidence, and depletion of interconnected surface water; (including quantity and timing of surface water depletion); and describes the minimum thresholds, measurable objectives, and interim milestones to avoid undesirable results.

- **Section 6 – Projects and Management Actions:** Provides a grouping and description of each project and management action that may be developed and implemented by the EMA GSA to avoid undesirable results and ensure sustainability within 20 years of GSP adoption.
- **Section 7 – Groundwater Sustainability Plan Implementation:** Describes the implementation sequence for projects and management actions, overall schedule, estimated implementation costs, and sources of funding.

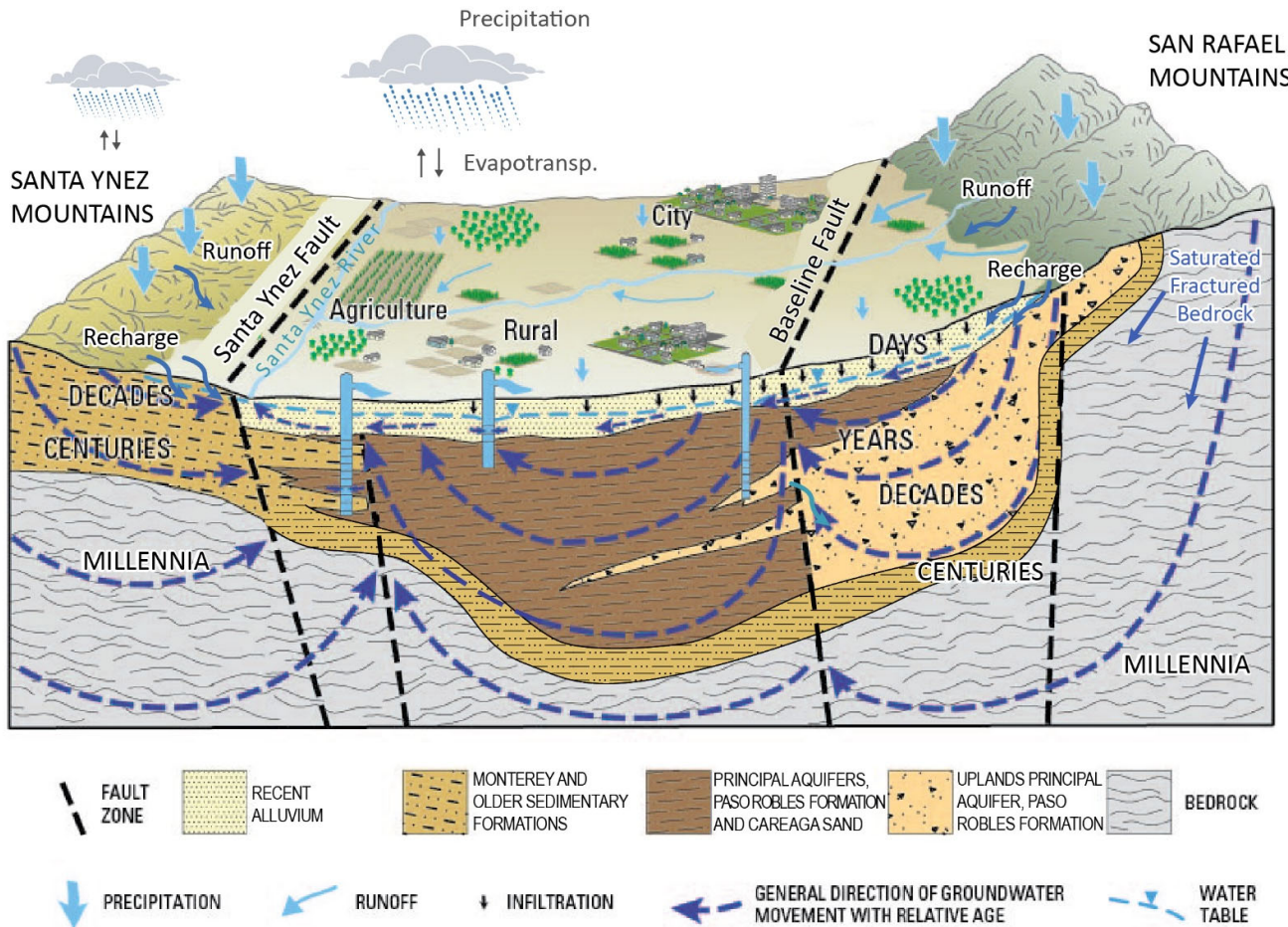
Summaries of the key technical sections of this GSP are presented below.

ES-2 ~~ES-2~~ Basin Setting (GSP Section 3)

Section 3 of the GSP describes the physical setting and characteristics of the EMA, including the basin boundaries, geologic formations and structures, and principal aquifer units. The hydrogeologic conceptual model describes how the groundwater system works and is based on the available body of data and prior studies of the Basin's geology, hydrology, and water quality. In this GSP, the hydrogeologic conceptual model provides a framework for subsequent sections of the basin setting, including groundwater conditions and water budgets. Together these sections provide the basis for understanding the groundwater resources in the EMA and support the GSA's efforts to achieve groundwater sustainability in the EMA and the Basin by 2042. This plan will be updated as required to maintain this goal.

ES-2.1 ES-2.1 — Hydrogeologic Conceptual Model and Principal Aquifers

Figure ES-1 is a diagram generally depicting the hydrogeologic system of the EMA, including its topographic setting, underlying geologic system, principal aquifers, generalized recharge and discharge areas for the aquifers, and water inflows and outflows. Two principal aquifers have been identified in the EMA: the Paso Robles Formation and the Careaga Sand. Water present within the Santa Ynez River Alluvium is considered surface water by under the regulatory jurisdiction of the State Water Resources Control Board (SWRCB) and is not managed by the GSAs under SGMA. Therefore, and according to definitions set forth by SGMA and the



SGMA regulations, the Santa Ynez River Alluvium is not classified in this GSP as a principal aquifer. (see Appendix K).

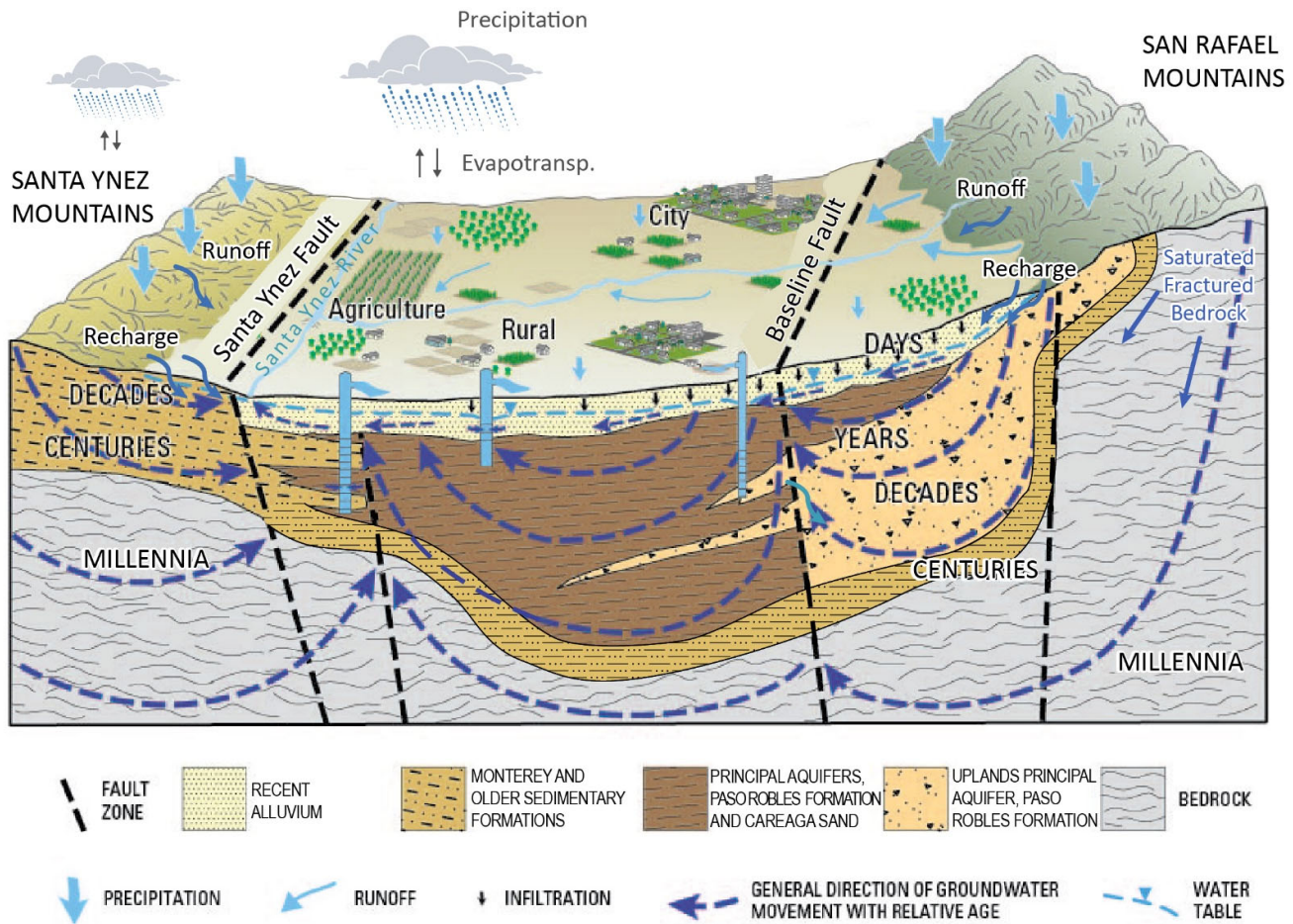


Figure ES-1. Hydrogeologic Conceptual Model and Principal Aquifers

The Paso Robles Formation makes up contains the majority of the groundwater in storage in the EMA. This aquifer is present in the Santa Ynez Uplands area of the EMA, extending from the ground surface to approximately 3,500 feet below ground surface, with an average thickness of about 1,500 feet. Deeper portions of the Paso Robles Formation are thought to contain poor quality groundwater. The Paso Robles Formation is made of relatively thin sand and gravel layers interbedded with thicker layers of silt and clay. The upper portion of the Paso Robles formation tends to contain more coarse-grained materials and produces groundwater at higher flow rates than the more fine-grained lower portion.

The Careaga Sand lies below the Paso Robles Formation in the Santa Ynez Uplands and below the Santa Ynez River gravels near the City of Solvang. In the Santa Ynez Uplands, the Careaga Sand is typically about 800 feet thick on average and varies between 200 and 900 feet. Generally, the Careaga Sand is less permeable than the Paso Robles Formation. Wells drawing water from the Careaga Sand typically provide less water than wells screened in the Paso Robles Formation. Because the material in this aquifer is relatively uniform and fine, wells completed in the Careaga Sand often have sanding problems.

ES-2.2 ~~ES-2.2~~ Recharge and Discharge in the EMA

Within the Santa Ynez Uplands area of the EMA, sources of groundwater recharge include percolation of precipitation, infiltration into and through streambeds, urban and agricultural return flows, septic system return flows (leachate), and water system distribution losses. Within the shallow alluvial sand and gravel beds of tributaries in the Santa Ynez Uplands, portions of the ephemeral streams contribute to groundwater recharge into the underlying Paso Robles Formation. Where the Careaga Sand is exposed at ground surface in the Purisima Hills and along Alamo Pintado Creek, ~~a considerable amount of~~ water from precipitation and streamflow can recharge this aquifer. Groundwater recharge to principal aquifers also occurs from mountain front recharge. Mountain front recharge includes (1) direct recharge from the underlying bedrock along the San Rafael Mountains to the north and east and from the Santa Ynez Mountains to the south and (2) runoff from the mountains that subsequently percolates into the ground.

Natural groundwater discharge areas in the EMA include springs and seeps, groundwater discharge to surface water, and evapotranspiration by plants whose roots tap into groundwater in the alluvium along creeks and streams. Groundwater discharge as subsurface outflow from the Santa Ynez Uplands portion of the EMA to the adjoining Central Management Area (CMA) is relatively small. Much of the groundwater flow exits the uplands as surface water flow leaving the tributaries just upstream of the confluence with the Santa Ynez River. Very small quantities of groundwater flow may occur through fractures in the bedrock in the Ballard Canyon area. Surface water also discharges from the EMA as underflow from the Santa Ynez River Alluvium that crosses into the CMA ~~every year~~.

ES-2.3 ~~ES-2.3~~ Groundwater Conditions

Groundwater wells completed in the Paso Robles Formation have water levels that have been relatively stable over long periods except during drought periods. Water levels in the Paso Robles Formation show a strong correlation with climatic conditions. Some wells show water elevation decreases of more than 100 feet during prolonged drought cycles, but most wells appear to fully recover within a few years when the drought conditions end. Changes in water levels are also related to groundwater pumping. The Paso Robles Formation is the most productive and most widely pumped aquifer in the EMA. During periods of drought, water levels decline in response to a combination of increased pumping and decreased recharge. Seasonal fluctuations in water levels in the Paso Robles Formation appear to be relatively small (less than 30 feet).

Wells completed in the Careaga Sand also show long-term stability of water levels since the mid-1960s, with minimal change in water level elevation. Water levels in some wells show muted correlation with climatic conditions, exhibiting minor decreases during drought conditions and rising water levels during wet periods. One reason for the stable water levels in the Careaga Sand is that there is much less groundwater pumping compared to the Paso Robles Formation. Wells completed in the Careaga Sand typically have relatively low yields compared to the yields of the Paso Robles Formation. The volume of water extracted from the Careaga Sand is likely a small portion of the total available storage, which may explain why water levels do not show significant decline due to drought conditions.

Groundwater in the EMA is generally suitable for use as potable water and for agriculture. While there are some wells that currently have constituent concentrations that exceed Basin Water Quality Objectives set by the Regional Water Quality Control Board, it is possible that some of these exceedances are a result of natural conditions and not caused by land use or other anthropogenic activities. Elevated boron concentrations are naturally occurring in many central coast basins, and elevated total dissolved solids (TDS), chloride, and sodium are often associated with rocks of marine origin that are present in the EMA. EMA agricultural stakeholders have not indicated that these concentrations are impacting agricultural production or drinking water quality.

ES-2.4 ~~ES-2.4~~ — Interconnected Groundwater and Surface Water

The Santa Ynez River is the primary surface water drainage feature in the EMA, flowing from east to west. The EMA also includes both perennial and intermittent creeks that flow into the Santa Ynez River or into Cachuma Reservoir (Lake Cachuma). The surface water system of the Santa Ynez River, including underflow within the Santa Ynez Alluvium, is subject to the regulatory jurisdiction of the SWRCB and its base flow is not managed by the EMA GSA under the GSP as part of the SGMA (refer to Appendix K for additional discussion of the distinction between groundwater and the surface water system because groundwater in the EMA uplands does not interconnect accordance with the river except where upland groundwater discharges to tributaries that then flow into the river. SGMA).

Tributaries to the Santa Ynez River on the north side of the EMA cut through the uplands and provide recharge to the Paso Robles Formation. On the southern ends of the This percolating groundwater is not interconnected with surface water and is completely disconnected from the underlying regional groundwater table within the principal aquifers. Within these portions of the tributaries, the regional groundwater table is significantly lower than the elevation of the tributaries and there is no continuous saturated zone between the surface and water table, except in the lower ends of Alamo Pintado and Zanja de Cota Creeks. At the southern ends of these tributaries, groundwater present in the tributary alluvium encounters relatively impermeable bedrock adjacent to and beneath the Santa Ynez River, which forces the groundwater to discharge to surface water at these locations. This is most evident on the far southern ends of Alamo Pintado and Zanja de Cota Creeks at the confluence with the Santa Ynez River.

ES-2.5 ~~ES-2.5~~ — Groundwater Dependent Ecosystems (GDEs)

GDEs are defined under SGMA as “ecological communities of species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.” GDE types include terrestrial vegetation that is supported by ~~shallow~~ groundwater that discharges to seeps, springs, wetlands, streams, and estuaries. Figure ES-2 shows the locations of potential GDEs in the EMA, as identified through screening methods developed by The Nature Conservancy and from local data on the spatial and temporal variations in the water table depth below ground surface. Biological surveys have not been completed in preparation of this GSP, but the presence of these potential GDEs will be verified during GSP implementation.

Several palustrine and riverine wetland features, three mapped springs, and five types of vegetation communities are present within the EMA. The five vegetation types are the following:

- Coast Live Oak
- Valley Oak
- Riparian Mixed Hardwoods
- Riversidean Alluvial Scrub
- Willow

The potential GDEs are further categorized based on their proximity to, and association with, the regional confined principal aquifers in the EMA. Category A GDEs are associated with the principal aquifers and may be affected by groundwater management activities, while Category B GDEs show a hydrogeologic separation from the principal aquifers and are unlikely to be affected by groundwater management activities. Category A GDEs are concentrated in the southwestern portion of the EMA in the areas surrounding the lower, generally perennial reaches of Alamo Pintado and Zanja de Cota Creeks. Category B GDEs are located in the northern and eastern portion of the EMA. The Category A potential GDEs are considered in the development of sustainable management criteria (Section 5) and in projects and management actions (Section 6).

Figure ES-2. Categorized Potential Groundwater Dependent Ecosystems

ES-2.6–The EMA GSA is fully supportive of the comprehensive and ongoing efforts, dating back to the 1990s, to develop and implement surface flow and non-flow measures in the mainstem lower Santa Ynez River and certain tributaries for the protection of public trust resources, including but not limited to steelhead and its critical habitat within the Santa Ynez River. The member agencies of the EMA GSA remain actively involved with numerous federal, state, and local entities in proceedings before the SWRCB and in the current re-consultation process under the federal Endangered Species Act to protect steelhead and its critical habitat in the lower Santa Ynez River. Notably, however, steelhead and other species residing in the Santa Ynez River depend on surface and underflow components of the surface water system and are not groundwater dependent based on the analyses set forth in this GSP.

