

FORTY-FIFTH ANNUAL  
ENGINEERING AND SURVEY REPORT  
ON  
WATER SUPPLY CONDITIONS  
OF THE  
SANTA YNEZ RIVER  
WATER CONSERVATION DISTRICT

*A Summary of Findings for the  
Previous Water Year (2021-2022), Current Water Year (2022-2023),  
and Ensuing Water Year (2023-2024)*



FINAL

April 28, 2023

Accepted by the Board of Directors of the  
Santa Ynez River Water Conservation District



*Cover Photograph: Lake Cachuma spilling during the Spillway Gate Exercise conducted between 10 am and 4 pm on February 8, 2023. This was the first spill of Lake Cachuma since 2011 which released a net volume of between 300 to 400 acre-feet. U.S. Bureau of Reclamation staff took this photograph as part of official duties related to Lake Cachuma operations.*

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and Ensuing Water Year (2023-2024)**

**FINAL  
April 28, 2023**



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May 5, 2023

San Rafael

Board of Directors  
Santa Ynez River Water  
Conservation District  
P.O. Box 719  
Santa Ynez, California 93460

Re: FINAL Forty-Fifth Annual Engineering and Survey Report on Water Supply  
Conditions of the Santa Ynez River Water Conservation District, 2022-2023

Dear Board Members:

Transmitted herewith is our Engineering and Survey Report on Water Supply Conditions of the Santa Ynez River Water Conservation District (District) for 2022-2023. This Forty-Fifth Annual Report presents the required and pertinent information for the Board of Directors to make necessary findings and determinations for levying groundwater charges upon the production of groundwater from water-producing facilities (water wells) within the District. As such, it provides information on the status of the groundwater and surface water supplies, and the annual production of groundwater from within the District.

Sincerely,

Allan Richards  
Stetson Engineers Inc.

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## LIST OF TERMS

Accumulated Overdraft.....	The amount of water necessary to be replaced in the intake areas of the groundwater basins within the District or any zone or zones thereof to prevent the landward movement of salt water into the fresh groundwater body, or to prevent subsidence of the land within the District or any zone or zones thereof, as determined by the board from time to time. Defined in Water Code Section 75505. See also Dewatered Storage
Acre-Foot .....	Volume of water to flood one acre to a depth of one foot (325,851 gallons).
Ad Valorem property tax .....	Property tax that is assessed according to the value of the property.
AF, AC-FT .....	Acre-Foot.

Agricultural water .....	Produced water first used on lands in the production of plant crops or livestock for market. Defined in Water Code Section 75508.
Alluvium .....	Sediments deposited through stream or river action. In Santa Ynez, these sediments are much younger, less consolidated, and with greater hydraulic conductivity, than the surrounding marine and non-marine sediments.
ANA .....	Above Narrows Account. Water rights release from Bradbury Dam (Lake Cachuma) made to replenish the groundwater basin upstream of the Lompoc Narrows area.
Annual Overdraft .....	The amount, determined by the board, by which the production of water from groundwater supplies within the District or any zone or zones thereof during the water year exceeds the natural replenishment of such groundwater supplies in such water year. Defined in Water Code Section 75506.
BNA .....	Below Narrows Account. Water rights release from Bradbury Dam (Lake Cachuma) made to replenish the groundwater basin downstream of the Lompoc Narrows area, i.e., for the Lompoc Plain subarea.
Board .....	Refers to the five Directors of the Santa Ynez River Water Conservation District.
Bradbury Dam .....	Completed in 1953, the dam impounds the Santa Ynez River to form Lake Cachuma. The dam stores floodwaters of the Santa Ynez River and SWP water. USBR is the agency that operates Bradbury Dam and water rights releases.
Cachuma Member Units .....	Beneficiary organizations of the Cachuma Project. Consists of: Carpinteria Valley Water District City of Santa Barbara Goleta Water District Montecito Water District Santa Ynez River Water Conservation District, Improvement District No. 1 (ID No. 1).
Calendar Year .....	January 1 through December 31.
CCWA.....	Central Coast Water Authority. The public entity which owns and operates pipelines and water treatment facilities enabling deliveries of water from the State Water Project to Santa Barbara and San Luis Obispo Counties.
CFS.....	Cubic Feet per Second. Unit of flow rate commonly used in describing surface water flows.
Contractor .....	Organization contracted to receive State Water Project water. the Department of Water Resources as well as CCWA use this term.



Current Water Year .....	Water Year 2022-23 (July 1, 2022 through June 30, 2023) The water year in which the investigation and report on the groundwater conditions of the District is made, the hearing thereon held, and the determination is made by the board as to whether a zone or zones should be established and a groundwater charge levied therein. Defined in Water Code Section 75507 (b).
Dewatered Storage .....	Unused and available space in the aquifer available for storing additional groundwater. See also Accumulated Overdraft.
Deposits .....	See Unconsolidated Deposits.
District.....	Santa Ynez River Water Conservation District. Water conservation district representing the interests of the Santa Ynez and Lompoc Valleys.
District Fiscal Year .....	July 1 through June 30. Same as Water Year (statutory).
Drought Buffer .....	A term used to identify a source of supply within the State Water Project (SWP) system that will provide a higher level of reliability during times of drought. For most CCWA water purveyors, the drought buffer equals 10% of Table A amount.
DWR .....	Department of Water Resources State of California agency acting as a regulator for the implementation of SGMA.
Ensuing Water Year .....	Water Year 2023-24 (July 1, 2023 through June 30, 2024) The water year immediately following the current water year. Defined in Water Code Section 75507 (d).
Entitlement.....	A term used formerly to refer to “Table A” amounts. Table A amounts are the maximum amount of State Water Project (SWP) water that the State agreed to make available to each SWP contractor for delivery during the year.
Forebay.....	In the Santa Ynez River Basin, the term is used to refer to the area where most of the percolation occurs from the Santa Ynez River to the Lompoc Plain aquifer, which consists of the eastern four miles of the river beginning at the Robinson Road Bridge and downstream to Floradale Avenue.
GSA .....	Groundwater Sustainability Agency Local agency that implements SGMA. Defined in Water Code Section 70721 (j). The District is in three GSAs, each with its own management area of interest: Western Management Area, Central Management Area, and Eastern Management Area.
GSP .....	Groundwater Sustainability Plan. The plan for managing the groundwater basin in compliance with the SGMA. Defined in Water Code Section 70721 (k).
Groundwater.....	All water beneath the earth’s surface but does not include water which is produced with oil in the production of oil and gas, or

in a bona fide mining operation, or during construction operations, or from gravity or artesian springs.  
Defined in Water Code Section 75502.

- ID No.1..... Santa Ynez River Water Conservation District, Improvement District No. 1.  
Special improvement district which distributes and serves municipal and irrigation water in the Santa Ynez Uplands.
- Lake Cachuma ..... Reservoir formed behind Bradbury Dam.
- MOA ..... Memoranda of Agreement  
Agreement to organize the Santa Ynez River Valley Groundwater Basin into local agencies (GSAs) for SGMA implementation.
- MG/L..... Milligrams per Liter.  
Concentration units of mass per volume. In freshwater, this is equivalent to parts per million (ppm).
- NOAA ..... National Oceanic and Atmospheric Administration  
The federal agency organized under the Department of Commerce concerned with oceans, waterways, and the atmosphere.
- Operator ..... Public agencies, federal, state, and local, private corporations, firms, partnerships, limited liability companies, individuals, or groups of individuals, whether legally organized or not.  
Defined in Water Code Section 75501.
- Other Water..... Generally, refers to municipal, industrial, or domestic uses of pumped or produced water. Water used for purposes not including uses for agriculture or irrigation at parks, golf courses, schools, cemeteries, and publicly owned historic sites.
- Overdraft ..... Net water loss to the groundwater basin. Calculated as the increase in dewatered storage.
- Owner ..... Person to whom a water-producing facility is assessed by the county assessor of an affected county, or, if not separately assessed, the person who owns the land upon which a water-producing facility is located.  
Defined in Water Code Section 75501.
- Person ..... See Operator.
- Preceding Water Year ..... Water Year 2021-22 (July 1, 2021 through June 30, 2022)  
The water year immediately preceding the current water year.  
Defined in Water Code Section 75507 (c).
- Precipitation ..... Combination of rainfall, snow, and any other form of water vapor that condenses on the ground.
- Producer ..... An entity (person or corporate) that “produces” water by pumping groundwater from a well.

Production .....	The act of extracting groundwater by pumping or otherwise. Defined in Water Code Section 75503.
Project .....	Cachuma Project. Includes Bradbury Dam, Tecolote Tunnel, and all conveyance infrastructure to deliver project water to the South Coast.
Pump Charge .....	Fee for extraction of groundwater from a well.
Purchased Water .....	See definition of Turnback Pool Water. Refers to State Water Project (SWP) water purchased from another SWP Contractor.
Safe Yield .....	The amount of water that can be withdrawn from a groundwater basin without producing an undesired effect.
SBCWA .....	Santa Barbara County Water Agency. The county agency, organized under the Santa Barbara County Public Works Department, tasked with providing technical support to other public agencies and manages multiple water supply and public information programs.
SGMA .....	Sustainable Groundwater Management Act. Statewide framework for protecting groundwater resources. Mostly defined in Water Code 10720 – 10738, and California Code of Regulations Title 23 section 350 -358.
South Coast .....	Southern Santa Barbara County which includes the communities of Carpinteria and Goleta, and portions of the Gaviota Coast, Montecito, Santa Barbara, and Summerland.
Special Irrigation Water .....	Produced water used for irrigation purposes at parks, golf courses, schools, cemeteries, and publicly owned historic sites.
Streamflow Infiltration.....	Stream or river water that percolates into the subsurface.
Surface Water.....	Water on the ground surface, including lakes, rivers, and canals.
SWP .....	State Water Project. Water storage and delivery system operated by the California Department of Water Resources which transports water from northern California to users located primarily in the San Francisco Bay area and southern California.
SWRCB.....	State of California Water Resources Control Board.
Turnback Pool.....	Turnback Pool Water refers to State Water Project (SWP) water that contractors may choose to offer from their allocated SWP Table A water to other Contractors through two pools in February and March.
Unconsolidated Deposits.....	Sedimentary material that is loosely arranged and has not been cemented (through a combination of physical compaction or chemical deposition) into a cohesive whole.
USBR .....	U.S. Bureau of Reclamation. Federal bureau organized under the Department of the Interior

	concerned with the construction and operation of dams. Specifically, operates Bradbury Dam at Lake Cachuma.
USGS .....	U.S. Geological Survey. Federal bureau organized under the Department of the Interior concerned with natural science research.
Water Code .....	California state law related to water and water districts.
Water-producing facility .....	Any device or method, mechanical or otherwise, for the production of water from the groundwater supplies within the District. Defined in Water Code Section 75504.
Water Year (hydrologic) .....	One-year period from October 1 through September 30 of the following year. Water year for the Sustainable Groundwater Management Act defined by Water Code Section 10721 (aa).
Water Year (statutory) .....	One year period from July 1 through June 30 of the following year, defined by Water Code Section 75507 (a).
Water Year (county).....	One-year period from September 1 through August 31 of the following year. Used in Santa Barbara County Hydrology reports.
WR 73-37 .....	SWRCB Order of 1973. The order addresses the storage and release of water in Lake Cachuma and the operation of the ANA and BNA accounts.
WR 89-18 .....	SWRCB Order of 1973, as amended in 1989. Amends the permits regarding the operation of the Cachuma Project.
WR 94-5 .....	SWRCB Order of 1973, as amended in 1994. Amends the permits regarding the operation of the Cachuma Project.
WR 2019-0148.....	SWRCB Order of 1973, as amended in 2019. Amends the permits regarding the operation of the Cachuma Project.
Zones.....	Specific geographic areas of the Santa Ynez Basin within the District with distinct groundwater charge rates:
	Zone A Santa Ynez River alluvium within the Santa Ynez subarea, Buellton subarea, and Santa Rita subarea
	Zone B Lompoc Area: Lompoc Plain subarea, Lompoc Upland subarea, Lompoc Terrace subarea
	Zone C Miscellaneous unconsolidated deposits and consolidated rocks
	Zone D Buellton Upland subarea
	Zone E Santa Ynez Upland subarea
	Zone F Santa Rita Upland subarea

## **1.0 EXECUTIVE SUMMARY**

This Forty-Fifth Annual Engineering and Survey Report on Water Supply Conditions of the Santa Ynez River Water Conservation District for 2022-2023 presents the required and pertinent information for the Board of Directors to make the necessary findings and determinations for levying groundwater charges upon the production of groundwater from water-producing facilities within the District. As such, it provides information on the status of groundwater and surface water supplies and the annual production of groundwater from within the District.

This introduction provides: (1) historical background on the Santa Ynez River Water Conservation District (hereinafter called District), inclusive of its purpose and its use of pump charges to finance its activities in part; (2) an overview of the boundaries and water resources of the District; (3) a summary of this report; and (4) findings and determinations required by the Water Code to establish the amount and set the rates of groundwater charges necessary to generate sufficient revenue to supplement existing revenue sources of the District.

Subsequent chapters provide information on groundwater production and charges (Chapter 2.0), precipitation (Chapter 3.0), surface water conditions (Chapter 4.0), and groundwater conditions (Chapter 5.0). Additional information is found in the Appendices including provisions of the Water Code pertinent to groundwater charges, historical groundwater charge rates, streamflow records, water right releases, a general description of the hydrogeology of groundwater sources, water-level hydrographs of selected wells, and well inventory data.

### **1.1 HISTORICAL BACKGROUND**

The District was formed in 1939 for the primary purpose of protecting water rights on the lower Santa Ynez River. Reservoirs had been constructed in the upper reaches of the Santa Ynez River by the City of Santa Barbara (Gibraltar Reservoir) and the Montecito Water District (Jameson Lake), and litigation by downstream riparian landowners challenging those projects was not successful. The Federal Reclamation Act of 1939 had administratively authorized the Cachuma Project under Section 9(a) and additional projects or exportation of water were being studied. For these reasons, the people of the Santa Ynez and Lompoc Valleys joined together

to form the District. The purpose of the District is to protect, and if necessary, augment the water supplies of the District, which are necessary for the public health, welfare, and safety of all residents.

In recent years, the District has received roughly half of its necessary operating budget from ad valorem property taxes, and the remainder of the budget is funded from charges levied on the production of groundwater. The Water Conservation District Law of 1931 includes a detailed procedure outlined in Part 9 of Division 21 of the Water Code (Water Code Section 75500 through 75642) providing for the implementation of a groundwater pump charge. Initiated by the District in 1979, these charges are on the production of groundwater from water-producing facilities. Groundwater charges levied by the District are in furtherance of District activities in the protection and augmentation of the water supplies for users within the District or a zone or zones thereof which are necessary for the public health, welfare, and safety of the people of this state (Water Code Section 75521). Such activities include:

- Planning, scheduling, and managing the release of water from and downstream of the Cachuma Project Bradbury Dam for the satisfaction and benefit of downstream water rights, including the timing, volume, and rate of flows to promote recharge in the river alluvium and the Lompoc Plain, as provided in State Water Resources Control Board (SWRCB) Order No. WRO 2019-0148.
- Reporting on Santa Ynez river system conditions, basin surface water use, and water purchased by contract.
- Supporting compliance with agreement(s) and procedures to mitigate downstream flooding because of Cachuma Project storm operations.
- Contributing to the review, preparation, and compliance with applicable biological assessment and opinions, including associated consultations, revisions, and replacements, for the protection of endangered species in the Santa Ynez River, while assuring that downstream water rights and water quality in the basin and downstream of Bradbury Dam are maintained and protected.
- Recording groundwater production within the District.
- Monitoring and reporting on groundwater conditions within the District.
- Levying and collecting charges on groundwater production within the District.
- Making annual groundwater use estimates and forecasting groundwater storage and overdraft amounts within the District.



- Determining water volume for replenishment of the dewatered aquifer storage below Bradbury Dam.
- Participation in the three (3) Groundwater Sustainability Agencies (GSA) covering the Santa Ynez River Valley groundwater basin and District. Such participation includes, but is not limited to, coordination, preparation, and implementation activities and provision of administrative support (including arranging GSA committee and citizen advisory group meetings, recordkeeping, and bookkeeping) associated with the GSAs' Groundwater Sustainability Plans (GSP), annual reports, and associated implementation and other activities. This includes coordinating and contributing to responses to comments made on the GSPs and related technical studies. It also includes participation in discussions of long-term governance and funding for the GSAs.
- The District's administrative support of the GSAs, which requires an expenditure of significant District staff time, has been necessary, in part, because the GSAs have not yet hired their own staff or legal, engineering, or other consultants, and have yet to levy any groundwater fees or charges on landowners or pumpers within the GSAs or otherwise create an independent funding source (aside from grant funding and certain contributions from parties to the Memoranda of Agreement [MOA], as defined below). While it is expected that the District will continue to incur costs to participate in the three GSAs and as the single point of contact with the California Department of Water Resources (DWR), the level of District administrative support could change in the future depending on the GSAs' future governance structure, funding sources, and staffing and contracting decisions.
- The District's activities as a party to all three GSAs benefits all pumpers within the District, which depend upon the District to provide local agency Sustainable Groundwater Management Act (SGMA) coverage within its approximately 180,000 acres within the basin. In the absence of such SGMA coverage by the District, the entire basin may not be covered and in such event would be subject to State Water Resources Control Board intervention and management of the basin as a probationary basin (Water Code Section 10735.2 (a)(4)(B)). The District's SGMA activities benefit, among other pumpers in the District, the pumpers in Zones A, who pump from the river alluvium and benefit from the District's investigation and efforts supporting the characterization of those zones as not groundwater subject to SGMA management in the GSPs, and the District's anticipated need to defend that characterization against those who disagree

with it and contend such pumping must be managed under SGMA. To date, DWR has not decided on the adequacy of the GSPs, which may include an evaluation of that characterization.

- Acting as the single point of contact between the GSAs and the DWR for SGMA compliance, for the benefit of all three GSAs.
- Administering SGMA grant funding for the benefit of all three GSAs.
- Participating in the Integrated Regional Water Management Plan process to promote regional water management strategies to ensure sustainable and reliable water supplies, including the protection of agriculture.

As mentioned above, after the enactment of SGMA (Water Code Section 10720, et seq.), effective January 1, 2015, the District in 2017 became a party to three Memoranda of Agreement (MOAs) with other local agencies to form the three GSAs, the Western Management Area, Central Management Area, and Eastern Management Area, which collectively are the GSAs responsible for sustainable groundwater management within the groundwater basin. The MOAs recognize that the District is eligible to form a GSA and is the point of contract with DWR, under SGMA and its regulations. SGMA does not void or supplant the District's authority over groundwater, including its authority to manage groundwater through (among other long-standing activities) requiring well registration, requiring reporting of groundwater production, and levying groundwater charges. For example, SGMA expressly states: "[SGMA] is in addition to, and not a limitation on, the authority granted to a local agency under any other law." (Water Code Section 10726.8 (a).)

Groundwater charges are incurred by the owners of water production facilities and are charged at uniform rates (for each category of water) within the District or each Zone thereof, based on the amount of groundwater produced. Production is measured by water meters or is estimated by a variety of methods acceptable to the District. The use of water meters has never been required by the District. However, all methods used to estimate production are based on criteria relating to water use. Various legal remedies exist for the non-registration of wells, non-payment of groundwater charges, and submittal of fraudulent information. Should court action be necessary and a judgment obtained, a lien may be placed against the water-producing facility owner's real or movable property.

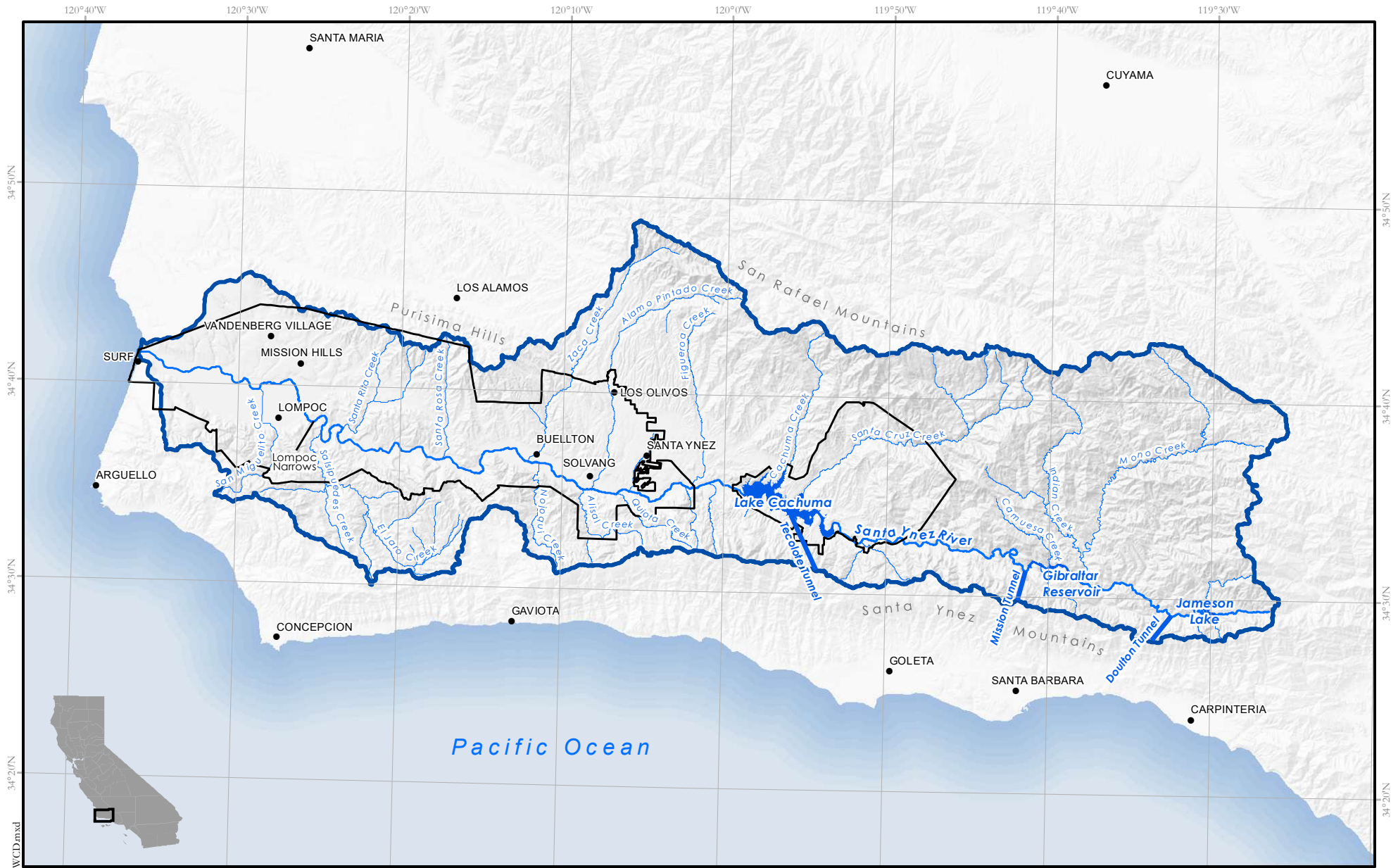
## **1.2. DESCRIPTION OF THE DISTRICT**

The District, comprised of two non-contiguous parcels, encompasses approximately 180,000 acres including most of the Santa Ynez River watershed from the mouth of the river at Surf to a point about three miles downstream of Bradbury Dam and smaller watershed areas northeast and south of Lake Cachuma. Ground surface elevations vary from sea level at Surf to more than 1,700 feet above sea level along portions of the southern District boundary. The terrain south of the river rises steeply to the crest of the Santa Ynez Mountains. North of the river, the rise in elevation is generally gradual over upland terraces and hilly areas. Figure 1 shows the District boundary and various geographic features within or adjacent to the District.

The Santa Ynez River flows westerly, generally parallel to the southern boundary of the District until entering the Lompoc Plain. Thence, it flows northwesterly and westerly across the Plain to the Pacific Ocean. The flow of the river is intermittent throughout the District, carrying flood flows from tributary watershed land downstream of Bradbury Dam and occasional spills and releases of water from Lake Cachuma. During summer months, water may be released from Lake Cachuma if there is a need to meet downstream water rights.



Groundwater occurs within the District primarily in younger unconsolidated alluvial deposits and in older unconsolidated deposits. In most cases, the older and often deeper deposits are not in hydrologic continuity with the shallower alluvial deposits. The major occurrences of groundwater are in the alluvial deposits of the Santa Ynez River and Lompoc Plain, and the older unconsolidated deposits of the Santa Ynez Upland, Lompoc Upland, Buellton Upland, Santa Rita Upland, and the Lompoc Terrace subareas.

Classification of water production within the District by water-use type is seventy percent Agricultural, four percent Special, and twenty-six percent Other which includes domestic, municipal, and industrial water production. Apart from the Cities of Lompoc, Solvang, Buellton, the communities of Santa Ynez and Los Olivos, and two federal installations, (Vandenberg Space Force Base and the Lompoc Federal Penitentiary), most of the District land area is a mixture of rural areas with agriculture and suburban development.



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-  Santa Ynez River Water Conservation District Boundary
-  Santa Ynez River Watershed

### SANTA YNEZ RIVER WATER CONSERVATION DISTRICT



FIGURE 1

### 1.3. REPORT SUMMARY

The following is a summary of the information contained in this report.

1. Revenues from groundwater charges collected by the District for production during the entire previous July-June fiscal year 2021-22 amounted to \$600,387.22. Revenues collected through February 6, 2023 for production during the first half of the current fiscal year 2022-23 amounted to \$317,825.99. An additional \$6,277.66 has been received as overdue payments and assessments in connection with production before the fiscal year 2021-22.
2. The Board, on June 28, 2022, reaffirmed the following six groundwater charge zones for the District for the current fiscal year 2022-23.
  - Zone A - District portion of the Santa Ynez River alluvial channel from San Lucas Bridge downstream to Lompoc Narrows.
  - Zone B - District portion of the Lompoc Plain, Lompoc Upland, and Lompoc Terrace groundwater subareas.
  - Zone C - All other portions of the District not included in Zones A, B, D, E, and F.
  - Zone D - District portion of the Buellton Upland subarea.
  - Zone E - District portion of the Santa Ynez Upland subarea.
  - Zone F - District portion of the Santa Rita Upland subarea.
3. The groundwater charge rates per acre-foot of production for the current fiscal year 2022-23 were as follows:

	Agricultural Water	Other Water	Special Irrigation Water
Zone A	14.14	14.14	14.14
Zone B	14.14	14.14	14.14
Zone C	14.14	14.14	14.14
Zone D	14.14	14.14	14.14
Zone E	14.14	14.14	14.14
Zone F	14.14	14.14	14.14

*Adopted June 28, 2022, Resolution No. 714*

4. As of February 6, 2023, reported groundwater production for the entire previous fiscal year 2021-22 totaled 47,528 acre-feet. This is about 99 percent of the 47,968 acre-feet total water production reported for the entire fiscal year 2020-21.
5. Groundwater production reported, as of February 6, 2023, for the first half of the current fiscal year 2022-23 totaled 22,164 acre-feet. This is about 103 percent of the 21,421 acre-feet total water production reported for the first half of the fiscal year 2021-22 as of April 1, 2022.
6. Annual reported (as of February 6, 2023) groundwater production within the District for the past five years was as follows:

Fiscal Year (July-June)	First Half (Acre-Feet) <sup>A</sup>	Total Production (Acre-Feet)
2017-18	24,796	51,701
2018-19	23,833	47,326
2019-20	21,023	47,886
2020-21	22,697	47,968
2021-22	21,421	47,528
2022-23	22,164	In Progress

<sup>A</sup> Reported as of the Annual Engineering and Survey Report

7. The projected estimated total groundwater production for fiscal years 2022-23 and 2023-24 is 47,530 acre-feet per year. A regression analysis determined that in recent years, the most accurate prediction of future year use was the most recent year. For both the current year (2022-23) and the ensuing year (2023-24), projected water use is shown in the following table:

Zone A	Zone B	Zone C	Zone D	Zone E	Zone F	<b>TOTAL</b>
13,750	23,435	905	2,175	4,985	2,280	47,530

8. As of February 6, 2023, groundwater producers have registered 1,221 wells with the District. Of that number, approximately 985 are active and 236 are inactive.



9. Precipitation at Bradbury Dam and Lompoc during the preceding water year and the partial current water year was as follows:

	Bradbury Dam		Lompoc	
	Precipitation (Inches)	Percent of Normal	Precipitation (Inches)	Percent of Normal
2022 Preceding Hydrologic Water Year (October 2021-September 2022)	12.93	61	12.46	81
2022 Calendar Year (January 2022-December 2022)	9.60	45	10.98	71
Partial 2023 Current Hydrologic Water Year (October 2022-January 2023)	31.51	305	20.36	266

*Source: Santa Barbara County Flood Control District and National Oceanic and Atmospheric Administration (NOAA).*

10. During the proceeding water year, 2021-22, the flow of the Santa Ynez River at the Lompoc Narrows was 2,209 acre-feet. The flow at the Narrows for the first half of the current water year, through the end of December 2022, was 3,843 acre-feet.
11. During the summer and fall of 2022 water rights releases were made from Lake Cachuma. U.S. Bureau of Reclamation (USBR) released the following volumes:

2022 Calendar Year Releases	Above Narrows Account (Acre-Feet)	Below Narrows Account (Acre-Feet)	Total (Acre-Feet)
August	5,095	0	5,095
September	2,817	1,798	4,615
October	0	203	203
Year Total	7,912	2,001	9,913

*Source: U.S. Bureau of Reclamation*

12. Water import deliveries to Central Coast Water Authority contractors receiving State Water Project water within the District were as follows:

Fiscal Year (July-June)	State Water Project Deliveries (Acre-Feet)			
	Improvement District No. 1	City of Solvang	City of Buellton	Vandenberg SFB
2021-22	1,127	557	123	1,048
2022-23 (First Half)	126	235	71	0

*Source: Central Coast Water Authority*

13. The estimated change in the quantity of groundwater in storage within the District and the estimated accumulated dewatered storage are summarized below.

Source of Groundwater	Change in Storage 2022 to 2023 (Acre-Feet)	Accumulated Dewatered Storage Through 2022-23 (Acre-Feet)
Santa Ynez River Alluvium	6,400	7,400
Lompoc Plain	1,800	16,300
Lompoc Upland	300	37,100
Lompoc Terrace	100	0
Santa Rita Upland	-300	14,500
Buellton Upland (Eastern Portion)	1,300	1,800
Santa Ynez Upland (District)	2,100	64,200
<b>TOTAL</b>	<b>11,700</b>	<b>142,100</b>

#### 1.4. FINDINGS

The findings of this investigation are summarized below so that the Board may make the determinations required by law (Water Code Section 75574) for the current (2022-23) water year and fiscal year (July 1, 2022 through June 30, 2023), proceeding water year (2021-22), and ensuing water year (2023-24). These findings are based upon historical data and data available about the first half of the current water year and apply to the entire District.

- (a) The average annual overdraft for the immediate past ten (10) water years (July 2012-June 2022): 4,180 ± acre-feet;

- (b) The estimated annual overdraft for the current (2022-23) water year (July 2022-June 2023): 300 ± acre-feet;
- (c) The estimated annual overdraft for the ensuing (2023-24) water year (July 2023-June 2024): 6,200 ± acre-feet;
- (d) The accumulated overdraft as of the last day of the preceding (2021-22) water year (June 30, 2022): 153,800 ± acre-feet in terms of accumulated dewatered storage. Accumulated overdraft as defined in Water Code Section 75505 is nominal, at this time;
- (e) The estimated accumulated overdraft as of the last day of the current (2022-23) water year (June 30, 2023): 142,100 ± acre-feet in terms of accumulated dewatered storage. Accumulated overdraft as defined in Water Code 75505 is nominal, at this time;
- (f) The estimated amount of agricultural and special irrigation water to be withdrawn from the groundwater supplies of the District for the ensuing (2023-24) water year (July 2023-June 2024): 31,680 acre-feet of agricultural water and 2,570 acre-feet of special irrigation water;
- (g) The estimated amount of water other than agricultural water or special irrigation water to be withdrawn from the groundwater supplies of the District for the ensuing (2023-24) water year (July 2023-June 2024): approximately 13,280 acre-feet;
- (h) The estimated amount of water necessary for surface distribution for the ensuing (2023-24) water year (July 2023-June 2024): approximately 300 acre-feet scheduled to be delivered by the Central Coast Water Agency to contractors within the District;
- (i) The amount of water, which is necessary for the replenishment of the groundwater supplies of the District: 142,100 ± acre-feet to completely replenish accumulated dewatered storage;
- (j) The amount of water the District is obligated by contract to purchase: The District is not obligated by contract to purchase water.

