2020

SAN BENITO COUNTY WATER DISTRICT
ESTABLISHED
NOV. 3, 1953
HOLLISTER, CA

Annual Groundwater Report

TODD GROUNDWATER

ANNUAL GROUNDWATER REPORT 2020

December 2020

TODD GROUNDWATER

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President

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EXECUTIVE SUMMARY

This Annual Groundwater Report for San Benito County Water District (District) describes groundwater conditions in the San Benito County portions of the North San Benito Subbasin of the Gilroy-Hollister Basin. Consistent with past reports, this Annual Report focuses on the District's Zone 6, the zone of benefit for importation of Central Valley Project (CVP) water supply. The Report is prepared at the request of the District Board of Directors and is consistent with the special act of the State that established the District. It documents water sources and uses, groundwater elevations and storage, and management activities for Water Year 2020 and it provides recommendations. Water Year 2020 was characterized by below average rainfall, below average CVP allocations, and stable to slightly decreased groundwater storage in parts of the basin.

This Water Year, the District has continued to develop their Groundwater Sustainability Plan (GSP) in compliance with the Sustainable Groundwater Management Act (SGMA). The area of the plan is the North San Benito Groundwater Subbasin, a Subbasin approved by the Department of Water Resources (DWR) in 2019 that includes the former Hollister, San Juan, and Bolsa subbasins as well as Tres Pinos Valley Basin. The District, as Groundwater Sustainability Agency (GSA) is leading preparation of the Groundwater Sustainability Plan (GSP) in cooperation with the Santa Clara Valley Water District (SCVWD) GSA. Upon adoption by the District and SCVWD boards, the GSP will provide the information and tools for continued groundwater management.

After completion of the GSP, expected late 2021, the District will be required to submit Annual GSP Reports to DWR. This 2020 Annual Groundwater Report continues a transition to an annual groundwater report that meets the requirements of the District Act and satisfies SGMA requirements. This includes expanding the report coverage to address the entire North San Benito Subbasin. The requirements of an Annual Report under SGMA are similar to the current Annual Groundwater Report but will require submittal of the Report to the DWR web portal along with completed data tables with information on water levels and water use. The Annual Groundwater Report for Water Year 2020 includes a detailed list of requirements for a SGMA Annual Report including data uploads and a description of progress towards GSP implementation.

The District has effectively managed water resources in San Benito County for decades. Working collaboratively with other agencies, the District has eliminated historical overdraft, developed and managed multiple sources of supply, established an effective water conservation program, protected water quality, and provided annual reporting. Water Year 2020 witnessed a continuation of these collaborative efforts and significant progress in developing the GSP. The continued partnership of the Hollister Urban Area (including the District, City of Hollister, and Sunnyslope County Water District (SSCWD)) resulted in increased water treatment capacity that significantly enhances opportunities for conjunctive use of CVP and groundwater and improves delivered water quality for municipal costumers. The District's continued public outreach—including preparation of Annual Groundwater Reports—has been an asset to the GSP process and is a foundation for future groundwater management.

1-INTRODUCTION

The San Benito County Water District (District or SBCWD) was formed in 1953 by a special act (District Act) of the State with responsibility and authority to manage groundwater. The District Act authorizes the Board of Directors, at its discretion, to direct staff to prepare an annual investigation and report on groundwater conditions of the District and its zones of benefit, such as Zone 6, the area for distribution of Central Valley Project (CVP) water. As documented in **Appendix A,** the District Act specifies the minimum content of the report should the District choose to prepare one. Annual Reports have been prepared historically to analyze the status of the groundwater basin, to evaluate conditions in the next year, and to provide management recommendations.

With passage of the Sustainable Groundwater Management Act (SGMA) in 2014, the State has created a new framework for groundwater basin management, monitoring, and reporting by local agencies. The District has responded proactively. The District is the exclusive Groundwater Sustainability Agency (GSA) for the North San Benito Groundwater Basin in San Benito County shown on Figure 1-1. This basin was formerly defined as three separate subbasins of the Gilroy-Hollister basin and the Tres Pinos Valley basin. The District is currently preparing a Groundwater Sustainability Plan (GSP) for the North San Benito Basin in cooperation with Santa Clara Valley Water District (SCVWD), which is the GSA for the small portions of the basin within Santa Clara County.

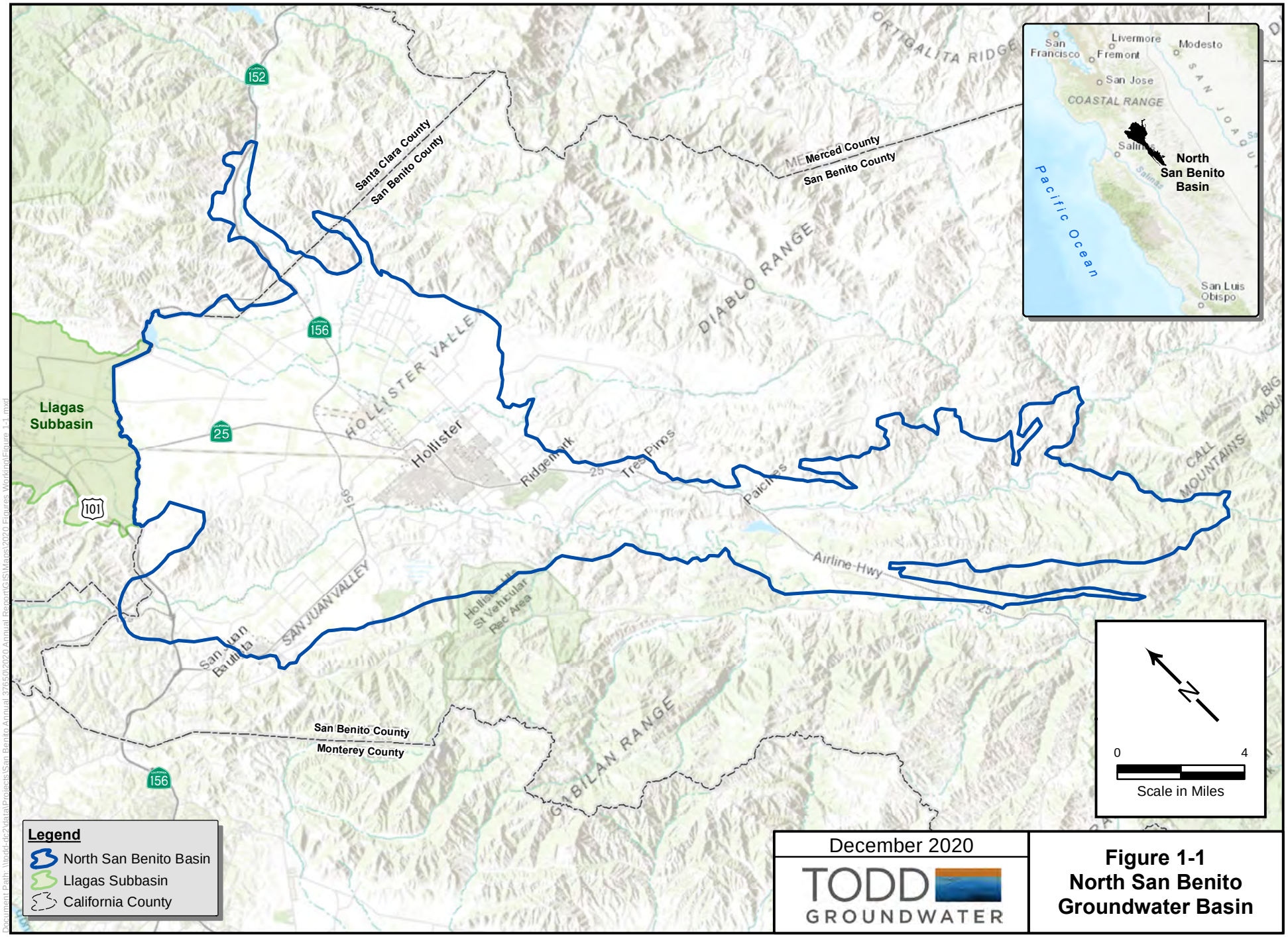
As presented in the GSP, the North San Benito Groundwater Basin has been divided into four management areas, shown in **Figure 1-2**. These management areas are designed to facilitate implementation of the GSP. As of November 2020, the District and Todd Groundwater have completed and made publicly available six draft sections of the plan, participated in three public workshops, and thirteen Technical Advisory Committee meetings. After the GSP is approved and submitted to DWR, the District GSA is responsible for preparing SGMA Annual Reports. The SGMA requirements are similar to the District Act requirements but diverge in the specific data sets that must be included; these specifics are discussed further in Section 6. A notable difference between the requirements is the deadline for submittal. While the Annual Report according to the District Act must be submitted to the board by the second week of December after the end of the water year, the SGMA Annual Report must be submitted by April 1 after the end of the water year. The Annual Groundwater Report for Water Year 2020 follows the District Act. Next year, SGMA requires submittal of an Annual Groundwater Report for Water Year 2021 by April 1; it is recommended that the report submittal schedule be shifted to the April 1 deadline.