ES-2.6 Water Budget Development

A water budget defines the sources and uses of water in a groundwater basin and how they have changed over time. The water budget in this GSP is an inventory and accounting of total surface water and groundwater inflows (recharge) and outflows (discharge) from the EMA, including the following:

Surface Water Inflows (Santa Ynez River):

- Streamflow and subsurface inflow into the Santa Ynez River Alluvium from both the upstream Santa Ynez River and Santa Ynez Uplands tributaries
- Runoff of precipitation into streams and rivers or diversion structures that enter the EMA from the surrounding watershed
- Irrigation return flow to the Santa Ynez River Alluvium
- Return flows from septic systems
- Imported surface water (e.g., from the State Water Project)

Surface Water Outflows (Santa Ynez River):

- Streamflow exiting the EMA through the Santa Ynez River and Zaca Creek
- Subsurface flow through the Santa Ynez River Alluvium downstream towards the Central Management Area
- Pumping from river wells completed in the Santa Ynez River Alluvium
- Evapotranspiration by plants

Groundwater Inflows:

- Recharge from precipitation
- Percolation of tributary flows to groundwater
- Subsurface groundwater inflow, including mountain front recharge
- ~~Irrigation~~Agricultural irrigation return flow (water not consumed by crops/landscaping)
- Percolation of treated wastewater
- Septic tank return flows
- Urban irrigation return flow (including water distribution system leakage and water from imported sources)

Groundwater Outflows:

- Groundwater pumping

- Evapotranspiration by crops and phreatophyte plants
- Subsurface groundwater outflows to adjoining groundwater systems
- Groundwater discharge to surface water

The historical and current water budget analysis was developed in a tabular accounting format by water year using various publicly available data sets. The projected water budget analysis was developed in part using the EMA numerical groundwater flow model. The groundwater inflow and outflow components of the water budget are related to the principal aquifers—(the Paso Robles Formation and the Careaga Sand₇) in the Santa Ynez Uplands portion of the EMA. The difference between inflows to and outflows from the groundwater system in the Santa Ynez Uplands is equal to the change of groundwater in storage.

The estimated inflow and outflow components as well as the estimated sustainable yield are presented in this GSP. SGMA requires that, within 20 years, basins avoid significant and unreasonable effects that could lead to undesirable results as a result of groundwater use-conditions occurring throughout the EMA. Undesirable results include chronic lowering of groundwater levels over time that leads to indicating a significant and unreasonable depletion of supply. This can occur when the average annual amount of groundwater extraction exceeds the long-term average annual supply of water to the basin. It is normal for groundwater basins to experience increases and decreases in storage in response to the normal dry and wet hydrologic cycles.

The water budget for the historical period of 1982 through 2018 indicates that total groundwater outflow exceeded the total inflow in the EMA by an average of 1,830 AFY, as shown in Figure ES-3.

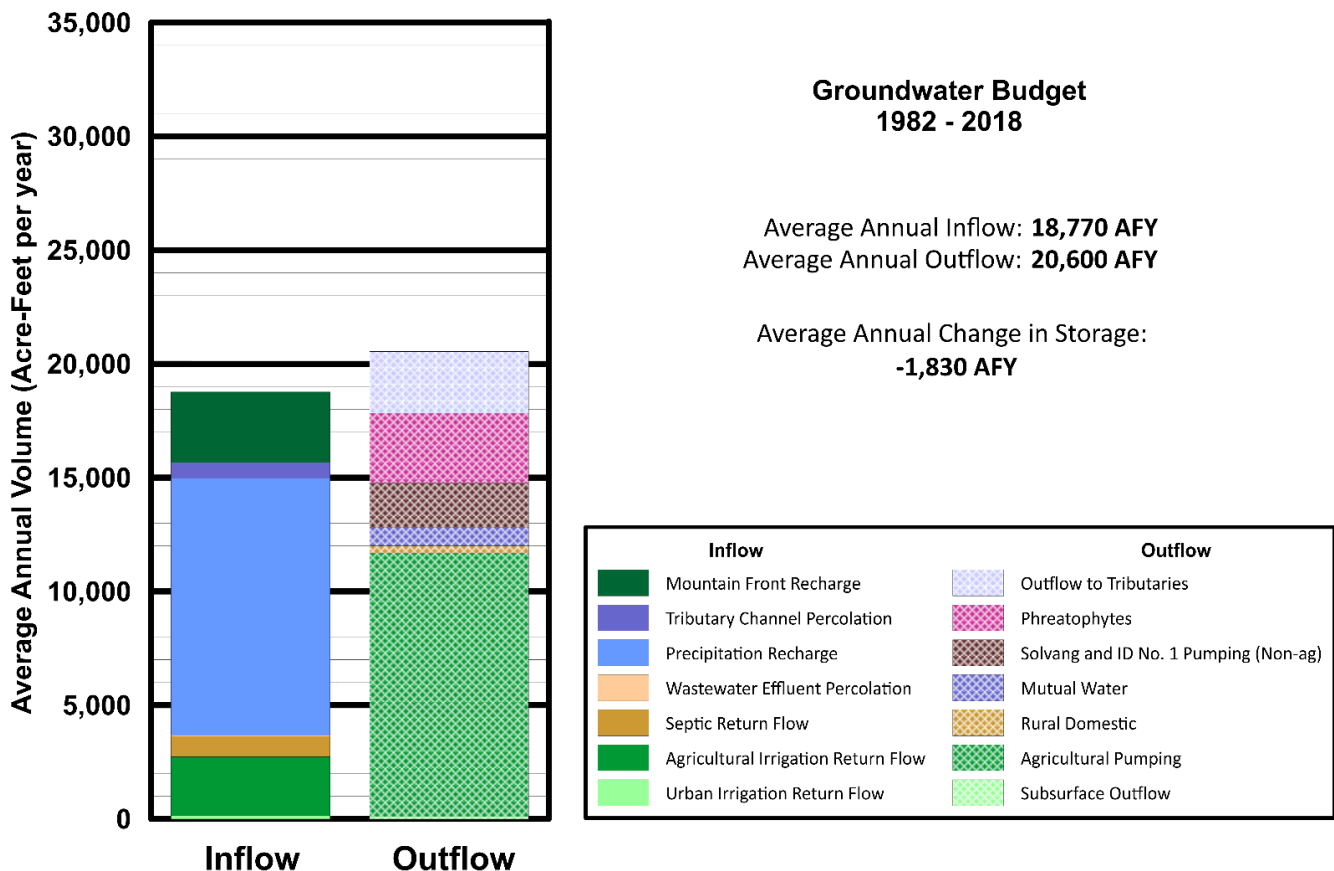


Figure ES-3. Average Groundwater Budget Volumes, Historical Period (1982 through 2018)

The sustainable yield in the EMA was estimated by adding the average change of groundwater in storage (negative 1,830 AFY) to the estimated total average amount of groundwater pumping (14,700 AFY) for the historical period. This results in a sustainable yield of about 12,870 AFY. This estimated value reflects historical climatic and hydrologic conditions and provides insight into the average amount of groundwater pumping that can be sustained in the EMA without causing undesirable results as defined by SGMA. The sustainable yield is not a fixed constant value but can fluctuate over time as the groundwater inflows and outflows change; thus, the calculated sustainable yield within the EMA can be estimated and likely modified during a future update of the GSP, depending on the representativeness of the long-term hydrologic conditions present at that time or availability of improved estimates of the water budget components.

ES-2.7 ~~ES-2.7~~ — Projected Water Budget

The projected water budget is used to assess how future land use, pumping, and climate conditions affect the EMA. Based on the conditions documented in the historical water budget, the inflow and outflow from the EMA were estimated throughout the GSP implementation period through 2042 as well as for 50 total years after this GSP is submitted, through 2072. Historical climate values were projected forward into the future, and modified by projected climate change impacts on streamflow, recharge, evapotranspiration, and precipitation. The subsurface groundwater inflow and outflow components were projected using anticipated future land uses, population growth, and related pumping volumes.

The DWR-provided climate change data are based on the California Water Commission's Water Storage Investment Program climate change analysis results, which used global climate models and radiative forcing scenarios recommended for hydrologic studies in California by the Climate Change Technical Advisory Group. Climate data from the recommended General Circulation Model models and scenarios have also been downscaled and aggregated to generate an ensemble time series of change factors that describe the projected average change in precipitation and evapotranspiration (ET) values for climate conditions that are expected to prevail at midcentury and late century, centered around 2030 and 2070, respectively.

Within the entire Basin, and therefore the EMA, streamflow is projected to increase slightly on average, by 0.5 percent in 2030 and 3.8 percent in 2070, based on the average DWR climate change factors and other factors in the variable infiltration capacity analyses for the Basin. The projected changes to streamflow resulting from the climate change factors have been applied to the flow that will occur through the tributaries that flow through the Santa Ynez Uplands and ultimately into the Santa Ynez River. Crops require more water to sustain growth in a warmer climate, and this increased water requirement is characterized in climate models using the rate of ET. Under 2030 conditions, the EMA is projected to experience average annual ET increases of 3.8 percent relative to the historical period. Under 2070 conditions, annual ET is projected to increase by 8 percent relative to the historical period. The seasonal timing of precipitation in the EMA is projected to change. Sharp decreases in early fall and late spring precipitation accompanied by increases in winter and early summer precipitation are projected to occur. Under 2030 conditions, the largest monthly changes would occur in May with projected decreases of 14 percent, while increases of approximately 9 percent and 10 percent are projected in March and August, respectively. Under 2070 conditions, decreases of up to 31 percent are projected in May while the largest increases are projected to occur in September (25 percent) and January (17 percent). TheOn average, the EMA is projected to experience minimal changes in total annual precipitation, although, the drought that has continued since before 2012 is concerning to Basin stakeholders.

Groundwater outflows from the Santa Ynez Uplands are projected to exceed inflows in the future in the absence of GSA management actions. During the historical period, production from wells in the Santa Ynez Uplands served increasing demands for areas that did not have access to surface water supply. In the future, it is assumed surface water supplies, including imported water sources, will not be sufficient to meet new demand from agricultural, municipal, and industrial uses, and therefore increased demand would be supplied by local groundwater.

The combined effects of these changes in supply and demand are that total groundwater pumping in the EMA may increase by approximately 1.1 percent, from 14,760 AFY under historical conditions to 14,920 AFY under 2042 conditions, and to 14,840 AFY by 2072, unless measures are implemented to increase supply or reduce demand. The water budget calculations indicate that the current deficit (outflows exceeding inflows) could increase to an average of 2,060 AFY in 2042 and further to 2,270 AFY in 2072. This analysis demonstrates that, if demand for groundwater increases in the future, projects and management actions may be needed to address the current and projected deficit (overdraft) anticipated to remain in 2042, the year that DWR requires the Basin to be balanced and sustainable without undesirable results.

The projected water budget for year 2042 conditions is presented in Figure ES-4, which breaks out the inflow and outflow components of the water budget.

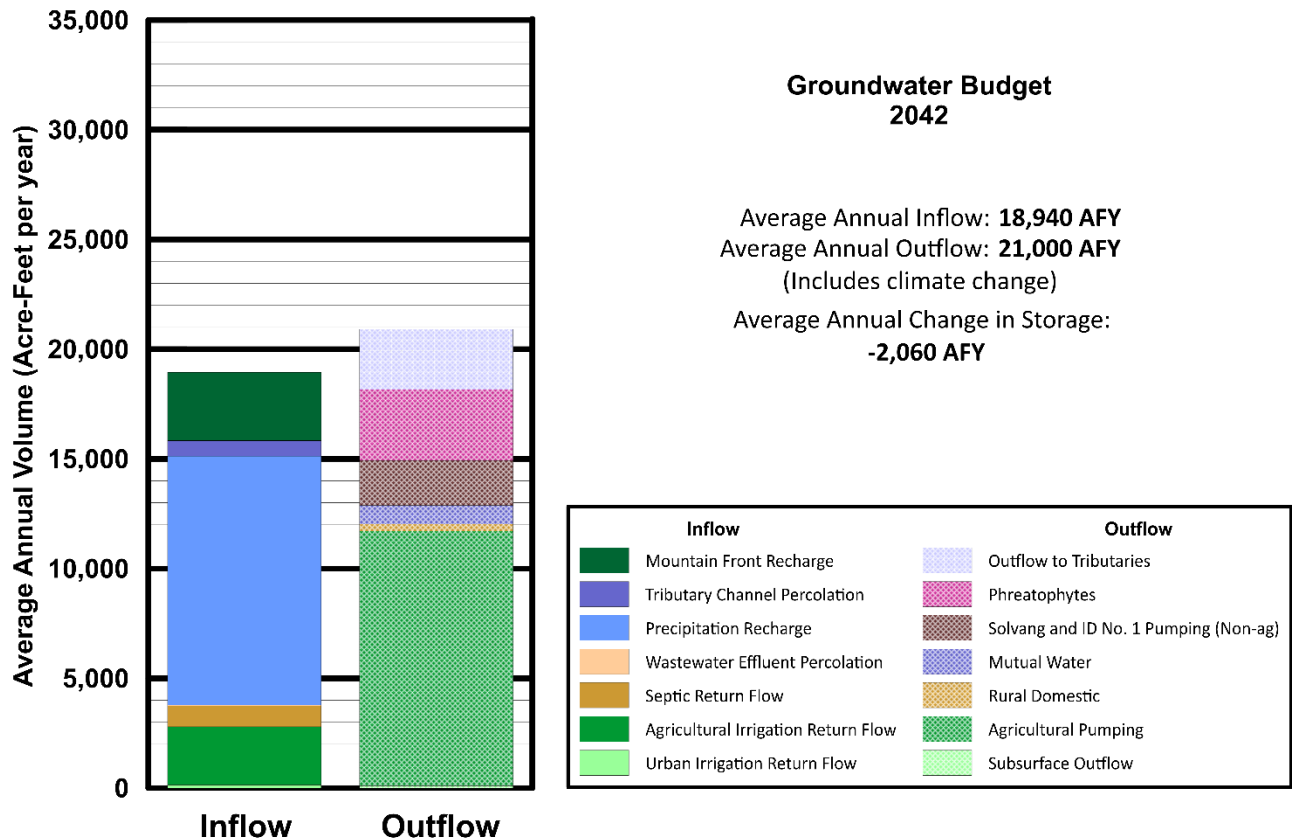


Figure ES-4. Projected Groundwater Budget, 2042

ES-3 ~~ES-3~~ Monitoring Networks (GSP Section 4)

This section of the GSP describes existing monitoring networks and improvements to the monitoring networks that ~~will be~~ being developed for implementation of the EMA GSP. The monitoring networks presented in this section are largely based on existing monitoring sites. During the 20-year GSP implementation period, it ~~may~~ will be necessary to expand the existing monitoring networks and, if existing wells are unavailable, identify or install more monitoring sites to fully demonstrate sustainability and improve the groundwater flow model.

The groundwater level monitoring network section of this GSP is largely based on historical groundwater data compiled by the U.S. Geological Survey National Water Information System program, the California Statewide Groundwater Elevation Monitoring program, and semi-annual groundwater monitoring conducted by Santa Barbara County. The groundwater quality monitoring network section of this GSP is largely based on historical groundwater data compiled by the USGS Groundwater Ambient Monitoring and Assessment Program. The subsidence monitoring program will rely on existing Interferometric Synthetic Aperture Radar (InSAR) and University NAVSTAR Consortium (UNAVCO) satellite monitoring information, which may be supplemented with surveyed benchmarks if the satellite data suggest that subsidence is occurring as a result of groundwater pumping. Depletion of interconnected surface water and potential significant and unreasonable adverse impacts to GDEs will be monitored in new piezometers that will be installed in two tributaries where groundwater is interconnected with surface water. Data gaps have been identified in the monitoring programs that will be addressed during GSP implementation.

ES-3.1 ~~ES-3.1~~ — Monitoring Plan for Water Levels, Change in Storage, Water Quality

The GSP monitoring network is composed of aquifer-specific wells that are screened in one of the two principal aquifers in the EMA (the Paso Robles Formation or the Careaga Sand). A total of 24 representative wells—defined in the SGMA regulations as monitoring sites that are representative of groundwater conditions in each of the principal aquifers—make up the groundwater level monitoring network in the EMA.

Representative wells are spatially distributed to provide information across most of the EMA, have a reasonably long record of data so that trends can be determined, and have hydrograph signatures that are representative of groundwater levels in wells in the surrounding area. Additionally, there are 13 wells in the EMA that are monitored by Santa Barbara County that do not meet the criteria of representative wells, totaling 37 wells that are currently monitored in the EMA. The monitoring network will enable the collection of data to assess sustainability indicators, evaluate the effectiveness of management actions and projects that are designed to achieve sustainability, and evaluate adherence to minimum thresholds and measurable objectives for each applicable sustainability indicator.

The representative wells network consists of 24 wells (15 wells in the Paso Robles Formation and 9 wells in the Careaga Sand) that will be used to monitor groundwater levels and storage. Ten wells are production wells used for agricultural irrigation, seven wells are domestic drinking water wells, and seven wells are municipal drinking water wells. While not ideal for use as monitoring wells because they are production wells, these wells are currently included as representative wells because of their locations in the EMA, available well construction information, and long periods of record. The groundwater level monitoring network will be used to create groundwater elevation contour maps and calculate change of groundwater in storage for each principal aquifer.

The geographic distribution of this selection of representative wells allows for the collection of data to evaluate groundwater gradients and flow directions over time as well as the annual change in storage. Furthermore, the monitoring frequency of the wells will allow for the monitoring of seasonal highs and lows. Because wells were chosen with the existing lengths of historical data records in mind, future groundwater

data will be comparable to the historical data. This coverage accounts for the ability to use each site for monitoring multiple sustainability indicators.