The amount of groundwater charge levied by the Board should be based upon the estimated amount of supplemental revenue required to continue essential District activities without increasing the cost of water to a producer to a point where it is not financially feasible for the producer to utilize the water.

The actual groundwater charge the Board will levy for the fiscal year 2023-24 will be based upon the District's anticipated expenses and revenue and consistent with applicable law.

## **1.5. SOURCES OF INFORMATION**

The following is a list of sources where the information and data utilized to prepare this report were obtained:

- Groundwater production, revenue, and well registration – District
- State Water Project use – Central Coast Water Authority
- Water-level measurements – Santa Barbara County Water Agency (SBCWA), City of Buellton, and U.S. Bureau of Reclamation (USBR)
- Precipitation measurements – Santa Barbara County Flood Control District
- Water quality analyses – SBCWA and United States Geological Survey (USGS)
- Lake Cachuma operations – USBR
- Surface water flow – USGS

## **2.0 GROUNDWATER CHARGES**

Pumped groundwater is charged at uniform rates (for each category of water) within the District or each Zone thereof, based on the amount of groundwater produced. Groundwater charges are based on the costs the District incurs in conducting its necessary activities, including providing administrative support for ongoing SGMA planning and implementation efforts, among other District activities described above.

Consistent with applicable law, including Proposition 26, these charges may be set based on the relative burden and on the benefits received from the District's activities, including costs to serve each class of water use. For the fiscal year 2022-23, allocation of the District's costs to each class of water users was set as equal on a per acre-foot basis. Before the fiscal year 2022-23, rates were based on Water Code Section 75594 with Other Water rates being three and one-half times the Agricultural Water rates and Special Irrigation Water rates twice the Agricultural Water rates. Appendices A and B present additional information on groundwater charge rates, including a summary of historical rates.

### **2.1. ZONES**

Before the end of the water year 2021-22, the Board reaffirmed the previously established six groundwater charge zones for the District:

Zone A – District portion of the Santa Ynez River alluvial channel from San Lucas Bridge downstream to Lompoc Narrows.

Zone B – District portion of the Lompoc Plain, Lompoc Upland, and Lompoc Terrace groundwater subareas.

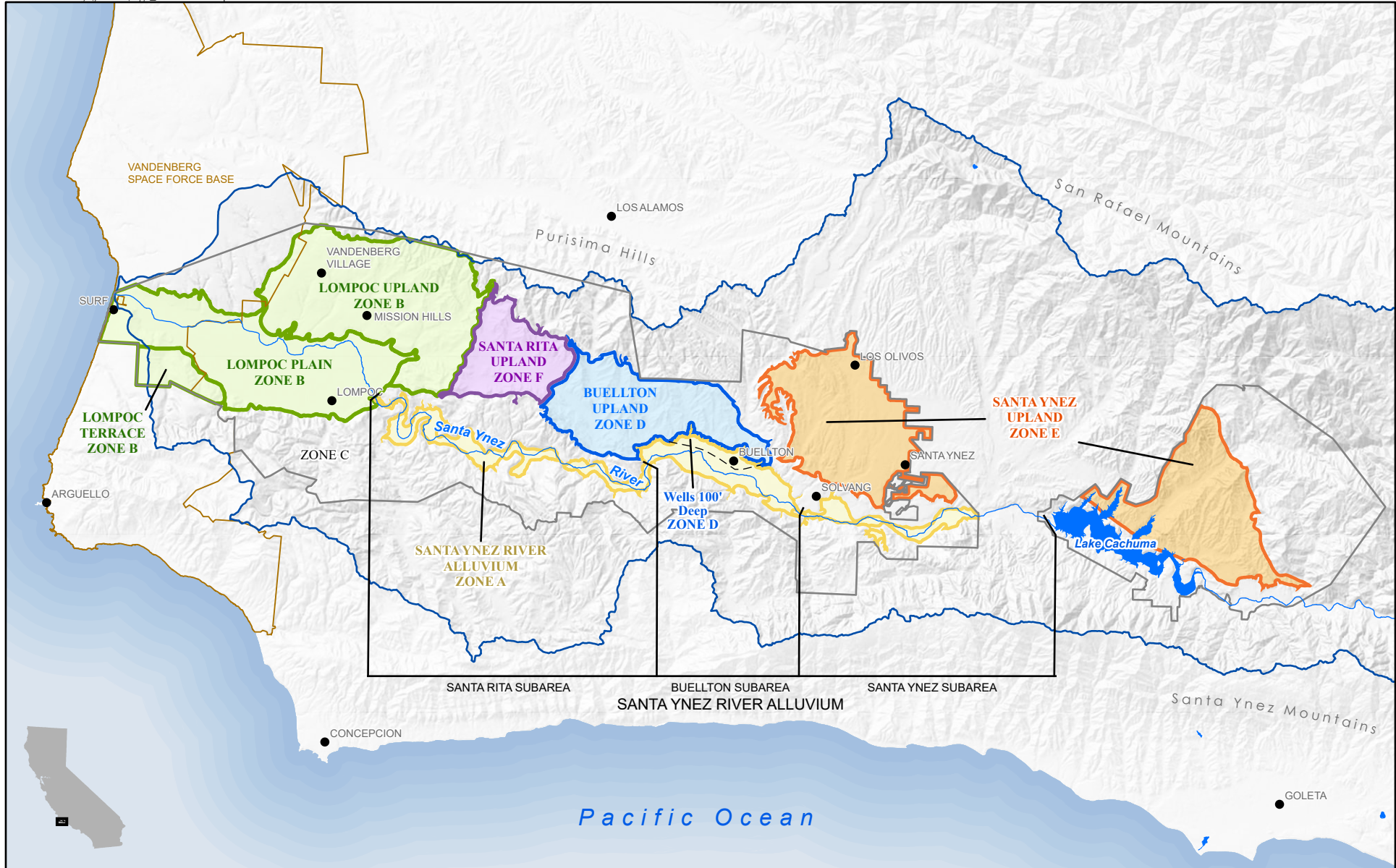
Zone C – All other portions of the District not included in Zones A, B, D, E, and F.

Zone D – District portion of the Buellton Upland subarea.

Zone E – District portion of the Santa Ynez Upland subarea.

Zone F – District portion of the Santa Rita Upland subarea.

A map showing the location of these zones is included in Figure 2. For the implementation of SGMA the basin was divided into three management areas: the Western Management Area is nearly coterminous boundaries with Zones B and F, the Central



Santa Ynez River Water Conservation District Boundary



Drainage Basin Boundary

### GROUNDWATER CHARGE ZONES SANTA YNEZ RIVER WATER CONSERVATION DISTRICT

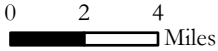


FIGURE 2



Management Area is nearly coterminous with Zone D, and the Eastern Management Area includes Zone E (but extends beyond the District). Zone C is not part of the basin regulated by SGMA. Zone A is the alluvial aquifer, which is not “groundwater” subject to SGMA regulation, although the exclusion of Zone A from SGMA regulation is still under review by the DWR.

For the fiscal year 2022-23, the Board established the following groundwater charge rates, in dollars per acre-foot of production, for each zone.

	Agricultural Water	Other Water	Special Irrigation Water
Zone A	14.14	14.14	14.14
Zone B	14.14	14.14	14.14
Zone C	14.14	14.14	14.14
Zone D	14.14	14.14	14.14
Zone E	14.14	14.14	14.14
Zone F	14.14	14.14	14.14

*Adopted June 28, 2022, Resolution No. 714*

With the beginning of the intense SGMA planning effort, and the District bearing a significant staff burden for this effort, a review of expenses that could be allocated on a zone basis showed that there would be no significant difference between a uniform rate and a rate based on costs to be allocated to each zone. At the beginning of the SGMA implementation phase, a zone-based allocation may be reviewed.

## 2.2. REVENUES

Revenues collected by the District based on groundwater production, through February 6, 2023, are presented below for specific periods.

	2022-23	2021-22	2020-21	2019-20
First-Half of Fiscal Year (July through December)	\$317,825.99	\$289,106.53	\$289,032.02	\$219,431.85
Fiscal Year Total (July through June)	In Progress	\$600,387.22	\$587,409.10	\$551,410.64
Years Prior	In Progress	\$6,277.66	\$10,569.85	\$16,951.81

### 2.3. GROUNDWATER PRODUCTION

Summarized below is the reported (as of February 6, 2023) water production within the District, in acre-feet, for the complete previous fiscal year 2021-22.

	Agricultural Water	Other Water	Special Irrigation Water	Total
Zone A	9,873.72	2,822.27	1,055.02	13,751.01
Zone B	15,249.54	6,744.08	1,439.76	23,433.38
Zone C	22.52	866.40	15.00	903.92
Zone D	1,613.26	526.80	37.00	2,177.06
Zone E	2,814.22	2,146.15	23.45	4,983.82
Zone F	2,099.42	179.87	0.00	2,279.29
<b>TOTAL</b>	<b>31,672.68</b>	<b>13,285.57</b>	<b>2,570.23</b>	<b>47,528.48</b>

*Production reported for complete previous Fiscal Year 2021-22: July 2021-June 2022*

The above total water production reported, as of February 6, 2023, for the previous fiscal year 2021-22 is about 100 percent of the 47,672.32 acre-feet of total water production reported for the fiscal year 2020-21 (as of April 1, 2022). The reported (as of February 6, 2023) water production within the District, in acre-feet, for the first half of the current fiscal year 2022-23 is as follows:

	Agricultural Water	Other Water	Special Irrigation Water	Total
Zone A	4,719.87	1,166.42	391.09	6,277.38
Zone B	6,859.90	2,967.70	428.32	10,255.92
Zone C	6.09	542.73	4.37	553.19
Zone D	1,248.15	382.70	23.30	1,654.15
Zone E	1,363.14	1,161.57	17.30	2,542.01
Zone F	829.03	52.58	0.00	881.61
<b>TOTAL</b>	<b>15,026.18</b>	<b>6,273.70</b>	<b>864.38</b>	<b>22,164.26</b>

*Production for the first half of the current Fiscal Year 2022-23: July 2022-December 2022*

The above total water production reported, as of February 6, 2023, for the first half of the fiscal year 2022-23 is about 103 percent of the 21,421.17 acre-feet of total water production reported for the first half of the fiscal year 2021-22 (as of April 1, 2022).

A minority of groundwater producers were overdue in reporting groundwater production to the District after the previous Engineering and Survey report. This is water production that occurred before July 2021 but groundwater producers reported it after June 2022, during the current fiscal year (2022-23). That late reported production, in acre-feet, is as follows:

	Agricultural Water	Other Water	Special Irrigation Water	Total
Zone A	50.75	1.52	0.00	52.27
Zone B	84.14	2.73	31.23	118.10
Zone C	0.00	2.05	0.00	2.05
Zone D	29.90	1.45	0.00	31.35
Zone E	248.50	186.60	0.00	435.10
Zone F	(28.20)	13.83	0.00	(14.37)
<b>TOTAL</b>	<b>385.09</b>	<b>208.18</b>	<b>31.23</b>	<b>624.50</b>

*Additional Production reported as newly reported pumping before July 2021  
(Fiscal Year 2021-22, and previous years)*

Tables 1A, 1B, 1C, and 1D summarize the total annual production for the period 1979-80 through 2021-22 reported to the District as of February 6, 2023. The above late reported production and late reported production in previous years have been posted to the appropriate years. Figure 3 shows the 5-year average annual groundwater production by zone for the same period. The values of production shown in Tables 1A, 1B, 1C, and 1D, Figure 3, and in this “Groundwater Production” section are subject to future revision as additional late reported production is received by the District.

**TABLE 1A**  
**ANNUAL REPORTED GROUNDWATER PRODUCTION WITHIN THE DISTRICT <sup>a</sup>**  
**ALL DISTRICT ZONES**  
(Acre-Feet)

<b>Fiscal Year <sup>b</sup></b>	<b>Agricultural</b>	<b>Other</b>	<b>Special Irrigation <sup>c</sup></b>	<b>Total Production</b>
1979-80	20,918	10,576		31,494
1980-81	24,584	11,531		36,115
1981-82	33,706	14,124		47,830
1982-83	29,010	10,916		39,926
1983-84	30,873	11,476		42,349
1984-85	31,131	12,444		43,575
1985-86	31,130	13,673	872	45,675
1986-87	34,474	12,781	1,546	48,801
1987-88	32,653	13,329	1,433	47,415
1988-89	33,938	11,918	1,780	47,636
1989-90	34,424	13,173	1,712	49,309
1990-91	37,317	12,569	1,691	51,577
1991-92	35,020	11,427	1,936	48,383
1992-93	34,160	11,720	2,507	48,387
1993-94	30,794	13,005	2,121	45,920
1994-95	28,254	13,155	1,821	43,230
1995-96	32,792	15,320	1,842	49,954
1996-97	35,757	14,552	1,955	52,264
1997-98	34,257	12,022	1,368	47,647
1998-99	34,605	12,384	1,736	48,725
1999-00	37,039	13,883	2,164	53,086
2000-01	38,314	13,247	2,004	53,565
2001-02	39,146	13,734	2,071	54,951
2002-03	33,894	12,354	2,107	48,355
2003-04	33,241	13,423	2,160	48,824
2004-05	31,907	12,425	1,764	46,096
2005-06	32,592	12,059	1,632	46,283
2006-07	32,663	13,347	1,893	47,903
2007-08	35,464	14,089	2,117	51,670
2008-09	35,086	13,916	2,075	51,077
2009-10	34,675	12,957	1,914	49,546
2010-11	33,959	12,016	1,557	47,532
2011-12	36,438	11,930	1,570	49,938
2012-13	40,485	13,553	1,900	55,938
2013-14	39,947	14,002	2,063	56,012
2014-15	40,610	12,801	1,615	55,026
2015-16	39,704	11,973	1,457	53,134
2016-17	37,597	11,218	1,609	50,424
2017-18	37,593	12,273	1,835	51,701
2018-19	34,312	11,415	1,599	47,326
2019-20	35,148	11,004	1,734	47,886
2020-21	33,258	12,834	1,876	47,968
2021-22	31,673	13,285	2,570	47,528

<sup>a</sup> Revised February 6, 2023.

<sup>b</sup> July 1 through June 30.

<sup>c</sup> Based upon a 1984 amendment to the California Water Code. First year for reporting special irrigation water production was 1985-86.

**TABLE 1B**  
**ANNUAL REPORTED GROUNDWATER PRODUCTION WITHIN THE DISTRICT <sup>a, b</sup>**  
**AGRICULTURAL WATER**  
(Acre-Feet)

<b>Fiscal Year <sup>c</sup></b>	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>	<b>Zone D</b>	<b>Zone E</b>	<b>Zone F</b>	<b>Total</b>
1979-80	6,363	7,233	7,322				20,918
1980-81	7,535	9,486	7,563				24,584
1981-82	7,780	18,037	7,889				33,706
1982-83	7,501	13,934	7,575				29,010
1983-84	9,427	14,865	6,581				30,873
1984-85	8,418	15,589	7,124				31,131
1985-86	8,621	15,240	7,269				31,130
1986-87	9,251	19,656	5,567				34,474
1987-88	6,652	19,839	6,162				32,653
1988-89	8,303	19,218	6,417				33,938
1989-90	8,265	17,358	8,801				34,424
1990-91	8,495	18,018	10,804				37,317
1991-92	8,982	18,960	7,078				35,020
1992-93	7,852	19,122	7,186				34,160
1993-94	8,076	16,748	713	1,108	3,505	644	30,794
1994-95	8,173	14,190	1,060	843	3,018	970	28,254
1995-96	8,993	16,327	743	1,158	4,672	899	32,792
1996-97	8,977	19,235	787	970	4,347	1,441	35,757
1997-98	9,627	19,197	429	1,034	2,822	1,148	34,257
1998-99	9,702	18,724	115	1,693	3,088	1,283	34,605
1999-00	10,319	19,832	113	1,739	3,480	1,556	37,039
2000-01	11,169	20,261	121	2,247	3,306	1,210	38,314
2001-02	11,170	21,174	148	2,311	2,897	1,446	39,146
2002-03	10,515	17,559	153	1,549	2,744	1,374	33,894
2003-04	11,193	15,602	189	1,972	3,018	1,267	33,241
2004-05	10,622	15,768	141	1,856	2,439	1,081	31,907
2005-06	10,044	16,854	158	1,965	2,155	1,416	32,592
2006-07	10,756	15,834	172	1,719	2,679	1,503	32,663
2007-08	11,709	15,892	186	2,461	3,309	1,907	35,464
2008-09	11,182	16,004	174	2,823	3,155	1,748	35,086
2009-10	11,072	16,381	152	2,711	2,551	1,808	34,675
2010-11	9,635	17,493	161	2,227	2,652	1,791	33,959
2011-12	10,445	18,276	169	2,631	2,742	2,175	36,438
2012-13	11,498	21,257	145	2,357	3,365	1,863	40,485
2013-14	11,760	19,336	121	3,043	3,613	2,074	39,947
2014-15	12,342	19,511	106	3,468	3,067	2,116	40,610
2015-16	12,683	18,552	76	2,734	3,346	2,313	39,704
2016-17	11,440	18,300	77	2,898	2,932	1,950	37,597
2017-18	11,761	17,972	91	2,647	2,985	2,137	37,593
2018-19	11,085	16,287	47	1,877	2,926	2,090	34,312
2019-20	10,099	17,402	40	2,617	2,786	2,204	35,148
2020-21	10,990	14,990	28	2,103	2,925	2,222	33,258
2021-22	9,874	15,250	23	1,613	2,814	2,099	31,673

<sup>a</sup> Revised February 6, 2023.

<sup>b</sup> Groundwater charge zones for the period 1979-80 through 1992-93 included the District portion of Zone A, Zone B and Zone C. Groundwater charge zones since 1993-94 include the District portion of Zone A, Zone B, Zone C, Zone D, Zone E and Zone F.

<sup>c</sup> July 1 through June 30.

**TABLE 1C**  
**ANNUAL REPORTED GROUNDWATER PRODUCTION WITHIN THE DISTRICT<sup>a, b</sup>**  
**OTHER WATER**  
(Acre-Feet)

<b>Fiscal Year<sup>c</sup></b>	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>	<b>Zone D</b>	<b>Zone E</b>	<b>Zone F</b>	<b>Total</b>
1979-80	1,815	6,399	2,362				10,576
1980-81	1,940	7,283	2,308				11,531
1981-82	2,471	7,506	4,147				14,124
1982-83	2,110	6,644	2,162				10,916
1983-84	2,380	6,714	2,382				11,476
1984-85	2,380	7,905	2,159				12,444
1985-86	2,119	9,407	2,147				13,673
1986-87	1,794	8,992	1,995				12,781
1987-88	2,358	8,546	2,425				13,329
1988-89	2,750	7,445	1,696				11,918
1989-90	2,516	8,495	2,162				13,173
1990-91	2,433	7,547	2,589				12,569
1991-92	2,761	6,698	1,968				11,427
1992-93	1,993	7,307	2,420				11,720
1993-94	1,662	7,681	1,224	430	1,930	78	13,005
1994-95	2,098	7,777	1,081	430	1,703	66	13,155
1995-96	2,144	8,585	1,079	469	2,993	50	15,320
1996-97	2,065	8,075	958	461	2,924	69	14,552
1997-98	1,581	7,463	978	264	1,658	78	12,022
1998-99	1,997	7,432	995	236	1,637	87	12,384
1999-00	2,262	7,906	1,208	340	2,084	83	13,883
2000-01	2,524	7,395	1,241	458	1,526	103	13,247
2001-02	2,806	7,509	1,476	537	1,284	122	13,734
2002-03	2,048	7,684	1,084	584	845	109	12,354
2003-04	2,260	8,027	1,067	508	1,455	106	13,423
2004-05	2,489	7,285	1,129	348	1,067	107	12,425
2005-06	1,992	7,624	880	265	1,194	104	12,059
2006-07	1,946	8,134	896	587	1,645	139	13,347
2007-08	2,216	8,173	886	813	1,857	144	14,089
2008-09	2,262	7,493	848	984	2,180	149	13,916
2009-10	2,611	7,006	830	1,026	1,330	154	12,957
2010-11	1,356	6,869	1,470	955	1,221	145	12,016
2011-12	1,511	6,859	982	711	1,715	152	11,930
2012-13	2,310	7,084	1,022	708	2,290	139	13,553
2013-14	2,444	7,203	1,121	750	2,338	146	14,002
2014-15	2,612	6,376	771	1,012	1,892	138	12,801
2015-16	2,273	5,994	1,081	911	1,599	115	11,973
2016-17	2,065	5,779	1,099	678	1,487	110	11,218
2017-18	2,448	6,178	1,225	559	1,736	127	12,273
2018-19	2,122	5,856	1,171	594	1,506	166	11,415
2019-20	2,043	5,773	1,019	499	1,495	175	11,004
2020-21	2,723	6,067	1,198	550	2,059	237	12,834
2021-22	2,822	6,744	866	527	2,146	180	13,285

<sup>a</sup> Revised February 6, 2023.

<sup>b</sup> Groundwater charge zones for the period 1979-80 through 1992-93 included the District portion of Zone A, Zone B and Zone C. Groundwater charge zones since 1993-94 include the District portion of Zone A, Zone B, Zone C, Zone D, Zone E and Zone F.

<sup>c</sup> July 1 through June 30.

**TABLE 1D**  
**ANNUAL REPORTED GROUNDWATER PRODUCTION WITHIN THE DISTRICT** <sup>a, b</sup>  
**SPECIAL IRRIGATION WATER** <sup>c</sup>  
(Acre-Feet)

<b>Fiscal</b> <b>Year</b> <sup>d</sup>	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>	<b>Zone D</b>	<b>Zone E</b>	<b>Zone F</b>	<b>Total</b>
1979-80							
1980-81							
1981-82							
1982-83							
1983-84							
1984-85							
1985-86	554	303	15				872
1986-87	523	955	68				1,546
1987-88	594	805	34				1,433
1988-89	738	1,002	40				1,780
1989-90	658	1,028	26				1,712
1990-91	669	981	41				1,691
1991-92	753	1,163	20				1,936
1992-93	1,052	1,205	250				2,507
1993-94	1,059	1,005	0	57	0	0	2,121
1994-95	1,056	729	0	36	0	0	1,821
1995-96	941	839	10	52	0	0	1,842
1996-97	935	988	10	22	0	0	1,955
1997-98	838	445	74	11	0	0	1,368
1998-99	862	836	17	13	8	0	1,736
1999-00	976	1,152	17	19	0	0	2,164
2000-01	906	1,054	12	32	0	0	2,004
2001-02	899	1,132	17	23	0	0	2,071
2002-03	1,012	1,058	10	27	0	0	2,107
2003-04	965	1,161	20	14	0	0	2,160
2004-05	876	861	19	8	0	0	1,764
2005-06	726	883	20	3	0	0	1,632
2006-07	796	1,039	23	35	0	0	1,893
2007-08	870	1,171	30	46	0	0	2,117
2008-09	858	1,126	22	69	0	0	2,075
2009-10	795	1,053	20	46	0	0	1,914
2010-11	568	939	17	33	0	0	1,557
2011-12	620	900	21	29	0	0	1,570
2012-13	762	1,088	18	32	0	0	1,900
2013-14	804	1,203	18	38	0	0	2,063
2014-15	619	939	11	46	0	0	1,615
2015-16	576	830	13	38	0	0	1,457
2016-17	626	937	12	34	0	0	1,609
2017-18	754	1,043	14	24	0	0	1,835
2018-19	639	913	12	27	7	0	1,599
2019-20	691	1,010	11	18	4	0	1,734
2020-21	779	1,057	11	15	14	0	1,876
2021-22	1,055	1,440	15	37	23	0	2,570

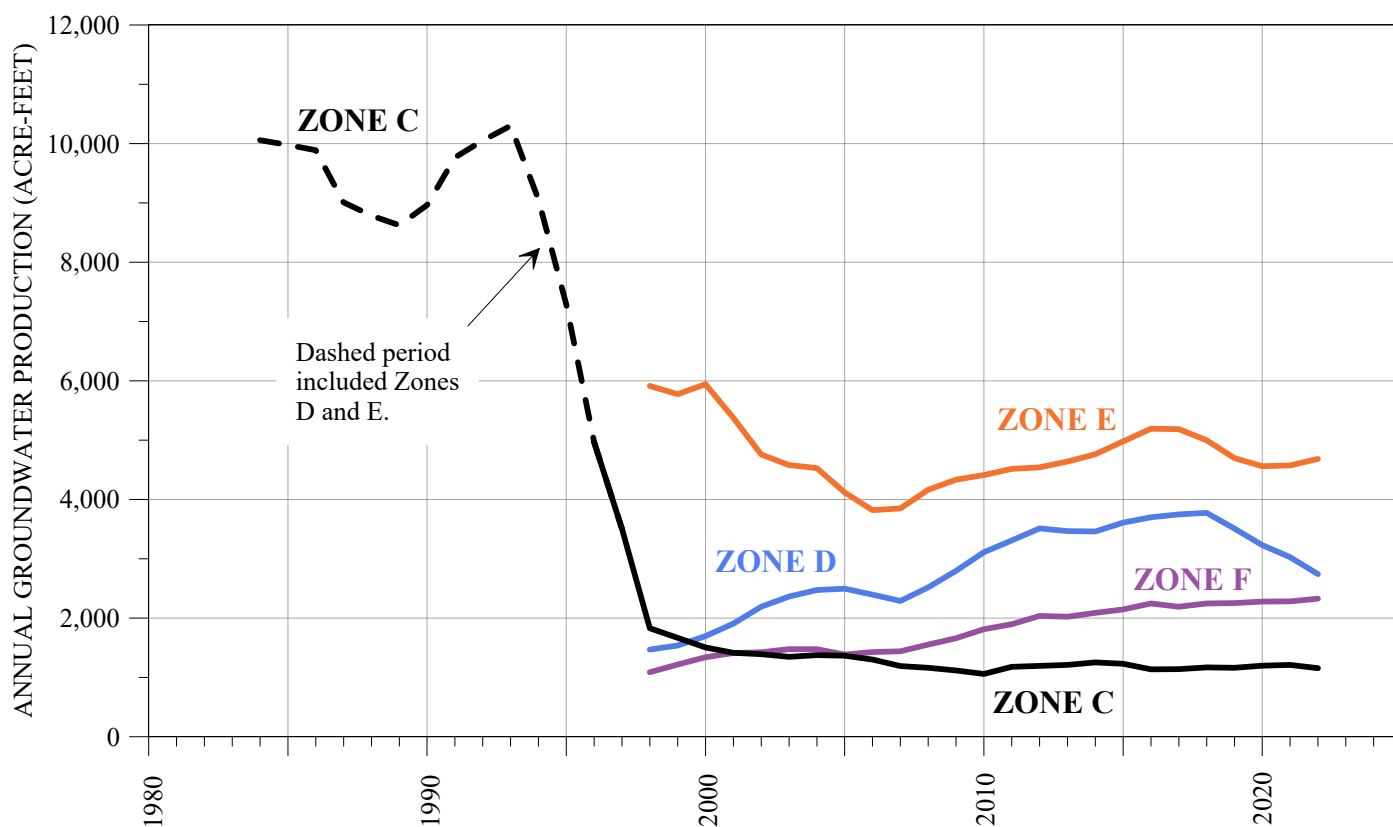
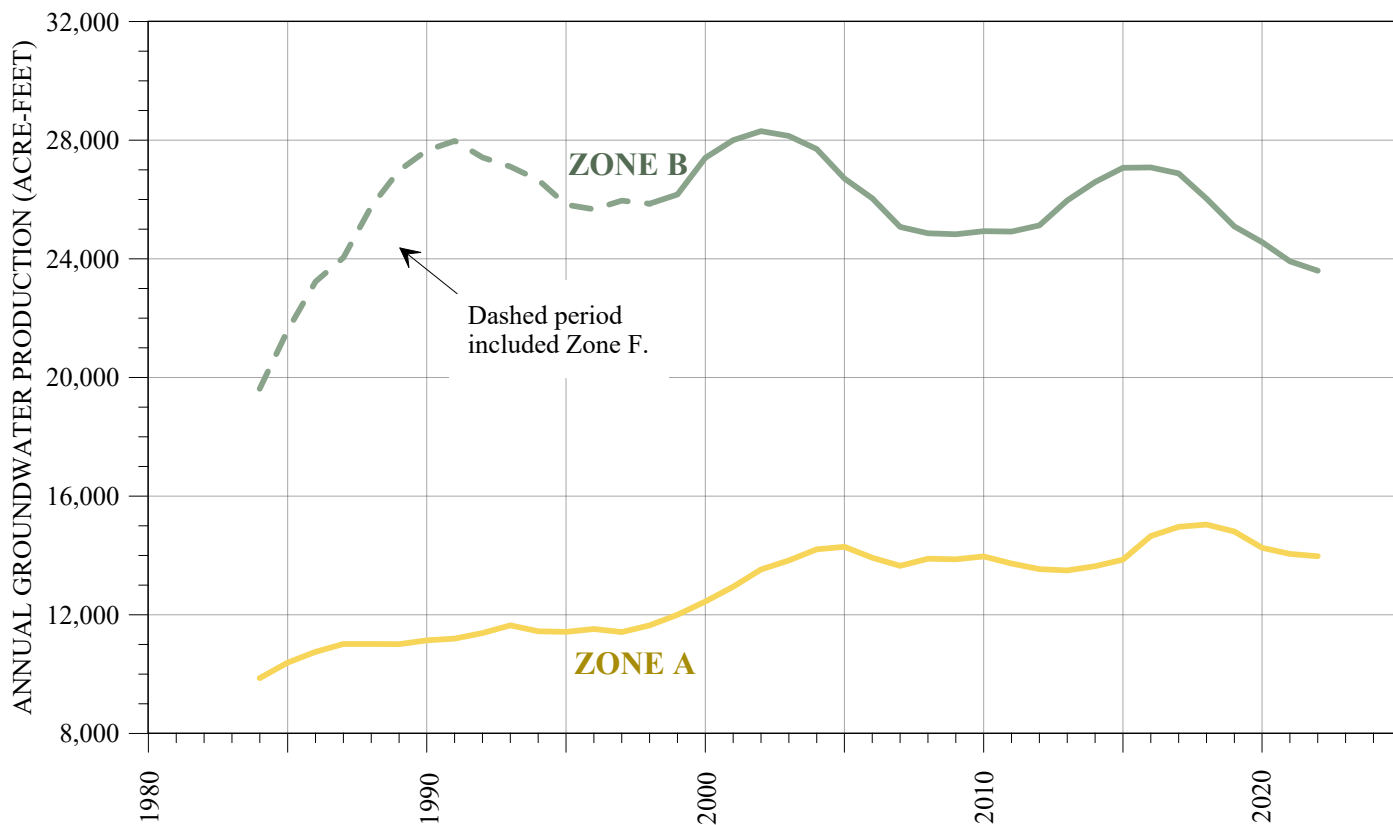
<sup>a</sup> Revised February 6, 2023.

<sup>b</sup> Groundwater charge zones for the period 1979-80 through 1992-93 included the District portion of Zone A, Zone B and Zone C. Groundwater charge zones since 1993-94 include the District portion of Zone A, Zone B, Zone C, Zone D, Zone E and Zone F.

<sup>c</sup> Based upon a 1984 amendment to the California Water Code. First year for reporting special irrigation water production was 1985-86.

<sup>d</sup> July 1 through June 30.

### ANNUAL GROUNDWATER PRODUCTION WITHIN THE DISTRICT 5-YEAR MOVING AVERAGE





The projected groundwater production, in acre-feet, within the District for the current fiscal year (2022-23) and ensuing fiscal year (2023-24) is tabulated below. The estimates are based on the reported groundwater production for the previous fiscal year (2021-22).

	Agricultural Water	Other Water	Special Irrigation Water	Total
Zone A	9,875	2,820	1,055	13,750
Zone B	15,250	6,745	1,440	23,435
Zone C	25	865	15	905
Zone D	1,615	525	35	2,175
Zone E	2,815	2,145	25	4,985
Zone F	2,100	180	0	2,280
<b>TOTAL</b>	<b>31,680</b>	<b>13,280</b>	<b>2,570</b>	<b>47,530</b>

*Projected pumping for the Current Fiscal Year 2022-23 (July 2022-June 2023), and the Ensuing Fiscal Year 2023-24 (July 2023-June 2024)*

#### 2.4. WELL REGISTRATION

As of February 6, 2023, groundwater producers have registered 1,221 wells with the District. Of that number, approximately 985 are active and 236 are inactive. This is an addition of seven new active wells since April 1, 2022.