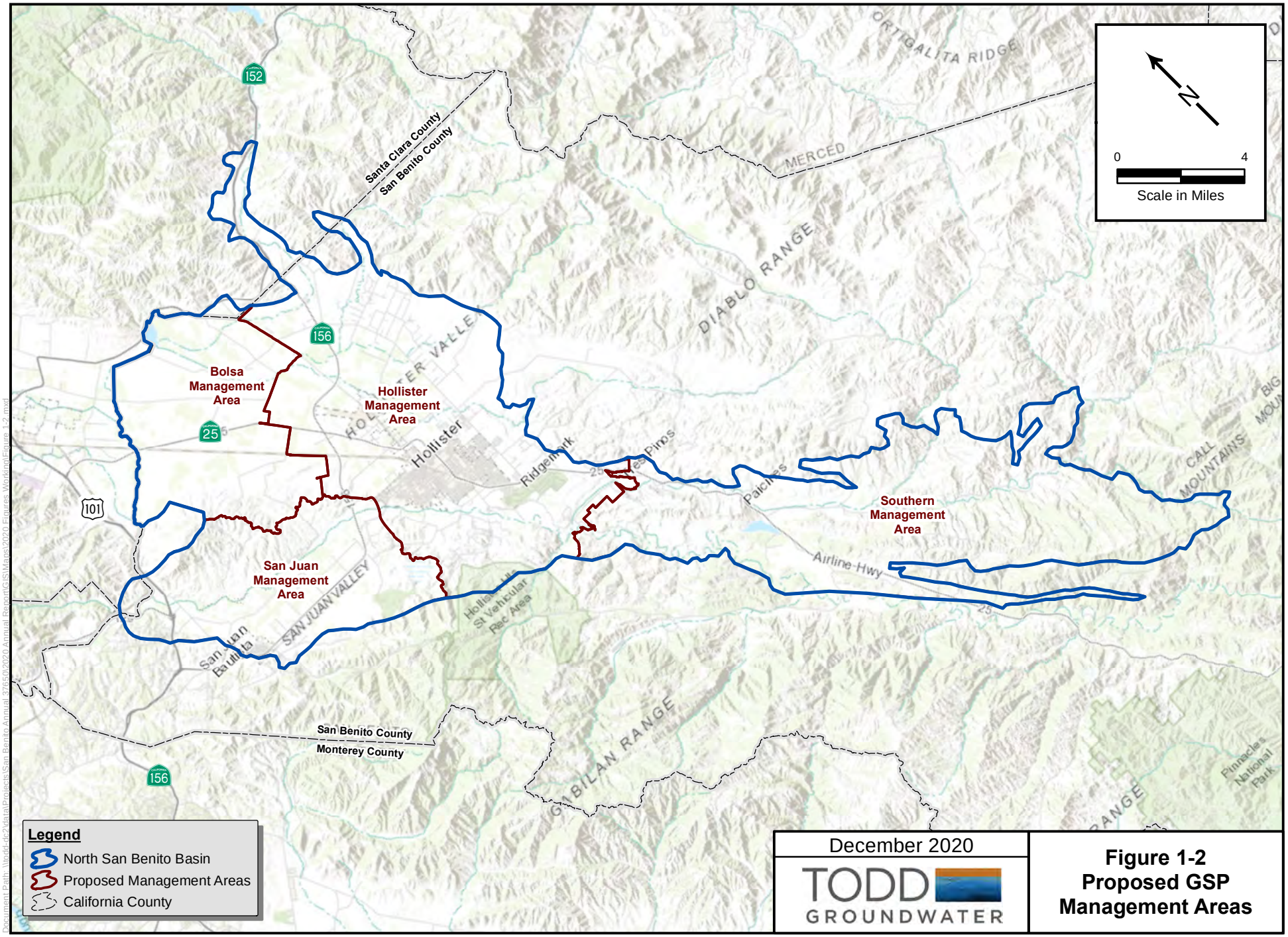
Consistent with the District Act and prepared at the request of the Board, this Annual Report documents water supply sources and use, groundwater elevations and storage, and District management activities from October 2019 through September 2020. It fulfills the minimum content for a District Annual Report and presents an overview of the state of the groundwater basin with recommendations for management. It conveys considerable information, including tables and figures, which are provided largely in **Appendices B through E**. **Appendix F** provides information on water rates and charges and **Appendix G** contains a list of acronyms.

The 2020 Annual Groundwater Report strives to maintain consistency with past Annual Reports while also providing a path to fulfill future requirements for SGMA Annual Reports. Water Year 2020 is the last annual report focused on Zone 6, as described in the District Act. Beginning with Water Year 2021, the Annual Groundwater Report will become a SGMA Annual Report and will comply with SGMA regulations and will satisfy the monitoring and reporting requirements in the District Act.

Acknowledgments

This report was prepared by Iris Priestaf, PhD, Maureen Reilly, PE, Arden Wells, and Chad Taylor, PG, CHG of Todd Groundwater. We appreciate the assistance of San Benito County Water District staff, particularly Jeff Cattaneo, Sara Singleton, Garrett Haertel, and David Macdonald.


Santa Clara County
San Benito County
Merced County
San Benito County
Llagas Subbasin
Hollister
HOLLISTER VALLEY
DIABLO RANGE
ORTIGALITA RIDGE
SAN JUAN VALLEY
San Juan Bautista
Ridgemark
Tres Pinos
Paicines
Airline Hwy
CALL MOUNTAINS
GABILAN RANGE
San Benito County
Monterey County
Hollister St Vehicular Rec Area
152
156
25
101
156
25
Pacific Ocean
San Francisco
Livermore
Fremont
Modesto
San Jose
COASTAL RANGE
Salinas
San Luis Obispo
North San Benito Basin
N
0
4
Scale in Miles
Legend
North San Benito Basin
Llagas Subbasin
California County
December 2020
TODD GROUNDWATER
Figure 1-1
North San Benito Groundwater Basin


Bolsa Management Area
Hollister Management Area
San Juan Management Area
Southern Management Area
Santa Clara County
San Benito County
San Benito County
Monterey County
Hollister
San Juan Bautista
Ridgemark
Airline Hwy
DIABLO RANGE
GABILAN RANGE
CALL MOUNTAINS
ORTIGALITA RIDGE
MERCED
SAN JUAN VALLEY
Pinnacles National Park
152
156
25
101
156
0
4
Scale in Miles
Legend
North San Benito Basin
Proposed Management Areas
California County
December 2020
TODD GROUNDWATER
Figure 1-2
Proposed GSP
Management Areas

2 – GEOGRAPHIC AREA

The geographic area and boundaries of local groundwater basins have been defined differently by the District and by the California Department of Water Resources (DWR) for their specific purposes. Like previous annual reports, this Annual Report has a focus on the San Benito County portions of the Gilroy-Hollister Groundwater Basin, including the previously defined Bolsa, Hollister, and northern San Juan Bautista subbasins. Nonetheless, it is recognized that the North San Benito Basin (Basin)[1] includes portions in Santa Clara County and that it extends farther to the south; the entire basin is the subject of the GSP. To support a transition to SGMA, the monitoring program is being improved and expanded.