The groundwater quality monitoring network includes a total of 61 wells. This includes 26 municipal and public water system wells that were identified by reviewing data available from the SWRCB Division of Drinking Water, 25 agricultural supply wells, and 10 domestic supply wells included in the groundwater quality monitoring network. These wells were identified by reviewing data available from the SWRCB Irrigated Lands Regulatory Program (ILRP). In the future, wells that are sampled as part of the ILRP will be used to assess groundwater quality at agricultural and domestic wells.

ES-3.2 ~~ES-3.2~~ — Monitoring Plan for Land Subsidence

Locally defined significant and unreasonable conditions for land subsidence are (1) land subsidence rates exceeding rates estimated by using InSAR (satellite-based land surface elevation monitoring) data processed by TRE ALTAMIRA, Inc. for the period from June 13, 2015, through September 19, 2019, and by the National Aeronautics and Space Administration for the period between spring of 2015 and summer of 2017; and (2) land subsidence that causes significant and unreasonable damage to or substantially interferes with groundwater supply, land uses, infrastructure, and property interests. Total measured negative change in land surface elevation in the EMA based on these sources has been less than 0.06 foot (ft), or 0.015 ft per year. Recorded subsidence could be due to tectonic activity, groundwater extraction, oil and gas extraction, or a combination of the three. This is considered a minor rate of land surface elevation change and is relatively insignificant and not a major concern for the EMA GSA. The EMA GSA will continue to monitor annual land surface elevation change using InSAR and UNAVCO satellite systems.

ES-3.3 ~~ES-3.3~~ — Monitoring Plan for Interconnected Surface Water and GDEs

Avoiding significant and unreasonable adverse impacts on beneficial uses of interconnected surface water present in the EMA is the focus of the depletion of interconnected surface sustainability indicator. To avoid significant and unreasonable adverse impacts to ~~high-priority~~ GDEs, groundwater levels will be used as a proxy for monitoring interconnected surface water because installation of surface water gauging stations is not considered feasible due to access and channel configuration limitations. Shallow monitoring wells, or piezometers, are planned to be installed and monitored within the areas identified near the confluence of both Alamo Pintado and Zanja de Cota Creeks with the Santa Ynez River (see Figure 4-4). Monitoring of groundwater levels will be conducted to assess whether there is potential for a long-term depletion of interconnected surface water and undesirable results caused by groundwater extraction. Groundwater levels measured below the maximum rooting depth of GDEs—along with observed significant and unreasonable loss of habitat relative to conditions existing when SGMA was enacted—would be considered an undesirable result.

ES-4 ~~ES-4~~ Sustainable Management Criteria (SMCs) (GSP Section 5)

Section 5 defines the criteria by which sustainability will be evaluated, defines conditions that constitute sustainable groundwater management, and discusses the process by which the EMA GSA will characterize undesirable results and establish minimum thresholds and measurable objectives for each sustainability indicator in the EMA. Section 5 presents the data and methods used to develop SMCs and demonstrates how these criteria influence beneficial uses and users. The SMCs are considered initial criteria and will be reevaluated and potentially modified in the future as new data become available.

Sustainability indicators are the effects caused by groundwater conditions occurring throughout the EMA that, when significant, unreasonable, and caused by groundwater use conditions occurring throughout the EMA, become undesirable results. Undesirable results are one or more of the following effects:

- 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 in groundwater storage
- Significant and unreasonable degraded groundwater quality
- Significant and unreasonable land subsidence that substantially interferes with surface land uses
- Depletion of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

A wide variety of information was used to define minimum thresholds and measurable objectives for each sustainability indicator, which are measured at representative wells. Minimum thresholds and measurable objectives are generally defined as follows:

- **Minimum Threshold** – A minimum threshold is the numeric value for each sustainability indicator that is used to define undesirable results. For example, a particular groundwater level might be a minimum threshold if lower groundwater levels would result in a significant and unreasonable reduction of groundwater in storage or depletion of supply.
- **Measurable Objective** – Measurable objectives are specific, quantifiable goals or targets that reflect the EMA's desired groundwater conditions and allow the EMA GSA to achieve the sustainability goal within 20 years.

ES-4.1 ~~ES-4.1~~ Sustainability Goal

Because each of the groundwater management areas together encompass the entire Basin, a single sustainability goal has been adopted for the entire Santa Ynez River Valley Groundwater Basin as follows:

In accordance with the Sustainable Groundwater Management Act (SGMA), the sustainability goal for the Santa Ynez River Valley Groundwater Basin (Basin) is to sustainably manage the groundwater resources in the Western, Central, and Eastern Management Areas to ensure that the Basin is operated within its sustainable yield for the protection of reasonable and beneficial uses and users of groundwater. The absence of undesirable results, as defined by SGMA and the Groundwater Sustainability Plans (GSPs), will indicate that the sustainability goal has been achieved. Sustainable groundwater management as implemented through the GSPs is designed to ensure that:

1. Long-term groundwater elevations are adequate to support existing and future reasonable and beneficial uses throughout the Basin,
2. A sufficient volume of groundwater storage remains available during drought conditions and recovers during wet conditions,
3. Groundwater production, and projects and management actions undertaken through SGMA, do not degrade water quality conditions in order to support ongoing reasonable and beneficial uses of groundwater for agricultural, municipal, domestic, industrial, and environmental purposes.

Groundwater resources will be managed through projects and management actions implemented under the GSPs by the respective Groundwater Sustainability Agencies (GSAs). Management of the Basin will be supported by monitoring groundwater levels, groundwater in storage, groundwater quality, land surface elevations, and interconnected surface water, ~~and seawater intrusion~~. The GSAs will adaptively manage any projects and management actions to ensure that the GSPs are effective and undesirable results are avoided.

The EMA GSP includes a monitoring program (see Section 4) that addresses each of the applicable sustainability indicators. If, based on the results of the monitoring program, minimum thresholds are exceeded such that undesirable effects are present or imminent, the GSA will identify management actions and projects that will be implemented to avoid an undesirable result (see Section 6). Other projects and management actions may be implemented immediately upon GSP adoption, without a specific nexus to undesirable results, to achieve the sustainability goal, address data gaps, and collect important data regarding basin conditions that are necessary for effective management of the EMA.

ES-4.2 ~~ES-4.2~~ — Qualitative Objectives for Meeting Sustainability Goals

Qualitative objectives are designed to help stakeholders understand the overall purpose for sustainably managing groundwater resources (e.g., avoid chronic lowering of groundwater levels) and reflect the local economic, social, and environmental values within the EMA. A qualitative objective is often compared to a mission statement. The qualitative objectives for the EMA are the following:

- **Avoid Chronic Lowering of Groundwater Levels**
 - Maintain groundwater levels that continue to support current and ongoing beneficial uses and users of groundwater use in the EMA.
- **Avoid Significant and Unreasonable Reduction of Groundwater Storage**
 - Maintain sufficient groundwater volumes in storage to sustain current and ongoing beneficial uses and users of groundwater which maintains access to groundwater supplies, including during prolonged drought conditions while avoiding permanent degradation of GDEs resulting from groundwater ~~pumping conditions occurring throughout the EMA.~~
- **Avoid Significant and Unreasonable Degraded Groundwater Quality**
 - Maintain groundwater access to suitable water quality for all beneficial uses to ensure sustainability of groundwater drinking water supplies for all beneficial uses.
 - Evaluate changes in groundwater quality resulting from groundwater ~~pumping conditions occurring throughout the EMA.~~
- **Avoid Significant and Unreasonable Land Subsidence that Substantially Interferes with Surface Land Uses**
 - Reduce or prevent land subsidence that causes significant and unreasonable effects to groundwater supply, current land uses, and water supply infrastructure, and property interests.
- **Avoid Significant and Unreasonable Depletion of Interconnected Surface Water**
 - Avoid depletions of interconnected surface water that have significant and unreasonable adverse impacts to beneficial uses of the surface water, including GDEs, caused by groundwater ~~pumping conditions occurring throughout the EMA.~~
 - Maintain sufficient groundwater levels to maintain areas of interconnected surface water existing as of January 2015 when SGMA became effective.

ES-4.3 ~~ES-4.3~~ — General Process for Establishing Sustainable Management Criteria

This section presents the process that was used to develop the SMCs for the EMA, including input obtained from EMA stakeholders, the criteria used to define undesirable results, and the information used to establish minimum thresholds and measurable objectives.

ES-4.3.1 ~~ES-4.3.1~~—Obtain Public Input

The public input process was developed in conjunction with the GSA member agencies and included engagement with local stakeholders, the public at large, and interested parties on GSP issues. This included the formation of the Citizen’s Advisory Group (CAG), whose members were selected by the GSA Committee because they represent the various beneficial uses and users of groundwater in the EMA. The SMCs and beneficial uses presented in this section were developed using a combination of information from public input, public meetings, written comments submitted to the GSA, hydrogeologic analysis, and meetings with CAG members.

ES-4.3.2 ~~ES-4.3.2~~—Define Undesirable Results

Defining what is considered undesirable is one of the first steps in the SMC development process. The qualitative objectives for meeting sustainability goals are presented as ways of avoiding undesirable results for each of the sustainability indicators. The absence of undesirable results defines sustainability. The following are the general criteria used to define undesirable results in the EMA:

- There must be significant and unreasonable effects caused by groundwater conditions occurring throughout the ~~Basin~~EMA.
- A minimum threshold is exceeded in a specified number of representative wells over a prescribed period such that there is a depletion of supply.
- Impacts to beneficial uses, including to GDEs, are likely to occur.

These criteria may be refined periodically during the 20-year GSP implementation period based on monitoring data and analysis.

ES-4.4 ~~ES-4.4~~—Summary of Sustainable Management Criteria

Table ES-1 summarizes the SMCs for the six groundwater sustainability indicators. The table describes the type(s) of potential undesirable results associated with each sustainability indicator, the minimum thresholds, and measurable objectives for each indicator. Detailed discussions of the SMCs for each groundwater sustainability indicator are provided in Sections 5.5 through 5.10 of this GSP.

Table ES-1. Summary of Sustainable Management Criteria

Potential Undesirable Results	Minimum Threshold	Measurable Objective	Other Notes
Chronic Lowering of Groundwater Levels			
Groundwater levels in the Paso Robles Formation or Careaga Sand aquifers remain below minimum thresholds after 2 consecutive years of average and above-average precipitation in 50 percent of representative wells. Agricultural <u>Existing agricultural</u> , municipal, and domestic wells are unable to produce historic average quantities <u>the estimated sustainable yield of the EMA</u> due to chronic decline in groundwater levels <u>caused by groundwater conditions occurring throughout the EMA</u> .	Paso Robles Formation wells: 15 feet below spring 2018 levels. Careaga Sand wells: 12 feet below spring 2018 levels.	Average groundwater levels measured at each representative monitoring site prior to the recent drought beginning in Water Year 2012.	Extended drought or high rates of pumping (exceeding the long-term rate of recharge) could lead to significant and unreasonable effects on groundwater levels.
Significant and Unreasonable Reduction of Groundwater in Storage			
Same as for chronic lowering of groundwater levels.	Same as for chronic lowering of groundwater levels.	Same as for chronic lowering of groundwater levels.	Same as for chronic lowering of groundwater levels.
Seawater Intrusion			
Not applicable (EMA is an inland basin)	N/A	N/A	N/A
Significant and Unreasonable Degraded Groundwater Quality			
Concentrations of regulated contaminants in untreated groundwater pumped from private domestic wells, agricultural wells, or municipal wells exceed regulatory thresholds as a result of pumping <u>groundwater conditions occurring throughout the EMA</u> or GSA activities. Groundwater pumping <u>conditions occurring throughout the EMA</u> or GSA activities cause concentrations of total dissolved solids (TDS), chloride, sulfate, boron, sodium, or nitrate to increase and exceed Basin Water Quality Objectives (WQOs) and is greater than concentrations in January 2015.	Concentrations of TDS, chloride, sulfate, boron, sodium, and nitrate are equal to or greater than WQOs in 50 percent of representative wells or are equal to concentrations in January 2015.	Do not make contamination issues worse; maintain groundwater quality equal to or below regulatory standards for contaminants, or equal to or below concentrations in January 2015. Maintain groundwater quality related to salts and nutrients equal to or below WQOs, or equal to or below concentrations in January 2015.	Minimum thresholds are not established for contaminants because state regulatory agencies have the responsibility and authority to regulate and direct actions that address contamination.
Significant and Unreasonable Land Subsidence that Substantially Interferes with Surface Land Uses			
Significant and unreasonable subsidence caused by groundwater extraction <u>conditions occurring throughout the EMA</u> exceeds the minimum threshold <i>and</i> causes damage to structures and infrastructure and substantially interferes with surface land uses.	The rate of subsidence does not exceed 0.08 ft (1 inch) per year for 3 consecutive years.	Maintenance of current conditions as measured at the 95 percent confidence range of InSAR data, 0.053 ft per year.	Based on InSAR-measured subsidence and UNAVCO CGPS stations.
Depletion of Interconnected Surface Water that has Significant and Unreasonable Adverse Impacts to Beneficial Uses of Surface Water			
Permanent loss or significant and unreasonable adverse impacts to existing native riparian or aquatic habitat in the Category A (high-priority) GDE area due to lowered groundwater levels caused by pumping <u>groundwater use</u> .	Groundwater levels measured at the piezometers proposed to be installed in the GDE areas of Alamo Pintado and Zanja de Cota Creeks are 15 ft below the streambed.	Groundwater levels measured at 5 ft below the streambed (using the same piezometers as for the minimum threshold).	Avoiding impacts to GDEs will also avoid depletion of surface water that discharges to the Santa Ynez River. The areas near the confluence of Alamo Pintado and Zanja de Cota Creeks with the Santa Ynez River are the only locations identified in the EMA where groundwater from a principal aquifer is interconnected with surface water.

NotesCGPS = Continuous Global Positioning System ~~GDE = groundwater dependent ecosystem~~GDE = groundwater-dependent ecosystem

TDS = total dissolved solids

UNAVCO = University NAVSTAR Consortium

WQO = Water Quality Objective

Appendix I of this GSP presents a well location map and hydrographs showing the minimum threshold levels for each representative well that will be used to monitor for chronic lowering of groundwater levels and depletion of storage. The locations of GDEs near the confluence of Alamo Pintado and Zanja de Cota Creeks with the Santa Ynez River and the proposed interconnected surface water monitoring network are shown in Figure 4-4.

Interim milestones show how the GSA would move from current conditions to meeting the measurable objectives in the 20-year GSP implementation horizon. While no significant and unreasonable effect has been observed in the EMA as a result of lowering of groundwater levels to date, interim milestones are being proposed for lowering of groundwater levels and change in groundwater storage to ensure that the GSA is on track for eliminating the storage deficit going forward. The GSA intends to move forward with selected projects and management actions (see GSP Section 6) very early after GSP submittal to ensure that groundwater levels recover when normal or above normal rainfall conditions return. No interim milestones are proposed for degraded groundwater quality, land subsidence, or depletion of interconnected surface water, because no significant or unreasonable effects have been observed in the EMA associated with these sustainability indicators.

ES-5 ~~ES-5~~ Management Actions and Projects (GSP Section 6)

Section 6 of the GSP describes the management actions that will be developed and implemented in the EMA to attain and maintain sustainability in accordance with SGMA regulations. Management actions are activities that support groundwater sustainability through policy and regulations without infrastructure. These actions are intended to optimize groundwater use to avoid undesirable results, consistent with SGMA regulations. Many are also intended to help improve the understanding of the EMA, enhance the monitoring program, enhance improved water use practices, and improve information upon which the GSA may make decisions. Projects are defined as activities supporting groundwater sustainability that require infrastructure.

The potential management actions described in this section include the following:

- Address data gaps
- Groundwater pumping fee program
- Well registration and well meter installation programs
- Water use efficiency programs
- Groundwater Base Pumping Allocation program
- Groundwater Extraction Credit marketing and trading program
- Voluntary agricultural crop fallowing and crop conversion programs

The identified management actions and potential future projects are categorized into three groups, with the management actions in Group 1 to be initiated within 1 year of GSP adoption by the GSA. The Group 2 management actions and Group 3 projects may be considered for implementation in the future as conditions dictate and the effectiveness of the other management actions are assessed. Group 1 management actions are focused primarily on filling identified data gaps, developing funding for GSA operations and future EMA monitoring, registering and metering wells, and developing new and expanding existing water use efficiency programs for implementation within the EMA. The Group 2 management actions and Group 3 projects may not be necessary if the implementation of Group 1 management actions results in conditions in the EMA that are trending toward meeting the EMA GSA sustainability goals and measurable objectives.

The projects and management actions included in this section should be considered a list of options that will be refined during GSP implementation. Stakeholders will be provided an opportunity to participate in the public process before projects and actions are undertaken. The effect of the management actions will be reviewed periodically, and additional Group 2 management actions and Group 3 projects may be considered and implemented as necessary to avoid undesirable results. A graphical depiction of the implementation sequence is presented in Figure ES-5.

Management actions included in the GSP are summarized below and are described in more detail in Sections 6.3 through 6.10.

ES-5.1 ~~ES-5.1~~—Group 1 Management Action 1 – Address Data Gaps

Data gaps have been identified that require additional information because they are important for management of the EMA in the future. The following management actions will help fill these data gaps:

- Expanding Monitoring Well Network in the EMA to Increase Spatial Coverage and Well Density
- Performing Video Surveys in Representative Wells That Do Not Have Adequate Well Construction Records
- Installing Shallow Piezometers in Alamo Pintado Creek and Zanja de Cota Creek Identified GDE Areas
- Reviewing/Updating Water Usage Factors and Crop Acreages and Update Water Budget
- Surveying and Investigating Additional Potential GDEs in the EMA

ES-5.1.1 ~~ES-5.1.1~~—Expand Monitoring Well Network in the EMA to Increase Spatial Coverage and Well Density

The areas where additional monitoring well data is needed are depicted in Figure 4-2. The data gap areas in both the Paso Robles Formation and the Careaga Sand units (the northwestern and north central portions of the uplands from Los Olivos to the northern boundary of the EMA, including the northern reaches of Zaca Creek and Alamo Pintado Creek) are locations where additional monitoring wells would improve the understanding of basin conditions. The proposed strategy for adding monitoring wells to the monitoring network will be to first incorporate existing wells to the extent possible. If an existing well in a particular area cannot be identified or permission to use data from an existing well cannot be secured to fill a data gap, then a new monitoring well may be considered.