	Active Wells	Inactive Wells	Total Wells
Zone A	242	68	310
Zone B	306	49	355
Zone C	61	31	92
Zone D	99	18	117
Zone E	211	58	269
Zone F	66	12	78
<b>TOTAL</b>	<b>985</b>	<b>236</b>	<b>1,221</b>

*Registered Wells as of February 6, 2023*

#### 2.5. MAJOR PRODUCERS

The major water producers, those reporting groundwater production by ownership and/or lease during the fiscal year 2021-22 (as of February 6, 2023) were as follows:

	Major Water Producer Fiscal Year 2021-22	Production (Acre-Feet)
<b>Zone A</b>	SYRWCD, ID # 1 (also in Zone E)	1,287
	Acin Farms	1,186
	City of Buellton (also in Zone D)	1,070
	Brassica Farms (aka Freitas)	835
	S & B Vineyard / Sanford	802
	Jackson, Palmer (The Alisal)	683
	Sea Smoke, Rita's Crown & Southing Holdings	564
	Rancho LaVina	440
	City of Solvang (also in Zones C and E)	252
	Rancho Sanja Cota (was Gainey - also Zone E)	194
	Ballard Ranch (was part of Wygood)	118
	Fisher Edison (was part of Wygood)	107
	Novatt 1 (was part of Wygood)	88
	Espinoza leased to Campbell (also in Zone B)	71
	Williams, Norman (also in Zone D)	9
Wygood (parcels sold; see Ballard Ranch, Fisher Edison & Novatt)		
<b>Zone B</b>	Santa Barbara Farms (Witt/Guerra)	4,913
	City of Lompoc (Parks Dept. & Water Div.)	4,303
	Lompoc Farming	3,408
	Campbell Ranches (also in Zone A)	2,264
	Rancho Laguna	1,413
	Vandenberg Village CSD	1,338
	Hibbits (Ranch and Family Trust)	759
	Sorrento Berry Farms	727
	Mission Hills CSD	575
	U.S. Penitentiary Farm	378
	Wineman / Reiter Berry Farms	213
	Boger & Sons Company	150
	Launchpad Lands	0
	Espinoza / Big E Produce	0
<b>Zone C</b>	Imerys (was Celite Corporation)	523
	City of Solvang (also in Zone A and E)	232
<b>Zone D</b>	Buell, James (incl. Marcelino, LLC)	402
	City of Buellton (also in Zone A)	285
	Foley Estates Vineyards (also in Zone F)	148
	Williams, Norman (also in Zone A)	82

Major Water Producer Fiscal Year 2021-22 - continued		Production (Acre-Feet)
<b>Zone E</b>	SYRWCD, ID #1 (also in Zone A)	<b>1,499</b>
	City of Solvang (also in Zones A and C)	<b>208</b>
	Rancho Sanja Cota-was Gainey (also Zone A)	<b>192</b>
<b>Zone F</b>	Oak Hills Ranch (was A & M Farms)	<b>463</b>
	Innovative – Lease from Campbell	<b>461</b>
	Foley Estates Vineyards (also in Zone D)	<b>184</b>
	Campbell Ranches (also in Zone A)	<b>172</b>
	Sorrento – Lease from Campbell	<b>21</b>

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### 3.0 PRECIPITATION

Water supply, water use, and groundwater conditions within the District are dependent upon precipitation. Precipitation, either directly or as streamflow infiltration, recharges the groundwater supplies. The quantity and timing of precipitation can indicate future water-level conditions. Based on the 30-year climate normal, a small proportion (approximately 0.5 percent) of annual precipitation occurs during the summer and fall months of July through September. Slightly above a quarter of precipitation (25 to 28 percent) falls in the autumn and early winter months of October through December, approximately two-thirds (63 to 65 percent) of precipitation falls in the winter and spring months of January through March, and a small proportion (2 to 3 percent) of precipitation falls in the late spring and summer months of April through June.

Table 2 presents the monthly precipitation and departure from normal for two precipitation stations, Bradbury Dam and Lompoc, for the period January 2022 through January 2023. Precipitation during the preceding hydrologic water year (October 2021 to September 2022) was 61 and 81 percent of normal at Bradbury Dam and Lompoc, respectively. Precipitation through January of the current hydrologic water year (October 2022 to January 2023) is 308 and 238 percent of normal at Bradbury Dam and Lompoc, respectively.

The long-term annual variation in precipitation at Santa Barbara, Gibraltar Dam, Bradbury Dam, and Lompoc is shown graphically in Figure 4. Also shown in Figure 4 is a graph of the accumulated departure from the mean annual precipitation. The analyses represented by these graphs indicate the historical wet and dry periods. Figure 4 indicates a wet period in the basin with an upward trend of the graph for years. Conversely, a dry period is indicated where the graph trends downward for years.

**TABLE 2**  
**MONTHLY PRECIPITATION AND DEPARTURE**  
**FROM NORMAL AT BRADBURY DAM AND LOMPOC**  
**JANUARY 2022 THROUGH JANUARY 2023 <sup>a</sup>**  
(Inches)

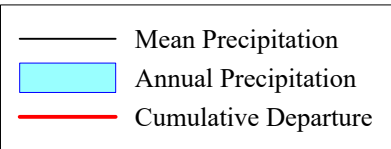
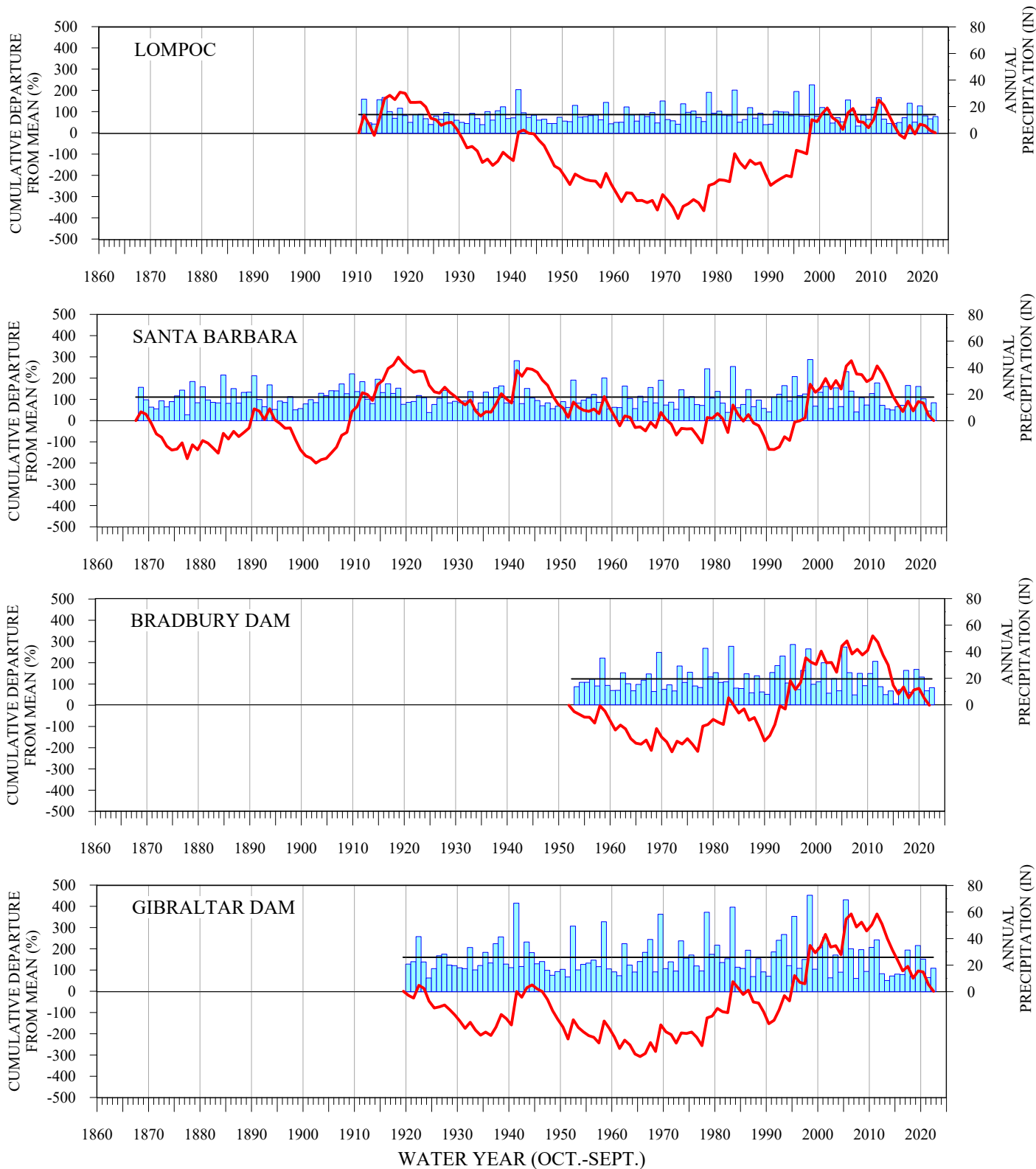
Month	Bradbury Dam		Lompoc	
	Precipitation	Departure <sup>b</sup>	Precipitation	Departure <sup>b</sup>
January 2022	0.45	-4.44	0.13	-3.16
February	0.06	-5.23	0.22	-3.44
March	2.14	-1.47	1.47	-1.33
April 2022	0.25	-1.06	0.28	-0.62
May	0.00	-0.54	0.00	-0.34
June	0.00	-0.06	0.01	-0.05
July 2022	0.01	0.00	0.00	-0.02
August	0.00	0.00	0.05	0.04
September	0.00	-0.08	2.28	2.23
October 2022	0.02	-0.78	0.06	-0.61
November	1.50	0.26	1.09	-0.12
December	5.17	1.87	5.39	2.99
<b>2022 Calendar Year</b> (January 2022-December 2022)	<b>9.60</b>	<b>-11.53</b>	<b>10.98</b>	<b>-4.43</b>
<b>Percent of Normal</b>	<b>45</b>		<b>71</b>	
January 2023	24.81	19.92	11.49	8.20
<b>Partial / First Quarter + January</b> <b>2023 Current Hydrologic Water Year</b> (October 2022-January 2023)	<b>31.50</b>	<b>21.27</b>	<b>18.03</b>	<b>10.46</b>
<b>Percent of Normal</b>	<b>308</b>		<b>238</b>	

<sup>a</sup> Data from Santa Barbara County Flood Control District

<sup>b</sup> Departure from normal is based on an averaging period of 1991 to 2020 as established by the National Oceanic and Atmospheric Administration (NOAA).

Percent of Normal is relative to the months in the specific period.

### ANNUAL PRECIPITATION AND CUMULATIVE DEPARTURE FROM MEAN FOR LOMPOC, SANTA BARBARA, BRADBURY DAM, AND GIBRALTAR DAM



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## **4.0 SURFACE WATER CONDITIONS**

Surface water supplies potentially available in the watershed include the main stem and tributaries of the Santa Ynez River and imported water from northern California through the State Water Project (SWP). As mentioned in Chapter 1, the upstream diversion works, constructed on the river system by South County interests and the Federal Government, were designed to export all or most of the diverted water out of the watershed. These diversion facilities include Juncal Dam (Jameson Reservoir), Doulton Tunnel, and Fox and Alder Creeks by the Montecito Water District, Gibraltar Dam (Gibraltar Reservoir), Mission Tunnel, and Devil's Canyon by the City of Santa Barbara, and Bradbury Dam (Lake Cachuma), and Tecolote Tunnel by the U.S. Bureau of Reclamation (USBR). Drainage areas upstream of these diversion dams are approximately 14 (Juncal), 216 (Gibraltar), and 417 (Bradbury) square miles with the latter representing about 47 percent of the total watershed. These diversions significantly affect the recharge of the groundwater in the Santa Ynez River alluvial aquifer and the Lompoc Plain groundwater subarea.

The Cachuma Project is by far the largest of the upstream diversion facilities with a reservoir capacity of 183,751 acre-feet at a water surface elevation of 750 feet (192,978 acre-feet with a fish surcharge of three feet, October 2021 survey) and an annual operational yield of 25,714 acre-feet. Table 3 summarizes the annual operations of this Project, from its start in 1952 through 2022.

### **4.1. BASIN SURFACE WATER USE**

This District contracted with the USBR through the Santa Barbara County Water Agency for 10.3 percent of the annual Cachuma Project yield and in 1959 established the Santa Ynez River Water Conservation District, Improvement District No. 1 (ID No. 1) to distribute and serve municipal and irrigation water in the Santa Ynez Valley. The service area of ID No. 1 is roughly bordered by the towns of Santa Ynez, Los Olivos, and Solvang. With the creation of an independently elected trustee board in 1966, ID No. 1 became essentially a separate entity. In 1993 this District assigned its Cachuma entitlement to ID No. 1. ID No. 1 later exchanged this water (approximately 2,600 acre-feet) for treated SWP water with the other (South Coast) Cachuma Member Units. ID No. 1 continues to use a small portion of its

**TABLE 3**  
**SUMMARY OF CACHUMA PROJECT OPERATIONS**  
**WATER YEARS 1953 THROUGH 2022 <sup>a</sup>**

Hydrologic Water Year (Oct.-Sept.) <sup>b</sup>	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
	Lake Cachuma End-of-Year Storage	Computed Inflow	CCWA	Precipitation on Reservoir	Reservoir Evaporation	Estimated Spill	Diversion to Tunnel	Park Diversions	SYRWCD ID No. 1 Deliveries	Downstream Release <sup>c</sup>
1953	9,188	17,942		106	1,319	0				7,541
1954	21,779	18,955		598	2,327	0				4,635
1955	19,584	4,941		936	2,540	0				3,922
1956	36,629	24,330		1,482	4,200	0	2,118			2,449
1957	30,154	6,150		1,162	4,642	0	5,470			3,674
1958	196,889	219,129		4,459	11,210	35,738	4,850			5,050
1959	187,178	15,068		3,629	14,624	3,056	8,432			2,296
1960	163,149	2,643		2,669	13,613	0	11,410	169	300	3,849
1961	134,493	795		2,382	12,015	0	17,309	662	239	1,608
1962	190,475	100,134		4,963	12,446	21,822	11,921	402	890	1,633
1963	171,736	4,270		3,788	12,157	0	10,595	510	694	2,843
1964	141,506	2,439		2,378	11,786	0	17,352	447	1,504	3,958
1965	122,308	12,314		3,043	10,204	0	14,909	182	1,837	7,423
1966	168,926	79,292		3,707	12,524	0	17,522	345	2,129	3,862
1967	191,622	208,961		5,774	12,683	153,823	14,155	246	2,575	8,557
1968	160,871	10,404		2,414	13,524	0	18,199	357	3,669	7,820
1969	190,181	525,370		9,727	12,305	472,411	15,031	240	2,597	3,199
1970	176,407	28,740		1,793	13,525	0	21,448	335	4,115	4,888
1971	161,345	31,045		3,497	12,308	0	22,800	357	3,115	11,028
1972	121,314	8,754		2,231	11,452	0	28,158	167	4,469	6,769
1973	185,591	125,804		5,948	12,056	29,300	18,456	129	3,552	3,982
1974	182,039	33,670		4,112	12,677	5,655	17,805	138	3,469	1,590
1975	184,467	50,544		5,867	11,866	16,804	20,854	128	3,057	1,275
1976	145,187	5,310		3,189	11,804	0	26,020	148	4,655	5,152
1977	112,077	1,520		2,601	10,775	0	18,740	98	4,583	3,035
1978	193,424	329,219		9,573	13,535	219,295	20,701	114	3,011	790
1979	183,949	61,692		5,250	13,917	36,385	20,102	147	4,029	1,837
1980	187,382	153,543		6,003	13,353	116,915	22,057	139	2,483	1,166
1981	168,871	22,066		4,019	13,811	0	20,856	178	5,007	4,743
1982	159,528	26,848		3,868	11,479	0	20,956	187	2,963	4,474
1983	196,347	428,601		10,995	12,630	361,675	22,616	183	1,532	4,142
1984	171,599	39,074		3,354	14,534	17,217	25,601	193	5,054	4,577
1985	135,748	5,057		2,816	12,275	0	22,781	142	2,664	5,862
1986	171,873	76,571		4,831	12,782	0	21,690	108	2,686	8,010
1987	128,352	2,374		1,996	12,147	0	27,209	150	3,812	4,573
1988	99,150	8,732		4,092	10,293	0	23,917	102	2,803	4,911
1989	66,098	4,044		1,459	8,366	0	20,632	86	2,802	6,670

**TABLE 3 – CONTINUED**  
**SUMMARY OF CACHUMA PROJECT OPERATIONS**  
**WATER YEARS 1953 THROUGH 2022 <sup>a</sup>**  
(Acre-Feet)

Hydrologic Water Year (Oct.-Sept.) <sup>b</sup>	[1] Lake Cachuma End-of-Year Storage	[2] Computed Inflow	[3] CCWA	[4] Precipitation on Reservoir	[5] Reservoir Evaporation	[6] Estimated Spill	[7] Diversion to Tunnel	[8] Park Diversions	[9] ID No.1 Deliveries	[10] Downstream Release <sup>c</sup>	[11] Fish Water Release
1990	34,188	2,627		909	6,019	0	16,384	66	863	4,792	
1991	60,995	53,566		2,057	6,373	0	15,762	43	1,656	4,983	
1992	157,066	135,828		4,022	11,239	0	18,170	52	891	13,427	
1993	177,479	333,387		8,875	13,428	280,698	22,582	79	2,042	1,591	1,429
1994	151,046	16,729		4,144	12,561	0	22,821	73	1,819	9,537	494
1995	134,855	365,092		10,063	10,321	354,402	23,887	64	109	1,823	740
1996	120,503	33,243		2,653	11,627	0	24,721	76	2,109	9,703	2,012
1997	124,771	56,552	148	2,911	11,861	0	26,785	83	1,785	13,205	1,623
1998	185,500	475,175	1354	12,071	11,350	386,055	24,473	60	0	3,956	1,976
1999	168,772	21,562	323	4,077	12,341	0	26,397	70	0	883	2,999
2000	170,840	51,895	2156	4,972	12,435	6,067	30,365	79	0	5,972	2,037
2001	173,479	152,773	818	7,712	11,995	112,313	26,089	78	0	3,502	2,157
2002	129,370	5,508	4,627	2,040	11,004	0	30,976	90	0	11,961	2,253
2003	115,449	18,822	6,816	3,707	9,402	0	28,781	99	0	2,292	2,691
2004	71,378	5,750	5,924	1,782	8,829	0	32,269	83	0	14,217	2,131
2005	179,997	401,755	3,137	8,365	11,763	260,078	26,796	62	0	2,894	3,045
2006	180,203	100,562	1,014	6,075	12,354	62,869	24,119	66	0	0	8,037
2007	132,392	4,348	5,204	1,716	11,940	0	32,797	83	0	9,327	4,932
2008	173,280	109,536	4,701	4,712	13,449	22,994	32,591	63	0	2,274	6,689
2009	142,479	13,218	2,602	3,112	12,220	0	27,634	82	0	0	8,688
2010	152,855	56,628	1,736	5,057	11,374	0	27,259	73	0	7,165	7,175
2011	180,986	151,343	1,258	7,226	11,871	85,755	26,866	79	0	1,481	5,642
2012	142,970	6,005	408	2,959	11,724	0	28,682	79	0	0	6,904
2013	91,922	2,982	2,101	1,497	9,943	0	31,039	76	0	12,613	3,956
2014	61,107	3,947	11,522	1,367	8,441	0	29,023	34	0	7,561	2,591
2015	32,989	4,006	8,316	1,074	7,443	0	17,137	25	0	12,600	2,156
2016	14,222	4,697	10,220	860	5,444	0	15,604	24	0	11,620	1,853
2017	82,459	87,508	14,073	2,196	11,352	0	14,451	25	0	8,612	807
2018	61,273	4,910	13,308	1,269	7,730	0	18,681	23	0	11,654	2,584
2019	144,475	105,371	4,606	3,500	9,467	0	13,867	23	0	0	6,918
2020	135,570	26,207	825	4,309	11,094	0	16,000	22	0	5,861	7,318
2021	95,720	3,536	1,530	2,227	9,634	0	24,741	20	0	8,625	4,123
2022	65,436	4,989	6,090	2,040	7,909	0	20,009	22	0	10,355	5,107
Average <sup>d</sup>	133,049	78,806	4,416	3,890	10,795	43,733	21,051	139	1,549	5,404	3,702

<sup>a</sup> Source of Information: U.S. Bureau of Reclamation.

<sup>b</sup> October 1 through September 30.

<sup>c</sup> Includes leakage and water rights releases

<sup>d</sup> For period of record

Water Balance Equation: [1] End of WY Storage = [1] Start of WY Storage + [2] + [3] + [4] - [5] - [6] - [7] - [8] - [9] - [10] - [11]

Water Balance Equation does not balance at the end of Water Year 1955, 1990, 2001, 2009, 2015, and 2018. New reservoir capacity tables were developed during these years and as a result, the storage capacity was reduced. The amount of unaccounted water equals the reduction in storage volume. End of WY2017 storage corrected by 293 AF due to gage reading error.

Cachuma entitlement water to serve the County Park at Lake Cachuma. Table 3 shows annual deliveries of Cachuma Project water to ID No. 1 before the exchange and direct diversions from the reservoir for the County Park.

Alisal Reservoir is located on Alisal Creek about three miles south of Solvang at the southern boundary of the District. The Permit issued by the SWRCB in 1969 allows for the diversion and storage of 2,342 acre-feet per year for irrigation, stock watering, domestic, and recreational uses. No quantification of actual water use for this reservoir has been done.

The District acquired Permit No. 17447 in 1978, which allowed for the diversion of up to forty thousand acre-feet per year of winter flow from the Santa Ynez River near Lompoc. Earthen dams were constructed and maintained in the Santa Ynez River for several years. When the District petitioned the SWRCB for an Extension of Time to further develop its rights under the Permit, the SWRCB placed the Permit in abeyance for many years, only to request a revised Petition for an Extension of Time in 2001. The District filed the Time Extension Petition and a Petition for Change at that time. There followed a decade of studies of various alternative designs and locations for an off-channel spreading facility, which would be environmentally superior to the earlier project design. In 2014, when it became clear that the project was not feasible or cost-effective, the District, with concurrence by the City of Lompoc, requested the SWRCB to revoke the Permit.

#### **4.2. STATE WATER PROJECT WATER USE**

Three water purveyors within the Santa Ynez Valley and one located partially in the Lompoc Valley have contracted for SWP water. Excluding drought buffers, the entities and their annual entitlements (in acre-feet) include: ID No. 1 (500); Solvang (1,500, contracted through ID No. 1); Buellton (578); and Vandenberg SFB (5,500, located partly in the Lompoc Valley). SWP deliveries to these entities, as reported by the Central Coast Water Authority (CCWA), for the preceding fiscal year (2021-22) and the first half of the current fiscal year (2022-23) in acre-feet are as follows:

Fiscal Year (July-June)	ID No. 1 (Acre-Feet)	City of Solvang (Acre-Feet)	City of Buellton (Acre-Feet)	Vandenberg SFB (Acre-Feet)
2021-22	1,127	557	123	1,048
2022-23 (First Half)	126	235	71	0

*Source: Central Coast Water Authority*

Deliveries to ID No. 1 include entitlement, drought buffer entitlement, exchange, and (turnback pool) purchased water.

#### **4.3. RIVER SYSTEM FLOW CONDITIONS**

The Lompoc Narrows are a natural constricting point of the Santa Ynez River where a stream gage measures river flows. For the 2021-22 (July-June) water year flows were 2,209 acre-feet and flows for the first half of the 2022-23 water year were 3,843 acre-feet through December 2022. Table 4 and the graphs in Figure 5 are summaries of annual and monthly flows.

Annual flows of Salsipuedes Creek near Lompoc, a major tributary of the Santa Ynez River upstream of the Lompoc Narrows, are shown in Table 5. Salsipuedes Creek flows for the 2021-22 (July-June) water year were 989 acre-feet and flows for the first half of the 2022-23 water year were 1,192 acre-feet through December 2022. Appendix C includes flow records for additional streams in the Basin.

#### **4.4. WATER RIGHTS RELEASES**

Water rights releases for users downstream of Lake Cachuma are outlined in the SWRCB Order of 1973 (WR 73-37), as amended in 1989 (WR 89-18) and 2019 (WR 2019-0148). These releases are based on the establishment of two accounts, and the accrual of credits (storing water) in Lake Cachuma for the above and below Narrows areas. Above Narrows Account (ANA) water rights releases are made at Bradbury Dam for the benefit of water users between the dam and the Lompoc Narrows. Releases from the Below Narrows Account (BNA) for the benefit of water users in the Lompoc Plain subarea likewise originate at the dam and

**TABLE 4**  
**FLOW OF THE SANTA YNEZ RIVER AT THE LOMPOC NARROWS**  
(Acre-Feet)

Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow
		1925	7,300	1945	50,700	1965	4,980	1985	3,100	2005	431,420
		1926	90,100	1946	38,970	1966	29,240	1986	30,110	2006	87,730
		1927	152,000	1947	13,940	1967	161,700	1987	5,210	2007	6,864
1908	222,000	1928	30,800	1948	50	1968	5,700	1988	3,590	2008	72,553
1909	681,000	1929	9,770	1949	2,040	1969	617,700	1989	30	2009	3,743
1910	115,000	1930	5,780	1950	1,460	1970	8,500	1990	0	2010	31,900
1911	533,000	1931	2,390	1951	0	1971	7,420	1991	20,900	2011	135,294
1912	50,400	1932	142,000	1952	261,900	1972	3,180	1992	62,090	2012	5,635
1913	47,400	1933	17,700	1953	19,910	1973	80,770	1993	391,530	2013	4,032
1914	546,000	1934	24,170	1954	5,830	1974	20,400	1994	15,600	2014	4,484
1915	395,000	1935	56,830	1955	2,060	1975	61,860	1995	485,520	2015	46
1916	258,000	1936	40,830	1956	28,860	1976	3,980	1996	24,820	2016	2,310
1917	137,000	1937	209,000	1957	1,460	1977	270	1997	39,130	2017	31,918
1918	320,000	1938	352,400	1958	140,000	1978	391,600	1998	681,520	2018	4,812
1919	60,300	1939	32,960	1959	16,940	1979	70,200	1999	28,460	2019	42,989 +
1920	43,500	1940	20,610	1960	1,570	1980	189,100	2000	51,850	2020	11,277
1921	16,800	1941	652,300	1961	330	1981	20,240	2001	250,425	2021	12,315
1922	190,500	1942	67,310	1962	87,890	1982	6,450	2002	9,530	2022	4,038
1923	23,000	1943	231,900	1963	9,520	1983	503,600	2003	15,730	2023	3,036
1924	5,300	1944	119,400	1964	0	1984	34,110	2004	6,710	(through Dec)	
										Average (1908-2022)	102,900
										Average (1953-2022)	79,350

2019 flows do not include equipment failure January 14-17, likely totalling less than 400 Acre-Feet.  
Data from U.S. Geological Survey include periods of 1908 through 1918, 1926 through 1950,  
1952 through 1963, and 1965 through March 2015.

Data from U.S. Bureau of Reclamation include periods of 1919 through 1925, 1951, and 1964.

Flow regulated by Lake Cachuma since November 1952.

# MONTHLY SURFACE FLOW, SANTA YNEZ RIVER NEAR LOMPOC

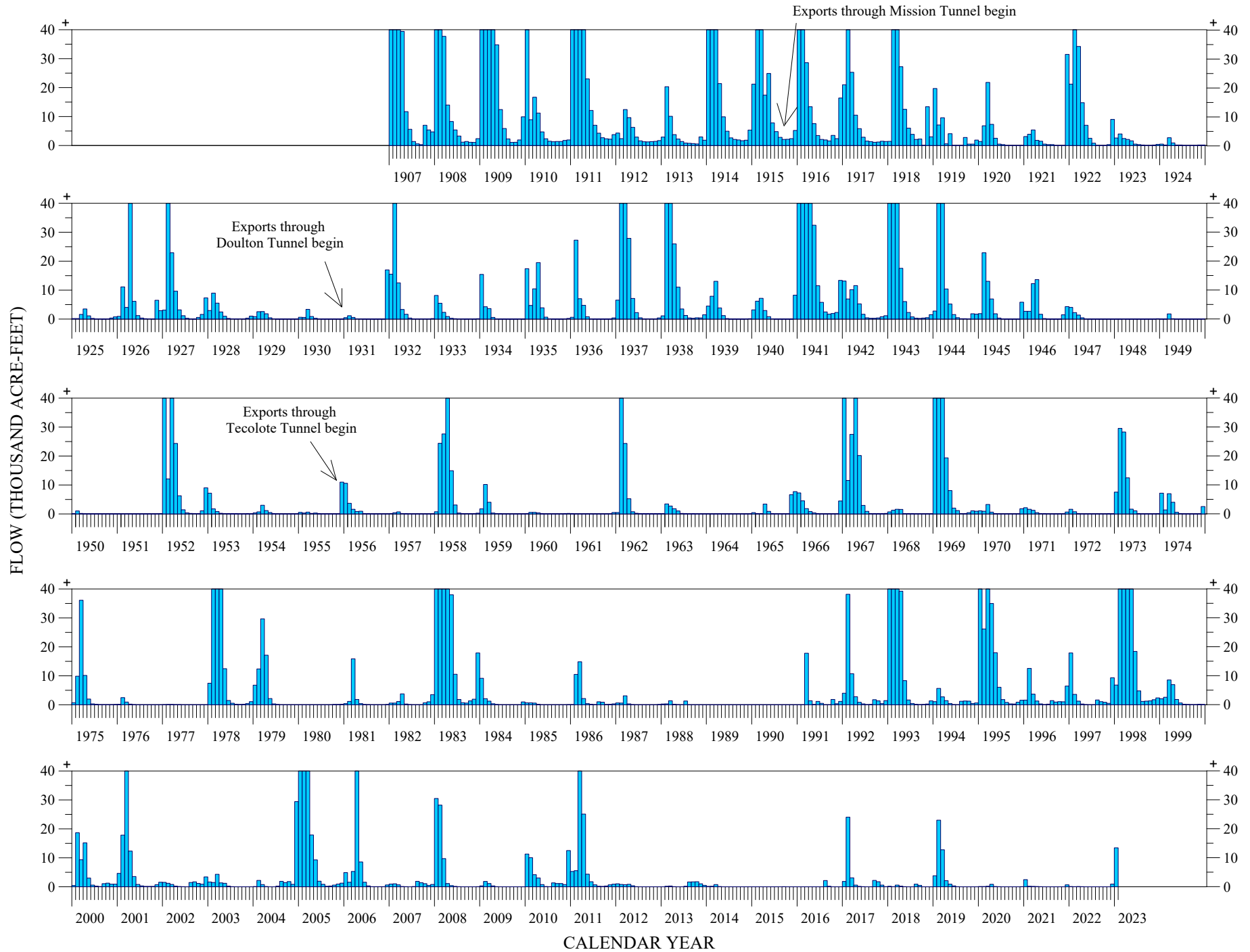


FIGURE 5

**TABLE 5**  
**FLOW OF SALSIPUEDES CREEK NEAR LOMPOC**  
(Acre-Feet)

Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow	Hydrologic Water Year (Oct.-Sept.)	Flow
		1945	2,270	1965	2,720	1985	1,170	2005	33,230
		1946	1,790	1966	9,480	1986	10,290	2006	5,620
		1947	870	1967	6,710	1987	1,610	2007	695
		1948	400	1968	780	1988	890	2008	8,736
		1949	1,710	1969	20,520	1989	210	2009	645
		1950	1,280	1970	1,810	1990	130	2010	4,841
		1951	320	1971	1,180	1991	4,420	2011	15,023
		1952	16,870	1972	520	1992	6,690	2012	1,108
		1953	4,630	1973	15,660	1993	17,030	2013	370
		1954	2,410	1974	5,320	1994	2,750	2014	243
		1955	1,320	1975	13,780	1995	58,360	2015	108
		1956	15,610	1976	1,520	1996	3,610	2016	172
		1957	1,250	1977	600	1997	5,480	2017	9,695
		1958	23,570	1978	36,290	1998	41,180	2018	239
		1959	2,620	1979	8,410	1999	6,160	2019	12,314
		1960	1,420	1980	14,980	2000	10,850	2020	1,596
		1961	690	1981	5,060	2001	19,986	2021	2,974
1942	10,650	1962	22,200	1982	1,610	2002	1,653	2022	982
1943	10,710	1963	5,330	1983	36,850	2003	3,630	2023	1,188
1944	8,870	1964	930	1984	3,360	2004	1,662	(through Dec)	
								Average (1942-2022)	7,670

Data from U.S. Geological Survey.



flow in the Santa Ynez River to the Narrows. Combined releases of ANA and BNA water are made to replenish the groundwater basin in the above and below Narrows areas.