District-Defined Subbasins

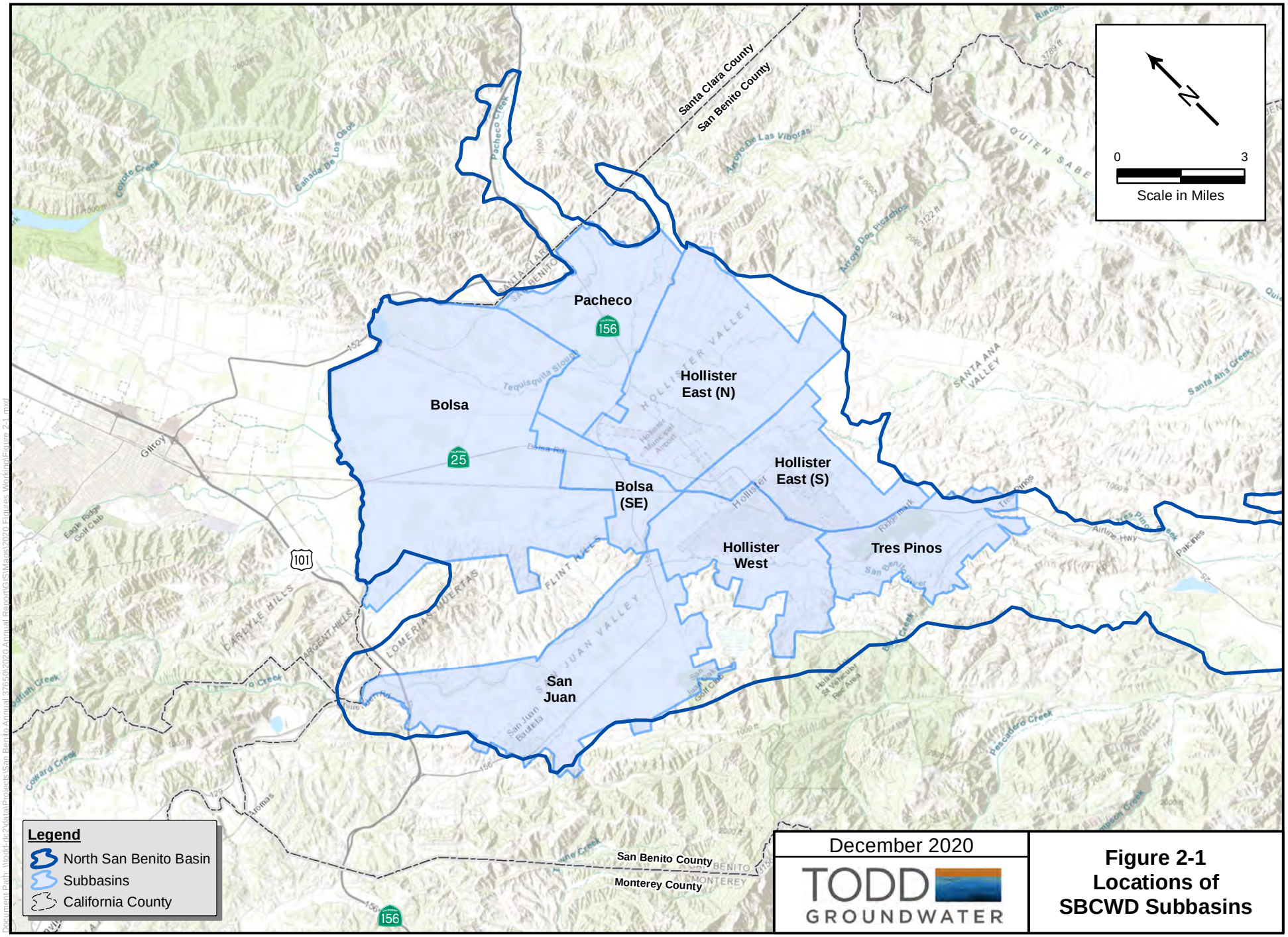
For the past 25 years, the Annual Reports have focused on subbasins delineated in 1996 and based on hydrogeologic and other local factors (e.g., Zone 6 boundaries). These subbasins are shown in **Figure 2-1** in light blue. Six of these subbasins are defined within Zone 6, including Bolsa Southeast (SE), Pacheco, Hollister East (North and South), Tres Pinos, Hollister West, and San Juan subbasins. The seventh is the Bolsa subbasin; of the subbasins shown on the map, only the Bolsa subbasin receives no direct CVP deliveries and relies on local groundwater.

DWR-Defined Basin

As the District proceeds with SGMA planning and implementation, its area of focus is changing from the 1996-defined subbasins and Zone 6 to the North San Benito Basin and GSP area outlined in **Figure 1-1**, in dark blue. All groundwater basins defined by DWR as wholly or partially in San Benito County are shown in **Figure C-1** in **Appendix C.**

Next year, the SGMA Annual Report will report data only on the management areas, shown in red on **Figure 1-2,** not on the District-defined subbasins. The four proposed Management Areas (MAs) have been defined as part of the GSP process to facilitate implementation. A major factor in defining MAs is availability of water sources (e.g., CVP) and Zone 6. While recognizing that water supply availability (in terms of sources, infrastructure, and institutional arrangements) can change in the future, current availability is a reasonable starting point. SBCWD provides local surface water from Hernandez and Paicines reservoirs to a local zone of benefit, Zone 3, and provides imported Central Valley Project (CVP) water to Zone 6. The District-defined subbasins also relied on Zone 6 as a boundary and thus the District-defined subbasins generally fall within the boundaries of the MAs.

[1] The official nomenclature is North San Benito Subbasin of the Gilroy Hollister Basin; it has been assigned DWR Basin Number 3-003.05. For the purposes of this report, it is referred to as North San Benito Basin to clearly differentiate it from previous DWR-defined subbasins and from previous SBCWD-defined subbasins.


Pacheco
Hollister East (N)
Bolsa
Bolsa (SE)
Hollister East (S)
Hollister West
Tres Pinos
San Juan
Santa Clara County
San Benito County
Monterey County
0
3
Scale in Miles
Legend
North San Benito Basin
Subbasins
California County
December 2020
TODD GROUNDWATER
Figure 2-1
Locations of
SBCWD Subbasins

2 – GEOGRAPHIC AREA

The four Management Areas (MAs) are listed below with the District-defined subbasins that they generally encompass:

- Southern MA
- Hollister MA (includes Tres Pinos, Hollister East and West, Bolsa SE, Pacheco subbasins)
- San Juan MA (includes almost all District-defined San Juan subbasin)
- Bolsa MA (includes almost all District-defined Bolsa subbasin)

Hollister and San Juan MAs include portions of Zone 6; Southern and Bolsa MAs do not.

Ongoing District Monitoring Programs

Data from monitoring programs undertaken by local, state, and federal agencies are summarized below as currently incorporated in the Annual Report. The District data compilation and monitoring programs will be expanded and revised in the future as data needs are identified in the GSP, for example to address topics such as potential groundwater dependent ecosystems, and to represent the entire North San Benito Basin.

Climate. Climate data are regularly compiled from DWR's California Irrigation Management Information System (CIMIS) and include: total solar radiation, soil temperature, air temperature/relative humidity, wind direction, wind speed, and precipitation. Additional precipitation data are available from the WRCC station at Hollister from 1934-2020 (WRCC 2020). For the Annual Groundwater Reports, historical annual precipitation has been compiled and reported using the Hollister rain gage for the long-term precipitation and the CIMIS San Benito station for recent monthly precipitation. Monthly precipitation and evapotranspiration for the Hollister #126 CIMIS station are tabulated in **Appendix B**.

Groundwater levels. SBCWD has had a semi-annual groundwater level monitoring program since Water Year (WY) 1977; groundwater level data gathered by USGS and other agencies are available as early as 1913 (Clark, 1924). The Annual Groundwater Reports provide quarterly groundwater level data in **Appendix C** for each year. The data are the basis for groundwater level contour maps, change maps, hydrographs, and storage change computations presented in the Annual Reports. The SBCWD monitoring program includes wells in the Pacheco Valley in Santa Clara County. SCVWD's monitoring program provides data for the southern Llagas Subbasin; these shared data are used in the SBCWD annual groundwater level maps.

SBCWD is the designated CASGEM monitoring agency for the GSP Area; CASGEM data are available from DWR's online Groundwater Information Center Interactive Map (GICIMA).

Water quality. In 1997, SBCWD initiated a program for monitoring nitrate and electrical conductivity (EC) in wells. In 2004, SBCWD established a comprehensive water quality database with records from all water systems and regulated facilities. The database is updated triennially as part of the Annual Report update. Monitoring for the Salt and Nutrient Management Plan is closely coordinated with ongoing monitoring and Annual Report updates. State-wide sources of groundwater quality data include the Water Data Library (WDL), Geotracker/GAMA program, and the State Water Resources Control Board's

Division of Drinking Water. These are accessed for the triennial update of the SBCWD Water Quality Database; the next update is planned for the Annual Report Water Year 2022.

Reservoirs. The Annual Report summarizes reservoir water budget information for Hernandez, Paicines, and San Justo reservoirs and provides annual total releases from Hernandez and Paicines reservoirs from Water Year 1996 to present. Reservoir storage and release data are available in **Appendix D**.

Surface water flows and percolation. Surface water monitoring and percolation are summarized in **Appendix D** of the Annual Groundwater Reports. For Water Year 1994 to present, percolation of imported CVP water is documented in **Table D-3** and percolation of wastewater is shown in **Tables D-4 and D-5**. The District temporarily suspended its surface water monitoring network but plans to relaunch surface water monitoring at selected sites as part of SGMA implementation. This water year, the District continues to expand their off-stream percolation locations for CVP recharge, including the addition of the Hollister percolation ponds located off stream along the San Benito River.