ES-5.1.2 ~~ES-5.1.2~~—Perform Video Surveys in Representative Wells That Currently Do Not Have Adequate Construction Records to Confirm Well Construction

Several of the representative wells that are planned to be included in the GSP monitoring well network do not have adequate documentation about their depths, geologic formations intersected, casing characteristics, screened intervals, pump settings, and/or well construction details. To address this data gap, the EMA GSA will perform video logging to ascertain well construction details, and the location of well production zones. Concurrent with the video surveys, EMA GSA representatives will interview each well owner regarding the well maintenance history, operational issues or events, surface issues that may affect the well, and water quality within the well.

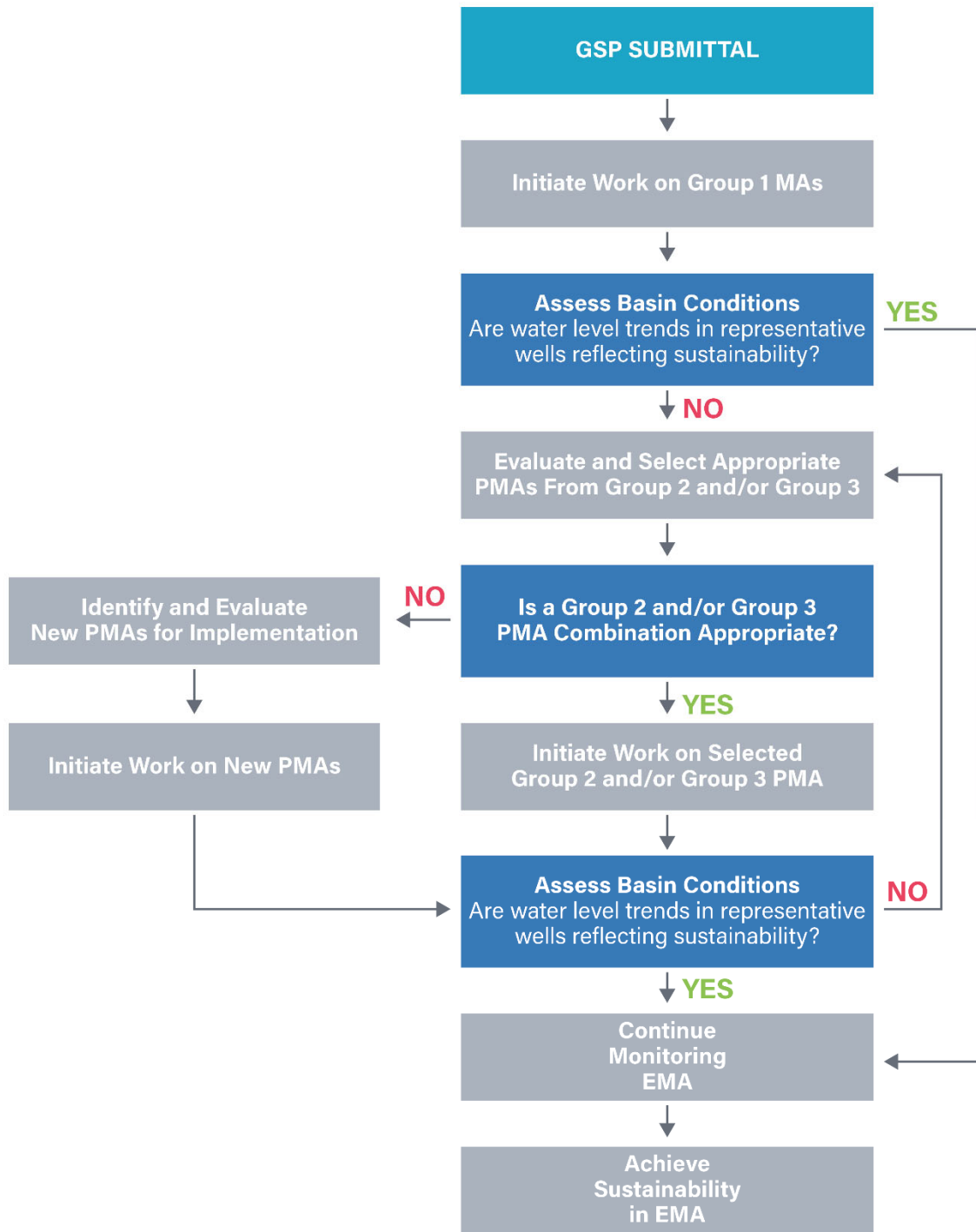


Figure ES-5. Adaptive Implementation Strategy for Projects and Management Actions

ES-5.1.3 ~~ES-5.1.3~~—Install Shallow Piezometers in Alamo Pintado Creek and Zanja de Cota Creek Identified GDE Areas

To avoid undesirable results to GDEs and interconnected surface water discharging to the Santa Ynez River from the tributaries, construction of two shallow piezometers, are proposed within the GDE areas identified near the confluence of Alamo Pintado and Zanja de Cota Creeks with the Santa Ynez River (see Figure 4-4). The two proposed shallow piezometers will provide valuable data that will allow an enhanced understanding of the interconnected surface water system in high priority GDE areas and provide the basis for future refinements in the EMA hydrogeologic conceptual model.

ES-5.1.4 ~~ES-5.1.4~~—Review/Update Water Usage Factors and Crop Acreages and Update Water Budget

While the accuracy of the DWR and SYRWCD data for irrigated crops for the recent years is relatively high, uncertainty remains regarding the estimates of water use on the irrigated lands within the EMA. To address this uncertainty, the EMA GSA plans to review and update water usage factors and crop acreages, which will be incorporated into future refinements in the EMA water budget.

ES-5.1.5 ~~ES-5.1.5~~—Survey and Investigate Potential GDEs in the EMA

No biological or habitat surveys have been completed to verify the existence of potential GDEs in preparation of this GSP. A preliminary evaluation indicates there is insufficient data available to confirm the existence of the full nature and extent of Category A (high-priority) potential GDEs. To address this uncertainty, the recommended next step is to conduct field surveys to document and characterize the Category A potential GDEs. The findings from the proposed field surveys could be incorporated into future refinements in the EMA hydrogeologic conceptual model and SMCs.

ES-5.2 ~~ES-5.2~~—Group 1 Management Action 2 – Groundwater Pumping Fee Program

As part of the GSP implementation process, the EMA GSA will explore various financing options to cover its operational costs and to generate funding for the ongoing EMA monitoring program and the implementation of Group 1 management actions and potential future Group 2 management actions and Group 3 projects. Based on the results of these efforts, the EMA GSA may adopt a management action to levy groundwater pumping fees to generate funding for the EMA GSA. The initial financing evaluation will be focused on program design, policy and regulatory development, compliance with the California Environmental Quality Act, and stakeholder outreach. The EMA GSA will identify and evaluate the most effective and equitable fee structure for the EMA.

ES-5.3 ~~ES-5.3~~—Group 1 Management Action 3 – Well Registration and Well Meter Installation Programs

Well registration is intended to establish an accurate count of all the active wells in the EMA. Well metering is intended to improve estimates of the amount of groundwater extracted from the EMA. The EMA GSA will require that all groundwater production wells, including wells used by de minimis pumpers, be registered with the EMA GSA. The GSA may also develop and implement reporting protocols applicable to de minimis pumpers to ensure their production is reflected in the total amount of pumping in the EMA and to address circumstances where de minimis pumpers are or may be exceeding the de minimum thresholds. The EMA GSA will require all non-de minimis groundwater pumpers to report extractions at an interval to be

determined by the EMA GSA using an approved method to estimate production. Guidelines and a regulatory framework will be developed to implement this program, which may also include a system for reporting and accounting for water conservation initiatives, voluntary irrigated land fallowing (temporary and permanent), stormwater capture projects, or other activities that individual pumpers may elect to implement.

ES-5.4 Group 1 Management Action 4 – Water Use Efficiency Programs

Urban, rural, and agricultural water use efficiency has been practiced in the EMA for more than two decades and has been effective in significantly reducing water use within the region outside of the EMA. Existing programs promote responsible design of landscapes and appropriate choices of appliances, irrigation equipment, and other water-using devices to enhance the efficient use of water. The water use efficiency management actions—to be developed for implementation by municipal, agricultural, and rural domestic pumpers—will promote expansion and supplementation of the water use efficiency programs that currently exist. These programs will also be aligned with the requirements of water conservation mandates that been put in place by the State of California. Two types of water use efficiency programs are proposed:

- **Urban and Domestic Water Use Efficiency Programs:** Initiatives that promote increasing water use efficiency by achieving reductions in the amount of water used for municipal, commercial, industrial, landscape irrigation, rural domestic, and aesthetic purposes. These programs can include incentives, public education, technical support, and other efficiency-enhancing programs.
- **Agricultural Water Use Efficiency Programs:** Initiatives that promote increasing water use and irrigation efficiency and achieving reductions in the amount of water used for agricultural irrigation. These programs can include incentives, public education, technical support, training, implementation of BMPs, and other efficiency-enhancing programs.

ES-5.5 ~~ES 5.4~~ Group 2 Management Action 5 – Groundwater Base Pumping Allocation

If Group 1 management actions do not avoid chronic groundwater level declines and reduction of groundwater in storage over the next 20-year period and beyond, the EMA GSA may seek to develop and implement a regulatory program to allocate a volume of groundwater to be pumped by users annually from the EMA. This program is referred to herein as the base pumping allocation (BPA) program. The amount of pumping reduction (if needed in the future) is uncertain and will depend on several factors including climate conditions, the effectiveness and timeliness of voluntary actions by pumpers, and the success of other planned and potential projects and management actions. The groundwater BPA Program would require various analyses and steps, including but not limited to:

- Establishing a methodology for determining baseline pumping considering:
 - Sustainable yield of the EMA
 - Groundwater level trends
 - Historical groundwater production
 - Land uses and corresponding water use requirements
 - Compliance with the California Environmental Quality Act
- Establishing a methodology to consider, among other factors determine groundwater, water rights and evaluation of anticipated benefits from other relevant actions individual pumpers take
- An implementation timeline
- Approving a formal regulation to enact the program

A baseline pumping allocation schedule could be implemented and adjusted over time, as needed, and according to relevant factors, to meet groundwater extraction targets in the EMA (consistent with the sustainable yield). Analyses would be updated periodically as new data are developed.

ES-5.6 ~~ES-5.5~~ — Group 2 Management Action 6 – Groundwater Extraction Credit (GEC) Marketing and Trading Program

As previously described, the EMA GSA may, as needed, develop and implement a Groundwater BPA Program that would assign pumping allocations in the EMA annually and, if necessary, impose a schedule on the pumping allocations over time to bring total pumping in the EMA within its sustainable yield within 20 years of GSP adoption. In conjunction with a Groundwater BPA Program, the EMA GSA may also pursue the development and implementation of a Groundwater Extraction Credit (GEC) Marketing and Trading Program to provide increased flexibility to groundwater producers in using their pumping allocations. The program could enable voluntary transfers of allocations between parties, on a temporary or permanent basis, through an exchange of GECs. Among other potential benefits, a GEC Marketing and Trading Program could assist existing groundwater users or new groundwater users in acquiring needed groundwater supplies from other pumpers, in the form of GECs, to support economic activities in the EMA, encourage and incentivize water conservation, enable temporary and permanent fallowing of agricultural lands, and facilitate a control of pumping allocations as needed during the 20-year GSP implementation period. As part of a GEC Marketing and Trading Program, the EMA GSA may consider a policy to define groundwater extraction carryover provisions from year to year and/or to allow multi-year pumping averages.

ES-5.7 ~~ES-5.6~~ — Group 2 Management Action 7 – Voluntary Agricultural Crop Fallowing and Crop Conversion Programs

The EMA GSA has identified voluntary agricultural crop fallowing and crop conversion as a potential management action that may be considered if Group 1 management actions are not proving effective in achieving sustainability in the EMA within 20 years of GSP adoption. As deemed necessary during the GSP implementation period, the EMA GSA may develop programs that would permit voluntary fallowing and land use conversions on a temporary or permanent basis as a means of reducing total water production in the EMA. As with the Groundwater BPA and GEC Marketing and Trading Programs discussed above, an important consideration in developing a voluntary fallowing and crop conversion program would be to include protections of water rights for producers who choose to fallow or carry out their land use conversions. As part of this management action, the EMA GSA would develop an EMA-wide accounting system that tracks landowners who decide to voluntarily fallow or convert their land and reduce groundwater pumping or otherwise refrain from using groundwater.

ES-5.8 ~~ES-5.7~~ — Group 3 Projects

Although the EMA GSA has no near-term plans to initiate construction of any specific projects for the purposes of achieving groundwater sustainability, the EMA GSA and/or other local agencies may be interested in proceeding with the study, planning, preliminary design/engineering, and permitting phases for several projects that were identified for potential future consideration. A description of the projects that the EMA GSA identified for future consideration and associated summary information are presented in Sections 6.10.1 through 6.10.10.

The projects that the EMA GSA identified for future consideration include:

- Distributed Storm Water Managed Aquifer Recharge (DSW-MAR) Basins (In-Channel and Off-Stream Basins)
- City of Solvang / Santa Ynez Community Services District WWTF Recycled Water and Reuse In Lieu of Groundwater Pumping or Indirect Potable Reuse
- Los Olivos Community Services District WWTF Recycled Water and Reuse In Lieu of Groundwater Pumping or Indirect Potable Reuse
- Santa Ynez Band of Chumash Indians WWTF Recycled Water and Reuse In Lieu of Groundwater Pumping or Indirect Potable Reuse
- GSA to become a Funding Partner to the Santa Barbara County Precipitation Enhancement Program
- Conjunctive Use – Managed Aquifer Recharge (MAR) Projects Using Imported (State Water Project [SWP] and Santa Ynez River [SYR]) Water
- In Lieu Recharge Projects to Deliver Unused and Surplus Imported Water to Offset Groundwater Extractions
- Aquifer Storage and Recovery Projects

ES-6 ~~ES-6~~ Groundwater Sustainability Plan Implementation (GSP Section 7)

Section 7 provides a conceptual road map for efforts to implement the GSP after adoption and discusses implementation effects in accordance with SGMA regulations. This implementation plan is based on the current understanding of the EMA's conditions and anticipated administrative considerations that affect the management actions described in Section 6. Projects and management actions will address data gaps and reduce uncertainty, improve understanding of basin conditions and how they may change over time, and create opportunities to promote conservation and optimize water use in the EMA.

The EMA GSA plans to continually monitor and assess groundwater levels relative to SMCs, and under conditions where minimum thresholds are projected to be reached, the EMA GSA will perform assessments to determine whether the trends are related to groundwater pumping, drought conditions, or other factors. If groundwater level data are trending toward reaching minimum thresholds as a direct consequence of groundwater pumping in the EMA, then the EMA GSA may consider the implementation of Group 2 management actions and Group 3 projects. Conceptual planning-level cost estimates for implementing each management action are presented in Table 7-1, and potential funding sources are described in Section 7.7.

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SECTION 1: Introduction to Plan Contents ~~[Article 5 §354]~~

§ 354 Introduction to Plan Contents. This Article describes the required contents of Plans submitted to the Department for evaluation, including administrative information, a description of the basin setting, sustainable management criteria, description of the monitoring network, and projects and management actions.

This section describes the purpose of this Groundwater Sustainability Plan (GSP), the Santa Ynez River Valley Groundwater Basin (Basin) – Eastern Management Area (EMA), and how this GSP is organized.

1.1 Purpose of the Groundwater Sustainability Plan

In 2014, the State of California enacted the Sustainable Groundwater Management Act (SGMA). This law requires groundwater basins in California that are designated as medium or high priority be managed sustainably. Satisfying the requirements of SGMA generally requires four basic activities:

1. Forming one or multiple Groundwater Sustainability Agency(s) (GSAs) to fully cover a basin
2. Developing one or multiple GSPs that fully cover the basin
3. Implementing the GSP and managing to achieve quantifiable objectives
4. Regular reporting to the California Department of Water Resources (DWR)

This document fulfills the GSP requirement for the EMA GSA. This GSP describes the EMA, develops quantifiable management objectives that account for the interests of the EMA's beneficial groundwater uses and users, and identifies a group of projects and management actions that will allow the EMA to achieve sustainability within 20 years of plan adoption.

This GSP was developed specifically to comply with SGMA's statutory and regulatory requirements. As such, the GSP uses the terminology set forth in these requirements (see California Water Code § 10721 and 23 California Code of Regulations § 351), which may be different from the terminology used in other contexts (e.g., past reports or studies, past analyses, judicial rules, or findings).

1.2 Description of the Santa Ynez River Valley Groundwater Basin – Eastern Management Area

The Basin is identified by DWR in Bulletin 118 as Basin No. 3-015 (DWR, 2016). The Basin is located in central Santa Barbara County in the Central Coastal region of California. For the purposes of groundwater management and SGMA compliance, the Notice of Decision to Become a GSA, dated May 1, 2017, describes the organization of SGMA compliance for the Basin with the creation of three management areas: the Western Management Area, the Central Management Area, and the EMA (see Appendix A).

The EMA is within the Basin, as presented on Figure 1-1. The total area of the EMA is about 130 square miles. The land surface elevation ranges from 480 feet at the mouth of Alamo Pintado Creek south of Solvang to about 2,390 feet in the foothills of the San Rafael Mountains on the northeast side of the EMA. The San Rafael Range continues beyond the boundaries of the EMA, reaching elevations of 4,000 to 6,000 feet above mean sea level (LaFreniere and French, 1968). The EMA boundary delineates the northeast portion of the groundwater basin; however, the watershed includes a larger area that contributes surface water to the EMA.