During the calendar year 2022, USBR made water rights releases from Lake Cachuma starting on August 8, 2022 to replenish both the Above and Below Narrows areas. These releases extended for 58 days through October 5, 2022. Summarized below are the amounts of water USBR released for groundwater replenishment.

2022 Calendar Year Releases	Above Narrows Account (Acre-Feet)	Below Narrows Account (Acre-Feet)	Total (Acre-Feet)
August	5,095	0	5,095
September	2,817	1,798	4,615
October	0	203	203
<b>TOTAL</b>	<b>7,912</b>	<b>2,001</b>	<b>9,913</b>

*Source: U.S. Bureau of Reclamation*

Appendix D shows additional details about the rate, duration, and geographical extent of the above water rights releases. Table 6 summarizes the historical water rights releases for the ANA and BNA accounts.

**TABLE 6**  
**HISTORICAL WATER RIGHTS RELEASES**

Calendar Year	Releases (Acre-Feet)		Total	Calendar Year	Releases (Acre-Feet)		Total
	Above Narrows Account (ANA)	Below Narrows Account (BNA)			Above Narrows Account (ANA)	Below Narrows Account (BNA)	
<b>Releases under Live Stream</b>				<b>Releases under WR 89-18</b>			
1953	-	-	7,540	1990	4,792	0	4,792
1954	-	-	4,632	1991	7,745	3,638	11,383
1955	-	-	3,921	1992	4,930	3,287	8,217
1956	-	-	2,449	1993	0	0	0
1957	-	-	3,674	1994	6,727	4,012	10,739
1958	-	-	4,142	1995	0	0	0
1959	-	-	1,294	1996	7,319	3,459	10,778
1960	-	-	3,411	1997	9,572	3,438	13,010
1961	-	-	1,365	1998	0	0	0
1962	-	-	380	1999	0	0	0
1963	-	-	2,239	2000	4,360	1,858	6,218
1964	-	-	3,665	2001	0	0	0
1965	-	-	7,251	2002	9,054	4,412	13,466
1966	-	-	6,860	2003	0	0	0
1967	-	-	3,274	2004	11,494	4,512	16,006
1968	-	-	6,705	2005	0	0	0
1969	-	-	1,499	2006	0	0	0
1970	-	-	6,100	2007	6,703	4,897	11,600
1971	-	-	8,095	2008	0	0	0
1972	-	-	6,320	2009	0	0	0
1973	-	-	1,245	2010	5,122	3,524	8,646
<b>Releases under WR 73-37</b>				2011	0	0	0
1974	1,353	0	1,353	2012	0	0	0
1975	1,134	0	1,134	2013	10,694	6,779	17,473
1976	4,237	0	4,237	2014	4,698	0	4,698
1977	2,299	0	2,299	2015	10,603	0	10,603
1978	62	0	62	2016	9,334	2,286	11,620
1979	1,200	0	1,200	2017	7,758	4,454	12,212
1980	0	0	0	2018	6,606	1,448	8,054
1981	4,175	0	4,175	2019	0	0	0
1982	6,655	755	7,410	<b>Releases under WR 2019-0148</b>			
1983	0	0	0	2020	6,379	4,101	10,480
1984	3,162	0	3,162	2021	4,649	0	4,649
1985	5,686	0	5,686	2022	7,912	2,001	9,913
1986	5,317	1,780	7,097				
1987	3,887	0	3,887				
1988	5,050	1,283	6,333				
1989	5,192	0	5,192				

**4.5. STATE WATER CODE REQUIREMENTS**

The Water Code requires the Board to estimate for the ensuing water year: (1) the amount of water necessary for surface distribution, (2) the amount of water necessary for replenishment of groundwater supplies, and (3) the amount of water the District is obligated by contract to purchase (Water Code Sections 75574 (h), (i), and (j)). The amount of water necessary for surface distribution would be scheduled for delivery by ID No. 1, Solvang, Buellton, and Vandenberg SFB. The fiscal year 2022-23 delivery requests for State Water delivery according to the schedules submitted by ID No. 1, Solvang, Buellton, and Vandenberg SFB, are shown as follows. However, the actual delivery amounts would vary depending on changes in the delivery schedule and availability of SWP water.

	Acre-Feet <sup>a</sup>
ID No. 1	0
City of Solvang	200
City of Buellton	63
Vandenberg SFB	0
<b>TOTAL</b>	<b>263</b>

*Requests for the current Calendar Year 2023*

<sup>a</sup> *Includes buffer.*

*Source: Central Coast Water Authority*

In addition, during the current fiscal year (2022-23), the SWP is scheduled to deliver ID No. 1 its Cachuma entitlement (approximately 2,600 acre-feet) subject to shortage reductions for surface distribution. The District does not have any contracts to purchase surface water nor the facilities to divert the Santa Ynez River and/or tributary flow.

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## 5.0 GROUNDWATER CONDITIONS

There are two general types of water-bearing deposits within the District. They are: (1) river channel deposits and younger alluvium present along the Santa Ynez River and beneath the Lompoc Plain; and (2) older unconsolidated deposits either underlying the younger alluvial deposits or filling basins generally not in hydrologic continuity with the Santa Ynez River and its associated alluvial deposits.

### 5.1. SOURCES OF GROUNDWATER

The sources of groundwater comprising each of the District's zones are as follows:

Zone A - Santa Ynez River alluvial deposits

Santa Ynez subarea

Buellton subarea

Santa Rita subarea

Zone B - Lompoc Area

Lompoc Plain subarea

Lompoc Upland subarea

Lompoc Terrace subarea

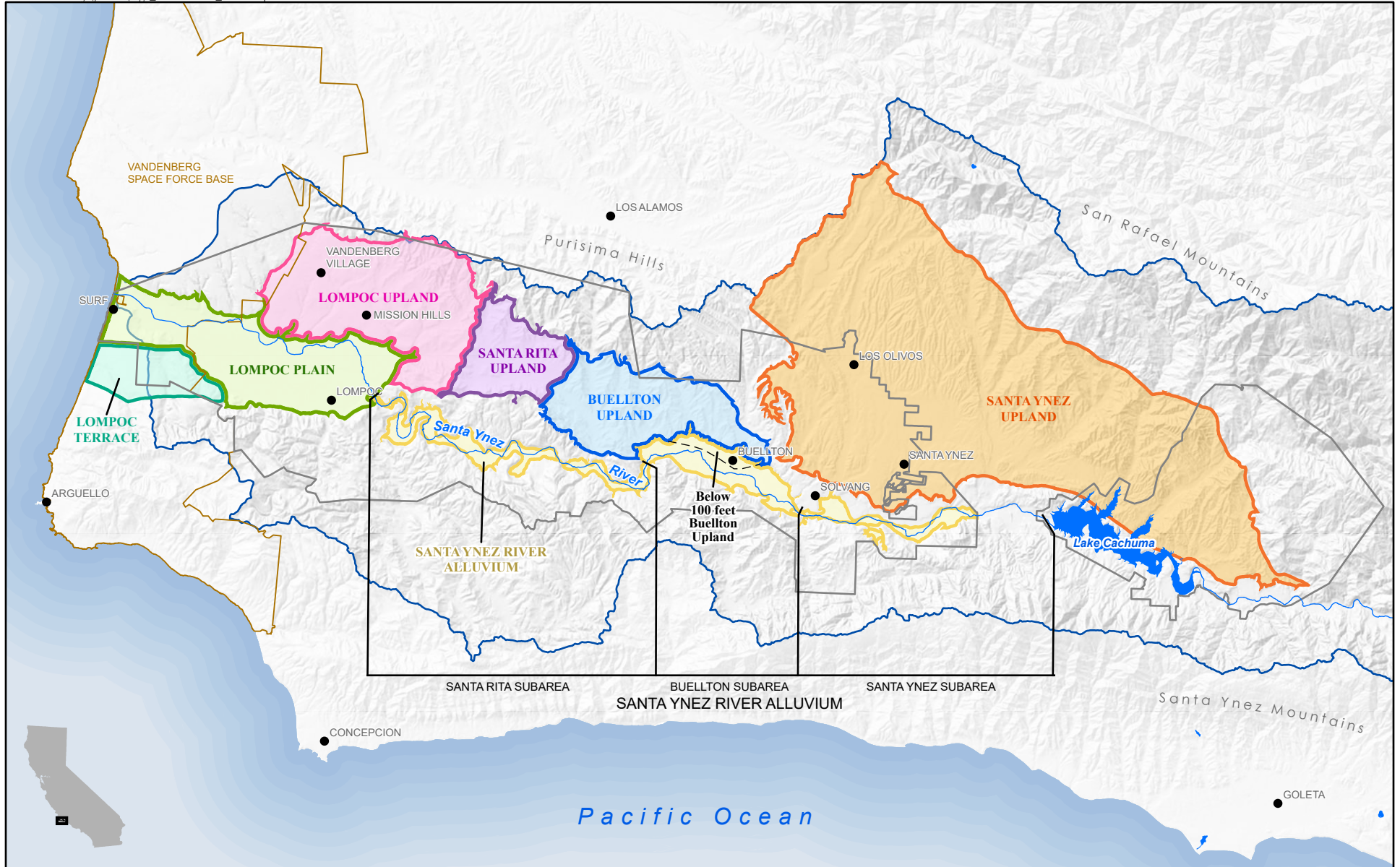
Zone C - Miscellaneous unconsolidated deposits and consolidated rocks



Zone D - Buellton Upland subarea

Zone E - Santa Ynez Upland subarea

Zone F - Santa Rita Upland subarea

The map in Figure 6 shows the extent of the major groundwater sources. A general description of the hydrogeology of the various sources of groundwater within the District is included in Appendix E. Groundwater levels from selected wells throughout the District are included in Appendix F.



 Santa Ynez River Water Conservation District Boundary  
 Drainage Basin Boundary

### MAJOR GROUNDWATER SOURCES SANTA YNEZ RIVER BASIN

0 2 4 Miles



FIGURE 6

## **5.2. STORAGE CHANGES**

Estimates of change in groundwater storage provide the general status of groundwater conditions of the District. For the current year and the ensuing year, the change in groundwater storage is forecasted for future conditions. For the previous years, the change in groundwater storage is calculated based on historical groundwater levels.

In March and April, the Santa Barbara County Water Agency (SBCWA), the City of Buellton, and USBR collect and report on spring water level measurements in wells throughout the District. Since spring water levels are unavailable until after the publication date, the change in storage for the current water year (2022-23) and ensuing water year (2023-24) is forecasted. The forecast is based on aspects of the water budget where partial data for the year is available, including antecedent conditions, inflows, and outflows. The parameters for prediction include rainfall and streamflow data that have occurred through January 31<sup>st</sup> and additional pumping and groundwater storage trends. While past performance does not guarantee future results, forecasted storage changes provide some insight into the likely range of outcomes. These forecasts of future groundwater storage change will be replaced each year based on groundwater level measurements from the previous year.

The change in water levels and storage for the preceding year is based on the water levels for the previous spring. A nodal system is used to calculate the change in storage and overdraft estimate for the preceding year (Water Year 2021-22). This calculated overdraft for the prior year is then used with the nine preceding years to determine the ten-year average annual overdraft.

### **5.2.1. Preceding Year (Spring 2021 to Spring 2022) Groundwater Levels**

Groundwater level changes from spring to spring provide the best direct indication of groundwater conditions during the year. Water levels in spring 2022 represent the conditions near the end of the fiscal year 2022 and are reported in Appendix G. Water levels for Spring 2023 are collected after the publication of this report. The information in Appendix G and Tables 7 through 10 of the 45<sup>th</sup> Engineering and Survey Report are the same as reported in the 44<sup>th</sup> report. Tables 7 through 10 report changes in groundwater levels from spring 2021 to spring 2022. In these tables, a 0.0 reading indicates a change of fewer than 0.1 feet, while a dash is a null value meaning the change could not be calculated due to one or two years of missing data.

Table 7 presents the water-level changes for eight wells measured by the USBR and SBCWA in the forebay of the Lompoc Plain subarea and 29 additional wells measured by the SBCWA in the central and western portions of the Lompoc Plain. In the forebay, water levels increased from Spring 2021 to Spring 2022 in two of the wells measured and decreased in six wells. The forebay well not measured by SBCWA and USGS has been dry since March 2016, so the water level change at this location is unknown. The water levels declined over the preceding year in 12 of the 29 measured wells located in the central and western portion of the Lompoc Plain while water levels rose in 16 of the 29 measured wells, one well remained the same. The hydrographs of three wells located in the Lompoc Plain subarea are shown in Figure F-1 (Appendix F).

Water-level changes over the preceding year are shown in Table 8 for ten wells measured by the SBCWA in the Lompoc Upland subarea. The water levels rose from Spring 2021 to Spring 2022 in one well and declined in the remaining nine wells. Hydrographs for five wells located in the Lompoc Upland subarea are shown in Figure F-2 (Appendix F). The water level in the only well measured in the Lompoc Terrace subarea declined by 0.7 feet over the past year (Table 8 and Figure F-3, Appendix F).

In the Santa Rita Upland water levels rose in one well, stayed the same in one well, and declined in two wells (Table 9). A hydrograph of Well 7N/33W-27G1 is shown in Figure F-3 (Appendix F).

The change in water levels over the preceding year in all five wells measured in the Buellton Upland subarea is also presented in Table 9. The hydrograph of well 6N/31W-7F1 showing water-level elevations is included in Figure F-3 (Appendix F).

The change in water levels from Spring 2021 to Spring 2022 in 29 wells located in the Santa Ynez Upland subarea is shown in Table 10. Ten of these wells are located within the District portion of the Santa Ynez Upland subarea. Within the District portion of the subarea, the water level was observed to decline in all ten wells with two years of valid measurements. Hydrographs of two wells located in the Santa Ynez Upland subarea are included in Figure F-4 (Appendix F).



**TABLE 7**  
**WATER-LEVEL CHANGES**  
**LOMPOC PLAIN SUBAREA**  
**2021 TO 2022**

<b>Forebay <sup>a</sup></b>		<b>Central and Western Plain <sup>b</sup></b>	
Well No.	Water-Level Change (Feet)	Well No.	Water-Level Change (Feet)
6N/34W-4G4	1.7 <sup>b</sup>	6N/34W-6C4	2.4
7N/34W-22M6	-15.7 <sup>b</sup>	7N/34W-20K4	3.8
7N/34W-25F3	0.8	7N/34W-27G6	-6.7
7N/34W-26B4	-1.3	7N/34W-29E4	-3.2
7N/34W-26H3	- <sup>c</sup>	7N/34W-29N6	2.9
7N/34W-26Q5	-0.7	7N/34W-29N7	5.9
7N/34W-27F9	-15.7	7N/34W-30L10	1.1
7N/34W-34R1	-4.0	7N/34W-31R2	9.5
7N/34W-35K9	-4.8	7N/34W-32H2	-1.4
		7N/35W-15M1	0.0
		7N/35W-17M1	2.9
		7N/35W-17K20	3.0
		7N/35W-18J2	--
		7N/35W-21G2	2.3
		7N/35W-22J1	-1.3
		7N/35W-22M1	-1.6
		7N/35W-23B2	1.4
		7N/35W-23Q2	0.3
		7N/35W-23Q3	-3.5
		7N/35W-23Q4	-3.8
		7N/35W-24J4	0.6
		7N/35W-24K5	-4.2
		7N/35W-24N3	--
		7N/35W-25F6	0.6
		7N/35W-25F7	5.9
		7N/35W-26F4	-15.3
		7N/35W-26L1	0.5
		7N/35W-26L2	-0.5
		7N/35W-26L4	-3.0
		7N/35W-27C1	-1.3
		7N/35W-35A3	0.1

<sup>a</sup> Based upon measurements made during March by the U.S. Bureau of Reclamation.

<sup>b</sup> Based upon estimated elevations by the U.S. Bureau of Reclamation.

<sup>c</sup> Based upon measurements made during March and April by the Santa Barbara County Water Agency. Well 26H3 has been dry since 2016, so change in groundwater elevation could not be determined.

**TABLE 8**  
**WATER-LEVEL CHANGES**  
**LOMPOC UPLAND AND LOMPOC TERRACE SUBAREAS**  
**2021-2022**

<b>Lompoc Upland Subarea</b>		<b>Lompoc Terrace Subarea</b>	
<u>Well No.</u>	<u>Water-Level Change (Feet)</u>	<u>Well No.</u>	<u>Water-Level Change (Feet)</u>
7N/33W-17M1	-2.1	7N/35W-27P1	-0.7
7N/33W-17N2	-2.2		
7N/33W-19D1	-0.1		
7N/33W-20G1	-0.6		
7N/34W-12E1	-0.2		
7N/34W-14F4	-3.8		
7N/34W-14L1	-1.4		
7N/34W-15D3	-6.8		
7N/34W-15E1	5.0		
7N/34W-15P2	-0.2		

Based upon measurements made during March and April by the Santa Barbara County Water Agency.

**TABLE 9**  
**WATER-LEVEL CHANGES**  
**SANTA RITA AND BUELLTON UPLAND SUBAREAS**  
**2021 TO 2022**

<b>Santa Rita Upland Subarea</b>		<b>Buellton Upland Subarea</b>	
<u>Well No.</u>	<u>Water-Level Change (Feet)</u>	<u>Well No.</u>	<u>Water-Level Change (Feet)</u>
7N/33W-21G2	-1.7	6N/31W-7F1	-0.8
7N/33W-21N1	0.0	6N/32W-2Q1	-0.4
7N/33W-27G1	17.0	6N/32W-12K2	-8.9
7N/33W-28D3	-0.5	7N/32W-31M1	-1.2
		7N/33W-36J1	-2.0

Based upon measurements made during March by the Santa Barbara County Water Agency.

**TABLE 10**  
**WATER-LEVEL CHANGES**  
**SANTA YNEZ UPLAND SUBAREA**  
**2021 TO 2022**

<b>District Portion of Subarea</b>		<b>Non-District Portion of Subarea</b>	
<u>Well No.</u>	<u>Water-Level Change (Feet)</u>	<u>Well No.</u>	<u>Water-Level Change (Feet)</u>
6N/30W-7G5	-6.1	6N/29W-6F1	-1.2
6N/30W-7G6	-6.1	6N/29W-6G1	-2.0
6N/31W-1P2	--	6N/29W-7L1	-28.4
6N/31W-1P3	-6.3	6N/29W-8P1	--
6N/31W-2K1	-3.2	6N/29W-8P2	-12.8
6N/31W-3A1	-4.3	6N/30W-1R3	-11.5
6N/31W-4A1	-1.8	6N/30W-11G4	-20.5
6N/31W-10F1	-3.0	7N/30W-16B1	-5.1
6N/31W-11D4	-7.6	7N/30W-19H1	-0.4
6N/31W-13D1	-2.3	7N/30W-22E1	0.4
7N/31W-23P1	--	7N/30W-24Q1	-3.4
7N/31W-36L2	-9.2	7N/30W-27H1	1.9
		7N/30W-29D1	-2.6
		7N/30W-30M1	-14.1
		7N/30W-33M1	-6.9
		8N/30W-30R1	-1.8
		8N/31W-36H1	14.6

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Based upon measurements made during March by the Santa Barbara County Water Agency.

### **5.2.2. Preceding Year (2021-22) Storage Update**

The general status of groundwater conditions in the District can be shown by estimates of changes in groundwater storage of the major sources of groundwater within the District. The USBR, in connection with SWRCB Order No. 89-18, determines monthly the quantity of dewatered storage beneath the forebay on the Lompoc Plain and in the Santa Ynez River alluvial deposits. Under normal water supply conditions, the Santa Ynez River alluvial deposits are replenished yearly. During extended drought periods, some shortages in supply may occur in these deposits.

To monitor the groundwater conditions of the District portions of the Lompoc Upland, Santa Ynez Upland, Lompoc Terrace, Santa Rita Upland, and the eastern portion of the Buellton Upland, nodal systems for each source were established. The nodal systems are used to estimate the annual change in the quantity of groundwater in storage and overdraft for the preceding year (2021-22), and for the past ten years (2012-13 through 2021-22).

### **5.2.3. Forecasted Change in Storage for the Current Year**

The forecasted change in storage for the ongoing current water year (2022-23) is based on aspects of the water budget where partial data for the year is available. For each of the subareas, a statistical regression of measured and reported hydrological data for antecedent conditions, inflows, and outflows was evaluated against the historical period of record.

The estimated annual (Spring to Spring) change in groundwater storage in the alluvium of the Santa Ynez River (Zone A) for the past ten years, 2012-22 through 2021-22, and the current year, 2022-23 (forecasted), are summarized in Table 11. For the data on the past years, the change in groundwater storage is based upon the USBR's 25-node system, which extends from Robinson Bridge near Lompoc to Bradbury Dam at Lake Cachuma. One node and a portion of another node lie outside the District, upstream of San Lucas Bridge. The totals shown in Table 11 for the Santa Ynez subarea reflect changes in the groundwater storage for these nodes. The forecasted accumulated dewatered storage at the end of March 2023 is about 7,400 acre-feet. As of December 31, 2022, the District had 4,995 acre-feet in the Above Narrows Account in Lake Cachuma which is set aside for replenishment of the Santa Ynez River Alluvium.

**TABLE 11**  
**ESTIMATED ANNUAL CHANGE OF GROUNDWATER IN STORAGE**  
**IN THE SANTA YNEZ RIVER ALLUVIUM**  
**FOR THE PAST TEN YEARS AND CURRENT YEAR (2022-23)**  
(Acre-Feet)

Year (Spring to Spring)	Santa Ynez Subarea		Buellton Subarea		Santa Rita Subarea		Total Santa Ynez River Alluvium	
	Change in Storage	Accumulated Dewatered Storage	Change in Storage	Accumulated Dewatered Storage	Change in Storage	Accumulated Dewatered Storage	Change in Storage	Accumulated Dewatered Storage
2011-12		3,800		5,800		4,500		14,100
2012-13	-300	4,100	-300	6,100	-1,900	6,400	-2,500	16,600
2013-14	-600	4,700	-300	6,400	1,300	5,100	400	16,200
2014-15	-800	5,500	-200	6,600	-3,500	8,600	-4,500	20,700
2015-16	500	5,000	-100	6,700	1,800	6,800	2,200	18,500
2016-17	1,400	3,600	600	6,100	3,600	3,200	5,600	12,900
2017-18	-1,000	4,600	-200	6,300	-2,500	5,700	-3,700	16,600
2018-19	600	4,000	-300	6,600	1,000	4,700	1,300	15,300
2019-20	400	3,600	1,300	5,300	-1,100	5,800	600	14,700
2020-21	-500	4,100	100	5,200	-200	6,000	-600	15,300
2021-22	0	4,100	600	4,600	900	5,100	1,500	13,800
2022-23 <sup>a</sup>	3,000	1,100	600	4,000	2,800	2,300	6,400	7,400

<sup>a</sup> Forecasted storage.

Based upon dewatered storage estimated by the U.S. Bureau of Reclamation (USBR). Values are rounded.

The estimated annual (Spring to Spring) change in groundwater storage in the Lompoc Plain subarea for the past ten years, 2012-13 through 2021-22, and the current year, 2022-23 (forecasted), are summarized in Table 12. Table 12 indicates that the forecasted accumulated dewatered storage for March 2023 will be 16,300 acre-feet. There is a forecasted increase in groundwater storage in the Lompoc Plain subarea of 1,800 acre-feet during the current year, due to both the water rights releases in 2022 and the storms in January 2023. As of December 31, 2022, the District had 1,729 acre-feet of water in the Below Narrows Account in Lake Cachuma. This is water retained in Lake Cachuma dedicated to the eventual replenishment of the Lompoc Plain alluvium storage.

The estimated annual change in groundwater storage beneath the Lompoc Upland and the Lompoc Terrace subareas is shown in Table 13 for the past ten years, 2012-13 through 2021-22, and the current year, 2022-23 (forecasted). Table 13 indicates that during those ten years, there has been an average decline of 650 acre-feet per year in the quantity of groundwater in storage in the Lompoc Upland. An increase of three hundred acre-feet in storage is forecasted for the current year, 2022-23. The estimated total dewatered storage in the Lompoc Upland subarea through Spring 2023 is 37,100 acre-feet. In the Lompoc Terrace during the current year, 2022-23, there has been an increase of one hundred acre-feet in storage. The estimated dewatered storage in the Lompoc Terrace subarea through Spring 2023 is eight hundred acre-feet.

The estimated annual change in groundwater storage in the Santa Rita Upland subarea is shown in Table 14 for the past ten years, 2012-13 through 2021-22, and the current year, 2022-23 (forecasted). Table 14 indicates that during those ten years, there has been an average decline of 50 acre-feet per year in the quantity of groundwater in storage in the Santa Rita Upland subarea. During the current year, 2022-23, there is a forecasted decline of 300 acre-feet in storage.

**TABLE 12**  
**ESTIMATED ANNUAL CHANGE OF GROUNDWATER IN STORAGE**  
**IN THE LOMPOC PLAIN SUBAREA**  
**FOR THE PAST TEN YEARS AND CURRENT YEAR (2022-23)**  
(Acre-Feet)

<u>Year</u> <u>(Spring to Spring)</u>	<u>Change in</u> <u>Storage</u>	<u>Accumulated</u> <u>Dewatered Storage</u>
2011-12		10,900
2012-13	-4,200	15,100
2013-14	100	15,000
2014-15	-4,500	19,500
2015-16	-2,300	21,800
2016-17	1,100	20,700
2017-18	900	19,800
2018-19	1,800	18,000
2019-20	2,900	15,100
2020-21	-200	15,300
2021-22	-2,800	18,100
2022-23	<sup>a</sup> 1,800	16,300

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Based upon dewatered storage estimated by the U.S. Bureau of Reclamation (USBR). Values are rounded.

<sup>a</sup> Forecasted storage.

**TABLE 13**  
**ESTIMATED ANNUAL CHANGE OF GROUNDWATER IN STORAGE**  
**IN THE LOMPOC UPLAND AND LOMPOC TERRACE SUBAREAS**  
**FOR THE PAST TEN YEARS AND CURRENT YEAR (2022-23)**  
(Acre-Feet)

Year (Spring to Spring)	Lompoc Upland Subarea		Lompoc Terrace Subarea	
	Change in Storage	Accumulated Dewatered Storage	Change in Storage	Accumulated Dewatered Storage
2011-12		30,900		200
2012-13	0	30,900	-100	300
2013-14	-1,400	32,300	-100	400
2014-15	-800	33,100	-200	600
2015-16	-400	33,500	-100	700
2016-17	-1,800	35,300	200	500
2017-18	-300	35,600	-500	1,000
2018-19	-200	35,800	400	600
2019-20	-400	36,200	-100	700
2020-21	-500	36,700	-100	800
2021-22	-700	37,400	-100	900
2022-23	<sup>a</sup> 300	37,100	100	800

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<sup>a</sup> Forecasted storage.

The accumulated dewatered storage is based upon an estimate of existing dewatered storage of 25,500 acre-feet through 1973 from the Lompoc Upland subarea, and 800 acre-feet from the Lompoc Terrace subarea. The 1973 estimates were based upon review of water-level data and trends, and published USGS investigations.



**TABLE 14**  
**ESTIMATED ANNUAL CHANGE OF GROUNDWATER IN STORAGE**  
**IN THE SANTA RITA UPLAND SUBAREA**  
**FOR THE PAST TEN YEARS AND CURRENT YEAR (2022-23)**  
(Acre-Feet)

<u>Year</u> <u>(Spring to Spring)</u>	<u>Change in</u> <u>Storage</u>	<u>Accumulated</u> <u>Dewatered Storage</u>
2011-12		13,700
2012-13	100	13,600
2013-14	300	13,300
2014-15	-900	14,200
2015-16	400	13,800
2016-17	100	13,700
2017-18	-700	14,400
2018-19	1,000	13,400
2019-20	-1,000	14,400
2020-21	-2,800	17,200
2021-22	3,000	14,200
2022-23	<sup>a</sup> -300	14,500

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<sup>a</sup> Forecasted storage.

The accumulated dewatered storage is based upon an estimate of existing dewatered storage of 7,400 acre-feet through 1973. The 1973 estimate was based upon review of water-level data and trends, and published USGS investigations.

The estimated annual change in groundwater storage in the eastern portion of the Buellton Upland subarea (deeper aquifer in the Buellton area) is shown in Table 15 for the past ten years, 2012-13 through 2021-22 and the current year, 2022-23 (forecasted). Table 15 indicates that during those ten years, there has been an average increase of 30 acre-feet per year in the quantity of groundwater in storage. During the current year, 2022-23, the forecast is for an increase in the storage of 1,300 acre-feet.

The estimated annual change in groundwater storage within the District portion of the Santa Ynez Upland subarea is summarized in Table 16. The period includes the past ten years, 2012-13 through 2021-22, and the current year, 2022-23 (forecasted). Table 16 indicates that during those ten years, there has been an average decline of about 2,690 acre-feet per year in the quantity of groundwater in storage in the District portion of the subarea. The forecast for the District portion of the Santa Ynez Upland is an increase of groundwater in storage of 2,100 acre-feet during the current water year, 2022-23. The estimated total dewatered storage in the District portion of the subarea through Spring 2023 is 64,200 acre-feet.

Table 17 summarizes the annual change in storage and accumulated dewatered storage for 2021-22 and 2022-23 for the major sources of groundwater in the District.

### **5.3. CHANGE IN STORAGE TRENDS**

There has been a long-term trend of increase in dewatered storage since 2006 in the Santa Ynez Upland subarea and to a lesser degree in the Lompoc Upland subarea. In the other groundwater subareas, as shown in Figure 7, there appears to be a gradual to no increase in the quantity of accumulated dewatered storage. So far in the current year 2023, rainfall has been above normal, and forecasts show an increase of groundwater in storage (decrease in dewatered storage).

### **5.4. SAFE YIELD**

Table 18 shows estimates of the average annual pumping safe yield of the principal sources of groundwater within the District.

**TABLE 15**  
**ESTIMATED ANNUAL CHANGE OF GROUNDWATER IN STORAGE**  
**IN THE EASTERN PORTION OF THE BUELLTON UPLAND SUBAREA**  
**FOR THE PAST TEN YEARS AND CURRENT YEAR (2022-2023)**  
(Acre-Feet)

Year (Spring to Spring)	Change in Storage	Accumulated Dewatered Storage
2011-12		3,400
2012-13	600	2,800
2013-14	-1,700	4,500
2014-15	700	3,800
2015-16	900	2,900
2016-17	100	2,800
2017-18	1,700	1,100
2018-19	-200	1,300
2019-20	-500	1,800
2020-21	-200	2,000
2021-22	-1,100	3,100
2022-23	a 1,300	1,800

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<sup>a</sup> Forecasted storage.

Accumulated dewatered storage was originally estimated as 2,000 acre-feet through 1973 based upon review of water-level data and trends and published USGS investigations. Recent (2006) water-level measurements indicated that the accumulated dewatered storage was more likely on the order of 2,400 acre-feet in 1973.

**TABLE 16**  
**ESTIMATED ANNUAL CHANGE OF GROUNDWATER IN STORAGE**  
**IN THE DISTRICT PORTION OF THE SANTA YNEZ UPLAND SUBAREA**  
**FOR THE PAST TEN YEARS AND CURRENT YEAR (2022-2023)**  
(Acre-Feet)

Year (Spring to Spring)	Change in Storage	Accumulated Dewatered Storage
2011-12		39,400
2012-13	-2,400	41,800
2013-14	-5,300	47,100
2014-15	-3,800	50,900
2015-16	-3,100	54,000
2016-17	-1,200	55,200
2017-18	-2,300	57,500
2018-19	-1,800	59,300
2019-20	200	59,100
2020-21	-3,300	62,400
2021-22	-3,900	66,300
2022-23	2,100	64,200

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<sup>a</sup> Forecasted storage.

The accumulated dewatered storage is based upon an estimate of existing dewatered storage of 42,000 acre-feet through 1973. The 1973 estimate was based upon review of water-level data and trends, and published USGS investigations.