Wells and groundwater pumping. SBCWD monitors groundwater pumping in Zone 6 using electrical meters. Pumping amounts are calculated semiannually by metering the number of hours of pump operation and multiplying by the average discharge rate. This monitoring program began in about 1990 (soon after CVP imports started) and was based on recognition that CVP imports resulted in reduced pumping, increased recharge, and sustainable groundwater storage with regional benefits to groundwater users. Irrigation pumping beyond Zone 6 is not monitored but has been estimated for regular water budget updates based on land use information and water use factors. This method of estimating groundwater pumping will be replaced as part of SGMA implementation. The District is currently developing a new water use monitoring program that will address the entire GSA area and will be documented in future SGMA Annual Reports. Groundwater pumping estimates using the existing method for Zone 6 are summarized by major use category and subbasin in **Appendix E**, which also provides information on CVP use in Zone 6.

Units and accuracy. Throughout this report, water volumes and changes in storage are shown to the nearest acre-foot (AF). These values are accurate to one to three significant digits (depending on the measurement). All digits are retained in the text to maintain as much accuracy as possible during subsequent calculations, but results should be rounded appropriately.

3-GROUNDWATER CONDITIONS

The Annual Report summarizes basin conditions including climate, groundwater elevations, groundwater storage, and groundwater level trends. Overall, Water Year 2020 was a below-average hydrologic year, and while the above-average CVP allocations of the last USBR year carried over to this water year, new allocations were also below average.

Climate

Assessment of climatic conditions begins with collection of climate data (rainfall and evapotranspiration), which are summarized in **Appendix B**. Local rainfall amounts are compiled on a monthly basis and reviewed as an increasingly variable factor that affects basin inflows (e.g., deep percolation) and outflows (groundwater pumping). Recognizing that drought often is extensive across California, local dry years also may be indicative of regional drought and reduced CVP allocations. Dry years often are characterized by increased groundwater pumping for agricultural irrigation to offset lack of rainfall and reduced CVP allocations.

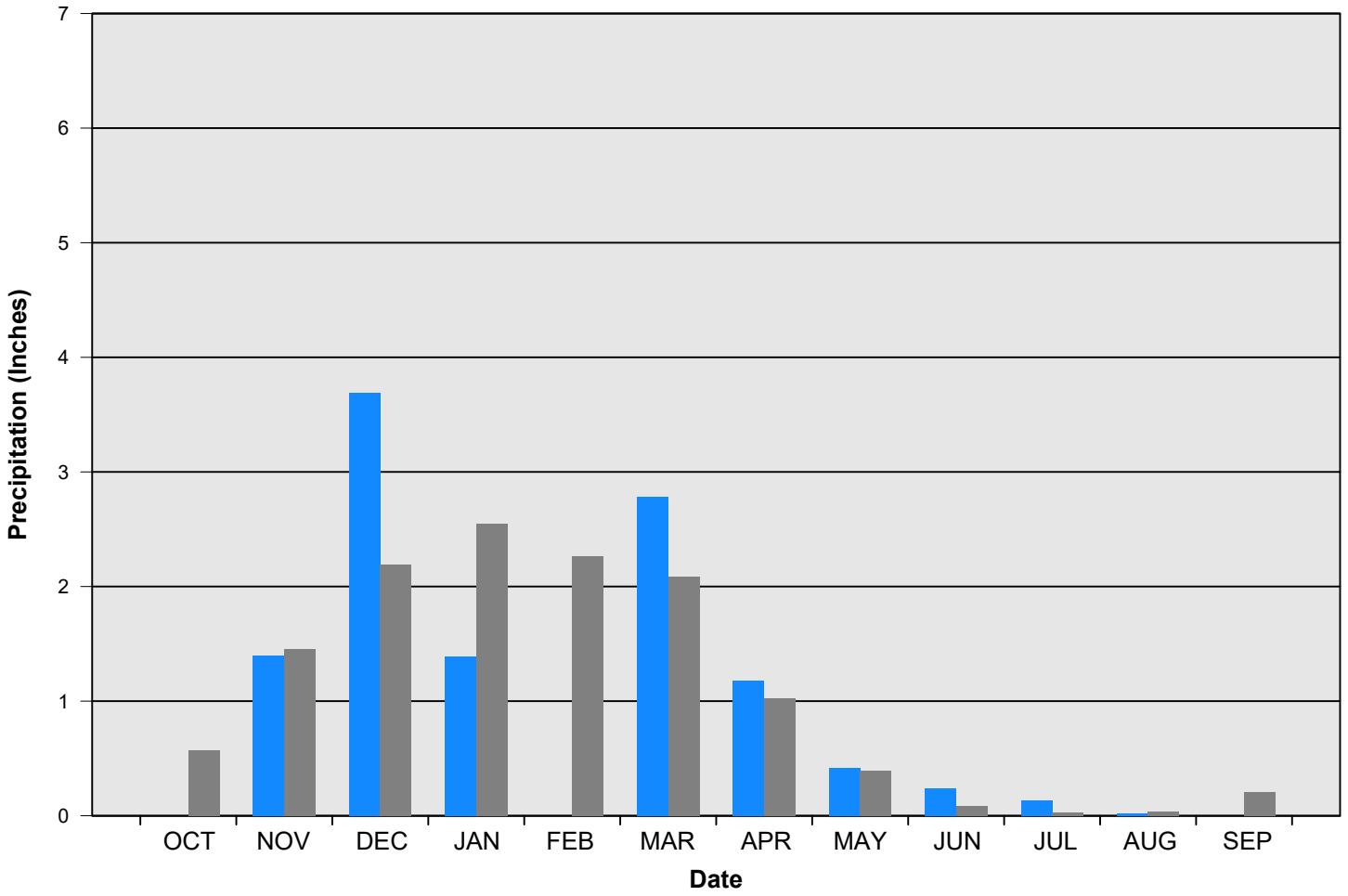
In 2020, overall precipitation was 11.25 inches; monthly totals are shown in **Figure 3-1.** December and March received higher than normal precipitation, but January and February were relatively dry. Monthly rainfall and evapotranspiration data can be found in **Appendix B**. Water year 2020 was below normal with only 87 percent of the long term average, as illustrated in **Figure 3-2**, which shows annual precipitation and water year type from 1976 through 2020. NOAA's weather forecast for the winter 2020-2021 predicts a 33 to 50 percent chance of less than average rainfall for the central coast region (NOAA 2020).

The Annual Report has relied on CIMIS station #126 since Water Year 1995. The station, located in Hollister, is hosted by the District and maintained by DWR. In recent years, precipitation data have been affected by periodic irrigation overspray that has been recorded on the sensors.

Groundwater Elevations

In October 2020, the District collected groundwater elevations in 91 wells from their existing network and 9 additional wells from Santa Clara Valley Water District. **Figure 3-3** shows the well locations in the current monitoring network and **Figure 3-4** shows the groundwater elevation contours for October 2020. The maps do not include the southernmost portions of the North San Benito Basin where no groundwater level monitoring wells currently are located.

Over 2020, groundwater elevations declined slightly throughout most the basin. For the past three years, the basin had been recovering from the most recent drought (2013-2016). This year's decline in groundwater storage signals a pause to that recovery; groundwater levels may decline further with the reduced CVP allocations for this year and with a relatively dry winter. More information is in **Appendix C.**



2020 - (11.25 in)