Figure 1-1. Santa Ynez River Valley Groundwater Basin

1.3 How this GSP is Organized

This GSP has been planned and developed collaboratively by the member agencies making up the EMA GSA. The organization of this plan is as follows:

- **Section 1 – Introduction to Plan Contents:** An introduction to the GSP, including a description of its purpose and a brief description of the EMA.
- **Section 2 – Administrative Information:** Includes the following:
 - Information on the EMA GSA as an organization and a brief description of the agencies participating in the GSA, including information on the legal authority of the GSA to plan and coordinate groundwater sustainability for the EMA.
 - An overview description of the EMA, including land use and agencies with jurisdiction, a description of the existing groundwater management plans and regulatory programs, any programs for conjunctive use, and urban land use programs that might have an effect on, or be affected by, this GSP.
 - The EMA GSA's ~~communications~~ communication and engagement planning and implementation, public feedback and stakeholder comments on the plan, how feedback was incorporated into the GSP, and responses to comments received
- **Section 3 – Basin Setting:** Includes the following:
 - An explanation of the hydrogeologic conceptual model developed for the EMA that includes descriptions of the regional hydrology and geology, principal aquifers and aquitards, and a description of the data gaps in the current model.
 - A detailed description of the groundwater conditions, including groundwater elevations and changes in storage, groundwater quality for drinking water and agricultural irrigation and trends over time, ~~any issues related to an evaluation of~~ land subsidence, locations where surface water and groundwater are interconnected, and the identification and distribution of groundwater-dependent ecosystems.
 - A presentation of the historical, current, and projected future water budgets for the EMA; how the water budgets were developed; an estimate of sustainable yield for the EMA; and the effects of climate change using the California Department of Water Resources (DWR) climate change assumptions.
- **Section 4 – Monitoring Networks:** A detailed description of the monitoring objectives and monitoring in the EMA for groundwater levels, storage, water quality, land subsidence, interconnected surface water, ~~as well as~~ representative monitoring sites, and a description of the data management and reporting system.
- **Section 5 – Sustainable Management Criteria:** Defines the sustainability goal for the EMA; ~~describes the process through which~~ ~~sustainable management criteria (the SMCs)~~ were established; describes significant and unreasonable effects that could lead to undesirable results as a result of groundwater ~~use;~~ conditions occurring throughout the EMA describes and defines SMCs regarding chronic lowering of groundwater levels, significant and unreasonable reduction in groundwater storage, seawater intrusion, degraded groundwater quality, land subsidence, and depletion of interconnected surface water; (including quantity and timing of surface water depletion); and describes the minimum thresholds, measurable objectives, and interim milestones to avoid undesirable results.
- **Section 6 – Projects and Management Actions:** Provides a grouping, ~~and~~ description of each project and management action that may be developed and implemented by the EMA GSA to avoid undesirable results and ensure sustainability within 20 years of GSP adoption.

- **Section 7 – Groundwater Sustainability Plan Implementation:** Describes the implementation sequence for projects and management actions, overall schedule, estimated implementation costs, and sources of funding.

1.4 References

DWR. 2018. Bulletin 118 Basin Boundary Description 3-015, Santa Ynez River Valley. Prepared by the California Department of Water Resources (DWR). Available at https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2016-Basin-Boundary-Descriptions/3_015_SantaYnezRiverValley.pdf. (Accessed July 26, 2021.)

LaFreniere, G.F., and J.J. French. 1968. Ground-Water Resources of the Santa Ynez Upland Ground-Water Basin, Santa Barbara County, California. Prepared by G.F. LaFreniere and J.J. French in cooperation with the Santa Barbara County Water Agency for the U. S. Geological Survey.

SECTION 2: Administrative Information ~~[Article 5, SubArticle 1]~~

§ 354.2 Introduction to Administrative Information. This Subarticle describes information in the Plan relating to administrative and other general information about the Agency that has adopted the Plan and the area covered by the Plan.

2.1 Agency Information [§ 354.6]

On May 23, 2016, eight agencies, including the Santa Ynez River Water Conservation District (SYRWCD); Santa Barbara County Water Agency (Water Agency); the City of Solvang; and the SYRWCD, Improvement District No. 1 (ID No. 1); along with the Cities of Buellton and Lompoc and the Vandenberg Village and Mission Hills Community Services Districts, entered into a memorandum of understanding (2016 MOU).¹ The 2016 MOU outlined a structure for implementing Sustainable Groundwater Management Act (SGMA) in the Santa Ynez River Valley Groundwater Basin (Basin); the formation of three Groundwater Sustainability Agencies (GSAs) for the Western Management Area (WMA), Central Management Area (CMA), and Eastern Management Area (EMA); and the development of a separate Groundwater Sustainability Plan (GSP) for each GSA.

On April 27, 2017, the SYRWCD, the Water Agency, the City of Solvang, and ID No. 1 entered into a memorandum of agreement (2017 MOA)² providing for the formation of the EMA GSA, the development of this GSP, the implementation of a hydrogeologic study, and the establishment of a GSA Committee for the EMA. The 2017 MOA also outlines the powers of the GSA and establishes how each signing party bears the costs of the outlined efforts. The 2017 MOA is described in further detail in Section 2.1.2.3 and is presented in Appendix A.

On February 26, 2020, the eight parties to the 2016 MOU entered into an Intra-Basin Administrative Agreement (Administrative Agreement)³ to coordinate implementation of the SGMA among the three GSAs in the Basin (see Appendix A). This agreement provides a framework for ongoing cooperation to ensure that the three GSPs are developed and implemented using the same data and methodologies for key assumptions (e.g., groundwater elevation data, water budget, etc.) and that components of the three GSPs needed to achieve the sustainability goal for the Basin are based on a consistent understanding of the Basin setting. The agreement further outlines how the GSAs will coordinate distribution of California Department of Water Resources (DWR) grant funds, as well as cost sharing for joint services.

~~Additionally, a~~ Coordination Agreement ~~is being drafted~~has been prepared and entered into between the ~~parties to address GSAs in accordance with~~ SGMA requirements. ~~It will be a copy of the Agreement is~~ included with the ~~Final~~ GSP ~~that is~~ submitted to DWR.

¹ Memorandum of Understanding for Implementation of the Sustainable Groundwater Management Act in the Santa Ynez Valley Groundwater Basin (see Appendix A).

² Memorandum of Agreement for Formation of a Groundwater Sustainability Agency for the Eastern Management Area in the Santa Ynez River Valley Groundwater Basin Under the Sustainable Groundwater Management Act (see Appendix A).

³ Intra-Basin Administrative Agreement for Implementation of the Sustainable Groundwater Management Act in the Santa Ynez River Valley Groundwater Basin (see Appendix A).

2.1.1 Name and Mailing Address

§ 354.6 Agency Information. When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:

(a) The name and mailing address of the Agency.

The following contact information is provided for the EMA GSA pursuant to California Water Code § 10723.8:

Santa Ynez River Valley Groundwater Basin Eastern Management Area GSA

Mailing Address: P.O. Box 719

Physical Address (no mail delivery): 3669 Sagunto Street, Suite 101 Santa Ynez, CA 93460

2.1.2 Organization and Management Structure

§ 354.6 Agency Information. When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:

(b) The organization and management structure of the Agency, identifying persons with management authority for implementation of the Plan.

2.1.2.1 Agencies Participating in the GSA

The organization and management structures of each of the four member agencies in the EMA are described below.

Santa Ynez River Water Conservation District

The SYRWCD was formed in 1939 for the primary purpose of protecting water rights on the lower Santa Ynez River. The SYRWCD extends over approximately 180,000 acres in central Santa Barbara County (County). Water production within the SYRWCD is used for domestic, municipal, industrial, and agricultural purposes.

Under the Water Conservation District Law of 1931, the SYRWCD has collected a groundwater charge since 1979 to supplement ad valorem property taxes (on land only) to fund its operations. The groundwater charge is based on self-reported production from owners' wells in the SYRWCD. There are currently six groundwater charge zones in the SYRWCD. There is a differential charge for agricultural water, special irrigation water (such as parks, golf courses), and other (non-agricultural, non-special) water uses. Water code dictates that other water rates may be no less than three times the agricultural rates.

The principal enabling act for formation of SYRWCD is California Water Code § 74000 et seq. SYRWCD is governed by a five-member board of directors. Directors are elected by the registered voters in SYRWCD boundaries to staggered 4-year terms; there is no limit to how many terms a board member may serve. The board meets quarterly to discuss regular business, and as needed to discuss special agenda items. The board is the legislative body of the district that determines the policies by which SYRWCD operates. SYRWCD's staff include a general manager, a groundwater program manager, and a district administrator. Staff also fill the roles of board secretary and treasurer. The board is also supported and advised by its own

legal counsel. SYRWCD is the point of contact with DWR for the EMA GSA, according to California Code of Regulations (CCR) Title 23, § 357.4.

Santa Barbara County Water Agency

The Water Agency was established by the state legislature in 1945 to control and conserve storm, flood, and other surface waters for beneficial use and to enter into contracts for water supply. The Water Agency was originally empowered under California Water Code § 30000 et seq. The Water Agency is part of the Santa Barbara County Public Works Department and is responsible for the following:

- Preparing investigations and reports on the County’s water requirements, groundwater conditions, efficient use of water, and other water supply related technical studies.
- Managing County-wide programs, including the Integrated Regional Water Management (IRWM) Program, Regional Water Efficiency Program, and winter cloud seeding program.
- Providing technical assistance to other County departments, water districts, and the public concerning water availability.
- Administering certain provisions of the Cachuma Project and the Twitchell Dam Project contracts with the U.S. Bureau of Reclamation (USBR).
- Participating in GSAs.

City of Solvang

The City of Solvang was incorporated on May 1, 1985. Its City Council includes a mayor, mayor pro tempore, and three council members. The mayor and one council member each serve a 2-year term and all other council members serve 4-year terms. The City Council meets the second and fourth Mondays of each month. The City of Solvang Municipal Code⁴ includes regulations on Water and Sewer, Zoning, Subdivisions, and Stormwater.

Santa Ynez River Water Conservation District, Improvement District No. 1

ID No. 1 was formed on July 7, 1959, under the Water Conservation Law of 1931, Division 21, § 74000 et seq. of the California Water Code as an Improvement District within the SYRWCD, for the purposes of furnishing water to its customers within its boundaries. ID No. 1’s operations are governed by rules and regulations for water service for ID No. 1. The most recent version of the Rules and Regulations was adopted by the Board on March 20, 2018.

2.1.2.2 Memorandum of Agreement for GSP Development

The four member agencies participating in the EMA GSA entered into an MOA in April 2017. The 2017 MOA forms a GSA for the EMA and facilitates a cooperative and ongoing working relationship between the parties to develop a GSP for the EMA. The GSP developed under this MOA will be considered for adoption by the EMA GSA and the adopted GSP subsequently will be submitted to DWR for approval. The GSA may decide to enter into a new agreement to coordinate GSP implementation at that time. A copy of the 2017 MOA is included in Appendix A.

⁴ The City of Solvang Municipal Code is available here: <http://qcode.us/codes/solvang/>. (Accessed March 22, 2021.)

The 2017 MOA establishes the EMA GSA Committee (Committee), consisting of one representative and one alternate from each of the four member agencies. The representative is an elected official while the alternate is either an elected official or staff, as appointed by the governing body of the member agency. The 2017 MOA outlines voting within the Committee and the Committee's powers and responsibilities. The Committee conducts activities related to GSP development and SGMA implementation, including but not limited to the following:

- Developing a SGMA-compliant GSP.
- Reviewing and participating in the selection of consultants related to GSA efforts.
- Developing annual budgets and additional funding needs.
- Developing a stakeholder engagement plan.
- Coordinating with the other two GSAs in the Basin.

The full list of activities the Committee is authorized to undertake is included in the 2017 MOA (see Appendix A).

2.1.2.3 Administrative Agreement and Coordination Agreement

As described in Section 2.1, eight parties in the Basin entered into the Administrative Agreement in 2020, which provides context for the three GSAs in the Basin to work together to prepare three GSPs for the Basin (see Appendix A). The Administrative Agreement describes the division of DWR grant funding for GSP development among the three GSAs and cost sharing, when appropriate, for basin-wide activities. Importantly, the Administrative Agreement also requires the three GSAs to prepare a Coordination Agreement in accordance with SGMA and the SGMA regulations to ensure that the three GSPs are developed and implemented using the same data and methodologies for key assumptions (e.g., groundwater elevation and extraction data, surface water supply, total water use, change in groundwater storage, water budget, and sustainable yield). A Coordination Agreement ~~is being developed~~ has been prepared and entered into among the three GSAs and ~~will be adopted by each GSA and included as part of each of~~ has been submitted with the three GSPs for the Basin ~~being submitted~~ to DWR.

2.1.3 Plan Manager and Contact Information

§ 354.6 Agency Information. When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:

(c) The name and contact information, including the phone number, mailing address and electronic mail address, of the plan manager.

The address and telephone number for the EMA GSP plan manager is listed below:

Bill Buelow, GSA Coordinator
 Santa Ynez River Valley Groundwater Basin
 Eastern Management Area GSA
 P.O. Box 719
 3669 Sagunto Street, Suite 101
 Santa Ynez, CA 93460

Phone: 805-693-1156
e-mail: bbuelow@syrwcd.com

2.1.4 Legal Authority

§ 354.6 Agency Information. When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:

(d) The legal authority of the Agency, with specific reference to citations setting forth the duties, powers, and responsibilities of the Agency, demonstrating that the Agency has the legal authority to implement the Plan.

As part of its creation, the 2017 MOA for the GSA Committee granted it authority to have all powers that a GSA is authorized to exercise as provided by SGMA, including, but not limited to, developing a GSP and imposing fees to fund GSA and GSP activities.

In accordance with California Water Code § 10720.5 (b) “Nothing in this part, or in any groundwater management plan adopted pursuant to this, part determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.” Accordingly, this GSP does not determine or alter such surface water or groundwater rights.

Figure 2-1 shows the extent of the GSP plan area for the EMA, which is the Santa Ynez Uplands Area, along with the jurisdictional boundary of each of the four member agencies of the EMA GSA. The entire plan area is covered by the four agencies; no portion of the EMA is covered by an exclusive agency.⁵ No authority is needed from any other GSA or agency to implement this GSP.

2.1.5 Cost and Funding of Plan Implementation

§ 354.6 Agency Information. When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:

(e) An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those costs.

Costs and options for funding the EMA GSP are presented in Section 7.

⁵ The Santa Ynez Band of Chumash Indians has sovereignty over the Santa Ynez Reservation but is not a member agency of the GSA implementing this GSP.

2.2 Description of Plan Area [§ 354.8]

This GSP covers the entire EMA, which lies in the eastern portion of the Basin, in north Santa Barbara County. As presented on Figure 2-1, the EMA portion of the Basin is bounded on the north and east by the San Rafael Mountains and on the northwest by the adjacent San Antonio Creek Valley Groundwater Basin. The southern boundary of the EMA to the south is adjacent to the Santa Ynez Mountains. The southwest portion of the EMA is adjacent to the CMA and beyond to the rest of the Basin (DWR, 2018). Average precipitation within the EMA varies from a maximum of about 24 inches per year in the higher elevations to a minimum of about 15 inches per year in the southern and central areas (Santa Barbara County, 2012).

The EMA includes the City of Solvang; the unincorporated townships of Santa Ynez, Los Olivos, and Ballard; properties of the Santa Ynez Band of Mission Indians; and remaining unincorporated areas extending throughout the EMA (see Figure 2-2). The unincorporated areas consist of ranchettes (occupying parcels that are 5 to 20 acres in size) and larger agricultural parcels. The City of Solvang and ID No.1 provide retail water service to their respective service areas. Additionally, water is produced from private wells for domestic and agricultural uses both inside and outside of the retail water service areas. The SYRWCD covers approximately 33 percent of the EMA area in two non-contiguous areas, one in the southwestern portion of the EMA and the other around Cachuma Reservoir (Lake Cachuma). The City of Solvang and ID No. 1 are entirely within the SYRWCD boundary. The remainder of the EMA outside of the SYRWCD, the City of Solvang, and ID No.1 boundaries is under the jurisdiction of the Water Agency, as described by SGMA. Estimates of pumping within the EMA vary widely over time and are largely unknown outside of the SYRWCD boundary. Estimates of pumping in these areas have been made using crop type, acreage, and crop water use factors. Changes in pumping volumes are attributed to changes in agricultural practices and residential development.

The Santa Ynez River drains the entire Santa Ynez watershed as it flows through its southern end. From its origins in the Los Padres National Forest to the east near Divide Peak and the Ventura County border, the river enters three man-made reservoirs, including Jameson Lake, Gibraltar Reservoir, and Lake Cachuma. Two tributaries from the Santa Ynez Uplands Area, Santa Cruz Creek and Cachuma Creek, feed Lake Cachuma, the largest of the three reservoirs. The Bradbury Dam impounds Lake Cachuma; downstream, the Santa Ynez River flows west through the EMA. Within the EMA, the Santa Ynez River is joined by several tributaries, including Santa Agueda Creek, Zanja de Cota Creek, and Alamo Pintado Creek. Highway 154 is the most significant east-west highway in the EMA; Highway 246 also runs east-west across western third of the EMA.

Figure 2-1. Area Covered by GSP

Figure 2-2. Federal, State, and Tribal Jurisdictional Areas

2.2.1 Summary of Jurisdictional Areas and Other Features

2.2.1.1 Adjudicated Areas, Other GSA, And Alternative Plans

§ 354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:

(a) One or more maps of the basin that depict the following, as applicable:

(1) The area covered by the Plan, delineating areas managed by the Agency as an exclusive Agency and any areas for which the Agency is not an exclusive Agency, and the name and location of any adjacent basins.

(2) Adjudicated areas, other Agencies within the basin, and areas covered by an Alternative.