**TABLE 17**  
**SUMMARY OF CHANGE IN QUANTITY OF**  
**GROUNDWATER IN STORAGE WITHIN THE DISTRICT**  
(Acre-Feet)

Source of Groundwater	Change in Storage <sup>a</sup>		Accumulated Dewatered Storage	
	2021-22	Forecasted 2022-23	2021-22	Forecasted 2022-23
Santa Ynez River Alluvium	1,500	6,400	13,800	7,400
Lompoc Plain (Lompoc Forebay)	-2,800	1,800	18,100	16,300
Lompoc Upland	-700	300	37,400	37,100
Lompoc Terrace	-100	100	900	800
Santa Rita Upland	3,000	-300	14,200	14,500
Buellton Upland (Eastern Portion)	-1,100	1,300	3,100	1,800
Santa Ynez Upland (District Portion)	-3,900	2,100	66,300	64,200
<b>TOTAL</b>	<b>-4,100</b>	<b>11,700</b>	<b>153,800</b>	<b>142,100</b>

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<sup>a</sup> Spring to Spring.

# ACCUMULATED DEWATERED STORAGE (2003 THROUGH 2024)

WATER YEAR / FISCAL YEAR (JULY - JUNE)

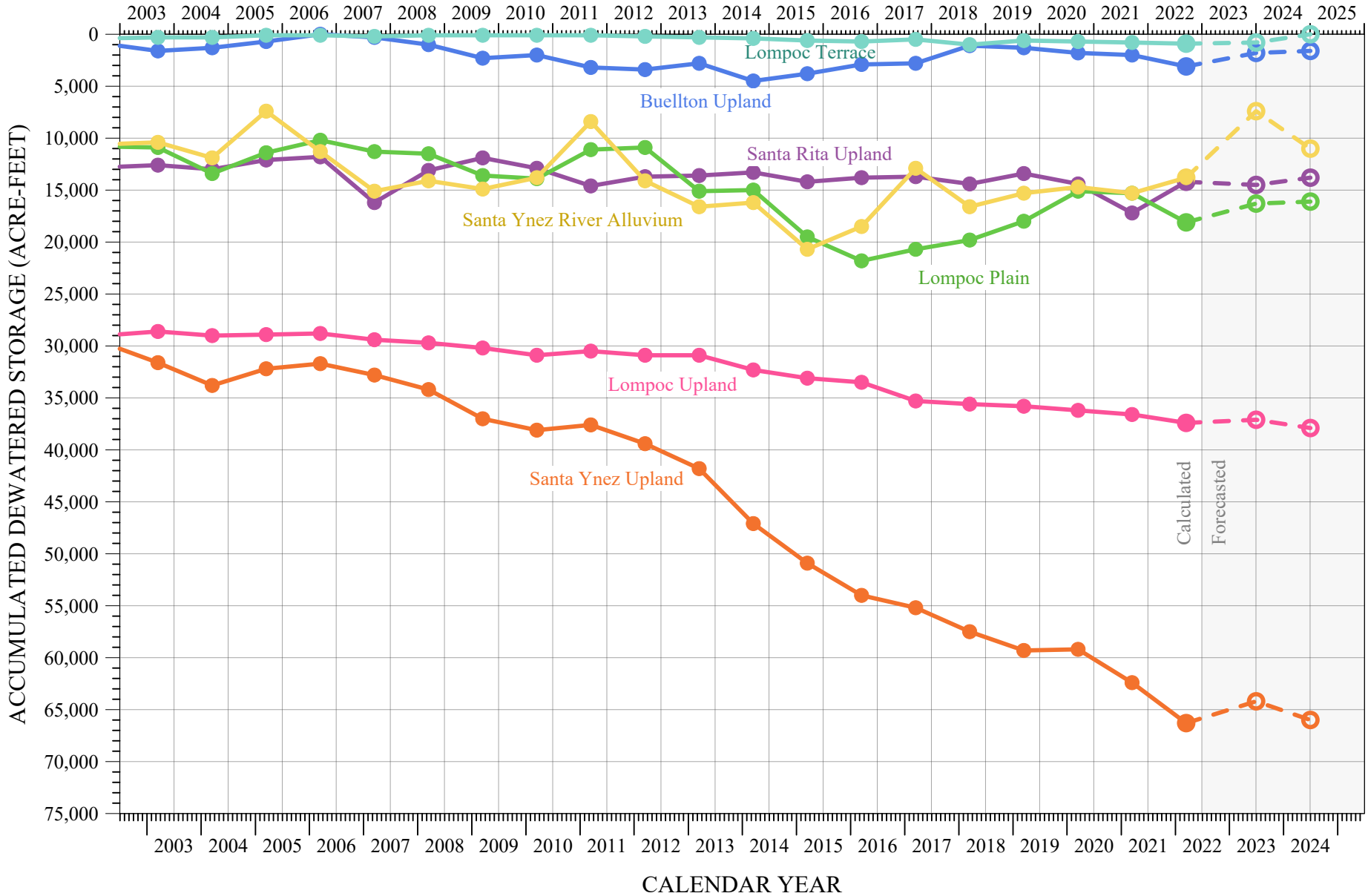


FIGURE 7

**TABLE 18**  
**ESTIMATED AVERAGE SAFE YIELD OF**  
**PRINCIPAL SOURCES OF GROUNDWATER WITHIN THE DISTRICT**

Source of Groundwater	Safe Yield (Acre-Feet per Year)
Santa Ynez River Alluvium	Subject to shortages during drought periods.
Lompoc Plain Subarea	22,000 - 24,100
Lompoc Upland Subarea	3,000
Lompoc Terrace Subarea	300
Santa Rita Upland Subarea	1,100 - 1,800
Buellton Upland Subarea <sup>a</sup>	2,800
Santa Ynez Upland Subarea <sup>a b</sup>	9,800 - 12,200
Bedrock and other deposits	Unknown

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Does not include return flow from imported water.

<sup>a</sup> Estimated safe yield of entire subarea.

<sup>b</sup> One third of the land area, and estimated one third of the pumping in the Santa Ynez Uplands is within the District.

Sources:

Stetson Engineers, January 18, 2022, Groundwater Sustainability Plan. Santa Ynez River Valley Groundwater Basin Western Management Area.

GSI Water Solutions, January 18, 2022, Santa Ynez River Valley Groundwater Basin - Eastern Management Area Groundwater Sustainability Plan. Eastern Management Area Groundwater Sustainability Agency

Stetson Engineers, August 31, 1992, Santa Ynez River Water Conservation District, Water Resource Management Planning. Process, Phase I: Baseline Data and Background Information.

## **5.5. HISTORICAL GROUNDWATER PRODUCTION**

Table 19 shows the estimated reported average historical groundwater production from the principal sources for groundwater within the District for the past ten years (2012-13 through 2021-22).

## **5.6. OVERDRAFT**

For the District portion of each subarea, Table 20 shows the average annual overdraft for the past ten years and the estimated annual overdraft for the current (2022-23) and ensuing (2023-24) years. The information shown in Table 20 is based on estimates of change in the quantity of groundwater in storage. When the annual change in storage is greater than zero (an increase in the water supply), the annual overdraft is set to zero. The values of overdraft were determined solely to meet the provisions in the California Water Code on the implementation of a groundwater charge and do not necessarily represent the hydrologic status of the groundwater basin. Overdraft during the ensuing water year is assumed to be the same as for the current water year.

Table 21 shows estimates of accumulated overdraft based on estimated groundwater storage depletion. As of December 31, 2022, there were 1,729 acre-feet of water in the Below Narrows Account in Lake Cachuma to partially off-set accumulated overdraft in the alluvium of the Lompoc Plain and 4,995 acre-feet in the Above Narrows Account in Lake Cachuma to off-set the accumulated overdraft in the Santa Ynez River alluvium.

## **5.7. GROUNDWATER QUALITY**

High concentrations of dissolved solids along the coast have been attributed by the USGS to the downward leakage of brackish water from the overlying Santa Ynez River estuary. Graphs showing total dissolved solids, chloride, and sodium concentrations of water from two wells located in the Lompoc Plain are presented in Figure 8. One of the wells (7N/35W-17K20) is located about one mile inland from the ocean. The location of this well means that potential seawater intrusion is in part monitored by changes in groundwater quality at this well.



**TABLE 19**  
**ESTIMATED AVERAGE ANNUAL HISTORICAL**  
**REPORTED GROUNDWATER PRODUCTION FROM THE**  
**PRINCIPAL SOURCES OF GROUNDWATER WITHIN THE DISTRICT**  
(Acre-Feet)

Source of Groundwater	Estimated Average Annual Pumpage for the Past Ten Years (2012-13 through 2021-22)
<b>Zone A</b> Santa Ynez River Alluvium	14,470
<b>Zone B</b> Lompoc Plain, Lompoc Upland, and Lompoc Terrace Subareas	25,237
<b>Zone C</b> All portions of the District not included in other zones	1,146
<b>Zone D</b> Buellton Upland Subarea	3,245
<b>Zone E</b> Santa Ynez Upland Subarea (District Portion)	4,936
<b>Zone F</b> Santa Rita Upland Subarea	2,260
<b>DISTRICT TOTAL</b>	<b>51,294</b>

**TABLE 20**  
**AVERAGE ANNUAL OVERDRAFT OF PRINCIPAL SOURCES**  
**OF GROUNDWATER WITHIN THE DISTRICT**  
(Acre-Feet)

Source of Groundwater	Average Annual Overdraft for the Past Ten Years (2012-13 through 2021-22)	Annual Overdraft (Forecasted)	
		Current Year 2022-23	Ensuing Year 2023-24
<b>Zone A</b>			
Santa Ynez River Alluvium	0	0	3,600
<b>Zone B</b>			
Lompoc Plain Subarea	720	0	0
Lompoc Upland Subarea	650	0	800
Lompoc Terrace Subarea	70	0	0
<b>Zone C</b>			
Bedrock and other deposits	Unknown	Unknown	Unknown
<b>Zone D</b>			
Buellton Upland Subarea (Eastern Portion)	0	0	0
<b>Zone E</b>			
Santa Ynez Upland Subarea (District Portion)	2,690	0	1,800
<b>Zone F</b>			
Santa Rita Upland Subarea	50	300	0
<b>DISTRICT TOTALS</b>	<b>4,180 ±</b>	<b>300 ±</b>	<b>6,200 ±</b>

Overdraft is based upon annual estimates of change in groundwater storage.

**TABLE 21**  
**ESTIMATED ACCUMULATED OVERDRAFT OF**  
**PRINCIPAL SOURCES OF GROUNDWATER WITHIN THE DISTRICT**  
(Acre-Feet)

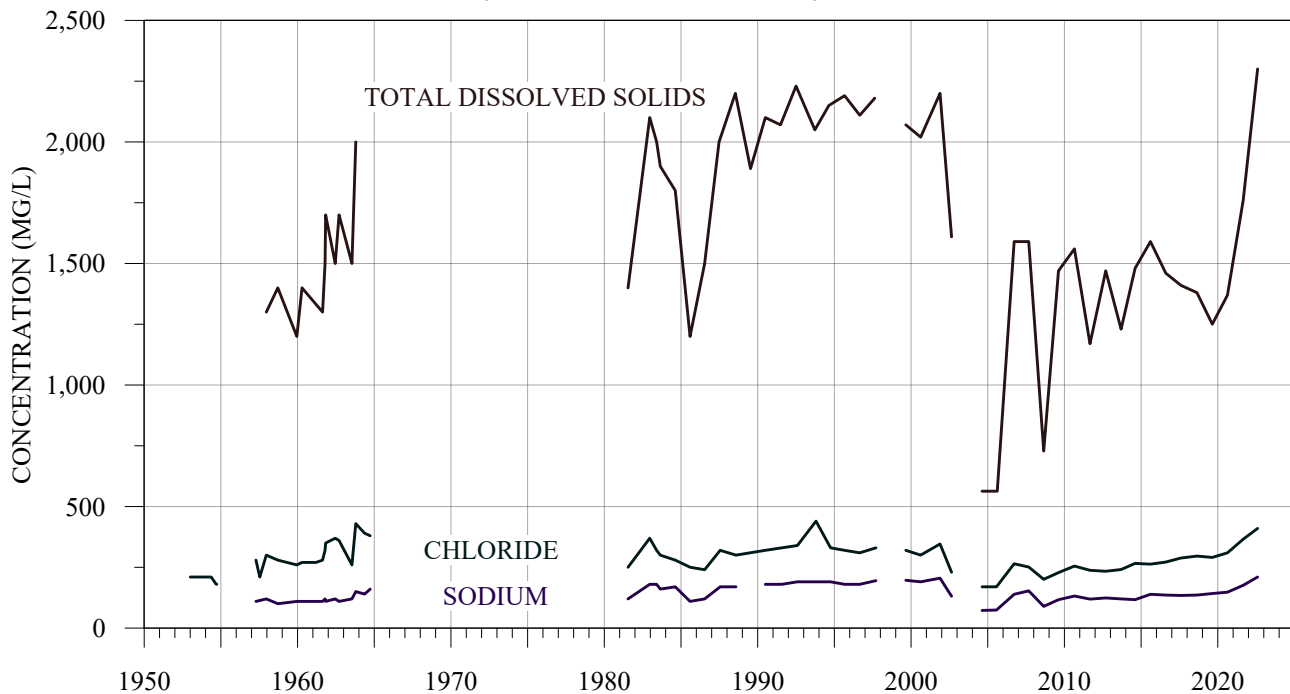
Principal Source of Groundwater	Accumulated Overdraft	
	Through Preceding Year (2021-22)	Through Current Year (2022-23)
<b>Zone A</b>		
Santa Ynez River Alluvium (Subarea is replenished annually. Some shortages in supply during drought periods)	13,800	7,400
<b>Zone B</b>		
Lompoc Plain Subarea	18,100	16,300
Lompoc Upland Subarea	37,400	37,100
Lompoc Terrace Subarea	900	800
<b>Zone C</b>		
Bedrock and other deposits	Unknown	Unknown
<b>Zone D</b>		
Buellton Upland Subarea (Eastern Portion)	3,100	1,800
<b>Zone E</b>		
Santa Ynez Upland Subarea (District Portion)	66,300	64,200
<b>Zone F</b>		
Santa Rita Upland Subarea	14,200	14,500
<b>DISTRICT TOTALS</b>	<b>153,800 ±</b>	<b>142,100 ±</b>

Accumulated overdraft is based upon estimates of accumulated dewatered storage (Table 17).

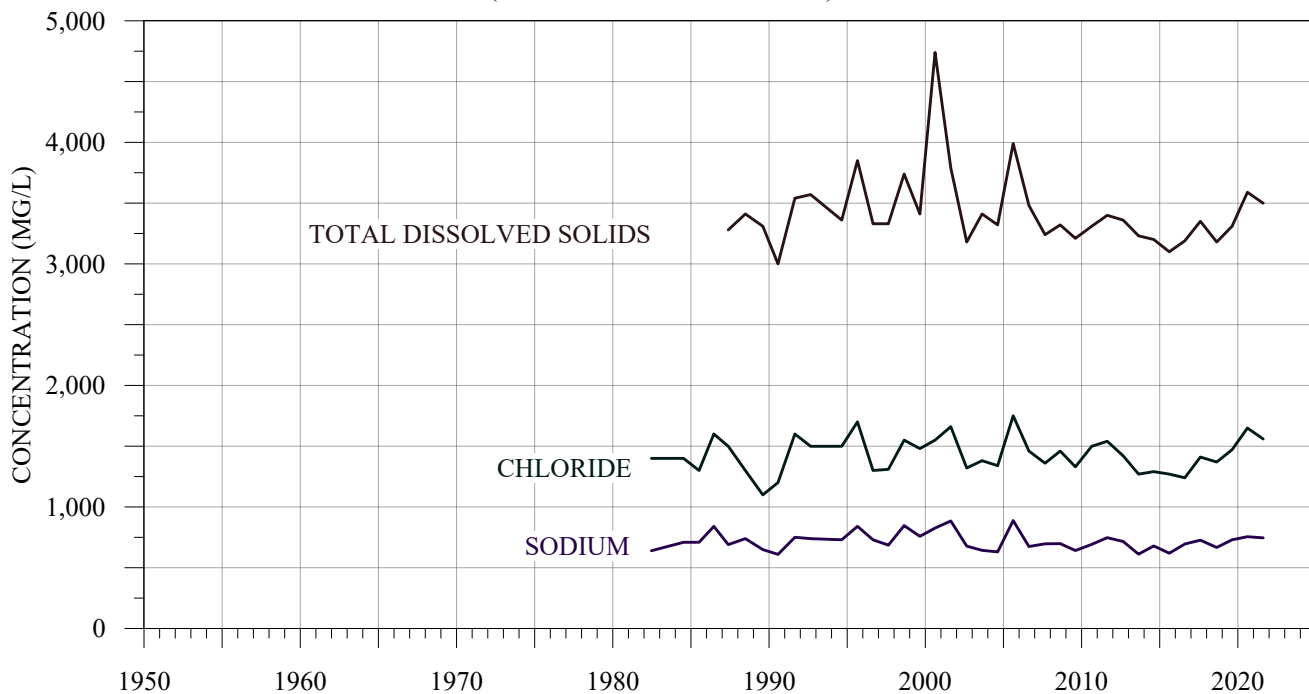
Current Year is forecasted.

**GRAPHS SHOWING TOTAL DISSOLVED SOLIDS,  
CHLORIDE AND SODIUM CONCENTRATIONS  
IN GROUNDWATER FROM SELECTED WELLS  
LOCATED IN THE LOMPOC PLAIN SUBAREA**

**WELL 7N/35W-26F4, 26F5  
(CENTRAL LOMPOC PLAIN)**



**WELL 7N/35W-17K20  
(WESTERN LOMPOC PLAIN)**



## **Appendix A**

### **SUMMARY OF PROVISIONS IN THE CALIFORNIA WATER CODE PERTAINING TO THE IMPLEMENTATION OF A GROUNDWATER CHARGE**

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## **Appendix A**

### **SUMMARY OF PROVISIONS IN THE CALIFORNIA WATER CODE PERTAINING TO THE IMPLEMENTATION OF A GROUNDWATER CHARGE**

Implementation of a groundwater charge within the District requires an annual engineering investigation and report on the groundwater conditions of the District. The annual report shall include all of the following (Water Code Section 75561).

- a) Information for the consideration of the Board in its determination of the annual overdraft.
- b) Information for the consideration of the Board in its determination of the accumulated overdraft as of the last day of the preceding water year.
- c) A report as to the total production of water from the groundwater supplies of the District for the preceding water year.
- d) An estimate of the annual overdraft for the current water year and for the ensuing water year.
- e) The amount of water the District is obligated to purchase during the ensuing water year, a recommendation as to the quantity of water needed for surface delivery and for replenishment of the groundwater supplies of the District for the ensuing year.
- f) Such other information as the District desires.

The annual report should contain sufficient data from which the Board of Directors of the District can make the following findings and determinations, which the District shall make before the levy of a groundwater charge (Water Code Section 75574).

- a) The average annual overdraft for the immediate past ten water years;
- b) The estimated annual overdraft for the current water year;
- c) The estimated annual overdraft for the ensuing water year;
- d) The accumulated overdraft as of the last day of the preceding water year;
- e) The estimated accumulated overdraft as of the last day of the current water year;
- f) The estimated amount of agricultural water to be withdrawn from the groundwater supplies of the District for the ensuing water year;
- g) The amount of water other than agricultural water to be withdrawn from the groundwater supplies of the District for the ensuing water year;
- h) The estimated amount of water necessary for surface distribution for the ensuing water year;

- i) The amount of water which is necessary for the replenishment of the groundwater supplies of the District;
- j) The amount of water the District is obligated by contract to purchase.

Upon completion of the engineering report, the Board is required to call a noticed public hearing at which operators of water producing facilities within the District and any person interested in the condition of the groundwater or surface water supplies of the District are invited to submit evidence concerning the groundwater and surface water supplies of the District. The Board thereafter makes findings and determinations relating to the status of water supplies and groundwater conditions within the District. Prior to the beginning of the water year (July 1 to June 30), the Board determines whether or not it should modify the existing zone or zones in which a groundwater charge is levied.

The Board must then establish the groundwater charge to be levied in any zone or zones and proceed to assess such charge against all persons operating groundwater producing facilities within such zone or zones during the ensuing water year. The charge must be computed at a fixed and uniform rate per acre-foot (Water Code Section 75592) and compliant with California Constitution Article XIII C (Proposition 26) and other provisions of the Water Code, as applicable. Different rates may be established for different zones.

Within six months after establishing the existing zones within the District, all water-producing facilities located within the boundaries of the zones are required to be registered with the District (Water Code Section 75541) and failure to register is a misdemeanor (Water Code Section 75640). As new wells are drilled within the District, they must be registered. The District then annually gives notice to each operator of a water-producing facility of the groundwater charge for each acre-foot of water to be produced during the ensuing year (Water Code Section 75610).

Prior to January 31, and July 31, of each year, each water producer is required to file with the District a statement setting forth his total water production, in acre-feet, for the preceding six month period, excluding the month in which the statement is due, a general description or number locating each water-producing facility and the method or basis of the computation of such water production (Water Code Section 75611). This is to be a verified statement (Water Code Section 75642). The groundwater charge is payable to the District on or before the last date that the water production statement is due, January 31 and July 31.



## **Appendix B**

### **HISTORICAL GROUNDWATER CHARGE RATES**

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## Appendix B

### HISTORICAL GROUNDWATER CHARGE RATES

(Dollars per Acre-Foot)

Fiscal Year	Zone	Agri-cultural Water	Other Water	Special Irrigation Water	Fiscal Year	Zone	Agri-cultural Water	Other Water	Special Irrigation Water
1979-80	Zone A	0.60	2.40		1992-93	Zone A	2.20	8.80	4.40
	Zone B	0.62	2.48			Zone B	2.20	8.80	4.40
	Zone C	0.50	2.00			Zone C	2.00	8.00	4.00
1980-81	Zone A	0.60	2.40		1993-94	Zone A	3.80	15.20	7.60
	Zone B	0.62	2.48			Zone B	2.70	10.80	5.40
	Zone C	0.50	2.00			Zone C	2.30	9.20	4.60
1981-82	Zone A	0.45	1.80			Zone D	2.90	11.60	5.80
	Zone B	0.47	1.88			Zone E	2.60	10.40	5.20
	Zone C	0.35	1.40		Zone F	2.50	10.00	5.00	
1982-83	Zone A	0.60	2.40		1994-95	Zone A	4.89	17.10	9.77
	Zone B	0.42	1.68			Zone B	2.74	9.58	5.47
	Zone C	0.40	1.60			Zone C	1.77	6.19	3.54
	1983-84	Zone A	0.40	1.60			Zone D	3.32	11.62
Zone B		0.22	0.88			Zone E	2.40	8.41	4.80
Zone C		0.20	0.80			Zone F	3.31	11.59	6.62
1984-85	Zone A	0.30	1.20		1995-96	Zone A	3.08	10.78	6.16
	Zone B	0.12	0.48			Zone B	2.73	9.56	5.46
	Zone C	0.10	0.40			Zone C	1.06	3.71	2.12
1985-86	Zone A	0.25	1.00	0.50		Zone D	3.77	13.20	7.54
	Zone B	0.10	0.40	0.20		Zone E	3.68	12.88	7.36
	Zone C	0.08	0.32	0.16		Zone F	1.06	3.71	2.12
1986-87	Zone A	0.50	2.00	1.00	1996-97	Zone A	3.85	13.48	7.70
	Zone B	0.35	1.40	0.70		Zone B	3.26	11.41	6.52
	Zone C	0.33	1.32	0.66		Zone C	1.56	5.46	3.12
1987-88	Zone A	0.50	2.00	1.00		Zone D	3.70	12.95	7.40
	Zone B	0.35	1.40	0.70		Zone E	3.46	12.11	6.92
	Zone C	0.33	1.32	0.66		Zone F	1.56	5.46	3.12
1988-89	Zone A	0.60	2.40	1.20	1997-98	Zone A	3.85	13.48	7.70
	Zone B	0.50	2.00	1.00		Zone B	3.26	11.41	6.52
	Zone C	0.40	1.60	0.80		Zone C	1.56	5.46	3.12
1989-90	Zone A	0.80	3.20	1.60		Zone D	3.70	12.95	7.40
	Zone B	0.70	2.80	1.40		Zone E	2.27	7.95	4.54
	Zone C	0.60	2.40	1.20		Zone F	1.56	5.46	3.12
1990-91	Zone A	1.00	4.00	2.00	1998-99	Zone A	3.85	13.48	7.70
	Zone B	1.00	4.00	2.00		Zone B	3.26	11.41	6.52
	Zone C	0.80	3.20	1.60		Zone C	1.56	5.46	3.12
1991-92	Zone A	1.00	4.00	2.00		Zone D	2.36	8.26	4.72
	Zone B	1.00	4.00	2.00		Zone E	1.56	5.46	3.12
	Zone C	0.80	3.20	1.60		Zone F	1.56	5.46	3.12
1992-93	Zone A	1.00	4.00	2.00	1999-00	Zone A	3.80	13.30	7.60
	Zone B	1.00	4.00	2.00		Zone B	3.26	11.41	6.52
	Zone C	0.80	3.20	1.60		Zone C	1.56	5.46	3.12
	Zone A	1.00	4.00	2.00		Zone D	1.56	5.46	3.12
	Zone B	1.00	4.00	2.00		Zone E	1.56	5.46	3.12
	Zone C	0.80	3.20	1.60		Zone F	1.56	5.46	3.12

## Appendix B

### HISTORICAL GROUNDWATER CHARGE RATES

(Dollars per Acre-Foot)

Fiscal Year	Zone	Agri-cultural Water	Other Water	Special Irrigation Water	Fiscal Year	Zone	Agri-cultural Water	Other Water	Special Irrigation Water
2000-01	Zone A	3.80	13.30	7.60	2007-08	Zone A	2.20	7.70	4.40
	Zone B	3.26	11.41	6.52		Zone B	2.20	7.70	4.40
	Zone C	1.56	5.46	3.12		Zone C	1.20	4.20	2.40
	Zone D	1.56	5.46	3.12		Zone D	1.20	4.20	2.40
	Zone E	1.56	5.46	3.12		Zone E	1.20	4.20	2.40
	Zone F	1.56	5.46	3.12		Zone F	1.20	4.20	2.40
2001-02	Zone A	3.50	12.25	7.00	2008-09	Zone A	2.20	7.70	4.40
	Zone B	3.26	11.41	6.52		Zone B	2.20	7.70	4.40
	Zone C	1.56	5.46	3.12		Zone C	1.20	4.20	2.40
	Zone D	1.56	5.46	3.12		Zone D	1.20	4.20	2.40
	Zone E	0.71	2.49	1.42		Zone E	1.20	4.20	2.40
	Zone F	1.56	5.46	3.12		Zone F	1.20	4.20	2.40
2002-03	Zone A	3.35	11.73	6.70	2009-10	Zone A	2.20	7.70	4.40
	Zone B	3.00	10.50	6.00		Zone B	2.20	7.70	4.40
	Zone C	1.40	4.90	2.80		Zone C	1.20	4.20	2.40
	Zone D	1.40	4.90	2.80		Zone D	1.20	4.20	2.40
	Zone E	0.60	2.10	1.20		Zone E	1.20	4.20	2.40
	Zone F	1.40	4.90	2.80		Zone F	1.20	4.20	2.40
2003-04	Zone A	3.20	11.20	6.40	2010-11	Zone A	2.55	8.93	5.10
	Zone B	2.85	9.98	5.70		Zone B	2.55	8.93	5.10
	Zone C	1.35	4.73	2.70		Zone C	1.40	4.90	2.80
	Zone D	1.35	4.73	2.70		Zone D	1.40	4.90	2.80
	Zone E	1.35	4.73	2.70		Zone E	1.40	4.90	2.80
	Zone F	1.35	4.73	2.70		Zone F	1.40	4.90	2.80
2004-05	Zone A	3.20	11.20	6.40	2011-12	Zone A	2.70	9.45	5.40
	Zone B	2.85	9.98	5.70		Zone B	2.70	9.45	5.40
	Zone C	1.35	4.73	2.70		Zone C	1.48	5.18	2.96
	Zone D	1.35	4.73	2.70		Zone D	1.48	5.18	2.96
	Zone E	1.35	4.73	2.70		Zone E	1.48	5.18	2.96
	Zone F	1.35	4.73	2.70		Zone F	1.48	5.18	2.96
2005-06	Zone A	2.20	7.70	4.40	2012-13	Zone A	3.00	10.50	6.00
	Zone B	2.20	7.70	4.40		Zone B	3.00	10.50	6.00
	Zone C	1.20	4.20	2.40		Zone C	1.65	5.78	3.30
	Zone D	1.20	4.20	2.40		Zone D	1.65	5.78	3.30
	Zone E	1.20	4.20	2.40		Zone E	1.65	5.78	3.30
	Zone F	1.20	4.20	2.40		Zone F	1.65	5.78	3.30
2006-07	Zone A	2.20	7.70	4.40	2013-14	Zone A	3.25	11.40	6.50
	Zone B	2.20	7.70	4.40		Zone B	3.25	11.40	6.50
	Zone C	1.20	4.20	2.40		Zone C	1.80	6.30	3.60
	Zone D	1.20	4.20	2.40		Zone D	1.80	6.30	3.60
	Zone E	1.20	4.20	2.40		Zone E	1.80	6.30	3.60
	Zone F	1.20	4.20	2.40		Zone F	1.80	6.30	3.60

## Appendix B

### HISTORICAL GROUNDWATER CHARGE RATES

(Dollars per Acre-Foot)

Fiscal Year	Zone	Agri-cultural Water	Other Water	Special Irrigation Water	Fiscal Year	Zone	Agri-cultural Water	Other Water	Special Irrigation Water
2014-15	Zone A	3.25	11.40	6.50	2021-22	Zone A	7.40	26.00	14.80
	Zone B	3.25	11.40	6.50		Zone B	7.40	26.00	14.80
	Zone C	1.80	6.30	3.60		Zone C	7.40	26.00	14.80
	Zone D	1.80	6.30	3.60		Zone D	7.40	26.00	14.80
	Zone E	1.80	6.30	3.60		Zone E	7.40	26.00	14.80
	Zone F	1.80	6.30	3.60		Zone F	7.40	26.00	14.80
2015-16	Zone A	3.50	12.25	7.00	2022-23	Zone A	14.14	14.14	14.14
	Zone B	3.50	12.25	7.00		Zone B	14.14	14.14	14.14
	Zone C	2.15	7.53	4.30		Zone C	14.14	14.14	14.14
	Zone D	2.15	7.53	4.30		Zone D	14.14	14.14	14.14
	Zone E	2.15	7.53	4.30		Zone E	14.14	14.14	14.14
	Zone F	2.15	7.53	4.30		Zone F	14.14	14.14	14.14
2016-17	Zone A	3.85	13.48	7.70					
	Zone B	3.85	13.48	7.70					
	Zone C	3.00	10.50	6.00					
	Zone D	3.00	10.50	6.00					
	Zone E	3.00	10.50	6.00					
	Zone F	3.00	10.50	6.00					
2017-18	Zone A	4.85	16.98	9.70					
	Zone B	4.85	16.98	9.70					
	Zone C	4.85	16.98	9.70					
	Zone D	4.85	16.98	9.70					
	Zone E	4.85	16.98	9.70					
	Zone F	4.85	16.98	9.70					
2018-19	Zone A	7.15	25.00	14.30					
	Zone B	7.15	25.00	14.30					
	Zone C	7.15	25.00	14.30					
	Zone D	7.15	25.00	14.30					
	Zone E	7.15	25.00	14.30					
	Zone F	7.15	25.00	14.30					
2019-20	Zone A	7.15	25.00	14.30					
	Zone B	7.15	25.00	14.30					
	Zone C	7.15	25.00	14.30					
	Zone D	7.15	25.00	14.30					
	Zone E	7.15	25.00	14.30					
	Zone F	7.15	25.00	14.30					
2020-21	Zone A	7.15	25.00	14.30					
	Zone B	7.15	25.00	14.30					
	Zone C	7.15	25.00	14.30					
	Zone D	7.15	25.00	14.30					
	Zone E	7.15	25.00	14.30					
	Zone F	7.15	25.00	14.30					

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## **Appendix C**

### **ADDITIONAL STREAMFLOW RECORDS SANTA YNEZ RIVER BASIN**

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## Appendix C

### ADDITIONAL STREAMFLOW RECORDS SANTA YNEZ RIVER BASIN

(Acre-Feet)							
Water Year (Oct.-Sept.)	Alamo Pintado Creek near Solvang	Miguelito Creek at Lompoc	Santa Cruz Creek near Santa Ynez	Santa Ynez River at Jameson Lake near Montecito (Net Inflow)	Santa Ynez River at Solvang	Zaca Creek near Buellton	Santa Ynez River below Gibraltar Dam
1942			8,250		2,490		19,170
1943			28,990		11,320		86,330
1944			17,500		5,230		44,990
1945			11,910		2,570		16,580
1946			6,600		3,550		18,600
1947			3,580		1,360	14,920	6,260
1948			346		258	2,400	24
1949			1,630		310	2,900	23
1950			2,700		498	3,220	38
1951			340		100	1,490	41
1952			29,500		11,585	239,100	85,500
1953			4,250		614	13,430	7,990
1954			5,440		1,300	6,400	9,240
1955			1,890		312	4,200	84
1956			9,410		752	12,140	3,480
1957			2,100		533	3,350	71
1958			43,720		13,442	91,640	123,600
1959			3,880		1,201	10,350	4,500
1960			1,640		99	3,160	16
1961			167			625	
1962			20,520		6,425	49,080	46,260
1963			2,250		76	3,570	74
1964			663		377	1,060	53
1965			5,050		1,050	5,890	1,480
1966			11,730		8,091	16,930	65,320
1967			36,540		9,451	148,700	123,470
1968			3,580		1,005	5,190	1,400
1969			97,360		33,112	548,800	6,680
1970			6,250		1,903	4,410	19
1971	4	173	7,170		2,302	9,450	6
1972		108	2,280		915	4,380	2
1973	173	1,740	19,910		13,835	48,100	611
1974	60	833	7,220		3,086	10,700	56
1975	107	1,640	8,570		3,529	34,490	122
1976	4	361	992		1,526	2,310	23
1977	6	124	587		342	1,010	11
1978	2,220	3,670	44,380		24,318	327,500	3,690
1979	89	1,100	13,040		5,358	54,350	185
1980	998	1,940	23,750		11,321	196,300	886
1981	167	916	5,150		1,617	10,690	349
1982	22	544	7,680		1,559	3,920	
1983	4,510	5,770	54,410		22,594	511,200	
1984	556	974	8,590		3,064	24,860	
1985	390	687	2,920		688	2,680	
1986			14,180		9,090	12,300	
1987			1,040		652	1,850	
1988		511	3,430		2,335	4,120	
1989		142	1,880		551	1,760	

## Appendix C

### ADDITIONAL STREAMFLOW RECORDS SANTA YNEZ RIVER BASIN

(Acre-Feet)							
Water Year (Oct.-Sept.)	Alamo Pintado Creek near Solvang	Miguelito Creek at Lompoc	Santa Cruz Creek near Santa Ynez	Santa Ynez River at Jameson Lake near Montecito (Net Inflow)	Santa Ynez River at Solvang	Zaca Creek near Buellton	Santa Ynez River below Gibraltar Dam
1990		162	48	212	629		
1991	1,080	855	14,030	5,738	12,360	588	31,100
1992	1,690	685	20,780	12,223	40,130	1,760	90,978
1993		1,710	60,660	28,170	364,090		217,980
1994		705	4,261	1,542	9,390		6,588
1995	7,660	9,960	46,454	43,537	533,900	5,600	236,032
1996	2,260	2,140	10,041	2,541	15,890	574	11,463
1997	1,658	677	14,867	2,951	152,940	1,658	29,935
1998	18,300	6,820	89,240	115,212	655,470	8,360	299,400
1999	2,710	1,104	5,450	1,088	10,950	261	6,170
2000	1,978	1,961	8,499	3,426		504	25,269
2001	3,093	1,659	20,266	13,632		1,720	65,659
2002	886	476	1,256	369	6,200	36	595
2003	350	622	5,522	1,369	7,710	47	3,844
2004	112	224	1,216	816	10,150	8	320
2005	3,707	2,194	50,508	21,630	373,548	2,143	212,452
2006	716	745	16,207	7,752	96,498	321	57,011
2007	323	135	992	191	10,883	0	0
2008	987	371	24,813	4,686	49,594		68,518
2009	2	71	6,147	348	4,745	0	5,079
2010	159		14,411	2524	18,602	119	41,872
2011	733		27,316	5260	120,431	859	92,246
2012	0		3,061	191	4,860	0	18
2013	0		1,196		381	0	0
2014	0		1,112		0	0	0
2015	0		389		0	0	0
2016	0		377		8,002	0	0
2017	463		20,212		18,652	626	44,664
2018	0		2,078		9,315	0	401
2019	180		21,435		14,179	197	61,195
2020	57		4,536		13,510	1	14,091
2021	0		452		9,139	0	0
2022	0		696		9,638	0	25
2023	0		369		1,301	1,301	10

(through Dec)

Zeros represent annual gaged totals of zero acre-feet. Blanks represent incomplete gaged records.