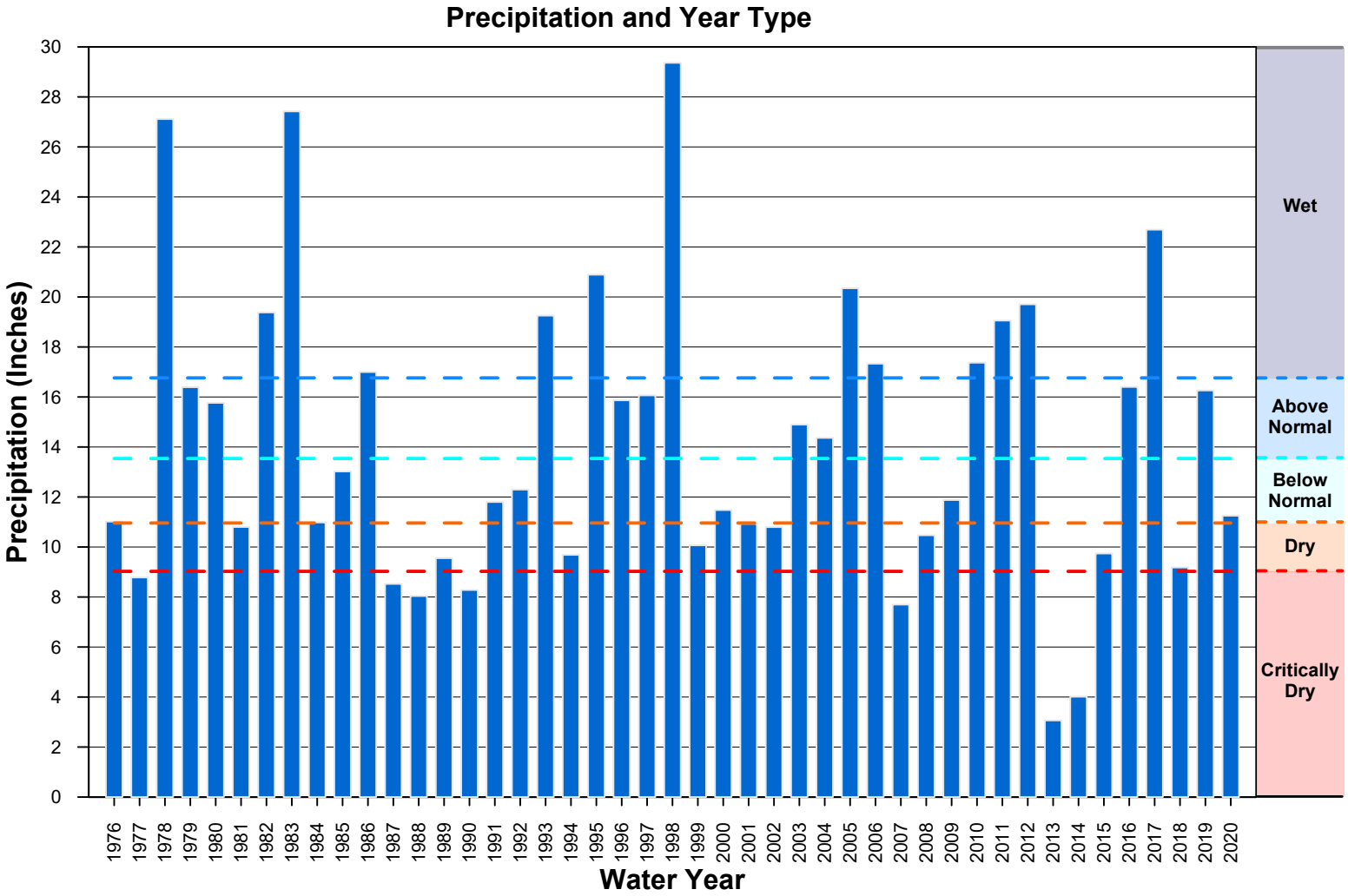
Average - (12.9 in)