(3) Jurisdictional boundaries of federal or state land (including the identity of the agency with jurisdiction over that land), tribal land, cities, counties, agencies with water management responsibilities, and areas covered by relevant general plans.

(4) Existing land use designations and the identification of water use sector and water source type.

(5) The density of wells per square mile, by dasymetric or similar mapping techniques, showing the general distribution of agricultural, industrial, and domestic water supply wells in the basin, including de minimis extractors, and the location and extent of communities dependent upon groundwater, utilizing data provided by the Department, as specified in Section 353.2, or the best available information.

(b) A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.

As of the date that this GSP was completed and submitted to DWR for evaluation, no part of the Basin nor any surrounding basin has been identified in SGMA (California Water Code § 10720.8) as an adjudicated area and no part of the Basin nor any surrounding basin has been the subject of a comprehensive adjudication as described in Code of Civil Procedure § 830 et seq. Two other GSAs exist within the Basin (i.e., WMA and CMA). No alternative plans have been submitted for any part of the Basin nor for any surrounding basin. Consequently, no map is included in the GSP for adjudicated areas or alternative plans.

2.2.1.2 Other Jurisdictional Areas

In addition to the four member agencies of the EMA GSA, there are several federal, state, tribal, and local agencies that have some degree of water management authority in the EMA. Each agency or organization is discussed below. A map of the jurisdictional extent of the federal, state, and tribal agencies within the EMA is shown on Figure 2-2. A map showing the jurisdictional extent of city and local jurisdictions within the EMA is shown on Figure 2-3.

Figure 2-3. City and Local Jurisdictional Areas

2.2.1.3 Federal Agencies

Federal agencies with land holdings in the EMA include the National Forest Service, the Bureau of Land Management, and the USBR. A portion of the Los Padres National Forest covers a small area near the northern boundary of the EMA. The Bureau of Land Management manages one small parcel near Happy Canyon Road that partially overlies the EMA. The USBR manages the area in and around Lake Cachuma.

2.2.1.4 Tribal Land

The one Native American tribe in Santa Barbara County is the Santa Ynez Band of Chumash Indians. The Tribe has three recognized tribal land areas in the EMA. The Santa Ynez Reservation of the Santa Ynez Band of Chumash Indians' boundaries are within the boundary of the EMA, and the Tribal Chairman indicated early in the SGMA process that the Tribe looks forward to collaborating with the GSA.⁶ Currently, the Chumash tribal government is participating in the SGMA process for the EMA GSA through its representative on the Citizens Advisory Group (CAG).

2.2.1.5 State Agencies

The Santa Ynez Mission State Park is the only state-owned parcel within the EMA, as shown on Figure 2-2. The State Water Resources Control Board has jurisdiction over the Santa Ynez River and the associated river underflow.

2.2.1.6 County Agencies

The County of Santa Barbara is responsible for comprehensive long-term planning in the county through a County of Santa Barbara Comprehensive Plan.⁷ Details on the Comprehensive Plan are available in Section 2.2.3. In addition, the Water Agency overlies the EMA and is a local agency as defined in California Water Code § 10721(n). The Water Agency represents the areas outside of the SYRWCD, City of Solvang, and ID No. 1 jurisdictional areas within the EMA (see Figure 2-1).

2.2.1.7 City and Local Agencies

The City of Solvang (City) lies on the west side of the EMA. The City has water management authority over its incorporated area and manages a number of parks and recreational sites. The City water and sewer regulations include a conservation program that sets forth conservation benchmarks and penalties. The City operates a wastewater treatment plant (WWTP) that can treat up to 1.5 million gallons per day. The WWTP receives and treats wastewater from the City as well as the Santa Ynez Community Services District (SYCSD). The City's stormwater code outlines the provisions for protecting water quality.

In addition to collecting and treating wastewater from the City, the SYCSD serves the eastern portion of the town of Santa Ynez and maintains the Chumash wastewater treatment and collection system. The SYCSD is responsible for sewer collections and streetlights. The SYCSD also does contract operations for wastewater collection and treatment.

The Los Olivos Community Service District was formed in 2018 for the purpose of developing the facilities necessary to collect, treat, and dispose of sewage, wastewater, recycled water, and stormwater in the unincorporated community of Los Olivos.

⁶ See Appendix E of the *Final Draft Communications & Communication and Engagement Plan for Santa Ynez EMA GSP Development* (GSI and GEI, 2020 Appendix B of this GSP).

⁷ Available at <https://www.countyofsb.org/plndev/policy/comprehensiveplan/comprehensiveplan.sbc>. (Accessed March 24, 2021.)

SYRWCD was established as a special district by the Santa Barbara County Board of Supervisors in 1939. Its mission is to protect water rights and conserve and augment water supplies within the district. Its six groundwater charge zones are presented in Figure 2-4.

ID No. 1 was formed on July 7, 1959, under the Water Conservation Law of 1931, Division 21, § 74000 et seq. of the California Water Code as an Improvement District within the SYRWCD, for the purposes of furnishing water to its customers within its boundaries (see Figure 2-4). ID No. 1's operations are governed by rules and regulations for water service for ID No. 1. The most recent version of the Rules and Regulations was adopted by the Board on March 20, 2018.

2.2.1.8 Land Use

Land uses in the Santa Barbara County Comprehensive Plan are designated by the Santa Barbara County Board of Supervisors. Land uses throughout the ~~county~~County include the following:

- Agriculture
- Mineral Resource Industry
- Oil/Petroleum Resource Industry
- Mineral Resource Area
- Utility-Scale Solar Photovoltaic Facility
- Waste Disposal Facility
- Incorporated City
- Unincorporated Urban Area
- Vandenberg Space Force Base⁸
- Los Padres National Forest

According to land use data prepared by Land IQ, LLC, and provided to DWR, the primary land uses in the EMA are agriculture, urban areas, and undeveloped land. Current EMA land uses in the EMA are summarized by category in Table 2-1 and shown on Figure 2-5. They do not include the Vandenberg Space Force Base and Utility-Scale Solar Photovoltaic Facility noted above. The urban land use category is provided by DWR based on data compiled by Land IQ, LLC, from 2018 (DWR, 2021). The balance of the approximately 84,400 acres in the EMA is classified as native vegetation and could include dry farmed land. In 2019 the Santa Barbara County Board of Supervisors limited outdoor cannabis cultivation in the unincorporated areas of the County outside the Carpinteria Agricultural Overlay District to no more than 1,575 acres (Santa Barbara County Code § 50-7) and added a required special land use permit.

⁸ Vandenberg Space Force Base was formerly called the Vandenberg Air Force Base until a renaming ceremony in May 2021 (Associated Press, 2021). The Base is not included in the EMA.

Figure 2-4. Santa Ynez River Water Conservation District Zones

Figure 2-5. Existing Land Use Designations

Table 2-2.1. Land Use Summary in 2018

Land Use Category	Acres
Agriculture by Crop Type	
Deciduous Fruit and Nuts	317
Field Crops	1,590
Ornamentals	3
Pasture	1,294
Truck, Nursery, and Berry Crops	872
Vineyards	3,253
Total Agriculture	7,330
Urban	4,359
Native Vegetation / Idle	84,711
Total	96,400

The City of Solvang, which occupies 2.2 square miles in the EMA, includes the following zoning designations within its boundaries (City of Solvang, 2016):

- Eight Residential Categories, including Mobile Home Park
- Commercial Retail / General /Tourist Related
- Light Industry
- Professional ~~Office~~ Offices
- Recreational
- Agricultural
- Resource Management

2.2.1.9 Water Use Sector

Water demands in the EMA are organized into the six water use sectors identified in the GSP emergency regulations.⁹ These are:

- **Urban.** Urban water use is assigned to non-agricultural water uses in the City and other census-designated places. Domestic use outside of census-designated places is not considered urban use.
- **Industrial.** There is limited industrial use in the EMA. DWR does not have any records of wells in the EMA that are categorized as being for industrial use. Most industrial use is associated with agriculture and is accounted for in the agricultural water use sector.
- **Agricultural.** This is the largest water use sector in the EMA.
- **Managed wetlands.** There are no managed wetlands in the EMA.
- **Managed recharge.** There is no managed recharge in the EMA.

⁹ Section 3, Basin Setting, includes water budgets that categorize water uses with different categories, primarily (1) agricultural; (2) "other" water, which includes municipal, industrial, small public water systems, and domestic use; and (3) "special" irrigation water, which refers to urban landscape and golf course irrigation.

- **Native vegetation.** This is the largest water use sector in the EMA by land area. This sector, required by the regulations, includes rural residential areas. Native vegetation is the term used in the regulations for all other unmanaged and non-irrigated land use sectors.

Figure 2-6 shows the distribution of the water use sectors in the EMA.

2.2.1.10 Water Source Type

Water source types in the EMA include groundwater, surface water, and water imported from outside the EMA. Groundwater supplies about 85 percent of the water demand within the EMA, and communities dependent on groundwater are presented in Figure 2-7 (refer to the water budget presented in Section 3.3). Water is imported into the EMA from the Cachuma Project and from the State Water Project (SWP).

Groundwater pumped by the City and ID No. 1 is delivered to ~~its~~their customers within ~~its~~their respective ~~jurisdictional~~ boundaries in the southwestern portion of the EMA. Private agricultural and domestic users also pump groundwater from the Santa Ynez Uplands. The bulk of water used to irrigate crops in the EMA is sourced by pumping groundwater from the Santa Ynez Uplands and surface water from the Santa Ynez River underflow.

ID No. 1 imports water into the EMA via the Cachuma Project and the SWP. ID No. 1 does not receive its Cachuma Project water directly; instead, in addition to its own entitlement of SWP supplies, it also receives an amount of SWP water through an Exchange Agreement with the South Coast members of the Cachuma Project, whereby ID No.1 provides its Cachuma Project water to the South Coast in exchange for an equivalent amount of SWP water from the South Coast agencies. ID No.1 also produces water from the Santa Ynez River ~~under~~underflow pursuant to licenses issued by the State Water Resources Control Board for use in the Santa Ynez Uplands.

As a member agency of the Central Coast Water Authority (CCWA), ID No. 1 has a Table A allocation of 2,000 acre-feet per year (AFY) and a 200-acre-foot drought buffer of imported SWP water. Of that amount, 1,500 AFY are contractually committed for use by the City of Solvang. The drought buffer effectively increases the amount of water to be delivered in the event that overall deliveries are reduced by a given percentage.

Figure 2-6. Water Use Sector and Water Source Type

Figure 2-7. Communities Dependent on Groundwater

2.2.1.11 Existing Well Types, Numbers, and Density

An exact total count of existing and active wells in the EMA is not yet known. Preliminary data on well types, well depth data, and well distribution data were retrieved from DWR's Well Completion Report Map Application.¹⁰ Well information is also available from SYRWCD and public databases, which supplement the DWR well data. Wells in the public databases may have been long since destroyed or abandoned and some well records are located in more than one database. Due to multiple well-naming conventions, it is possible that some wells exist in multiple sources. The databases, and number of wells in each, include the following:

- DWR Well Completion Reports: 583 wells within and surrounding EMA
- ID No. 1: 14 groundwater wells in the ~~entire~~ EMA
- USBR: 13 monitoring wells within Santa Ynez River
- City of Solvang: 10 wells
- Mutual water companies: ~~several~~ various groundwater wells in Santa Ynez Uplands

DWR categorizes wells in its mapping application as either domestic, production, or public supply. These categories are based on the well use information submitted with well logs to DWR. Many of the wells categorized on well logs as production wells are used for agriculture. Most of the wells in the EMA are also used in part for domestic purposes.

The density of wells in the EMA by their types of use are presented on Figure 2-8 through Figure 2-10. The data used to develop these maps are from DWR-provided data and well locations for the City of Solvang and ID No. 1. These maps should be considered representative, but not definitive, of well distributions.

2.2.2 Water Resources Monitoring and Management Programs ~~§~~

~~§354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:~~

~~(c) Identification of existing water resource monitoring and management programs, and description of any such programs the Agency plans to incorporate in its monitoring network or in development of its Plan. The Agency may coordinate with existing water resource monitoring and management programs to incorporate and adopt that program as part of the Plan.~~

~~(d) A description of how existing water resource monitoring or management programs may limit operational flexibility in the basin, and how the Plan has been developed to adapt to those limits.~~

~~§~~ 354.8(c) and (d)

2.2.2.1 Groundwater Level Monitoring

In 2009, the California legislature passed Senate Bill X7-6, the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, mandating that local agencies track seasonal and long-term trends in

¹⁰ Available at <https://www.arcgis.com/apps/webappviewer/index.html?id=181078580a214c0986e2da28f8623b37>. (Accessed March 24, 2021.)

groundwater elevations in all state-designated groundwater basins. The Water Agency is the designated monitoring entity for the Basin.

Figure 2-8. Well Density By Section (Domestic Wells)

Figure 2-9. Well Density By Section (Irrigation Wells)

Figure 2-10. Well Density By Section (Public Wells)

In a cooperative program with the U.S. Geological Survey (USGS) National Water Information System (NWIS), the Water Agency monitors more than 300 groundwater wells annually throughout the County, including in the EMA. Figure 2-11 shows wells with publicly available groundwater elevation data in the EMA. Currently, groundwater level measurements are taken once in the spring and sometimes also in the fall. The monitoring is performed in a network of wells that have been volunteered for this purpose. The network has changed over time as access to wells has been lost or new wells have been added. The cooperative program, in place for several decades, provides vital data for tracking groundwater trends and conducting groundwater studies. The data are published in a triennial report prepared by the Water Agency. Many of the functions of the CASGEM Program will be replaced or subsumed under the GSAs.

The City of Solvang, ID No.1, USBR, and several mutual water companies also provide groundwater well elevation data. A summary of the groundwater level data compiled for use in this GSP is presented in Table 3-5.

2.2.2.2 Groundwater Quality Monitoring

Groundwater quality is monitored under several different programs and by different agencies, including the following:

- The City of Solvang and ID No. 1 use data from sampled supply wells for their annual water quality reports to comply with their water supply permits and California Safe Drinking Water Act requirements and reports to DWR and their customers.
- The USGS collects water quality data on a routine basis under the Groundwater Ambient Monitoring and Assessment (GAMA) program and the NWIS. These data are stored in State Water Resources Control Board's (SWRCB's) GeoTracker GAMA Program database.
- Multiple sites monitor groundwater quality as part of investigation or compliance monitoring programs through the Central Coast Regional Water Quality Control Board (RWQCB).¹¹
- Water Agency monitors water quality in conjunction with water level measurements collected for the CASGEM Program.

Section 3.2 provides a summary of groundwater quality for drinking water and agricultural purposes.

Figure 2-12 shows the location of wells in the GAMA GeoTracker database.

¹¹ In 2016, the Central Coast RWQCB adopted Resolution No. R3-2017-0004, Adopting the Human Right to Water as a Core Value and Directing Its Implementation in Central Coast Water Board Programs and Activities. The Resolution and the Workplan for Implementing the Human Right to Water (Central Coast RWQCB, 2017a) includes development of region-wide geographic information system maps to identify areas where public and domestic drinking water wells are impacted by common pollutants and the identification of areas where domestic wells users are vulnerable to contamination.

Figure 2-11. Wells with Publicly Available Groundwater Elevation Data

Figure 2-12. Wells with Publicly Available Groundwater Quality Data

2.2.2.3 Surface Water Monitoring

Stream gauges have historically been maintained and monitored by the USGS. Data are stored electronically in NWIS files and are retrievable from the USGS Water Resources site. USBR maintains data on water releases from Bradbury Dam. The periods with monthly streamflow data sets from stream gauging stations within and surrounding the EMA are presented on Table 3-1. The locations of these gauging stations, with the exception of the upstream stations along the Santa Ynez River, are presented on Figure 2-13. [The locations of the point of delivery of imported water from northern California through the SWP via the CCWA pipeline is also presented on Figure 2-13.](#)

2.2.2.4 Climate Monitoring

Climate data are measured at two meteorological monitoring stations in the EMA portion of the Basin as well as six additional stations surrounding the EMA. Data from these stations were obtained from Santa Barbara County. Station information is provided in Table 2-2 and station locations are shown on Figure 2-14. Figure 2-14 displays the long-term precipitation record at the Santa Ynez Fire Station #32.

Table 2-3-2. Meteorological Monitoring Stations Used for Historical Period Selection

Station No.	Station Name	Beginning of Record	Location	Elevation (feet)	Period Average Precipitation (inches)
218	Santa Ynez Fire Station	1951	Within EMA	600	15.7
393	Solvang	1965	Within EMA	485	18.3
196	Los Olivos - Foxen Canyon	1995	Within EMA	1,040	16.0
419	Midland School	1958 ¹	Within EMA	1,180	16.4
290	Happy Canyon	1994 ²	Within EMA	1,690	15.6
233	Buellton Fire Station	1955	Surrounding	360	17.2
421	Figueroa Mountain	1961	Surrounding	3,200	21.3
332	Cachuma	1953	Adjacent EMA	800	19.7
204	Los Alamos Fire Station	1910	San Antonio Basin	580	15.3
230	Gibraltar Reservoir	1920	Upstream	1,500	26.2
232	Jameson Dam	1926	Upstream	2,230	28.7

Notes

¹ Data from the Midland School is discontinuous, missing entire water years: 1964, 1969, 1977 through 1993, and 2002 through 2011. This data includes 34 of the 61 years between water years 1958 and 2018.

² Data from Happy Canyon is discontinuous, missing water years 1998 through 2001.

EMA = Eastern Management Area

California Irrigation Management Information Center Station 64 measures several climatic factors that allow a calculation of daily reference evapotranspiration (ET) for the area. This site is located in an alfalfa field and is significantly affected by the changing conditions mandated by alfalfa agriculture. A summary of average monthly precipitation, temperature, and reference evapotranspiration (ET_o) for the EMA is presented on Table 2-3.