## **Appendix D**

### **WATER RIGHTS RELEASES**

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## Appendix D

**TABLE D-1  
2022 WATER RIGHTS RELEASES (WRR)  
THROUGH BRADBURY DAM OUTLET WORKS**

USBR Date of Record <sup>a</sup> (Start Time)	USBR Date of Record <sup>a</sup> (End Time)	USBR Release (acre-feet)	USBR Release (cfs)	Notes
8/8/2022 8:00	8/9/2022 8:00	37.1	18.7	First day; targeting Solvang for first week
8/9/2022 8:00	8/10/2022 8:00	58.0	29.2	
8/10/2022 8:00	8/11/2022 8:00	59.7	30.1	
8/11/2022 8:00	8/12/2022 8:00	63.0	31.8	
8/12/2022 8:00	8/13/2022 8:00	64.9	32.7	
8/13/2022 8:00	8/14/2022 8:00	64.2	32.4	
8/14/2022 8:00	8/15/2022 8:00	61.8	31.2	
8/15/2022 8:00	8/16/2022 8:00	97.6	49.2	2nd Week; ramping up to maximum release
8/16/2022 8:00	8/17/2022 8:00	145.6	73.4	
8/17/2022 8:00	8/18/2022 8:00	245.7	123.9	
8/18/2022 8:00	8/19/2022 8:00	322.7	162.7	Hold at 160 cfs for 15 days
8/19/2022 8:00	8/20/2022 8:00	323.7	163.2	
8/20/2022 8:00	8/21/2022 8:00	321.7	162.2	
8/21/2022 8:00	8/22/2022 8:00	323.7	163.2	
8/22/2022 8:00	8/23/2022 8:00	323.7	163.2	
8/23/2022 8:00	8/24/2022 8:00	324.8	163.8	
8/24/2022 8:00	8/25/2022 8:00	321.8	162.2	
8/25/2022 8:00	8/26/2022 8:00	324.8	163.8	
8/26/2022 8:00	8/27/2022 8:00	321.8	162.2	
8/27/2022 8:00	8/28/2022 8:00	320.8	161.7	
8/28/2022 8:00	8/29/2022 8:00	321.9	162.3	
8/29/2022 8:00	8/30/2022 8:00	322.9	162.8	
8/30/2022 8:00	8/31/2022 8:00	323.2	163.0	
8/31/2022 8:00	9/1/2022 8:00	323.0	162.8	
9/1/2022 8:00	9/2/2022 8:00	323.1	162.9	
9/2/2022 8:00	9/3/2022 8:00	279.3	140.8	Begin gradual rampdown to 70 cfs
9/3/2022 8:00	9/4/2022 8:00	229.7	115.8	
9/4/2022 8:00	9/5/2022 8:00	205.9	103.8	
9/5/2022 8:00	9/6/2022 8:00	176.6	89.0	
9/6/2022 8:00	9/7/2022 8:00	146.9	74.1	
9/7/2022 8:00	9/8/2022 8:00	141.9	71.5	Hold at 70 cfs for 9 days
9/8/2022 8:00	9/9/2022 8:00	141.9	71.5	
9/9/2022 8:00	9/10/2022 8:00	141.0	71.1	
9/10/2022 8:00	9/11/2022 8:00	142.0	71.6	
9/11/2022 8:00	9/12/2022 8:00	142.1	71.6	
9/12/2022 8:00	9/13/2022 8:00	142.1	71.6	
9/13/2022 8:00	9/14/2022 8:00	142.1	71.6	
9/14/2022 8:00	9/15/2022 8:00	142.1	71.6	
9/15/2022 8:00	9/16/2022 8:00	141.1	71.1	
9/16/2022 8:00	9/17/2022 8:00	126.1	63.6	Changes in release: 70 to 60 cfs
9/17/2022 8:00	9/18/2022 8:00	123.1	62.1	
9/18/2022 8:00	9/19/2022 8:00	121.1	61.1	

## Appendix D

**TABLE D-1- CONTINUED  
2022 WATER RIGHTS RELEASES (WRR)  
THROUGH BRADBURY DAM OUTLET WORKS**

USBR Date of Record <sup>a</sup> (Start Time)	(End Time)	USB Release (acre-feet)	USB Release (cfs)	Notes
9/19/2022 8:00	9/20/2022 8:00	123.1	62.1	
9/20/2022 8:00	9/21/2022 8:00	122.1	61.6	
9/21/2022 8:00	9/22/2022 8:00	122.1	61.6	
9/22/2022 8:00	9/23/2022 8:00	122.1	61.6	
9/23/2022 8:00	9/24/2022 8:00	123.1	62.1	
9/24/2022 8:00	9/25/2022 8:00	121.1	61.1	
9/25/2022 8:00	9/26/2022 8:00	122.1	61.6	
9/26/2022 8:00	9/27/2022 8:00	123.1	62.1	
9/27/2022 8:00	9/28/2022 8:00	121.1	61.1	
9/28/2022 8:00	9/29/2022 8:00	101.1	51.0	Begin gradual rampdown
9/29/2022 8:00	9/30/2022 8:00	83.1	41.9	
9/30/2022 8:00	10/1/2022 8:00	58.1	29.3	
10/1/2022 8:00	10/2/2022 8:00	48.1	24.3	
10/2/2022 8:00	10/3/2022 8:00	43.1	21.7	
10/3/2022 8:00	10/4/2022 8:00	32.1	16.2	
10/4/2022 8:00	10/5/2023 8:00	22.1	11.1	End WRR on 10/5; continue releases for fish at 10 cfs
Total Water Rights Releases		<b>9,913 AF</b>		

(Aug 8 - Oct 5)      a) USBR Date of Record is from 8:00AM previous day to 8:00AM current day.

## SANTA YNEZ RIVER DOWNSTREAM WATER RIGHTS RELEASES DURING 2022

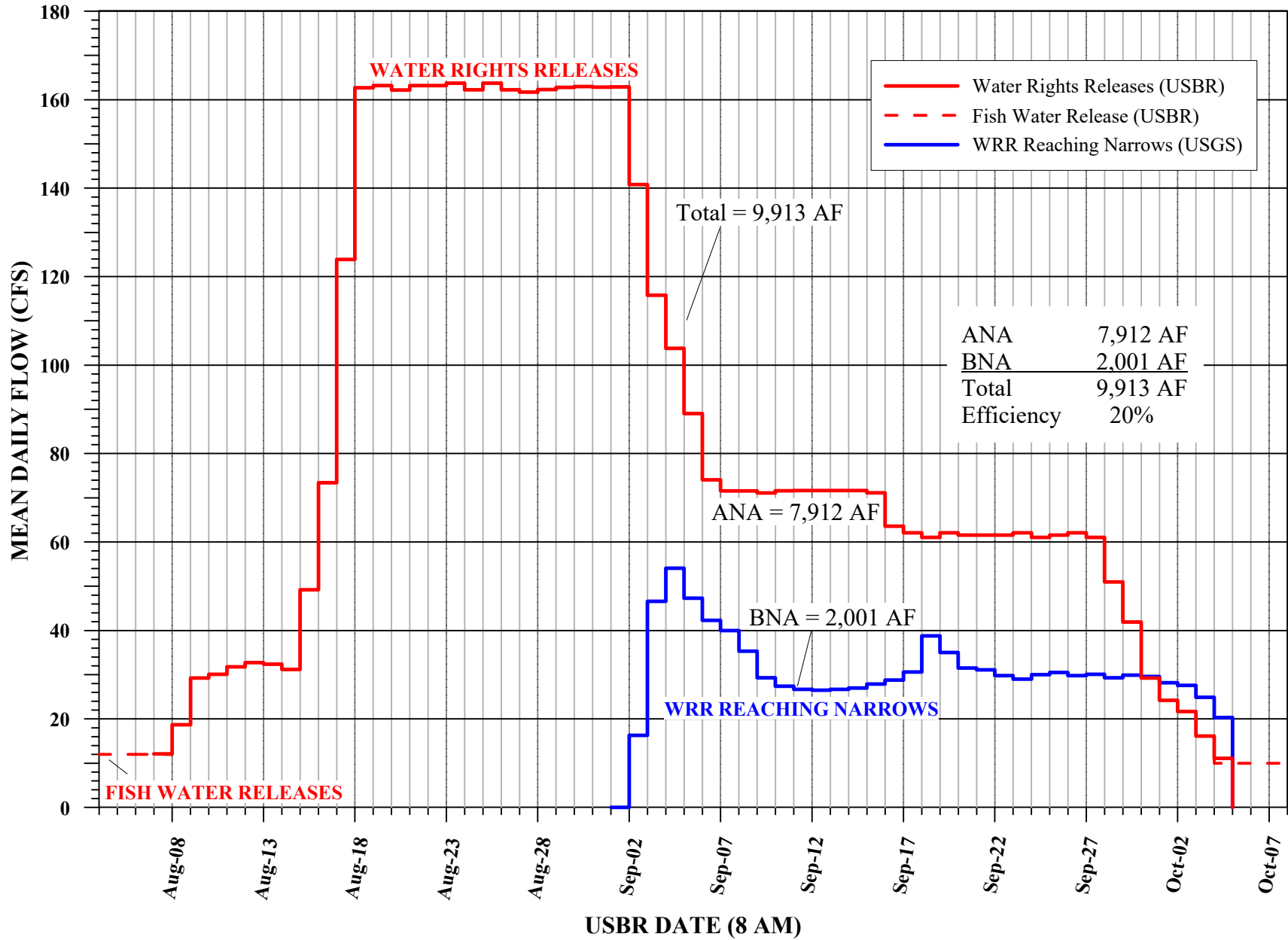
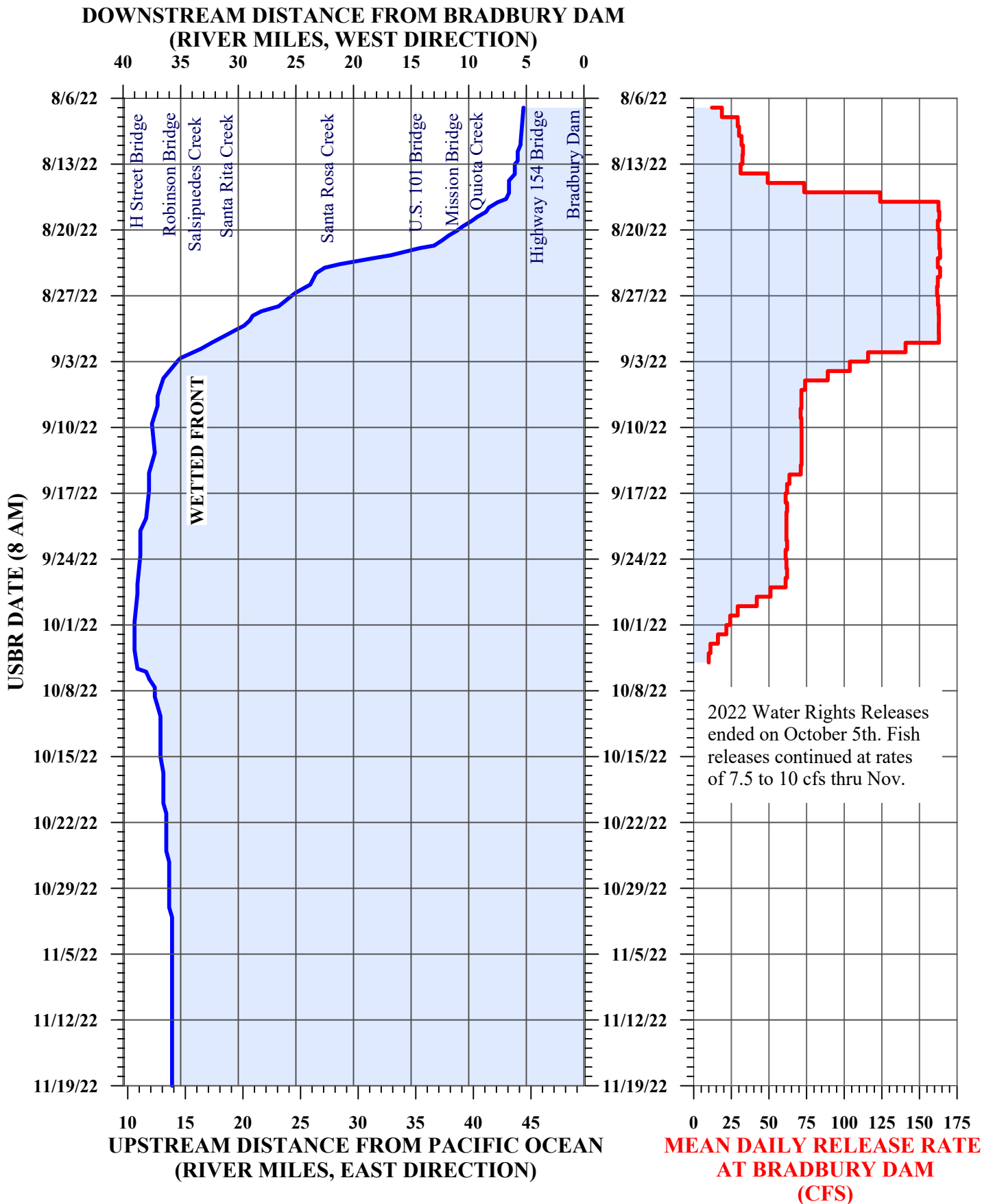


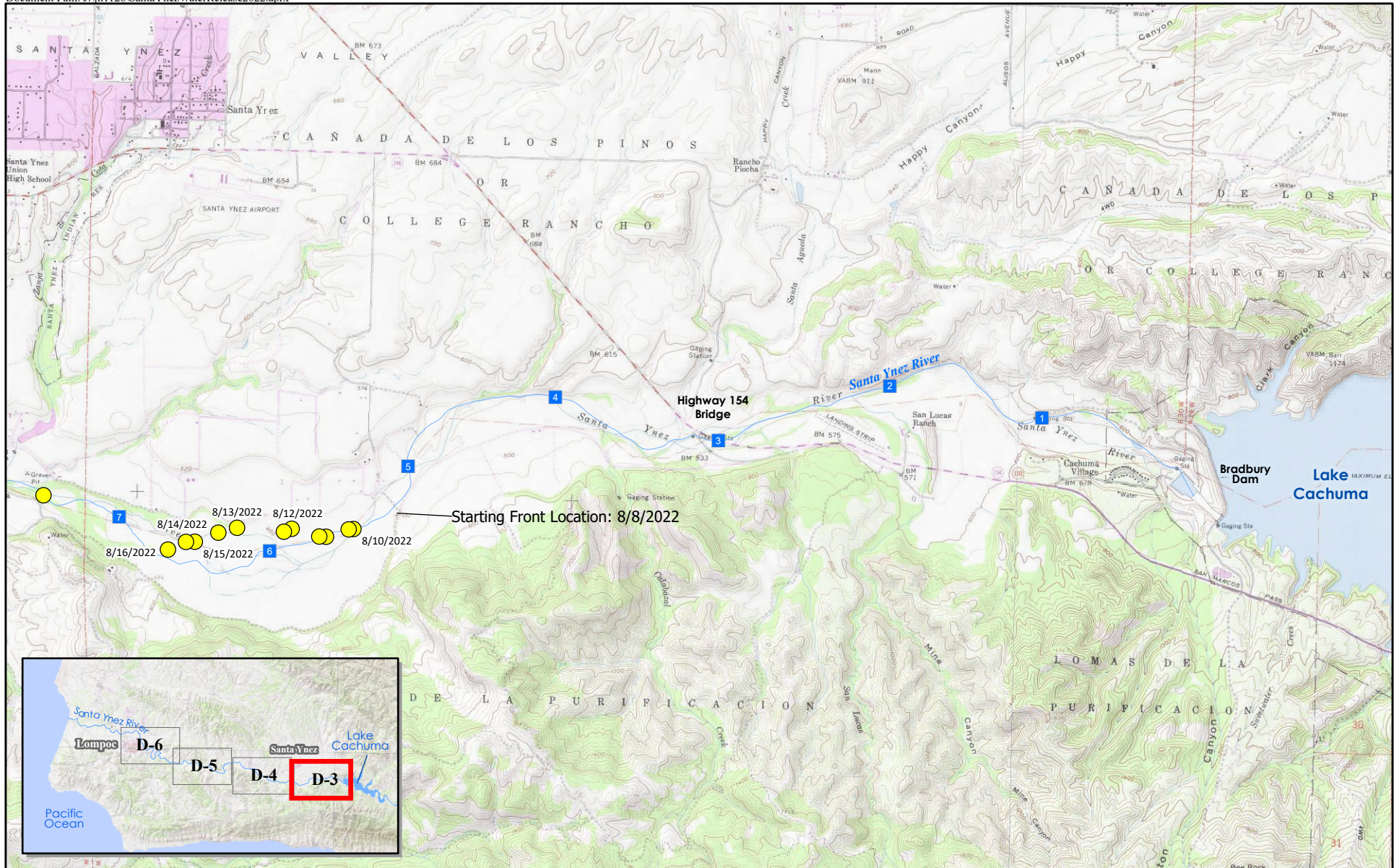
FIGURE D-1

### LAKE CACHUMA RELEASE AND WETTED FRONT IN SANTA YNEZ RIVER DURING 2022

August 8 - October 5, 2022

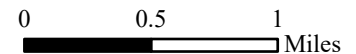




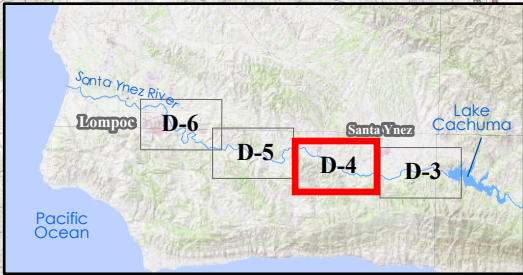
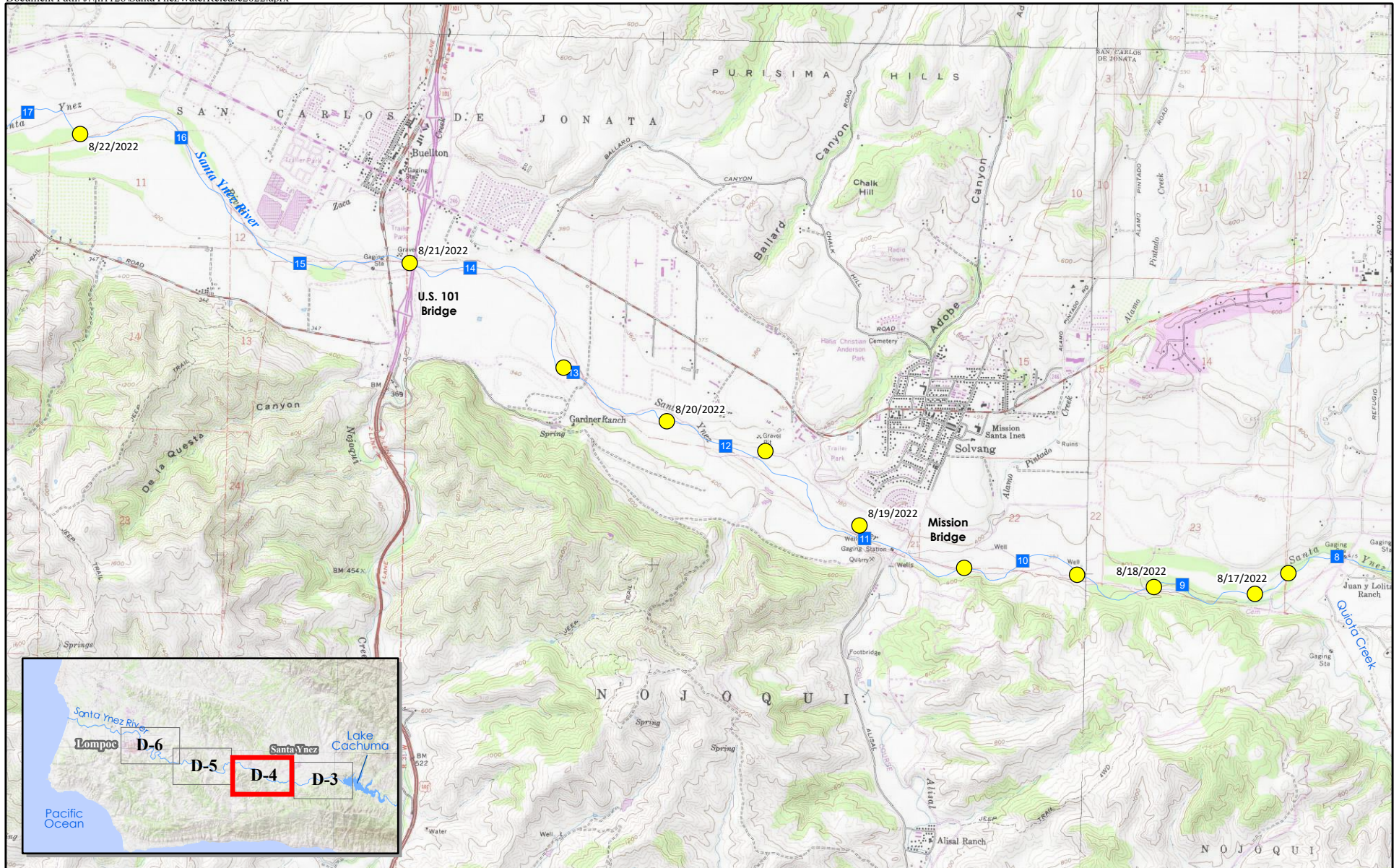


- Advance
- Retreat
- + USGS Gage
- 12 River Mile Downstream of Bradbury Dam

**WETTED FRONT LOCATION  
2022 WATER RELEASE  
SANTA YNEZ RIVER  
AUGUST 8, 2022 TO NOVEMBER 13, 2022**







- Advance
- Retreat
- + USGS Gage
- 12 River Mile Downstream of Bradbury Dam

**WETTED FRONT LOCATION  
2022 WATER RELEASE  
SANTA YNEZ RIVER  
AUGUST 8, 2022 TO NOVEMBER 13, 2022**

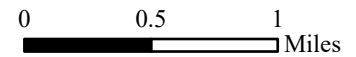
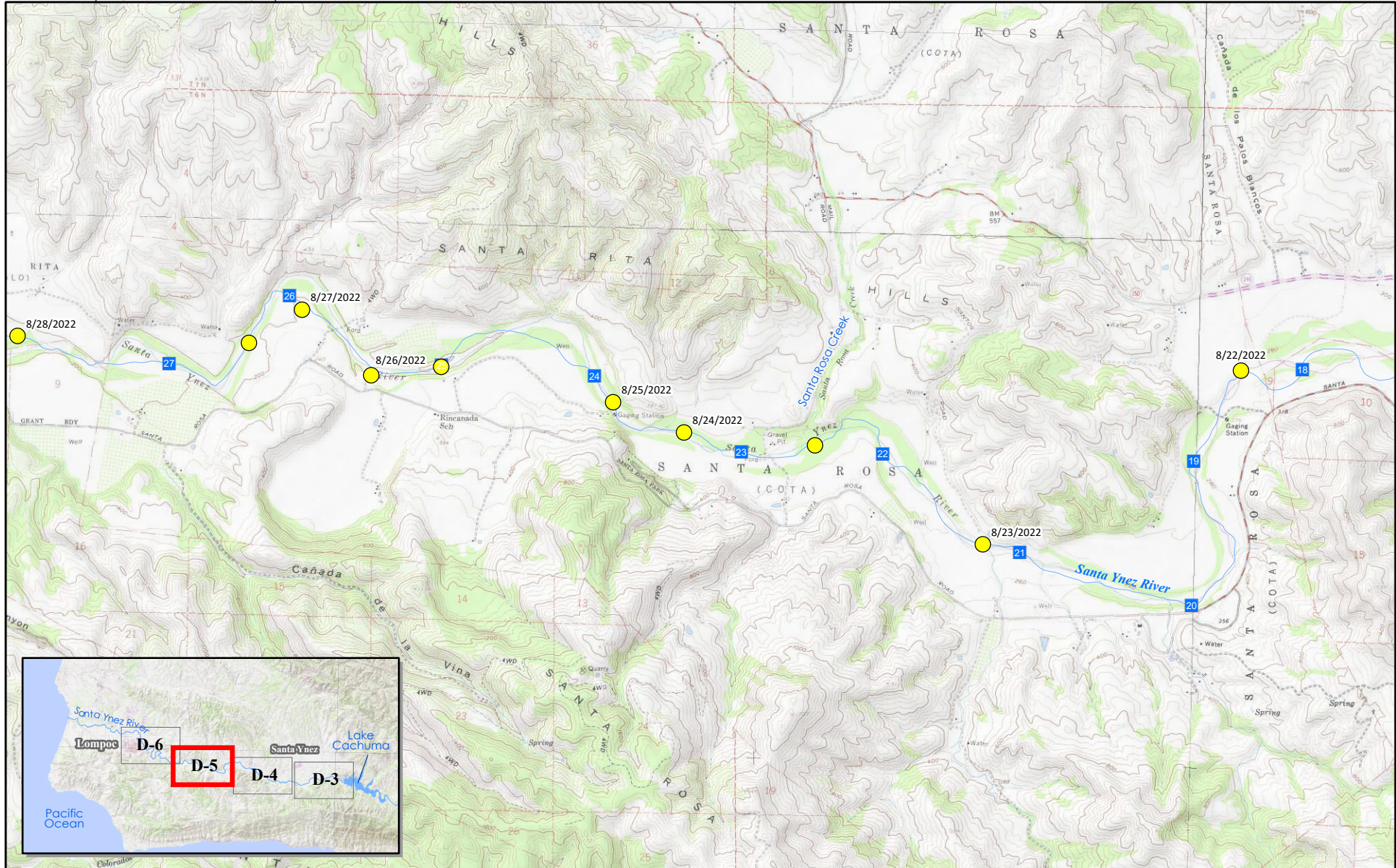


FIGURE D-4





- Advance
- Retreat
- + USGS Gage
- 12 River Mile Downstream of Bradbury Dam

**WETTED FRONT LOCATION  
2022 WATER RELEASE  
SANTA YNEZ RIVER  
AUGUST 8, 2022 TO NOVEMBER 13, 2022**

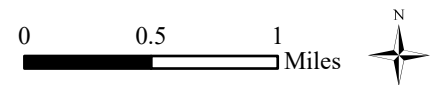
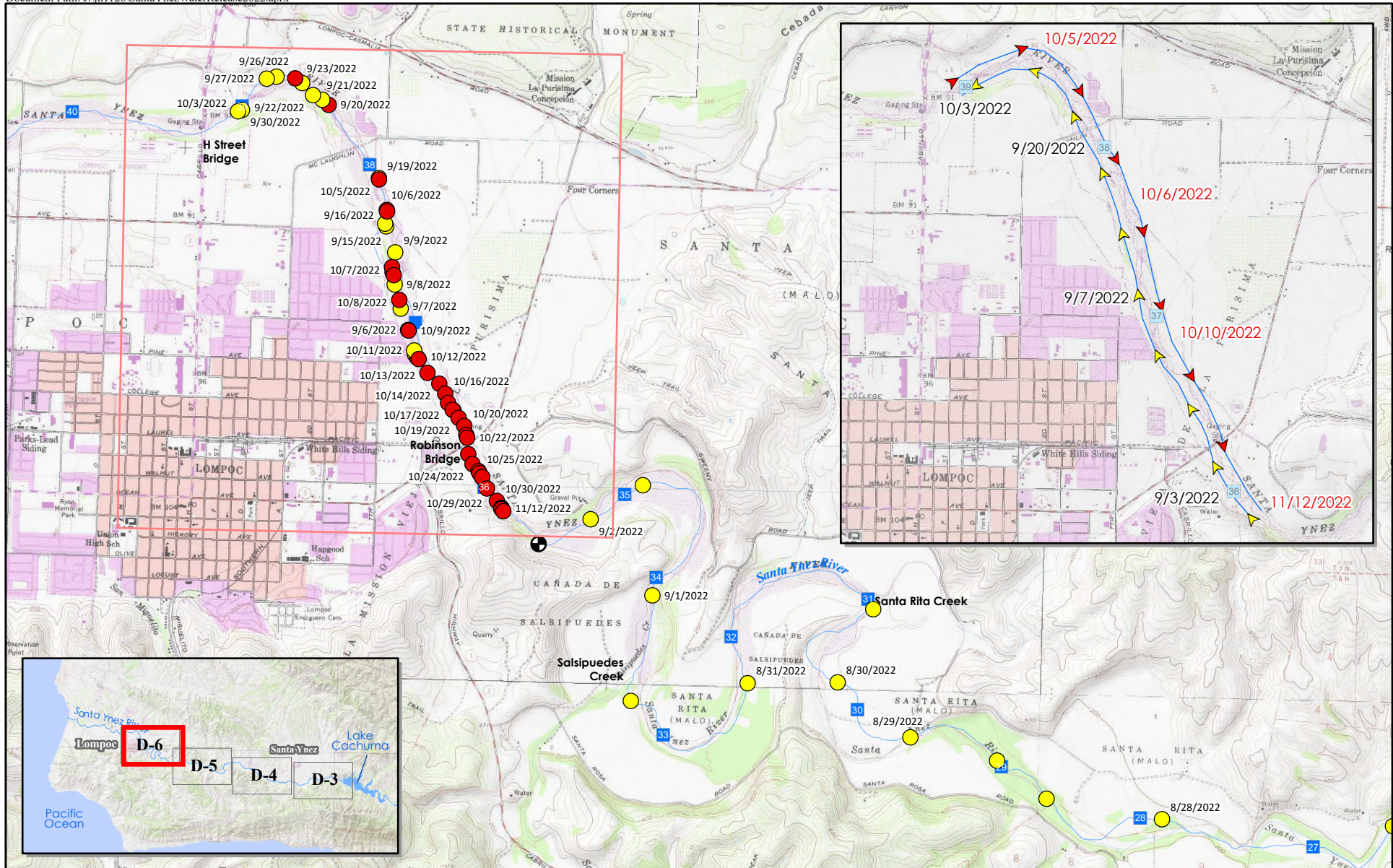


FIGURE D-5





- Advance
- Retreat
- ⊕ USGS Gage
- 12 River Mile Downstream of Bradbury Dam

**WETTED FRONT LOCATION  
2022 WATER RELEASE  
SANTA YNEZ RIVER  
AUGUST 8, 2022 TO NOVEMBER 13, 2022**

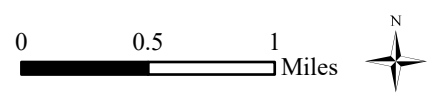


FIGURE D-6

## **Appendix E**

### **GENERAL DESCRIPTION OF THE HYDROGEOLOGY OF THE SOURCES OF GROUNDWATER WITHIN THE DISTRICT**

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## Appendix E

### GENERAL DESCRIPTION OF THE HYDROGEOLOGY OF THE SOURCES OF GROUNDWATER WITHIN THE DISTRICT

#### Santa Ynez River Alluvial Deposits

Along the Santa Ynez River channel groundwater occurs in the river channel deposits and thin bodies of younger alluvium. The groundwater is generally unconfined and in hydrologic continuity with surface water. In the Santa Ynez subarea, Bradbury Dam to Solvang, these deposits are almost completely bordered and underlain by non-water bearing consolidated rocks. Replenishment is by natural seepage from the river, seepage from tributaries, return flow from applied water, treated wastewater effluent from the City of Solvang wastewater treatment plant, and releases from Lake Cachuma to satisfy downstream water rights.