Source: CIMIS

December 2020

TODD GROUNDWATER

Figure 3-1
Water Year 2020
Precipitation

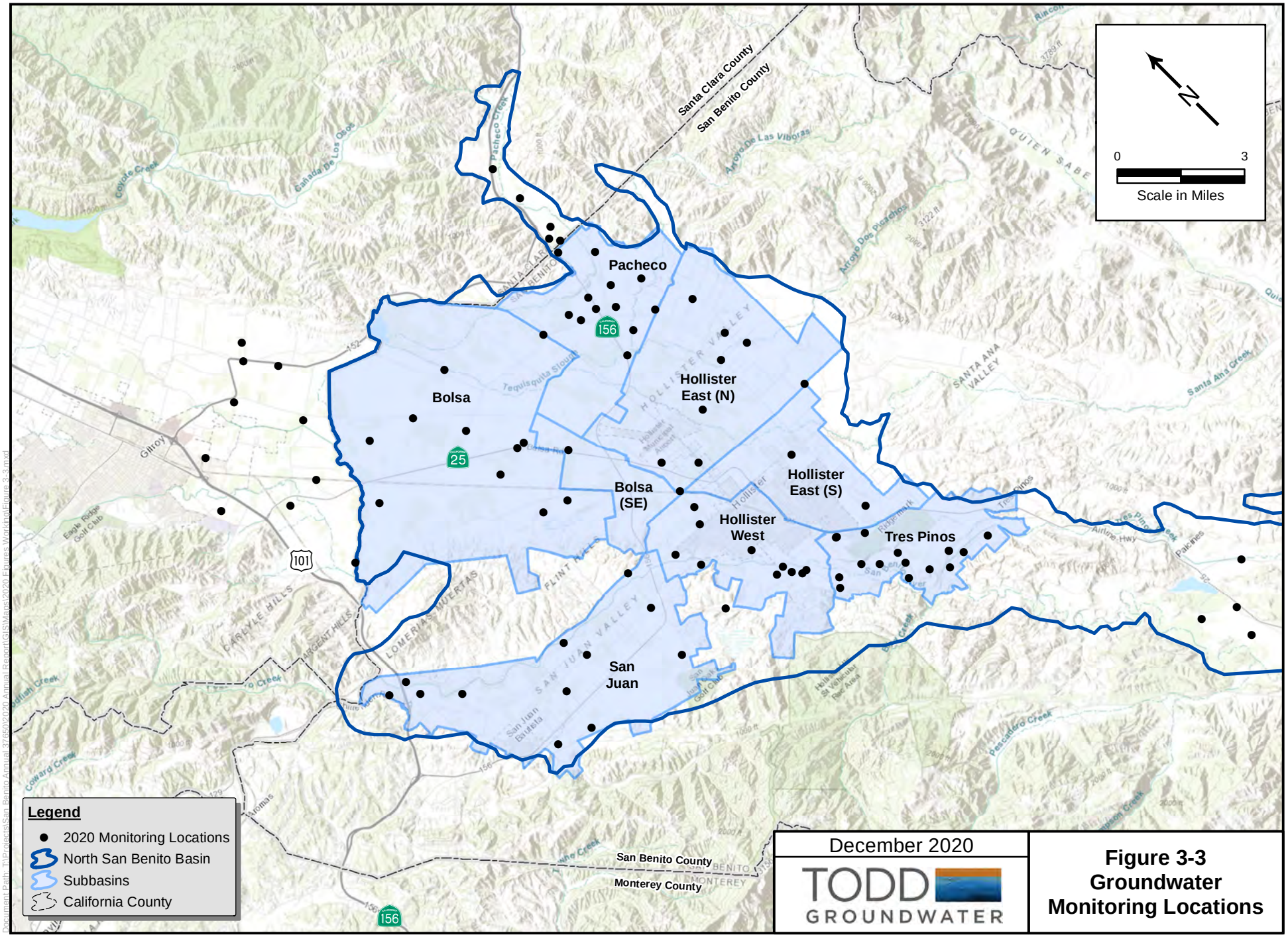


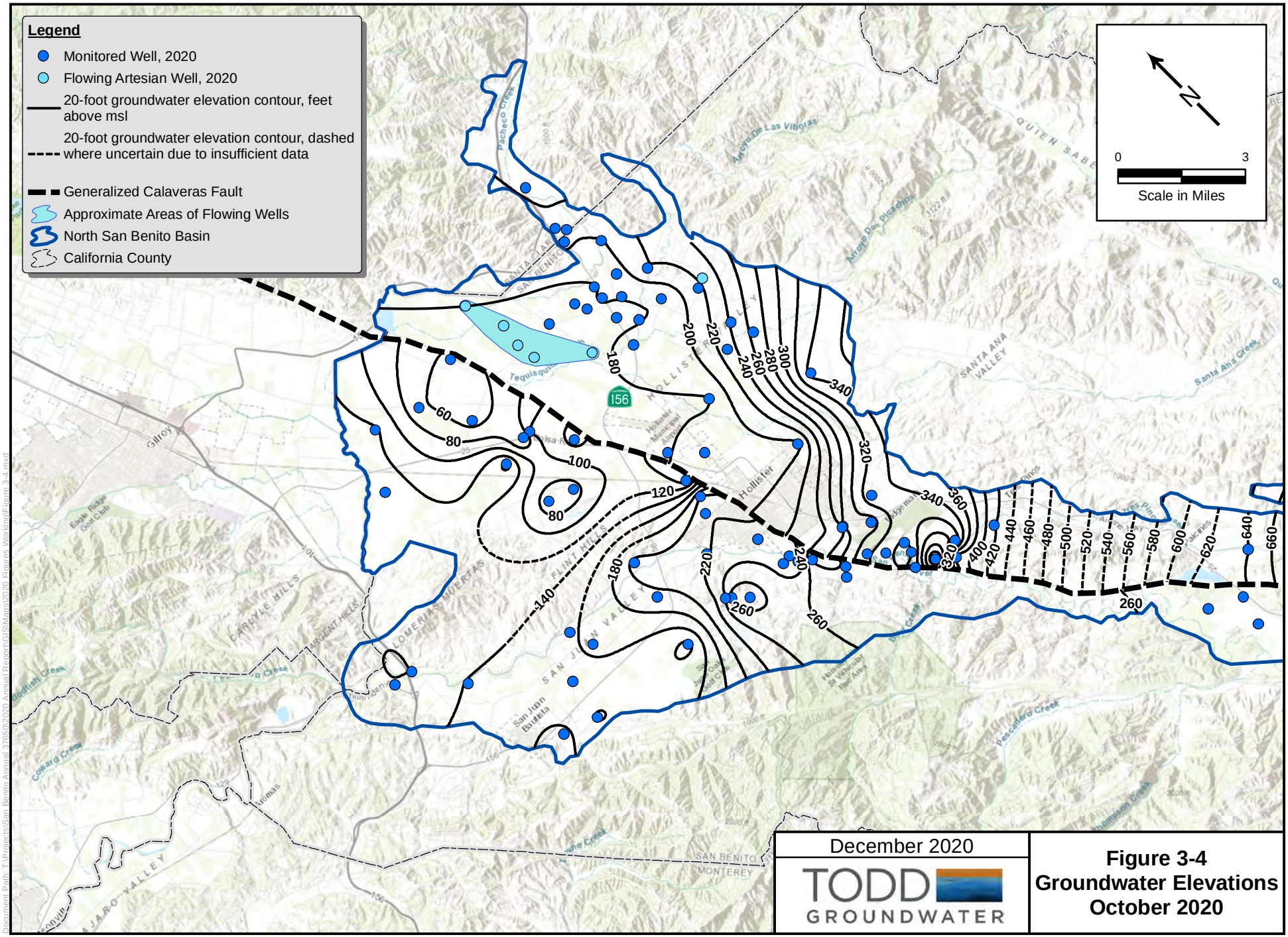
Source: WRCC Hollister 1 and Hollister 2 Stations

December 2020

TODD GROUNDWATER

Figure 3-2
Annual Precipitation
1976-2020


Santa Clara County
San Benito County
Pacheco
Hollister East (N)
Bolsa
Bolsa (SE)
Hollister East (S)
Hollister West
Tres Pinos
San Juan
N
0
3
Scale in Miles
Legend
2020 Monitoring Locations
North San Benito Basin
Subbasins
California County
San Benito County
Monterey County
December 2020
TODD GROUNDWATER
Figure 3-3
Groundwater
Monitoring Locations


Legend
Monitored Well, 2020
Flowing Artesian Well, 2020
20-foot groundwater elevation contour, feet above msl
20-foot groundwater elevation contour, dashed where uncertain due to insufficient data
Generalized Calaveras Fault
Approximate Areas of Flowing Wells
North San Benito Basin
California County
N
0
3
Scale in Miles
December 2020
TODD GROUNDWATER
Figure 3-4
Groundwater Elevations
October 2020

Change in Storage

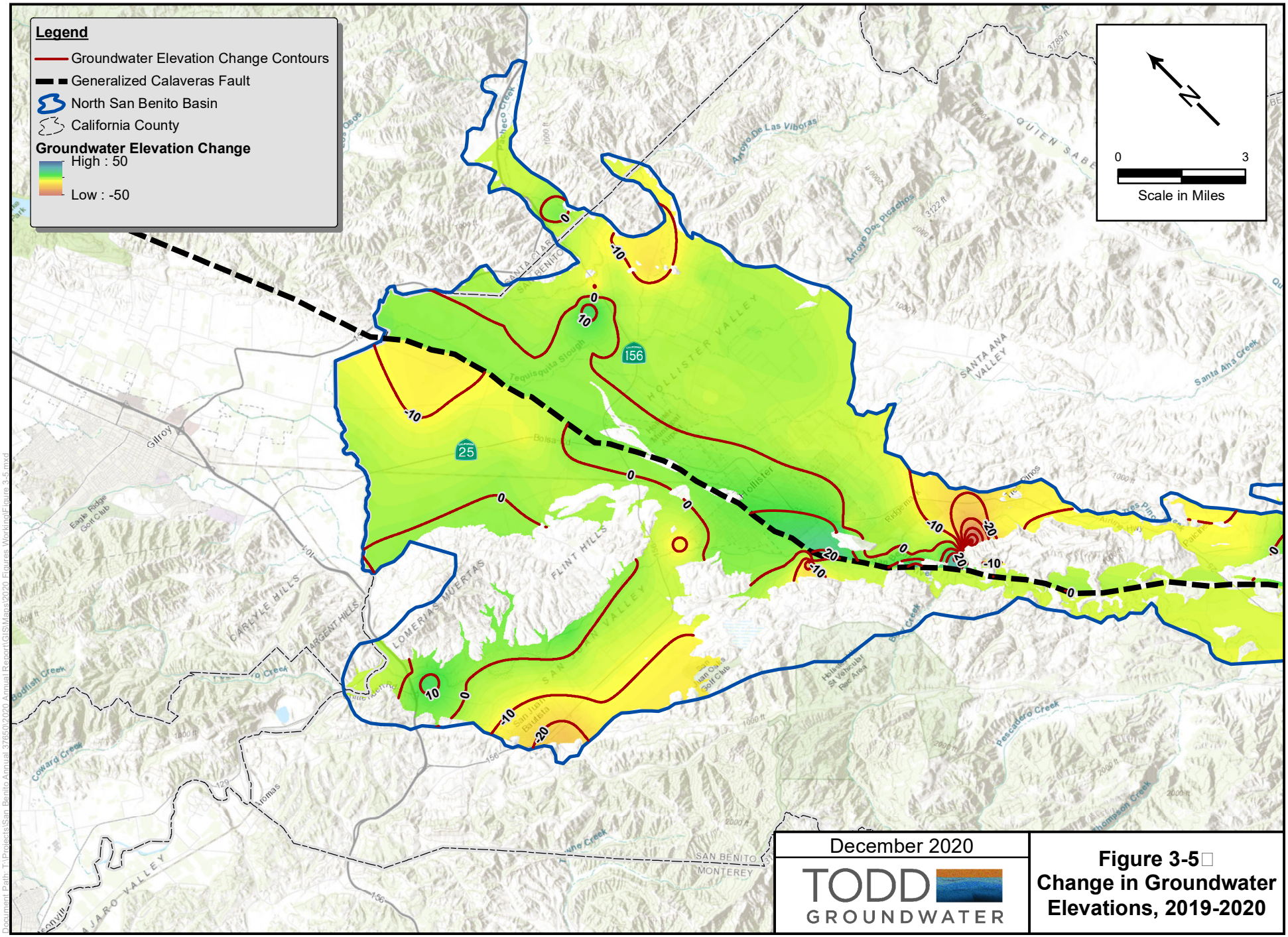
Change in groundwater in storage was calculated using the groundwater elevation changes from October 2019 to October 2020. In **Figure 3-5**, change is displayed spatially with a color ramp (see legend), ranging from red (that would indicate as much as a 65-foot decline in groundwater levels) to blue (that indicates a 65-foot or more increase in levels). Relative to 2019 most areas have shown slight decreases (less than 20 feet). The apparent large groundwater level decrease (more that 50 feet) in the southern area is mostly due to missing measurements from a well that was inaccessible in 2020. In Zone 6, the negative change in storage this water year (5,820 AFY) is similar to the positive change in storage observed last year from 2018 to 2019 (6,123 AFY). **Figure 3-6** is a stacked bar graph that shows the change in storage by subbasin from 2006 to 2020.

Change in storage is the net volume of water added to or removed from the basin over the water year. The change in storage was determined by first calculating the total bulk change in volume by multiplying the change in groundwater elevations (feet) and by the total area (acres). This bulk change in volume was then multiplied by the average storativity of the subbasin, namely the amount of water produced from a given volume of the aquifer. The storativity values for each subbasin were derived from previous numerical models of the basin, and these values have been used in all previous Annual Reports. **Table 3-1** documents the change in groundwater storage; as in previous Annual Reports, change in storage is reported on the basis of the 1996 District-defined subbasins, Zone 6, and the total of these subbasins.

As part of SGMA implementation, future groundwater storage change will be calculated by the numerical model. The new numerical model developed for the GSP can calculate storage change volumetrically (inflow-outflow) instead of by groundwater elevation change, so its estimate may vary from storage changes calculated for the Annual Reports. For Water 2021, the SGMA annual report will include an update of the model inflows and outflows. The simulated change in storage will be presented in the Water Year 2021 Annual Report.