Table 2-3. Average Monthly Climate Summary, Station 64 in EMA

Month	Average Precipitation (inches) ¹	Average ETo (inches) ²	Average Daily Temperature (° F) ³
January	3.3	1.9	48.8 49
February	3.4	2.4	50.4
March	2.9	3.8	53.2
April	1.0	5.0	55.9 56
May	0.9	6.0	59.1
June	0.4	6.4	62.7 63
July	0.3	6.6	66.0
August	0.3	6.2	65.9 66
September	0.1	4.8	54.1
October	0.7	3.7	59.4
November	0.7	2.3	52.3
December	2.4	1.7	47.0
Monthly Average	1.4	4.2	57.1
Average Calendar Year⁴	16.6	50.6	57.1

Notes

Data sources: DWR CIMIS <https://cimis.water.ca.gov/Stations.aspx>

¹ Average of monthly precipitation at CIMIS Station 64 for water years 1988 through 2020.

² Average of monthly evapotranspiration at CIMIS Santa Ynez Station 64 for water years 1988 through 2020.

³ Average daily temperature at CIMIS Santa Ynez Station 64 for water years 1988 through 2020.

⁴ Average Calendar Year is not the sum of monthly averages, but rather a historical annual average over the period of record.

° F = degrees Fahrenheit

~~CIMIS = California Irrigation Management Information Center~~
[CIMIS = California Irrigation Management Information Center](#)

EMA = Eastern Management Area

ETo = reference evapotranspiration

Figure 2-13. Surface Water Features

Figure 2-14. Meteorological Monitoring Stations

2.2.2.5 Existing ~~Groundwater~~Water Management Plans

Existing ~~groundwater~~water management plans within the EMA area include the Central Coast Water Authority's Urban Water Management Plan (UWMP), the Water Quality Control Plan for the Central Coast Basin, and the Santa Barbara County IRWM Plan. In addition, the Santa Barbara County Groundwater Basins Status Report provides monitoring data and further information about groundwater resources in the region. These water management plans were developed prior to SGMA and while they have goals that differ from the sustainability goal provided in this GSP, they will not limit operational flexibility in the EMA with regard to sustainable groundwater management. The sustainability goal presented in Section 5 was developed collaboratively for the Basin and adopted by all three GSAs in the context of both SGMA and the existing water management plan framework. The GSP and implementation plan presented in Section 7 will adapt to conditions based on the results of the monitoring program to avoid undesirable results (see Section 4). This approach is consistent with the CCWA UWMP and IRWM Plan.

Central Coast Water Authority Urban Water Management Plan

The UWMP Act requires urban water suppliers to compare the total projected demand for water supply with the amount of water supply that is available over the next 20 years, in 5-year increments. The CCWA¹² was formed for the sole purpose of designing, constructing, and operating the facilities needed to bring SWP water to the agencies that contract to receive that water. CCWA is considered an urban water supplier because SWRCB Division of Drinking Water (DDW) classifies it as a public water system. Both ID No. 1 and the City of Solvang provide retail water service within the EMA, but they are not large enough to be required to prepare an UWMP.

The CCWA's 2020 Update to its UWMP (CCWA, 2021) describes the roles and responsibilities of CCWA, available water supplies, water demands, water reliability, and mitigation programs performed in droughts to secure additional water. The UWMP 2020 Update provides the following:

- A projection of future SWP water demand and assesses SWP supply reliability through 2040 for CCWA participants.
- An update on the negotiations to extend the termination dates of SWP contracts for participating CCWA agencies beyond the 2040 termination date into 2085.
- A discussion of future possible water sources.

The discussion of future water sources includes water transfers (such as the Cachuma Project in the EMA), groundwater banking, desalination, and recycled water and local groundwater. Future water projects include the following:

- **Delta Conveyance Project**—An infrastructure project that would allow for greater flexibility in balancing the needs of the Delta estuary with the reliability of water supplies and help in reducing the risk of long outages from Delta levee failures.
- **Suspended Table A Reacquisition**—In the 1980s, 12,214 square feet of SWP Table A water was suspended by DWR and the Santa Barbara County Flood Control and Water ~~Agency~~Conservation District. CCWA and the Santa Barbara County Flood Control and Water ~~Agency~~has Conservation District have the option of reacquiring this suspended water through payment of past costs plus interest.

¹² The CCWA member agencies are the Cities of Buellton, Guadalupe, Santa Barbara, and Santa Maria; Carpinteria Valley Water District; Goleta Water District; Montecito Water District; and ID No. 1 in which the City of Solvang is located. Participating entities with no voting rights include Golden State Water Company, Vandenberg Space Force Base, La Cumbre Mutual Water Company, Morehart Land Company, and the Raytheon Systems Company.

- **Long-Term Exchange between San Luis Obispo Flood Control Water Conservation District and CCWA**—An exchange of SWP Table A water for water treated at the CCWA Coastal Branch that could benefit CCWA participants. CCWA and the San Luis Obispo Flood Control Water Conservation District are exploring potential exchange concepts for mutual benefit.
- **CCWA Water Management Strategies Study**—CCWA is developing a management strategies study for maximizing the utility of State Water Project water supplies and integrating it with local supplies. Potential water management measures may include transfers, exchanges, and banking.

Water Quality Control Plan for the Central Coastal Basin – Planning Elements

The *Water Quality Control Plan for the Central Coastal Basin* (WQ Basin Plan) (RWQCB et al., 2017) provides management strategies to ensure that surface water and groundwater in the Central Coast Region are managed to provide the highest possible quality. The WQ Basin Plan includes the following elements:

- The water quality standards that must be maintained for all the water uses in the region
- An implementation plan that describes the programs, projections, and other actions necessary to achieve the water quality standards
- The existing plans and policies of the SWRCB and the RWQCB that protect water quality
- A description of the monitoring and surveillance programs to support ensuring management of surface and groundwater

The WQ Basin Plan includes recommended actions, requirements, and management principles, including salt source control, to ensure high-quality surface water and groundwater for all beneficial uses. The present and potential future beneficial uses for inland waters listed in the WQ Basin Plan include surface water and groundwater as municipal supply (water for community, military, or individual water supplies); agricultural purposes; groundwater recharge; recreational water contact and non-contact; sport fishing; warm freshwater habitat; wildlife habitat; rare, threatened or endangered species; and spawning, reproduction, and/or early development of fish.

The WQ Basin Plan also describes the existing regulatory monitoring and assessment of point sources of pollution and a program to control nonpoint sources of pollution; the GAMA program to assess groundwater quality; the Central Coast Ambient Monitoring Program; and the available state, federal, and regional assessments of water quality (see Section 2.2.2.6 for more on the water quality measures outlined in the WQ Basin Plan).

Santa Barbara County Integrated Regional Water Management Plan

The Santa Barbara County IRWM Plan (Dudek, 2019), updated in 2019, provides guidance for integrating water management across the region. The IRWM Plan was updated through a 2-year process that included a broad array of stakeholders and objectives, priorities, and resource management strategies which were revisited to respond to the changing conditions in the region, including increasing vulnerabilities from climate change, and in response to new state-mandated requirements, including SGMA regulations.

The IRWM Plan integrated 34 selected water management strategies and considered and included an additional eight strategies for the region. The strategies included in the IRWM Plan have or will have a role in protecting the region's water supply reliability, water quality, ecosystems, groundwater, and flood management objectives. The integration of these strategies resulted in a list of action items (projects, programs, and studies) needed to implement the IRWM Plan over the 25-year planning horizon.

[Based on several datasets, no disadvantaged communities were identified within the EMA \(refer to the IRWM Plan \[Dudek, 2019\]; 2020 California Air Resources Board and 2018 California Climate Investments](#)

[Priority Populations online maps¹³](#); and [DWR's DAC mapping data from 2018 at the places and tract scales¹⁴](#)).

Santa Barbara County Groundwater Basins Status Report

The 2019 Santa Barbara County Groundwater Basins Status Report (Groundwater Report) (Santa Barbara County, 2019) describes the conditions of groundwater and status of groundwater basins in Santa Barbara County since the publication of the 2011 Santa Barbara County Groundwater Report. The 2019 Groundwater Report provides data and information from state and federal monitoring for water quantity and quality in the wake of the local drought emergency that lasted from 2014 to 2019. Specifically, for each basin in the county, the report discusses basin characteristics and status, provides groundwater levels and hydrographs for selected wells, and describes developments in supplemental supplies and basin management plans.

2.2.2.6 Existing Groundwater Regulatory Programs

Well owners located within the service area of SYRWCD are required to register their wells and report the quantity of water pumped on a semi-annual basis. Groundwater production in the EMA that occurs outside of the SYRWCD boundaries is not reported. Groundwater use within the EMA is also subject to the Agricultural Order, Title 22 Drinking Water Program, and Water Quality Control Plan described below.

Agricultural Order

In 2017 the Central Coast RWQCB issued Agricultural Order No. R3-2017-0002, a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Agricultural Order) (RWQCB, 2017). The permit requires that growers implement practices to reduce nitrate leaching into groundwater and improve surface receiving water quality. Specific requirements for individual growers are structured into three tiers based on the relative risk their operations pose to water quality. Growers must enroll, pay fees, and meet various monitoring and reporting requirements according to the tier to which they are assigned. All growers are required to implement groundwater monitoring, either individually or as part of a cooperative regional monitoring program. Growers electing to implement individual monitoring (i.e., not participating in the regional monitoring program) are required to test all on-farm domestic wells and the primary irrigation supply well for nitrate or nitrate plus nitrite, and general minerals, including, but not limited to, total dissolved solids, sodium, chloride, and sulfate.

The Central Coast RWQCB is currently developing Agricultural Order No. R3-2021-0040 (RWQCB, 2021). The updated Agricultural Order has more frequent groundwater monitoring requirements than Agricultural Order No. R3-2017-0002. Beginning in 2022, all growers must conduct annual sampling of all on-farm domestic drinking water supply wells and the primary irrigation well between March 1 and May 31. Growers must report monitoring results by July 31 each year. Additionally, groundwater trend monitoring is required under the updated Agricultural Order. All growers are required to implement groundwater trend monitoring work plans either individually or as part of a cooperative regional monitoring program. Work plans for groundwater trend monitoring must be submitted by a date dependent on the phase area. The work plan due date is September 1, 2027, in the EMA.

¹³ Available at <https://webmaps.arb.ca.gov/PriorityPopulations/>. (Accessed December 6, 2021.)

¹⁴ Available at <https://gis.water.ca.gov/app/dacs/>. Mapped DACs data included Places (2018) and Tracts (2018). (Accessed December 6, 2021.)

Title 22 Drinking Water Program

The DDW regulates public water systems in the state to ensure the delivery of safe drinking water to the public. A public water system is defined as a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. Private domestic wells, wells associated with drinking water systems with less than 15 residential service connections, and industrial and irrigation wells are not regulated by the DDW.

The County of Santa Barbara has primacy and regulates state small water systems as defined in Chapter 34B Domestic Water Systems (Ordinance No. 12-4843) (Santa Barbara County, 2012). The DDW enforces the monitoring requirements established in Title 22 of the CCR for public water system wells, and all the data collected must be reported to the DDW. Title 22 also designates the regulatory limits (known as maximum contaminant levels) for various waterborne contaminants, including volatile organic compounds, non-volatile synthetic organic compounds, inorganic chemicals, radionuclides, disinfection byproducts, general physical constituents, and other parameters.

Water Rights Releases

Surface water releases from Lake Cachuma to the lower Santa Ynez River are made in accordance with water rights orders and decisions issued by the SWRCB to replenish the downstream alluvial basins/areas within the EMA and other downstream reaches, and to protect public trust resources. Water rights releases for users downstream of Lake Cachuma are set forth in SWRCB Decision D886, and SWRCB Orders WR 73-37, WR 89-18, and WR 2019-0148. These releases are based on the establishment of two accounts, and accrual of credits (storing water) in Lake Cachuma for the areas above and below the Lompoc Narrows. Releases from the Above Narrows Account (ANA) are made at Bradbury Dam at the direction of SYRWCD for the benefit of downstream water users between the dam and the Lompoc Narrows. Releases from the Below Narrows Account (BNA) are conveyed to the Narrows for the benefit of water users in the Lompoc Plain subarea at the direction of SYRWCD. ANA releases are made to replenish the alluvial basin in the areas above the Lompoc Narrows and combined releases of ANA and BNA are made to replenish the various downstream areas of the Santa Ynez River Alluvium and Lompoc Plain, respectively.

Water Quality Control Plan for the Central Coastal Basin – Water Quality Requirements

The pollution control actions required by, and best management practices recommended by, the SWRCB, the RWQCB, and other agencies with authority over water quality are described in the WQ Basin Plan (RWQCB et al., 2017). The WQ Basin Plan includes all the EMA and also extends beyond its boundaries. The plans and policies of the SWRCB for managing water quality are listed in Section 5 and included as appendices to the WQ Basin Plan. Key policies in the WQ Basin Plan that affect the management of surface water and groundwater in the EMA include the State Policy for Water Quality Control, Sources of Drinking Water Policy, and the Nonpoint Source Management Plan. Discharge prohibitions outlined in the WQ Basin Plan include regulations for groundwater, salt discharge, and other discharge requirements. Best management practices recommended in the WQ Basin Plan include source controls that prevent a discharge or threatened discharge and treatment controls that remove pollutants from a discharge before it reaches surface water or groundwater. The WQ Basin Plan also lists the thresholds for Total Maximum Daily Loads (TMDLs) for waterbodies covered by the plan; none of the waterbodies with concentrations exceeding TMDLs are in the EMA.

2.2.2.7 Conjunctive Use Programs

§ 354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:

(e) A description of conjunctive use programs in the basin.

Some water users within the EMA use surface water and underflow from the Santa Ynez River conjunctively with groundwater. Native surface water flows enter the EMA from precipitation runoff within the watershed and Santa Ynez River inflow to the EMA, regulated as releases from Lake Cachuma at the Bradbury Dam, operated by the USBR (see Section 2.2.2.6). Additional surface water is available as SWP water imported by ID No.1 pursuant to its entitlement as a CCWA member agency and via an Exchange Agreement with the South Coast members of the Cachuma Project. Details on water sources and historical, current, and projected water budgets are available in Section 3.

2.2.3 Land Use and General Plans

§ 354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:

(f) A plain language description of the land use elements or topic categories of applicable general plans that includes the following:

(1) A summary of general plans and other land use plans governing the basin.

(2) A general description of how implementation of existing land use plans may change water demands within the basin or affect the ability of the Agency to achieve sustainable groundwater management over the planning and implementation horizon, and how the Plan addresses those potential effects.

(3) A general description of how implementation of the Plan may affect the water supply assumptions of relevant land use plans over the planning and implementation horizon.

2.2.3.1 Land Use and General Plans Summary [§ 354.8(f)(1),(f)(2), and (f)(3)]

Land use planning authority in the EMA is the responsibility of the Santa Barbara County and the City of Solvang. The Santa Barbara County Comprehensive Plan includes the following elements that have a bearing on water quantity or quality:

- A land use element that outlines the distribution of real estate, open space and agricultural land, mineral resources, recreational facilities, schools, and waste facilities

- A conservation element¹⁵ that addresses the conservation, development, and use of natural resources including water, forests, soils, rivers, and mineral deposits
- Community and specific plans for municipalities and more urban areas to provide goals, policies, and standards to guide community development
- An open space element that details plans and measures for preserving open space for natural resources, outdoor recreation, public health and safety, and agriculture.

2.2.3.2 Santa Barbara County Integrated Regional Water Management Plan and Plan Update

The Santa Barbara County IRWM Program began in 2005 following the passage of Proposition 50, The Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002. Chapter 8 of Proposition 50 authorized the legislature to appropriate funding for IRWM planning, the intent of which was to encourage agencies to develop plans using regional water management strategies for water resources and to develop projects using these IRWM strategies to protect communities from drought, protect and improve water quality, and improve local water security by reducing dependence on imported water. The first Santa Barbara County IRWM Plan was adopted in 2007. The region updated the IRWM Plan in 2019 to address adaptation to climate change, provide incentives for collaboration in managing water resources and setting regional priorities for water infrastructure, and improving regional water self-reliance.

2.2.3.3 How Land Use Plans May Change Water Demands and Sustainable Groundwater Management

The Santa Barbara County Comprehensive Plan includes goals, principles, and policies aligned with sustainable groundwater management. In particular, the Groundwater Resources Section of the plan's Conservation Element outlines four major goals that are compatible with sustainable management objectives under SGMA. These goals are:

- Goal 1: To ensure adequate quality and quantity of groundwater for present and future County residents, and to eliminate prolonged overdraft of any groundwater basins.
- Goal 2: To improve existing groundwater quality, where feasible, and to preclude further permanent or long-term degradation in groundwater quality.
- Goal 3: To coordinate County land use planning decisions and water resources planning and supply availability.
- Goal 4: To maintain accurate and current information on groundwater conditions throughout the County.

As a county-wide document, the Comprehensive Plan does not make specific policy recommendations for the EMA. Nonetheless, the overarching policies and strategies in the plan promote water conservation, coordinated decision making around land use and water resources, groundwater recharge, and prevention of prolonged overdraft, all of which are consistent with the sustainable groundwater management objectives of this GSP. Future land use patterns described in the Comprehensive Plan's Land Use Element were considered in the projected water budget forecast in Section 3.3 of the GSP.

The City of Solvang's General Plan is being updated and includes a Conservation/Open Space Element which that identifies current water supply resources, including groundwater, as well as projected future demands and options for meeting those demands. The Conservation/Open Space Element promotes the protection of groundwater resources and lays out policies and actions supporting sustainability, such as

¹⁵ Various studies indicate slight to moderate levels of overdraft in several groundwater basins within the County and substantial overdraft in one basin (Santa Barbara County, 2012). The goals and policies in the Santa Barbara County Comprehensive Plan, Conservation Element, Groundwater Resources Section were developed to protect local groundwater.

protecting important groundwater recharge areas through open space designation and prohibiting land uses in recharge areas that could adversely affect groundwater. Information from the Conservation/Open Space Element and the plan's Land Use Element was considered in the projected water budget forecast in Section 3.3 of the GSP.