In the Buellton subarea, Solvang to a point about five miles downstream of Buellton, the river channel deposits and younger alluvium partially overlies and abut on the north side of the river channel, older unconsolidated deposits of the Paso Robles formation and Careaga Sand that fill a northwest-trending structural basin (Buellton Upland subarea). The older deposits probably slowly discharge groundwater to the alluvial deposits. Additional recharge to the river alluvium in the Buellton subarea is primarily from seepage from the Santa Ynez River and tributary creeks. During the irrigation season, some return flow recharges these deposits. Treated wastewater effluent from the City of Buellton wastewater treatment plant also recharges the alluvial groundwater.

The alluvial deposits along the Santa Ynez River in the Santa Rita subarea downstream of the Buellton subarea to the Lompoc Narrows, occur in a very similar condition to those in the Santa Ynez subarea to the extent that they are essentially separated from older unconsolidated deposits by generally non-water bearing consolidated rocks. The alluvial deposits in this subarea are generally unconfined with some local confinement. Recharge is also primarily from the Santa Ynez River, tributary creek seepage and irrigation return flow.

Santa Ynez River alluvial deposits are relatively thin with typical thicknesses of 60 to 80 feet with local thicknesses of more than 100 feet. Wells in these deposits typically yield a few hundred to as high as 1,500 or more gallons per minute (gpm).

The storage capacity of the alluvial deposits under full water conditions as determined in connection with State Water Resources Control Board Order 73-37 is as follows:

Subarea	Acre-Feet
Santa Ynez Subarea	21,000
Buellton Subarea	27,500
Santa Rita Subarea	56,500
<b>TOTAL</b>	<b>105,000</b>

#### Santa Ynez Upland Subarea

The Santa Ynez Upland subarea lies north of the Santa Ynez River and extends westward from about four miles east of Lake Cachuma (Red Rock Canyon) to include the Zaca Creek

watershed where the creek crosses the subarea. Relatively non-water bearing rocks separate this subarea from Santa Ynez River alluvium to the south. The northern boundary of the subarea is formed by faulting of consolidated non-water bearing rocks of the San Rafael Mountains against the unconsolidated basin deposits.

The Santa Ynez Upland subarea is comprised of thick unconsolidated deposits primarily of the Paso Robles Formation and the Careaga Sand which are the primary sources of groundwater. Terrace and alluvial deposits are also present in portions of the subarea, but are generally not sources of major groundwater supplies. The thickness of the unconsolidated deposits is generally greater than 1,000 feet with maximum thicknesses of over 3,000 feet at places.

Recharge occurs from the deep percolation of precipitation, seepage from creeks, underflow from consolidated rocks surrounding the subarea and irrigation return flow including return flow from imported State Water Project water and pumped underflow of the Santa Ynez River.

The U.S. Geological Survey (USGS) (La Freniere and French, 1968) estimated the groundwater in storage in the Santa Ynez Upland groundwater subarea in 1964 to be ten million acre-feet with about one million acre-feet in the upper 200 saturated feet.

### **Buellton Upland Subarea**

The Buellton Upland subarea generally includes the area north of the Santa Ynez River that extends eastward from the Santa Rita Upland subarea to the east of the City of Buellton. For the most part, this subarea is underlain by the older unconsolidated deposits of the Paso Robles Formation and the Careaga Sand. These deposits fill a synclinal basin which may be an extension of the Santa Rita syncline. If that is the case, this area may be in hydrologic continuity with similar deposits to the west. Recharge to these older deposits is from precipitation falling on the outcrop area and seepage from small creeks that cross the outcrop area.

### **Santa Rita Upland Subarea**

Groundwater supplies are present in the older unconsolidated Orcutt Sand, Paso Robles Formation and Careaga Sand which fill a structural basin formed by the eastern portion of the Santa Rita syncline. The Santa Rita Upland subarea is in hydrologic continuity with the Buellton and Lompoc Upland subareas, but is separated from the Santa Ynez River alluvium by non-water bearing rocks. Groundwater is present in a "shallow" perched condition as well as a deep body. Both bodies appear to contain water under unconfined conditions.

### **Lompoc Area Subareas**

Three groundwater sources are present in the Lompoc area. They include the Lompoc Plain, Lompoc Upland and Lompoc Terrace subareas. The Lompoc Plain subarea is an alluvial filled trough cut into the south limb of the Santa Rita syncline. The principal water-bearing units beneath the Lompoc Plain are the river-channel deposits and younger alluvium that compose the upper aquifer and the Paso Robles Formation and Careaga Sand that comprise the lower aquifer.

The upper aquifer consists of three water-bearing zones: (1) the shallow zone; (2) the middle zone; and (3) the main zone. The main zone of the upper aquifer has been the primary source of water from the Lompoc Plain subarea. The shallow zone includes river-channel deposits and predominately fine-grained sand, silt and clay deposits of the upper member of the alluvium that confine or partly confine the underlying deposits in the western, central and northeastern portions of the subarea. The base of the upper member of the alluvium includes interbedded lenses



of permeable sand and gravel which the USGS (Bright et al., 1992) refer to as the middle zone. The main zone includes the lower member of the alluvium. Medium to coarse sand and gravel comprise this zone. The main zone throughout most of the Lompoc Plain subarea is separated from the middle zone by lenses of silt and clay that result in confined or partially confined conditions in the main zone. However, in the eastern, southern and northern portions of the Lompoc Plain subarea, the confining deposits are less continuous or absent, allowing movement of groundwater between the shallow, middle and main zones.

The central and northern parts of the western end of the Santa Rita syncline comprise the Lompoc Upland subarea which lies north of the Lompoc Plain. The main water bearing deposits in the subarea are the Paso Robles Formation and Careaga Sand. These deposits extend under the Lompoc Plain to form the lower aquifer. Most of the groundwater in storage occurs in these two formations. Perched groundwater occurs locally in the Orcutt Sand.

The Lompoc Terrace subarea, the hilly area adjacent to the southwest part of the Lompoc Plain subarea, is a down-faulted wedge of Careaga Sand overlain by Orcutt Sand.

Recharge to the aquifers beneath the Lompoc Plain subarea includes infiltration of precipitation, seepage from streams, groundwater underflow from tributary streams, underflow through aquifers underlying the Lompoc Upland and Lompoc Terrace subareas which extend under the Plain (lower aquifer beneath the Lompoc Plain subarea), irrigation return flow and wastewater effluent. Recharge to the Lompoc Upland subarea is primarily by infiltration of precipitation, and some seepage from streams. The Lompoc Upland subarea may also receive percolation of treated wastewater effluent from the Mission Hills Community Services District wastewater treatment plant and underflow along the Santa Rita syncline from the Santa Rita Upland subarea. Recharge to the Lompoc Terrace subarea is mainly from infiltration of precipitation.

The USGS (Miller, 1976) estimated the total groundwater in storage in the Lompoc area as follows:

Subarea	Groundwater in Storage (Acre-Feet)
Lompoc Plain	
Main Zone	80,000
Shallow Zone	135,000
Lompoc Upland	400,000
Lompoc Terrace	100,000
TOTAL	715,000

## REFERENCES CITED

Bright, D.J. et al., 1992, Ground-Water Hydrology and Quality in the Lompoc Area, Santa Barbara County, California, 1987-88: U.S. Geological Survey Water Resources Investigations Report 91-4172.

LaFreniere, G.F., and French, J.J. 1968, Ground-Water Resources of the Santa Ynez Upland Ground-Water Basin, Santa Barbara County, California: U.S. Geological Survey Open File Report.

Miller, G.A., 1976, Ground-Water Resources in the Lompoc Area, Santa Barbara County, California: U.S. Geological Survey Open-File Report 76-183.

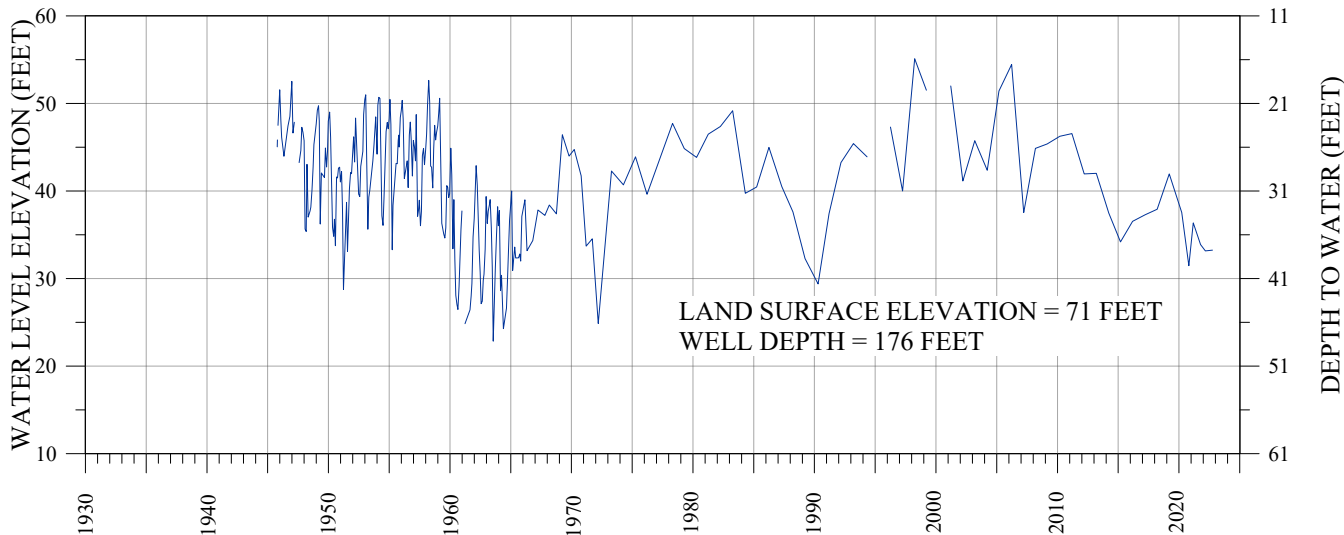
## **Appendix F**

### **WATER-LEVEL HYDROGRAPHS OF SELECTED WELLS**

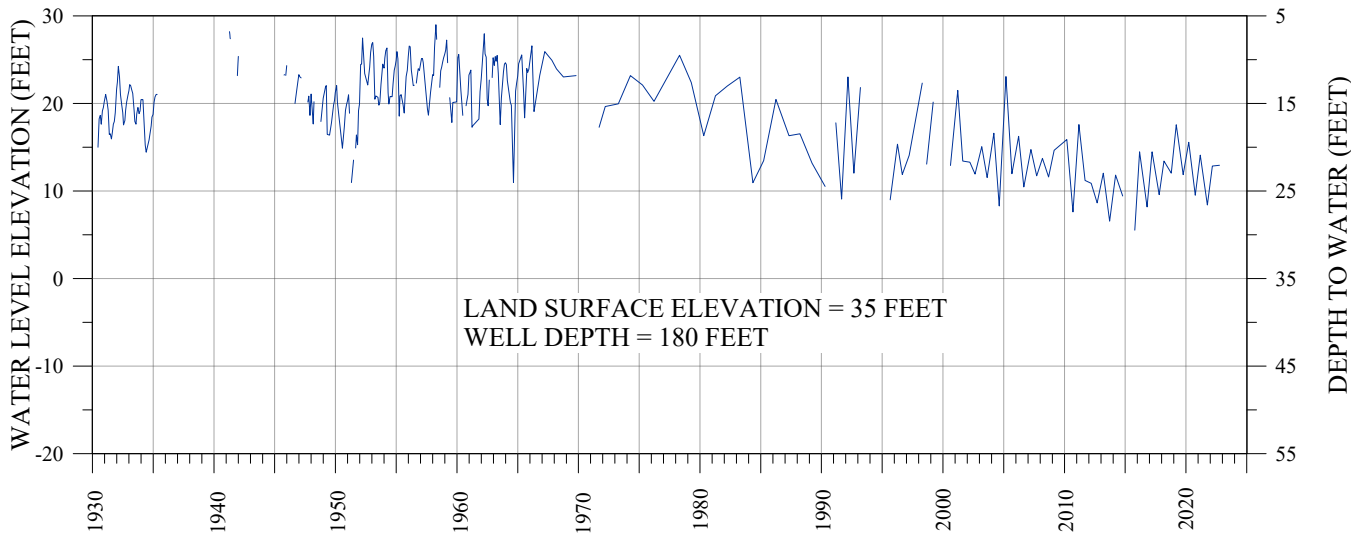
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### HYDROGRAPHS OF WELLS LOCATED IN THE LOMPOC PLAIN SUBAREA

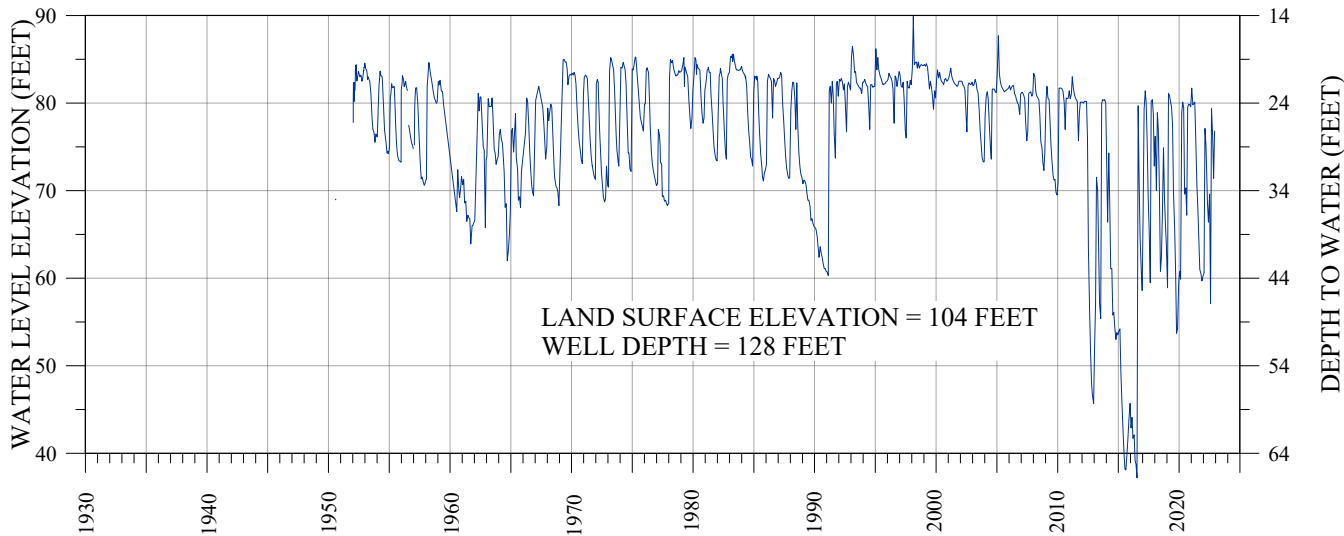
#### WELL 7N/34W-29E4



#### WELL 7N/35W-22J1



#### WELL 7N/34W-35K9



## HYDROGRAPHS OF WELLS LOCATED IN THE LOMPOC UPLAND SUBAREA

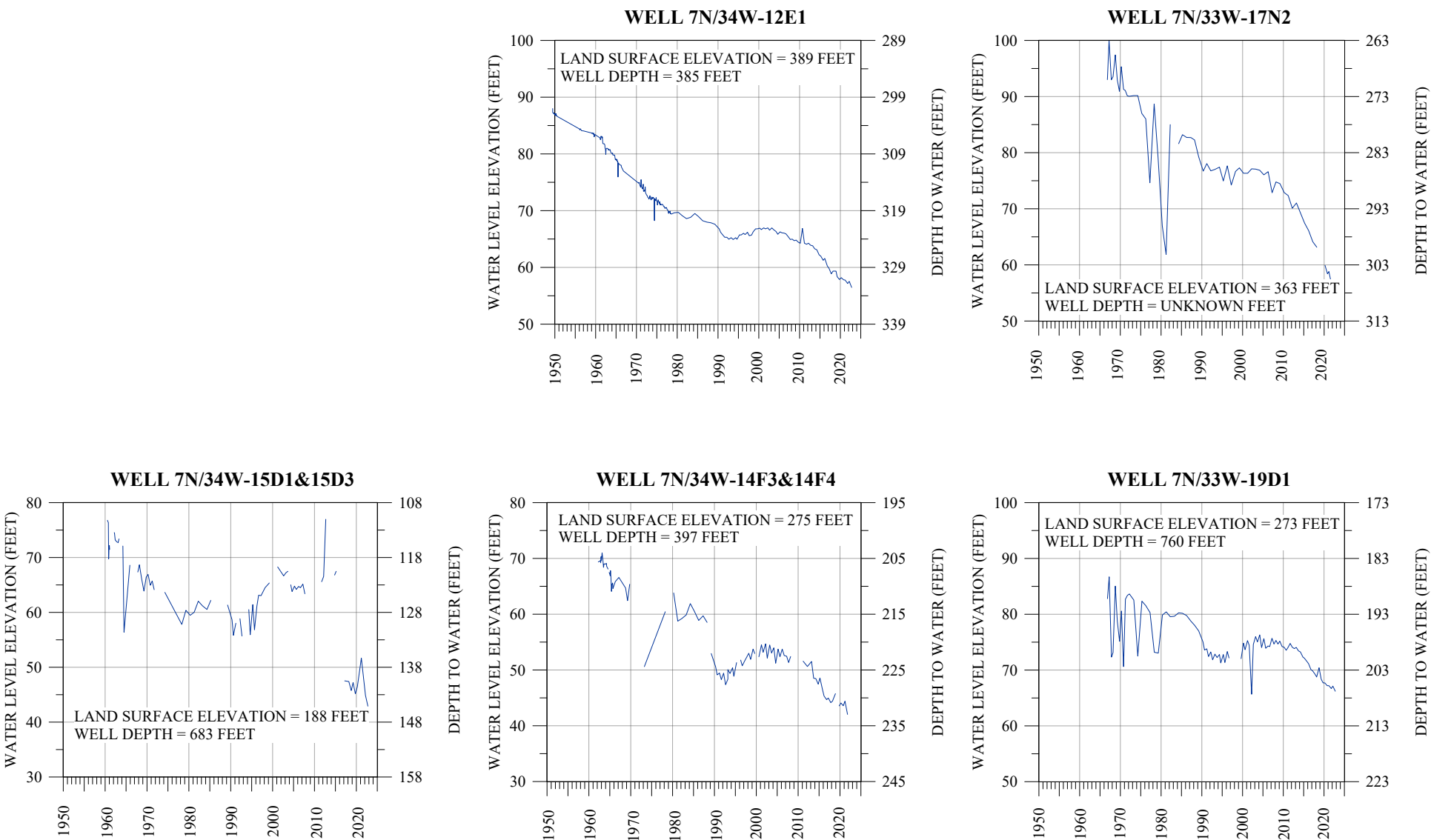
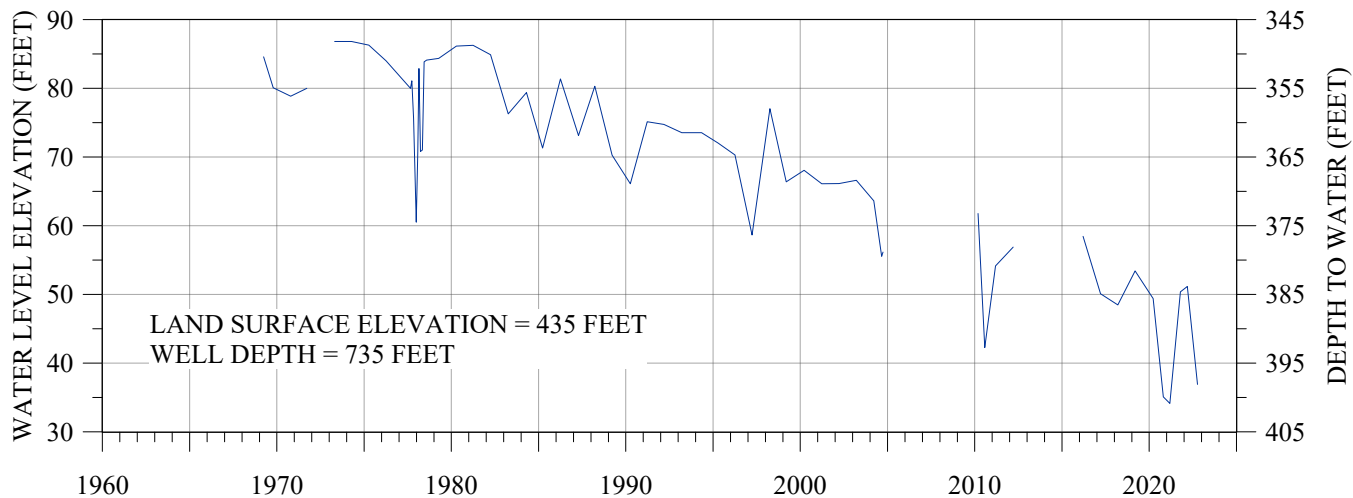


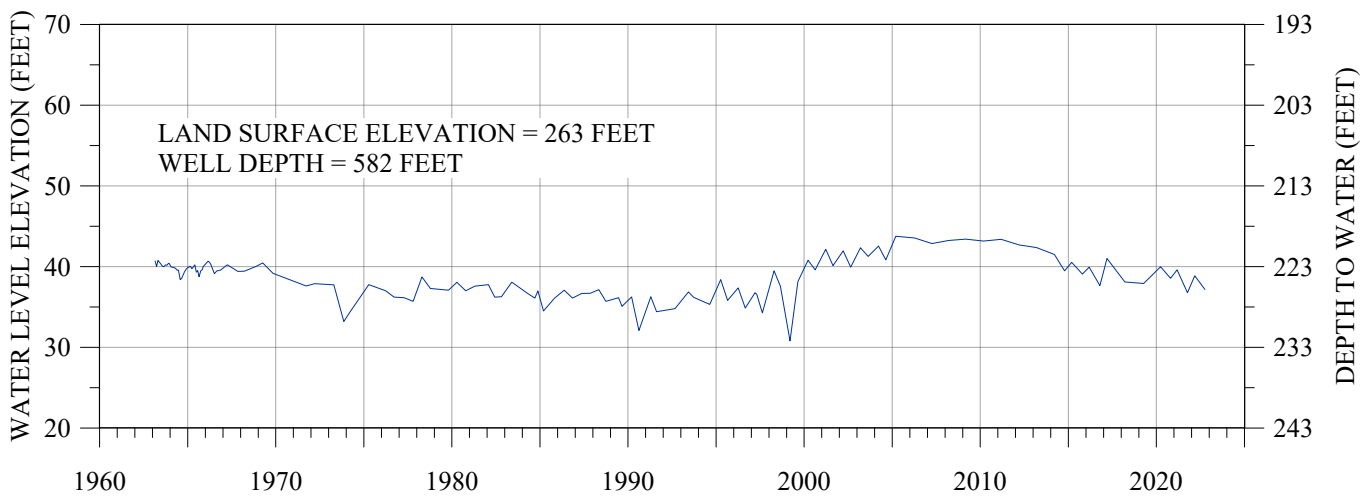
FIGURE F-2

### HYDROGRAPHS OF WELLS LOCATED IN THE SANTA RITA UPLAND, LOMPOC TERRACE, AND BUELLTON UPLAND SUBAREAS

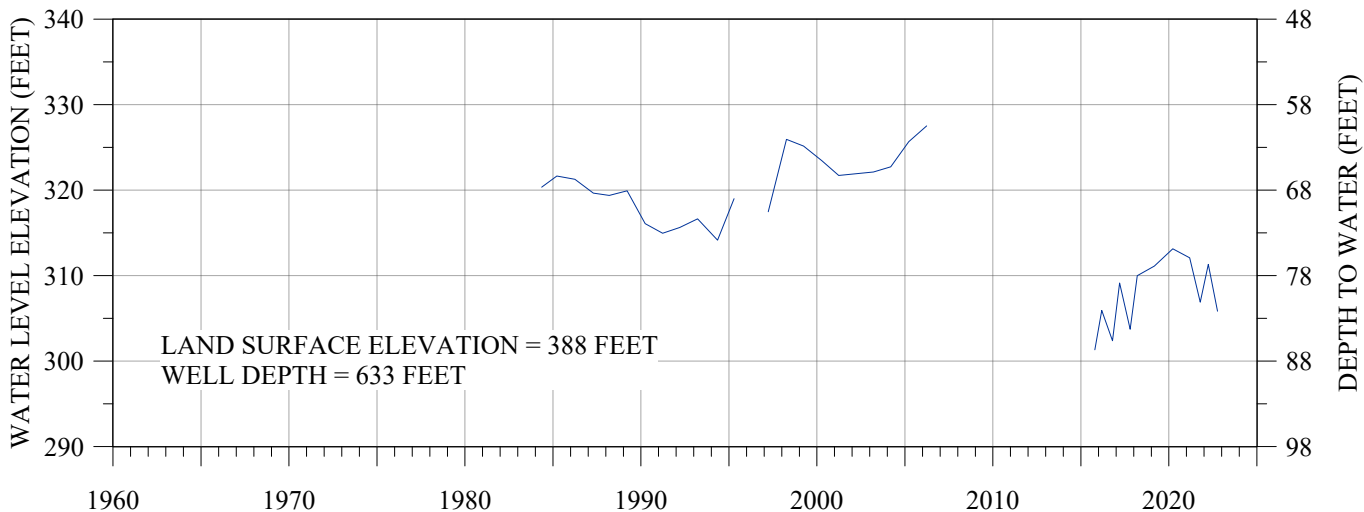
**WELL 7N/33W-27G1**  
SANTA RITA UPLAND