Table 3-1. 2020 Change in Groundwater Storage

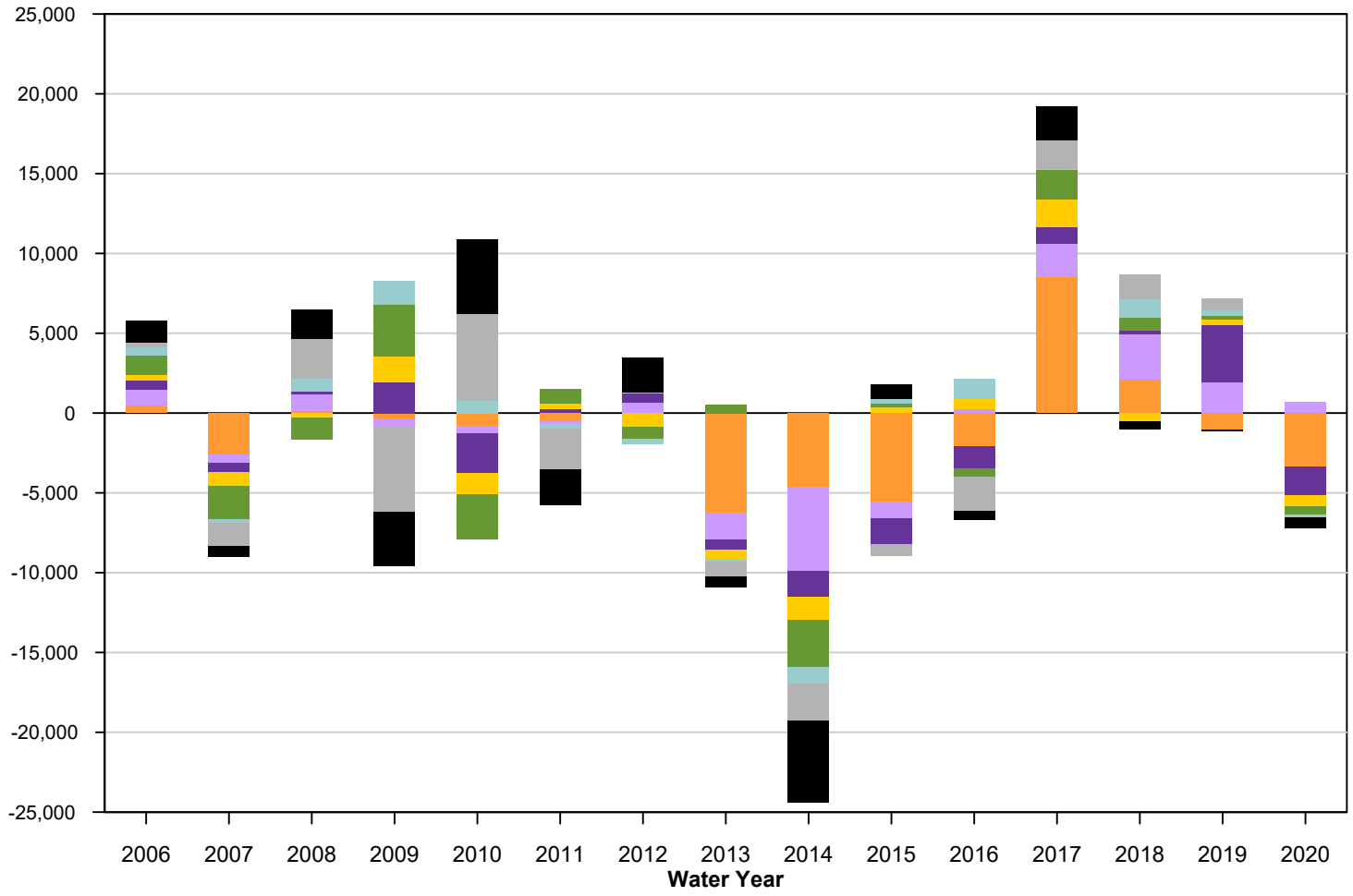
1996-defined Subbasin	Subbasin Area (Acres)	Average Change in Groundwater Level (feet)	Average Storativity	Change in Storage (Acre-Feet)
San Juan	11,708	(5.78)	0.05	(3,383)
Hollister West	6,050	2.26	0.05	684
Tres Pinos	4,725	(7.63)	0.05	(1,803)
Pacheco	6,743	(3.23)	0.03	(654)
Northern Hollister East	10,686	(1.61)	0.03	(516)
Southern Hollister East	5,175	(1.19)	0.03	(185)
Bolsa SE	2,691	0.17	0.08	37
TOTAL ZONE 6				**(5,820)**
Bolsa	20,003	(3.29)	0.01	(658)
TOTAL All Subbasins				**(6,478)**



December 2020

TODD GROUNDWATER

Figure 3-5
Change in Groundwater Elevations, 2019-2020



San Juan
Hollister West
Tres Pinos
Pacheco
Northern Hollister East
Southern Hollister East
Bolsa SE
Bolsa

December 2020

TODD GROUNDWATER

Figure 3-6
Change In Storage

Groundwater Trends

Figure 3-7 shows hydrographs of key wells, illustrating long term groundwater elevation changes throughout the basin. These wells and other representative wells were selected because of their long monitoring records, recent monitoring, and trends that illustrate regional observed patterns.

Southern Management Area. Although the District has monitored selected wells in the Southern MA since 2001, elevation data remain limited throughout the MA. Due to topography and groundwater flow direction, water levels in the Southern MA are about 400 ft higher than those in the Hollister MA, about nine miles away. Well 14-7-20K shows that water levels reached a local maximum during 2006, decreased to a local minimum during the drought in 2013-2015, and recovered through 2019. In 2020 groundwater levels decreased slightly, but the decrease is within the range of normal fluctuations for this well. In general, the water level trend observed in 14-7-20K is similar to that of other MAs.

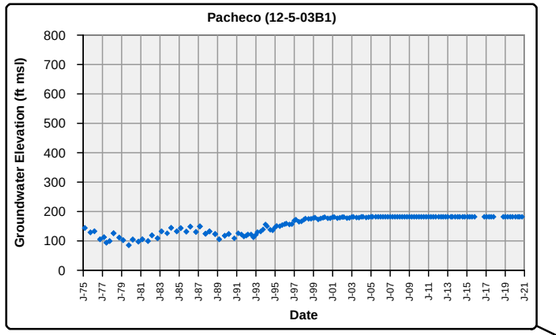
Hollister Management Area. The hydrograph for well 12-5-23A20 exemplifies the general groundwater level trend in the Hollister MA. This well showed relatively low groundwater levels during the 1970s (before CVP), followed by a steady increase to local high elevations in 2006. Water elevations have remained somewhat steady since that time. A small decrease was observed during the most recent drought (2013-2015). Water levels in 2020 have maintained this generally steady trend. Well 13-6-19K1 in Tres Pinos subbasin shows a similar but more muted pattern of recovery. Groundwater elevations have remained fairly consistent, increasing and decreasing slightly with respective wet and dry years. Due to its location, this well is influenced more by inflow from upgradient groundwater than by local pumping.

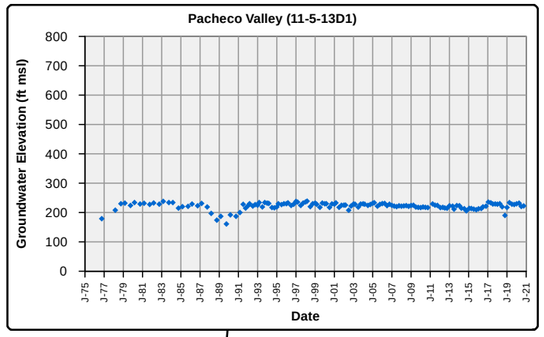
San Juan Management Area. Groundwater elevations have remained steady in the two key wells in the San Juan MA. Groundwater levels in well 12-4-26G1, in the north-central part of the basin, remained steady from 2019 to 2020. Water levels in this well decreased slightly in the most recent drought (2013-2015). While not shown in a hydrograph, groundwater levels in the southwestern San Juan MA decreased from 2019 to 2020 (see Figure 3-5). Well 12-4-17L20, near the outflow of the basin, has maintained relatively steady groundwater levels for the past 40 years.