2.2.3.4 How Sustainable Groundwater Management May Affect Water Supply Assumptions

As described above, the sustainable groundwater management focus of the GSP is well-aligned with the Santa Barbara County Comprehensive Plan's goals and policies in support of prudent management of groundwater resources and protection from overdraft. The Comprehensive Plan's policies regarding coordination of land use planning with water resources planning may present opportunities to include groundwater sustainability data in decision making. The Groundwater Resources Section of the Conservation Element includes estimates of safe yield, overdraft, storage, and other parameters related to water supply, and it notes that additional studies and updates are anticipated to refine the estimates. The data collected during the development and implementation of the GSP may therefore be used to refine water supply assumptions and support sustainability. While the City of Solvang's General Plan does not provide an in-depth discussion of sustainable groundwater management, the plan is undergoing a comprehensive update that may provide opportunities to incorporate new data and sustainability objectives as part of its water supply assumptions. The update to the General Plan is anticipated to be completed by May 2022.

2.2.3.5 Impact of Land Use Plans Outside of Basin on Sustainable Groundwater Management

The Santa Barbara County Comprehensive Plan described previously applies throughout the County and is not specific to the EMA. Implementation of the Comprehensive Plan is anticipated to be complementary to implementation of the GSP and achievement of a sustainable groundwater management. The EMA GSA is not aware of any other land use plans outside the EMA that would limit progress toward sustainability or prevent sustainable management.

2.2.4 Process for Well Permitting

§ 354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:

(f) A plain language description of the land use elements or topic categories of applicable general plans that includes the following:

(4) A summary of the process for permitting new or replacement wells in the basin, including adopted standards in local well ordinances, zoning codes, and policies contained in adopted land use plans.

The Santa Barbara County Public Health Department's Environmental Health Services Division requires a Water Well Permit for all new and replacement wells and for modifications to wells such as deepening, replacement or repairs. A permit application and map must be submitted describing the proposed location, construction, and intended use of the well. An Environmental Health Services representative reviews the application and conducts a site inspection before issuance of a permit can occur. Standards for well construction are set forth in Santa Barbara County Code § 34A-12. Once the well construction or replacement is completed, the property owner or well driller must provide a copy of the completed well log to Environmental Health Services. In addition, new wells drilled inside the service area boundaries of SYRWCD are required to be registered with and report groundwater pumping to the SYRWCD.

~~2.2.4.11.1.1.1 Impact of Land Use Plans Outside of Basin on Sustainable Groundwater Management~~

~~§354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:~~

~~(f) A plain language description of the land use elements or topic categories of applicable general plans that includes the following:~~

~~(5) To the extent known, the Agency may include information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management.~~

~~The Santa Barbara County Comprehensive Plan described previously applies throughout the County and is not specific to the EMA. Implementation of the Comprehensive Plan is anticipated to be complementary to implementation of the GSP and achievement of sustainable groundwater management. The GSA is not aware of any other land use plans outside the EMA that would limit progress toward sustainability or prevent sustainable management.~~

2.2.5 Additional Plan Elements

§ 354.8 Description of Plan Area. Each Plan shall include a description of the geographic areas covered, including the following information:

(g) A description of any of the additional Plan elements included in Water Code Section 10727.4 that the Agency determines to be appropriate.

Additional Plan elements from California Water Code § 10727.4 are shown in Table 2-4 below along with a description of how they are addressed in the GSP, coordinated with other entities, or are not applicable to the EMA.

Table 2-4. Plan Elements from California Water Code Section 10727.4

Element	Location
(a) Control of saline water intrusion	Not applicable
(b) Wellhead protection areas and recharge areas	To be coordinated with Santa Barbara County
(c) Migration of contaminated groundwater	Section 3, Basin Setting and Section 4, Monitoring Plan
(d) A well abandonment and well destruction program	To be coordinated with Santa Barbara County
(e) Replenishment of groundwater extractions	Section 6, Projects and Management Actions
(f) Activities implementing, opportunities for, and removing impediments to, conjunctive use or underground storage	Section 6, Projects and Management Actions
(g) Well construction policies	To be coordinated with Santa Barbara County

Element	Location
(h) Measures addressing groundwater contamination cleanup, groundwater recharge, in-lieu use, diversions to storage, conservation, water recycling, conveyance, and extraction projects	Section 6, Projects and Management Actions
(i) Efficient water management practices, as defined in Section 10902, for the delivery of water and water conservation methods to improve the efficiency of water use	To be coordinated with SYRWCD and other entities as applicable
(j) Efforts to develop relationships with state and federal regulatory agencies	Section 6, Projects and Management Actions
(k) Processes to review land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity	To be coordinated with Santa Barbara County and City of Solvang
(l) Impacts on groundwater dependent ecosystems	Section 3, Basin Setting and Section 3.2.6, Groundwater Dependent Ecosystems

2.3 Notice and Communication [§ 354.10]

2.3.1 Beneficial Uses and Users

§ 354.10 Notice and Communication. Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.

In accordance with § 10723.2 of SGMA, the following parties were contacted to determine how best to consider and protect their interests during the formation of the GSA and throughout implementation of the GSP. Land uses and property interests potentially affected by the use of groundwater in the EMA, and the parties representing those interests, include but are not limited to the following:

- **Holders of overlying groundwater rights, including agricultural users and domestic water well owners:** ~~The SYRWCD, the City of Solvang, and ID No. 1 are GSA members.~~ Domestic water well owners and agricultural users are members of the EMA CAG.
- **Municipal well operators:** The City of Solvang and ID No. 1 are municipal well operators and members of the GSA. Residents living in the service areas of the City of Solvang and ID No. 1 are members of the CAG.
- **Santa Ynez River Water Conservation District ID No. 1:** ID No. 1 is a member of the GSA and pumps groundwater for municipal, agricultural, commercial, and domestic uses.

- **Public water systems:** Representatives from several mutual water companies in the EMA are members of the EMA CAG.
- **Local land use planning agencies:** The City of Solvang and Santa Barbara County are members of the EMA GSA. Both entities have planning authority in the EMA. Both agencies were provided notice of the intention to adopt the GSP on August 6, 2021, by the EMA GSA.
- **Environmental users of groundwater:** The California Department of Fish and Wildlife (CDFW) and the National Marine Fisheries Service (NMFS) have been involved in the EMA SGMA process regarding environmental uses of groundwater. Environmental users of groundwater were invited to apply to participate on the EMA CAG.
- **Surface water users:** The City of Solvang and ID No. 1 divert water from the alluvial underflow of the Santa Ynez River. The City of Solvang discharges wastewater to the alluvial underflow of the Santa Ynez River. CDFW and NMFS have been involved regarding environmental uses of the Santa Ynez River. The SYRWCD manages water rights releases for the benefit of downstream users of surface water. Surface water users are members of the EMA CAG.
- **California Native American Tribes:** The Santa Ynez Band of Chumash Indians is a federally recognized tribe that maintains a reservation within the EMA and will work with the EMA GSA. A representative of the Chumash Tribe is a member of the EMA CAG.
- **Disadvantaged communities:** ~~No disadvantaged communities have been identified within the EMA. Focused efforts have been made to ensure that disadvantaged communities all users within the EMA are informed of the GSP development process and are invited to participate. Residents of disadvantaged communities were invited to apply to participate on the EMA CAG.~~
- **Entities listed in SGMA § 10927 that are monitoring groundwater elevations in all or part of the EMA managed by the GSA:** The City of Solvang and ID No. 1 monitor their respective wells, and the Water Agency is the CASGEM agency within the EMA. All three entities are members of the EMA GSA.

The EMA GSA developed a *Communication and Engagement Plan for Santa Ynez EMA GSP Development* (see Appendix JB) to guide stakeholder engagement and ensure that all beneficial uses and users of groundwater remained informed about the GSP development process and had opportunities to participate and represent their interests. Participation from a variety of stakeholders helps the EMA GSA make decisions that consider varying needs and interests in the EMA.

The EMA GSA created the EMA CAG, which is comprised of a variety of the stakeholders and water user groups. Members of this group provide meaningful insight, support, and expertise from a variety of viewpoints for the EMA GSA to consider. Although strictly advisory and not a voting participant of the EMA GSA, the EMA CAG represents a number of social, business, agricultural, domestic, cultural, and economic backgrounds to bring the widest possible perspective. Potential EMA CAG members were identified through outreach to the interested party list and a press release to local newspapers. The group is comprised of seven members representing interests of the following stakeholder groups:

- Domestic well owners
- Agricultural well owners
- Vineyard and wine industry
- Riparian water diverters
- Mutual water companies
- Santa Ynez Band of Chumash Indians
- At large citizens

EMA CAG applicants were screened by an Ad-Hoc committee of the EMA GSA consisting of elected representatives and member agency staff. The selected representatives must reflect the interests of their group and be able to effectively communicate the group's opinions and feedback. The qualifications of all candidates were reviewed prior to the EMA GSA selection of the EMA CAG.

The members of the EMA CAG were responsible for reviewing drafts of the various sections of the GSP, providing feedback on those drafts, reviewing and providing feedback on draft newsletters created for stakeholder outreach, reviewing presentations that were delivered during workshops and Committee meetings, and soliciting input from their respective stakeholders as the GSP was being developed. Staff members from the EMA GSA member agencies facilitated the CAG meetings; prepared agendas for the meetings; compiled questions, comments, and responses to comments made in the meetings; prepared supporting materials; prepared press releases; and maintained the Basin's SGMA website with dedicated GSA pages.

2.3.2 Public Meetings

§ 354.10 Notice and Communication. Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(b) A list of public meetings at which the Plan was discussed or considered by the Agency.

The EMA GSA Committee first met in January 2019 and has held quarterly regular meetings thereafter, with additional special meetings, as needed. Regular and special meetings are open to the public and involve discussions of the GSP. Opportunities for public comment are provided at all meetings, and meetings are also an opportunity for stakeholders to stay informed about what is happening with the GSA and the GSP process. Meetings were held remotely via teleconference call and video feed due to COVID-19 protocols. In-person meetings, when conducted, took place in the Solvang City Council Chambers after the first initial meetings held in the Santa Ynez Community Services District Conference Room. Advance notice of meetings has been, and will continue to be, posted on the Basin's SGMA website (santaynezwater.org). All agendas and meeting minutes from past meetings are available on the Basin's SGMA website. The EMA CAG consists of appointed members representing a variety of groundwater uses and users in the EMA. The EMA CAG provides input to the GSA related to elements of the GSP, and its meetings are open to the public and noticed in accordance with the Brown Act.¹⁶ Below is a list of public meetings of the EMA GSA Committee and the CAG where the GSP was discussed.

EMA GSA Committee meetings:

- 2019: January 24, April 25, July 25, and October 24
- 2020: February 27, May 21, August 27, November 19, and December 10
- 2021: January 21, February 25, March 25, April 15, April 29, May 13, ~~May 27~~, and July 22, August 26, October 21, October 28, November 18, and December 9

EMA CAG meetings:

- 2019: September 5 and September 30
- 2020: January 9 and June 2
- 2021: February 17, May 11, ~~and July 7~~, Sept. 30, and October 11

¹⁶ The Ralph M. Brown Act (Government Code §§ 54950-54963) is intended to provide public access to meetings of California local government agencies. Agencies subject to the requirements of the Brown Act must provide public notice of their meetings, post agendas of the subjects to be discussed, and provide public access to those meetings. More information is available at <https://firstamendmentcoalition.org/facs-brown-act-primer/>

2.3.3 Public Comments

§ 354.10 Notice and Communication. Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.

Public comments received and a summary of responses to public comments are provided in Appendix J. In addition to the response to comments, many revisions were made to the GSP incorporating responses to the comments received “that raise credible technical or policy issues with the Plan.” (§ 355.4(b)(10))

2.3.4 Communication

2.3.4.1 Decision-Making Process

§ 354.10 Notice and Communication. Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(d) A communication section of the Plan that includes the following:

(1) An explanation of the Agency’s decision-making process.

The GSA’s decision-making process is described in the 2017 MOA for the formation of the GSA which became effective April 27, 2017. The GSA Committee is comprised of one elected official representative and an alternate from each of the four member agencies that make up the GSA: SYRWCD, City of Solvang, Water Agency, and ID No. 1. Voting in the EMA GSA Committee is weighted. The Water Agency has five votes, SYRWCD has three votes, ID No. 1 has two votes, and the City of Solvang has one vote. A quorum to hold a meeting requires a simple majority (three of the four GSA member agencies), and meetings are subject to the Brown Act, which includes public notice and comment requirements. All proposed actions or resolutions must be passed by a simple majority of the voting membership. Actions to enter into a Joint Powers Agency agreement and to adopt or approve the GSP must pass by a 70 percent vote (at least eight votes) with the concurrence of each GSA member’s governing body.

2.3.4.2 Public Engagement

§ 354.10 Notice and Communication. Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(d) A communication section of the Plan that includes the following:

(2) Identification of opportunities for public engagement and a discussion of how public input and response will be used.

(3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.

The *Communication and Engagement Plan* describes multiple venues and tools for stakeholder engagement to support interested parties in providing input on their priorities and values and to provide updates to the public in a timely manner. The EMA GSA is committed to conducting an open process that includes active discussions with all interested parties throughout the development of the GSP.

A list of interested parties has been compiled and is updated and revised regularly. The ~~EMA~~EMA's interested parties list is maintained on the online Santa Ynez Groundwater Communication Portal (GCP), which is also used by the two other GSAs in the Basin. The GCP notifies interested parties electronically of upcoming meetings related to development of the GSP and sends e-mails about upcoming surveys and public comment periods. More than 35 notification e-mails were sent through this source over the course of GSP preparation. The GCP contains a database showing meeting dates, times, and locations, along with related documents, such as meeting agendas, minutes, and matters considered by the GSA. During public comment periods, interested parties can review documents and submit comments using a form on the GCP. Public comments are reviewed and addressed in revisions to ~~draft~~ GSP elements and sections.

In addition to the online GCP, EMA GSA Committee meetings are held regularly to provide updates and information about the GSP and to receive public feedback. As described above, all EMA GSA Committee meetings are subject to Brown Act requirements. The EMA CAG provides an additional level of public input on various issues related to the development of the GSP. As requested by the EMA GSA Committee, the EMA CAG ~~provides~~provided feedback on elements or sections of the GSP (and ~~will provide input~~ on the final draft of the GSP) to ensure the inclusion of perspectives representing different categories of groundwater uses and users in the EMA. Public input gathered at these meetings has helped shape development of the GSP and fostered discussion of stakeholder concerns and ideas for collaborative involvement in future GSP implementation activities.

More than 23 public workshops were held during the development of the GSP to inform stakeholders of key elements of the GSP and to solicit input on how sustainability criteria should be set, what constitutes undesirable results, and what projects and management actions should be employed as needed or desired to maintain sustainability in the EMA. Media outreach included preparation of three press releases in the Santa Barbara News Press, Santa Ynez Valley Star, and Noozhawk, a digital news source.

Substantial effort was put into maintaining the Basin's SGMA website (santaynezwater.org) with GSA-specific webpages that provided a calendar of events and public comment periods for each GSA, GSA and CAG meeting agendas, minutes, supporting materials presented at each meeting, and workshop slides. The Basin's SGMA website has recorded over 5,000 webpage views per month.

The EMA GSA used focused methods to enhance the accessibility of the GSP development process to a diverse range of social, cultural, and economic elements of the population within the EMA. Section 10723.2(h) of SGMA provides that California Native American tribes are among the beneficial users of groundwater that must be considered by the EMA GSA in preparing the GSP. The Santa Ynez Band of Chumash Indians have a reservation within the EMA, and the Tribal Chairman indicated early in the process of developing the GSP that the Tribe looks forward to collaborating with the GSA. The EMA GSA remains in contact with and welcomes participation from the Santa Ynez Band of Chumash Indians in GSP development, and the Tribal Government has a representative on the EMA CAG.

Specific efforts were also made to reach out to disadvantaged communities during GSP development, including the use of culturally appropriate language, education, and framing of sustainable groundwater management issues. However, recent data indicates that there are no disadvantaged communities present within the EMA, although there are disadvantaged communities within other management areas in the Basin. The GSA created quarterly newsletters in English and Spanish for the general public for the entire Basin, which were distributed by member agencies in utility bills and through newsletters from the County's District Supervisors. These newsletters are included in Appendix B. Translation services ~~are~~ were offered for different languages as needed in compliance with the Dymally-Alatorre Bilingual Services Act. Interested parties were notified of each meeting through the GCP and through the newsletters from the County's District Supervisors.

2.3.4.3 Progress Updates

§ 354.10 Notice and Communication. Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following:

(d) A communication section of the Plan that includes the following:

(4) The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.

The EMA GSA has kept the public informed throughout the development of the GSP using the GCP and other means discussed herein and will continue to use this web-based tool during GSP implementation along with the Basin's SGMA website that has GSA-specific pages. E-mails will be sent to interested parties to report on the progress made in implementing projects and actions. Direct mailings will also be sent to stakeholders who have requested direct mailings and provided a mailing address. EMA GSA Committee meetings will continue to be held to present information and invite the public to comment. Materials presented in EMA GSA Committee meetings to update the public on progress will also be made available to local agencies to use in communications with their own constituents, and they will be encouraged to share these materials. Annual reports will be prepared describing monitoring results and progress toward implementing the GSP and meeting sustainability goals. GSP updates must be submitted to DWR every 5 years, and stakeholders will be asked to review and comment on the updates.

The Communication and Engagement Plan for the GSP is presented in Appendix B. A description of the public process that was used to establish the SMCs is presented in Section 5.3.1. The methods the EMA GSA will follow to inform the public about progress towards implementing the GSP is included in Section 7. The annual report will also provide an update that informs the public about progress toward implementing the plan.

2.4 References

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