**WELL 7N/35W-27P1**  
LOMPOC TERRACE

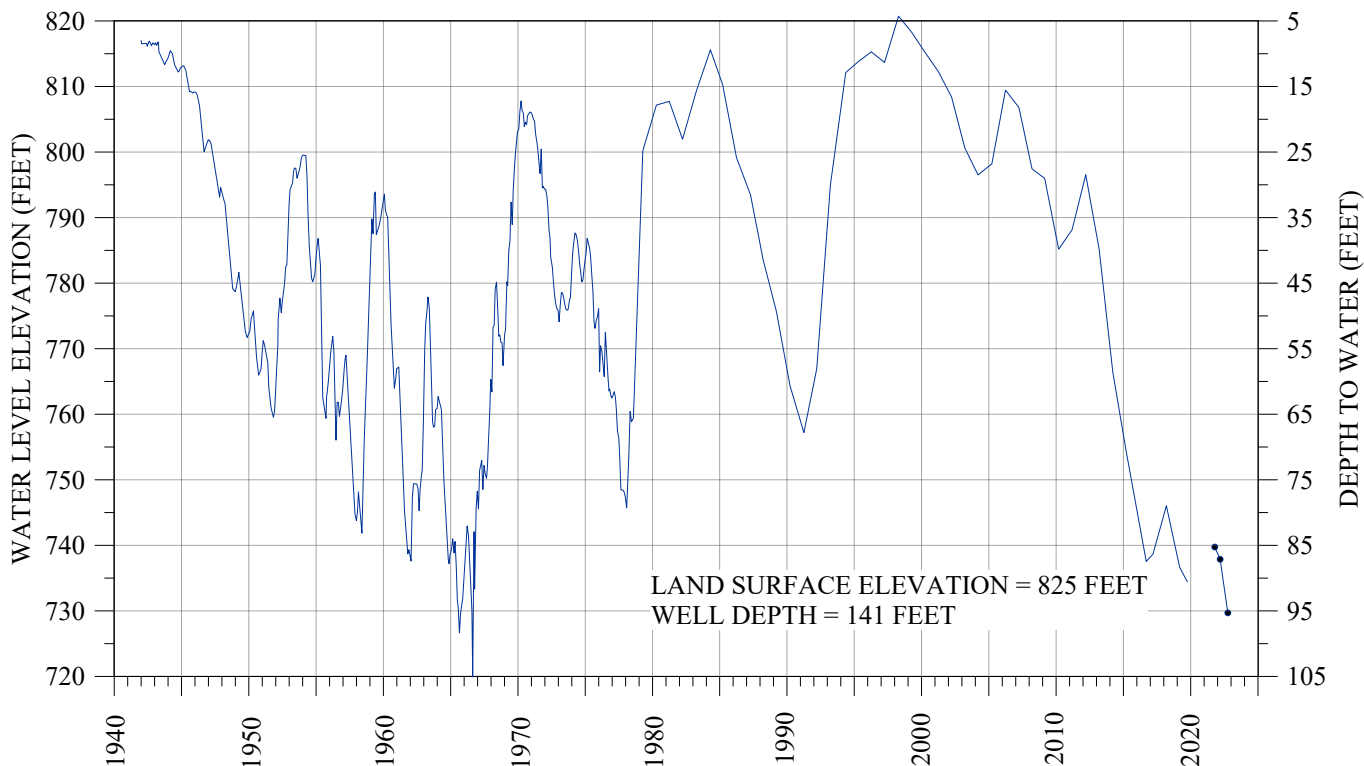


**WELL 6N/31W-7F1**  
BUELLTON UPLAND

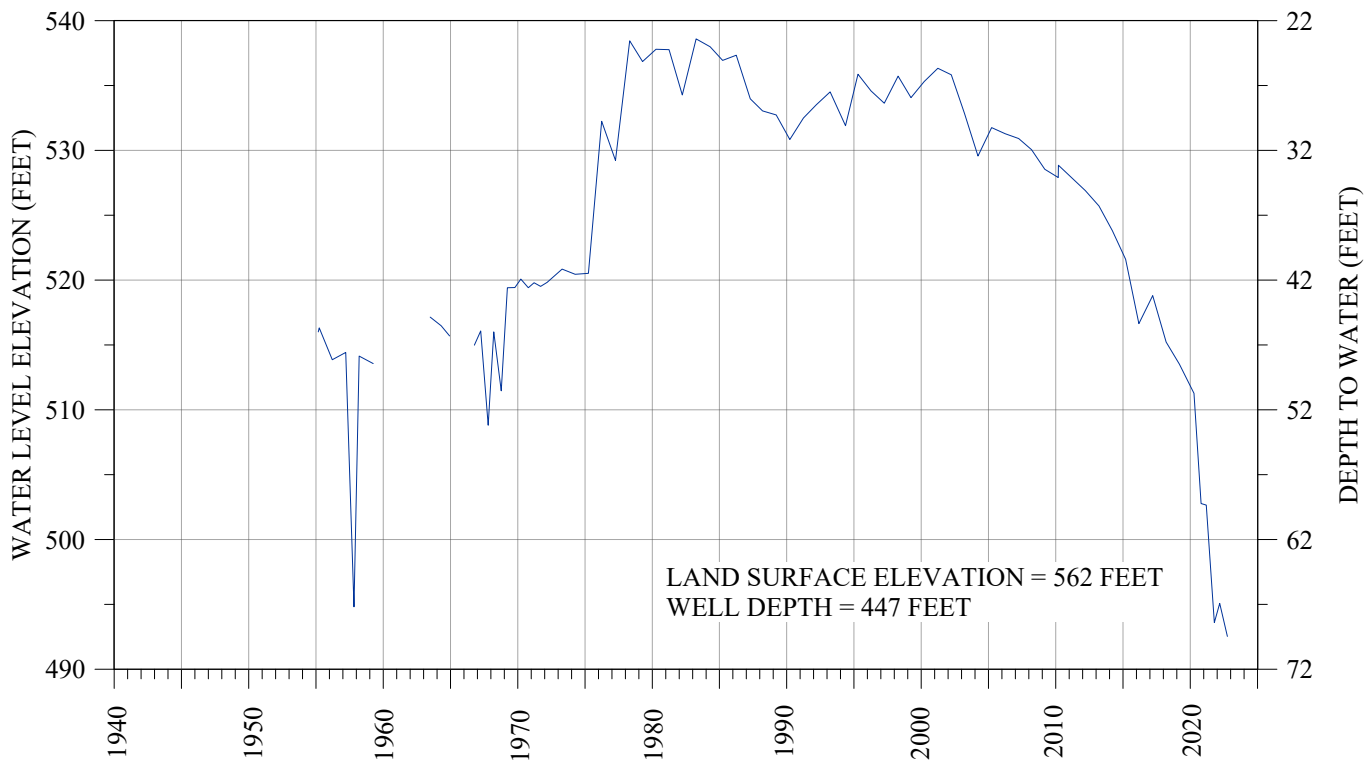


**HYDROGRAPHS OF WELLS LOCATED IN THE  
SANTA YNEZ UPLAND SUBAREA**

**WELL 7N/31W-23P1**



**WELL 6N/31W-11D4**





## **Appendix G**

### **WELL INVENTORY**

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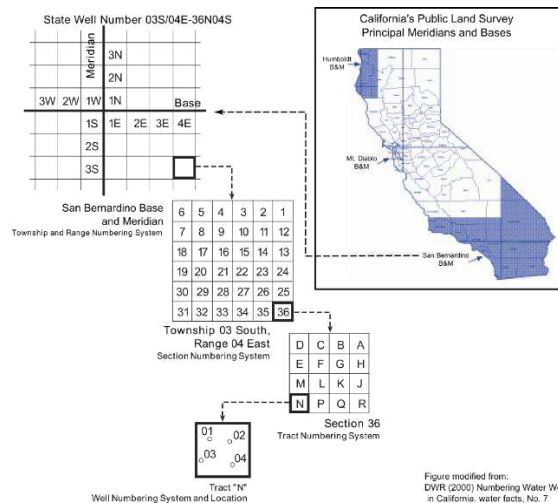
# Appendix G

## WELL INVENTORY

This well inventory includes the most recent last two years of spring water level measurements. Starting with water year 2022-23 the Engineering and Survey Reports will be produced in the winter, prior to the collection of the spring water levels, requiring a projection to estimate expected groundwater in storage for the end of the current water year. Projections for previous years will be updated based on the spring water level measurements.

Wells in the Santa Ynez River Valley Groundwater Basin (Basin) have a unique State Well Number assigned by the California Department of Water Resources based on the public land grid published by the Bureau of Land Management (BLM) Cadastral survey grid. The State Well Number includes the township, range, and section numbers in which a well is located. Each section is further subdivided into sixteen 40-acre tracts, which are assigned a letter designation. Because all wells in the Santa Ynez River Valley Groundwater Basin use the San Bernardino (“S”) base line and meridian, the reference to base line and meridian is generally omitted from the well numbers identified in this report. Most land within the Basin is former Mexican Land grant, and so the grids are interpolated from sources other than the Bureau of Land Management. In the tables on the following pages, wells in township 8N are highlighted in blue, wells in township 7N are not highlighted, and wells in township 6N are highlighted in gray.

The United States Geological Survey (USGS) 15-digit well number based on degrees, minutes, and seconds of latitude (6 digits) and longitude (7 digits) and sequential number (2 digits) are also shown on wells that are part of the USGS databases.



### Well Status

Wells may have additional conditions that are noted when water levels were collected, which may influence interpretation of the measurement. These well status used in the following tables are indicated by the following letters.

- |                             |                        |                              |
|-----------------------------|------------------------|------------------------------|
| P = pumping;                | D = dry;               | EST = estimated water level, |
| R = recently pumped;        | X = well is destroyed; | a blank implies a            |
| S = nearby pumping;         | Z = other;             | normal water level           |
| T = nearby recently pumped; |                        | measurement                  |
| O = obstruction;            |                        |                              |

# Appendix G

## WELL INDEX WELL INDEX RANGE 35W, 34W SPRING 2021 TO SPRING 2022

Report Location	Map	Well ID #	Locality	SGMA DBID	USGS # Latitude-Longitude	GWL Source	2022			2021			change
							Date	Depth to Water (ft)	Status	Date	Depth to Water (ft)	Status	
Table 7		7N/35W-15M1	W. of 13th; N. of SYRiv	38	344124120334401	COSB	3/2	102.21		3/2	102.18		-0.03
Table 7		7N/35W-17M1	Surf (near RR xing)	2	344114120353501	COSB	3/2	0.5	F	3/2	3.44		2.94
Table 7		7N/35W-17K20	Surf (old Barrier Bridge)	1	344112120351001	COSB	3/2	13.98		3/2	17.01		3.03
Table 7		7N/35W-18J2	Surf (S. side of Lagoon)	3	344118120355902	COSB	3/2	---		3/2	2.39		---
Table 7		7N/35W-21G2	AFB: 3300' NW of 22M1	39	344041120341101	COSB	3/2	12.38		3/2	14.72		2.34
Table 7		7N/35W-22J1	W Valley: Jordan Farm	4	344021120324101	COSB	3/2	22.15		3/4	20.89		-1.26
Table 7		7N/35W-22M1	W of VAFB entrance N	37	344025120333401	COSB	3/2	14.07		3/2	12.46		-1.61
Table 7		7N/35W-23Q2	W Valley: Jordan Farm	7	344009120320402	COSB	3/2	17.62		3/4	17.9		0.28
Table 7		7N/35W-23B2	N of SY River on VAFB	40	344048120320201	COSB	3/2	25.56		3/2	26.98		1.42
Table 7		7N/35W-23Q3	W Valley: Jordan Farm	8	344009120320403	COSB	3/2	26.47		3/4	22.98		-3.49
Table 7		7N/35W-23Q4	W Valley: Jordan Farm	9	344008120320901	COSB	3/2	26.33		3/4	22.51		-3.82
Table 7		7N/35W-24N3	N Artesia Ave: Beattie	11	344046120321401	COSB	3/2	---	P	3/16	---	P	---
Table 7		7N/35W-24J4	At N end of Douglas Ave	33	344021120303504	COSB	3/1	33.63		3/5	34.23		0.6
Table 7		7N/35W-24K5	DeWolf Ave: Henning	10	344029120310305	COSB	3/2	28.52		3/16	24.28		-4.24
Table 7		7N/35W-25F6	NW of DeWolf & Central	12	343947120310703	COSB	3/2	14.82		3/4	15.38		0.56
Table 7		7N/35W-25F7	NW of DeWolf & Central	13	343947120310702	COSB	3/2	9.18		3/4	15.11		5.93
Table 7		7N/35W-26L1	W of Union Sugar Ave	15	343929120321001	COSB	3/2	6.18		3/4	6.63		0.45
Table 7		7N/35W-26L2	W of Union Sugar Ave	16	343929120321002	COSB	3/2	9.25		3/4	8.76		-0.49
Table 7		7N/35W-26F4	W Valley: Jordan Farm	14	343948120320901	COSB	3/2	35.13		3/4	19.8		-15.33
Table 7		7N/35W-26L4	W of Union Sugar Ave	17	343929120321004	COSB	3/2	17.07		3/4	14.09		-2.98
Figure 8		7N/35W-26F5	---	65	343948120320902	---	3/20	---		3/20	---		---
Table 7		7N/35W-27C1	Ocean Ave & Renwick	18	344001120331401	COSB	3/2	17.72		3/4	16.4		-1.32
Table 8		7N/35W-27P1	S. VAFB (Lom Terrace)	44	343923120332501	COSB	3/3	224.14		3/2	223.4		-0.74
Table 7		7N/35W-35A3	S Artesia Ave	19	343859120314003	COSB	3/2	21.27		3/4	21.4		0.13
Table 7		6N/34W-4G4	---	1151	343805120275501	USBR	3/20	48.6	EST	3/20	50.3	EST	1.7
Table 7		6N/34W-6C4	E of San Pasqual Rd	20	343815120300602	COSB	3/1	68.7		3/4	71.08		2.38
Table 8		7N/34W-12E1	N of Mission Hills	51	344219120250601	COSB	3/3	331.45		3/5	331.23		-0.22
Table 8		7N/34W-14L1	Mission Hills CSD	53	344117120255001	COSB	3/11	221.42	S	3/16	219.99		-1.43
Figure F-2		7N/34W-14F3	---	66	344130120255201	---	3/20	---		3/20	---		---
Table 8		7N/34W-14F4	Mission Hills CSD	52	344126120255201	COSB	3/11	234.35		3/16	230.59		-3.76
Table 8		7N/34W-15E1	Vandnrbg Village CSD	606	344134120272201	COSB	3/11	136.79		3/16	141.79		5
Table 8		7N/34W-15P2	Uplands E of Hyw 1	56	344101120265901	COSB	3/3	260.69		3/5	260.49		-0.2
Table 8		7N/34W-15D3	Vandnrbg Village CSD	602	344142120272301	COSB	3/11	143.13		3/16	136.32		-6.81
Table 7		7N/34W-20K4	USPrison E of Floradale	21	344017120285502	COSB	3/1	33.32	R	3/4	37.10	R	3.78
Table 7		7N/34W-22M6	---	57	344021120271301	USBR	3/20	51.7		3/20	36	EST	-15.7
Table 7		7N/34W-25F3	---	61	343940120245702	USBR	3/20	93.1		3/20	93.9		0.8
Table 7		7N/34W-26H3	Eastern Lompoc Valley	24	343943120252201	COSB	3/1	---	D	3/5	---	D	---
Table 7		7N/34W-26B4	---	58	343957120254501	USBR	3/20	70.9		3/20	69.6		-1.3
Table 7		7N/34W-26Q5	---	60	343924120254501	USBR	3/20	61.8		3/20	61.1		-0.7
Table 7		7N/34W-27G6	E of North A Street	25	343949120264901	COSB	3/2	42.3		3/5	35.57		-6.73
Table 7		7N/34W-27F9	---	1162	---	USBR	3/20	60.3		3/20	44.6		-15.7
Table 7		7N/34W-29E4	E of Floradale: J Fischer	26	343948120292002	COSB	3/1	37.84		3/4	34.64		-3.2
Table 7		7N/34W-29N6	E of Floradale: Bob Witt	27	343926120293001	COSB	3/1	33.96		3/4	36.85		2.89
Table 7		7N/34W-29N7	E of Floradale: Bob Witt	28	343926120293002	COSB	3/1	30.01		3/4	35.88		5.87
Table 7		7N/34W-30L10	SW cor Central & Leege	29	343941120300106	COSB	3/1	30.42		3/4	31.51		1.09
Table 7		7N/34W-31R2	NW of Floradale-Ocean	30	343828120293201	COSB	3/1	37.73		3/4	47.25		9.52
Table 7		7N/34W-32H2	E of Bailey: Wineman	31	343901120284201	COSB	3/1	37.5		3/4	36.15		-1.35
Table 7		7N/34W-34R1	---	63	343821120262701	USBR	3/20	60.2		3/20	56.2		-4
Table 7		7N/34W-35K9	Eastern Lompoc Valley	32	343840120254701	COSB	3/1	27.29		3/5	24.38		-2.91
Table 7		7N/34W-35K9	Eastern Lompoc Valley	32	343840120254701	USBR	3/20	32.6		3/20	27.8		-4.8

# Appendix G

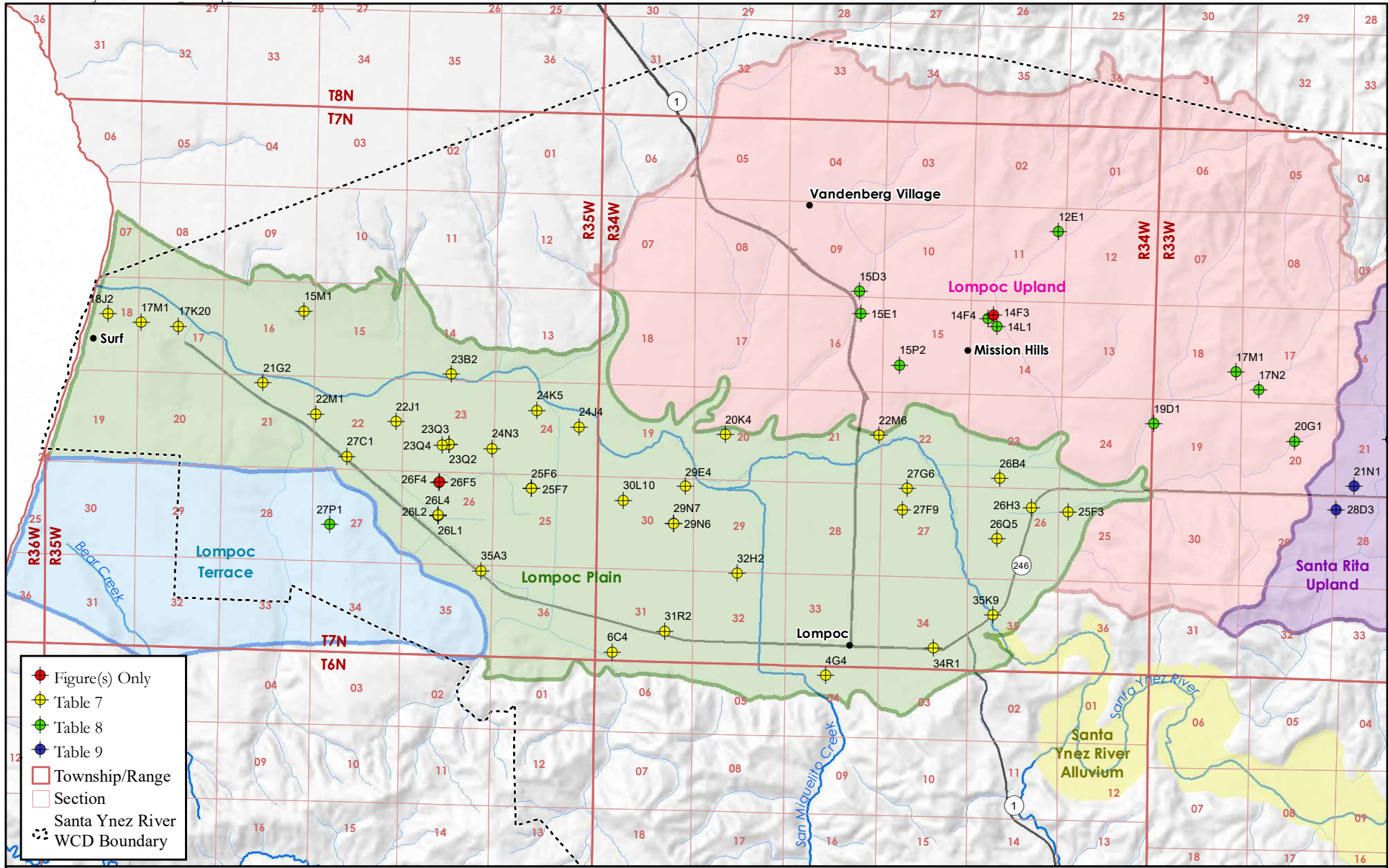
## WELL INDEX WELL INDEX RANGE 33W, 32W SPRING 2021 TO SPRING 2022

Report Location	Map	Well ID #	Locality	SGMA DBID	USGS # Latitude-Longitude	GWL Source	2022			2021			change
							Date	Depth to Water (ft)	Status	Date	Depth to Water (ft)	Status	
Table 8		7N/33W-17M1	Upper Cebada Canyon	47	344100120224901	COSB	3/3	282.36		3/5	280.3	S	-2.06
Table 8		7N/33W-17N2	Upper Cebada Canyon	48	344051120224901	COSB	3/3	306.4		3/5	304.19		-2.21
Table 8		7N/33W-19D1	Lower Cebada Canyon	49	344035120235901	COSB	3/3	205.87		3/5	205.81		-0.06
Table 8		7N/33W-20G1	W of Tularosa Road	50	344025120221601	COSB	3/3	324.82	S	3/5	324.21		-0.61
Table 9		7N/33W-21N1	W Santa Rita Valley	79	343956120214001	COSB	3/8	303.25		3/5	303.24		-0.01
Table 9		7N/33W-21G2	Mid Santa Rita Valley	78	344025120211501	COSB	3/8	358.28		3/5	356.61		-1.67
Table 9		7N/33W-27G1	E Santa Rita Valley	80	343926120201001	COSB	3/8	383.44		3/5	400.46		17.02
Table 9		7N/33W-28D3	W Santa Rita Valley	81	343946120215301	COSB	3/8	307.77		3/5	307.26		-0.51
Table 9		7N/33W-36J1	Drum Cyn - Santa Rosa	82	343824120175201	COSB	3/8	134.77		3/5	132.82		-1.95
Table 9		6N/32W-2Q1	SYR Alluvial; Buellton	91	343719120124901	COSB	3/8	62.28		3/5	61.91		-0.37
Table 9		6N/32W-12K2	---	909	343649120114401	Buellton	4/4	45.9		3/15	37		-8.9
Table 9		7N/32W-31M1	Drum Cyn - Santa Rosa	75	343821120173601	COSB	3/8	81.24		3/5	80.07		-1.17

# Appendix G

## WELL INDEX WELL INDEX RANGE 31W, 30W, 29W SPRING 2021 TO SPRING 2022

Report Location	Map	Well ID #	Locality	SGMA DBID	USGS # Latitude-Longitude	GWL Source	2022			2021			change
							Date	Depth to Water (ft)	Status	Date	Depth to Water (ft)	Status	
Table 10		6N/31W-1P2	West of Refugio Road	112	343727120055801	COSB	---	---		3/10	---		---
Table 10		6N/31W-1P3	West of Refugio Road	113	343728120055101	COSB	3/9	117.96		3/10	111.66		-6.3
Table 10		6N/31W-2K1	Alamo Pintado Road	87	343741120064801	COSB	3/9	55.66	S	3/8	52.44		-3.22
Table 10		6N/31W-3A1	Hilltop West of Ballard	88	343759120072901	COSB	3/9	163.43		3/8	159.15		-4.28
Table 10		6N/31W-4A1	Ballard Cyn nr Solvang	89	343800120083001	COSB	3/9	113.09		3/8	111.27		-1.82
Table 9		6N/31W-7F1	Buellton Upland Well	90	343655120111201	COSB	3/28	76.69		3/8	75.91		-0.78
Table 10		6N/31W-10F1	Fredenberg Cyn: Solvng	83	343656120080601	COSB	3/9	87.51		3/8	84.48		-3.03
Table 10		6N/31W-11D4	Alamo Pintado Road	84	343705120071001	COSB	3/9	66.93		3/8	59.34		-7.59
Table 10		6N/31W-13D1	Santa Ynez: nr Hyw 246	111	343623120061201	COSB	3/9	120.73		3/10	118.45		-2.28
Table 10		7N/31W-23P1	Los Olivos: Matties Tav	93	344002120070001	COSB	3/9	87.14		---	---		---
Table 10		7N/31W-36L2	Refugio Rd N of Baseln	95	343831120055001	COSB	3/9	118.44		3/16	109.22		-9.22
Table 10		8N/31W-36H1	Midland School	98	344354120051501	COSB	3/10	32.44		3/10	47.02		14.58
Table 10		6N/30W-1R3	Happy Canyon	108	343718119592001	COSB	3/10	160.96		3/11	149.44		-11.52
Table 10		6N/30W-7G5	S Ynez off Meadowvale	109	343651120043401	COSB	3/9	90.17		3/10	84.06		-6.11
Table 10		6N/30W-7G6	S Ynez off Meadowvale	110	343651120043402	COSB	3/9	89.67		3/10	83.58		-6.09
Table 10		6N/30W-11G4	Happy Cyn: Westerly	107	343650120002501	COSB	3/28	187.47		3/11	167.00		-20.47
Table 10		7N/30W-16B1	Sedgewick Ranch	116	344127120023301	COSB	3/10	31.43		3/15	26.31		-5.12
Table 10		7N/30W-19H1	SY Upl: Long Cyn Loop	117	344028120041801	COSB	3/10	179.21		3/11	178.85		-0.36
Table 10		7N/30W-22E1	Bar-Go Ranch	118	344023120015101	COSB	3/10	9.47		3/15	9.83	S	0.36
Table 10		7N/30W-24Q1	Starlane Ranch	120	343956119592401	COSB	3/11	54.07		3/11	50.72		-3.35
Table 10		7N/30W-27H1	Bar-Go Ranch	122	343935120010801	COSB	3/10	10.73		3/15	12.63		1.9
Table 10		7N/30W-29D1	SY Upl: Long Cyn Loop	123	343946120035801	COSB	3/10	59.61		3/11	57.02		-2.59
Table 10		7N/30W-30M1	SY Upl: Long Cyn Loop	124	343921120051601	COSB	3/9	275.93	S	3/15	261.86	S	-14.07
Table 10		7N/30W-33M1	300 ft W of Mora Ave	126	343833120030901	COSB	3/28	251.14		3/10	244.22	R	-6.92
Table 10		8N/30W-30R1	Midland School	96	344420120041701	COSB	3/10	23.49		3/10	21.69	S	-1.8
Table 10		6N/29W-6F1	Happy Cyn: Kastner	101	343746119583101	COSB	3/10	19.17		3/11	17.95		-1.22
Table 10		6N/29W-6G1	Happy Cyn: Kastner	102	343746119582201	COSB	3/10	53.97		3/11	52		-1.97
Table 10		6N/29W-7L1	N of Rd to Phillips Rnch	103	343646119583001	COSB	3/11	258.44	F	3/15	230.02		-28.42
Table 10		6N/29W-8P1	Phillips Ranch @ House	104	343632119573301	COSB	3/11	---		---	---		---
Table 10		6N/29W-8P2	Phillips Ranch @ House	105	343632119573302	COSB	3/11	255.58		3/15	242.8		-12.78

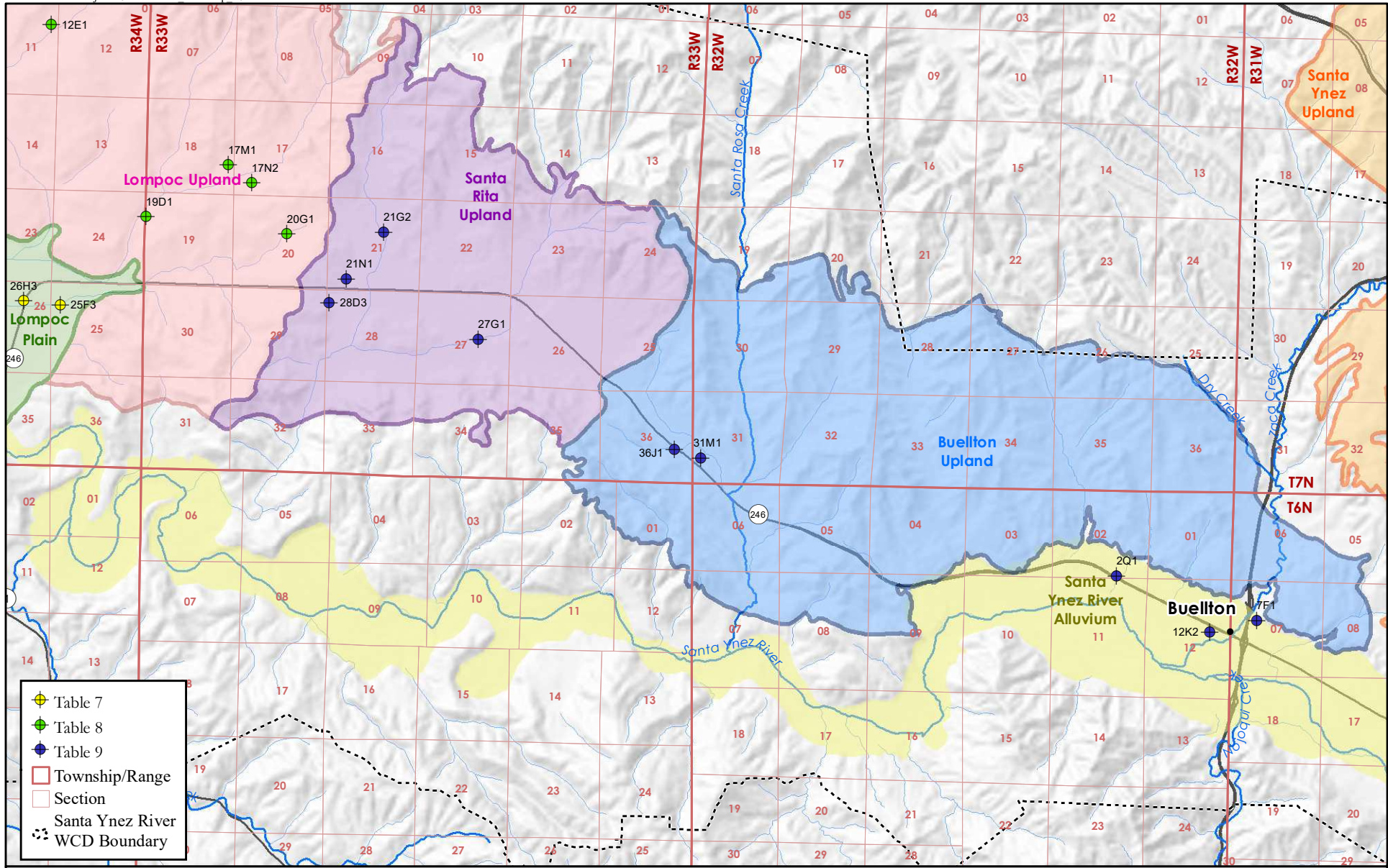


**LOCATION OF WELLS REFERENCED IN TABLE 7, TABLE 8 AND IN FIGURES, LOMPOC TERRACE, LOMPOC PLAIN AND LOMPOC UPLAND SUBAREAS**

0 0.75 1.5 Miles





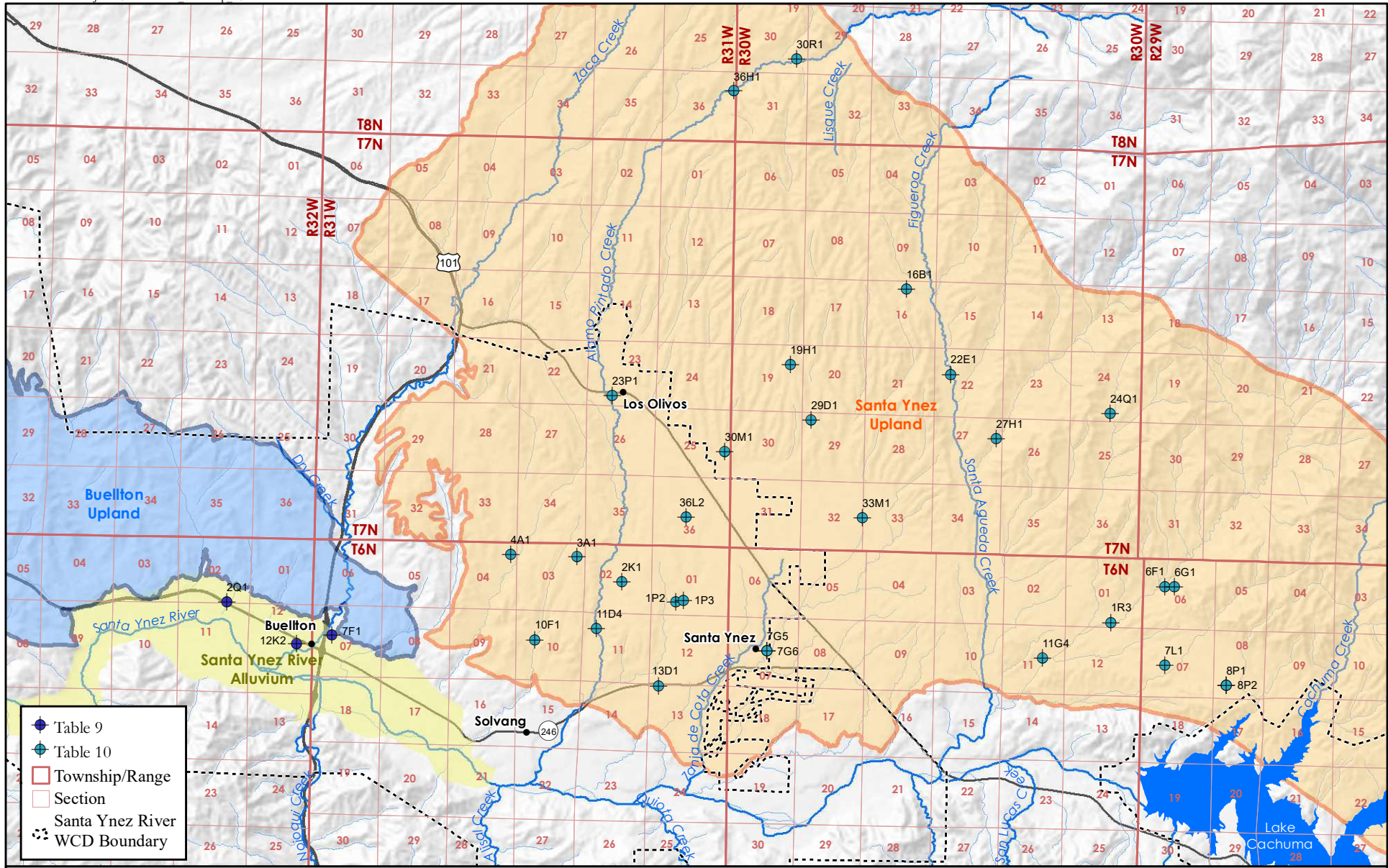


**LOCATION OF WELLS REFERENCED IN TABLE 9,  
SANTA RITA UPLAND AND BUELLTON UPLAND SUBAREAS**

0 0.75 1.5 Miles







LOCATION OF WELLS REFERENCED IN TABLE 10,  
SANTA YNEZ UPLAND SUBAREA