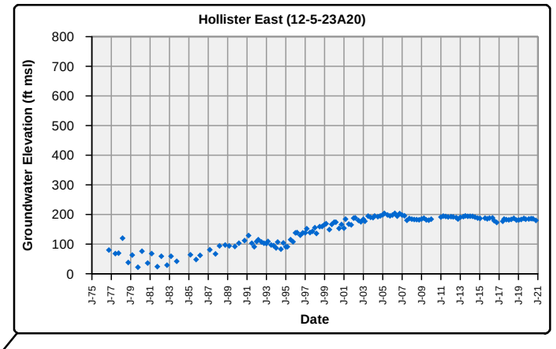
Bolsa Management Area. The Bolsa MA includes artesian wells like 12-5-03B1. These artesian conditions are likely due to local confined conditions created by local clay layers in the northern Bolsa and Hollister MAs. Groundwater elevations increased from 1992 until about 1998, which they pressurized to above ground surface. While the groundwater pressure head above the ground surface elevation may vary in artesian wells, artesian groundwater levels are challenging to measure. Consequently, all artesian wells in the San Benito are recorded as having a groundwater elevation at ground surface elevation.

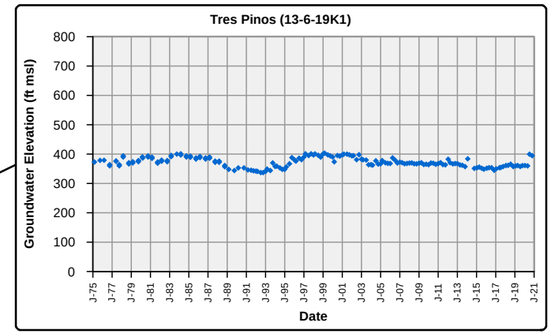
3-GROUNDWATER CONDITIONS

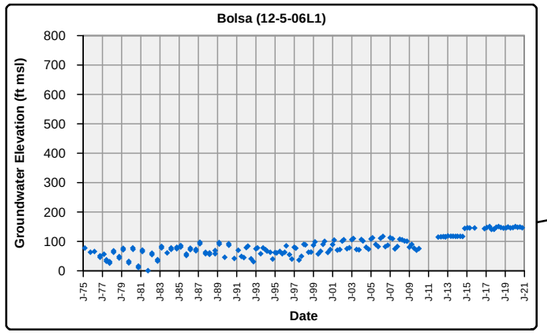
The District Act (see **Appendix A**) requires presentation of estimates of annual overdraft for the current water year and ensuing water year. Consistent with previous Annual Reports, this would be represented by long-term groundwater level declines with accounting for rainfall conditions and CVP imports. As of 2020, groundwater elevation trends do not indicate overdraft. Recovery following the drought indicates that overdraft is not anticipated for 2020. For future SGMA Annual Reports, groundwater elevation maps showing the seasonal high and lows for the water year will be required. A spring map showing contours in April will be added to the Annual Report and will be compared to the October maps usually included. In addition, hydrographs showing groundwater elevations and water year type are required. While the data are presented here in separate charts, the information will be combined for future reports.

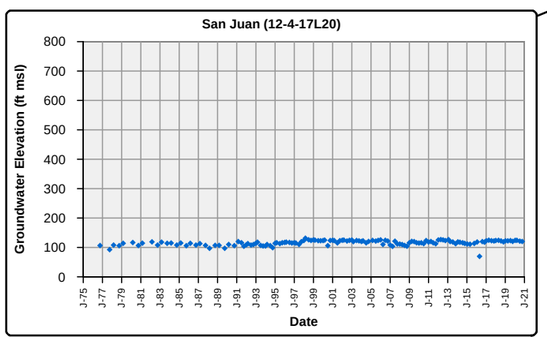


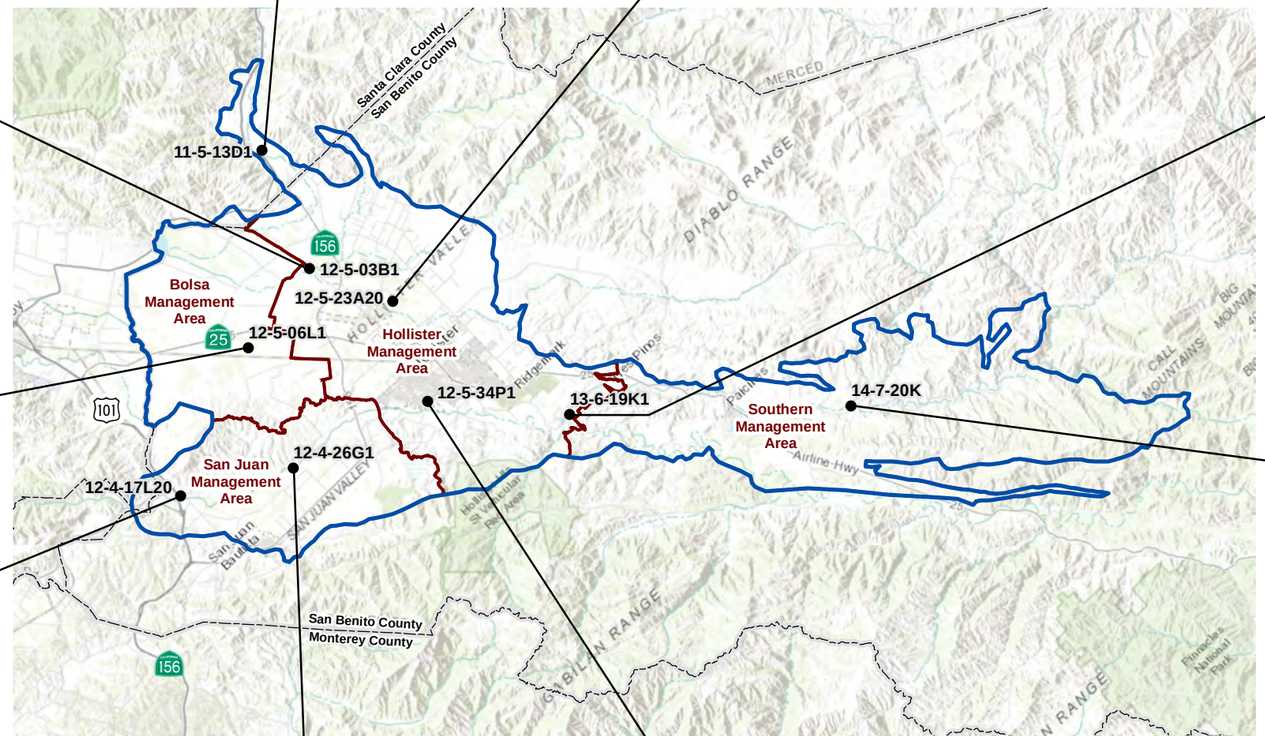


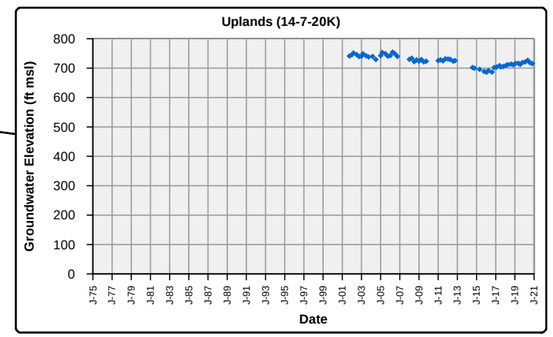


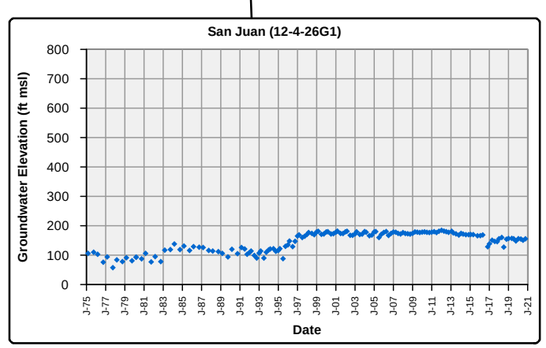


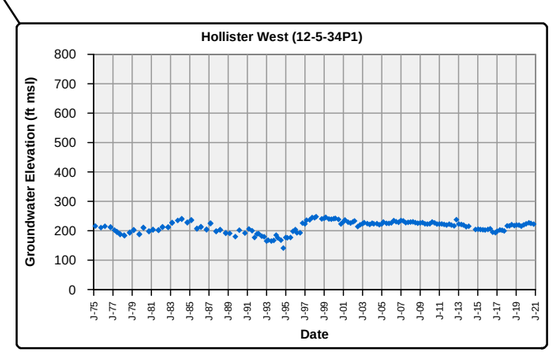












Legend

- Long Term Hydrograph Locations
- North San Benito Basin
- Proposed Management Areas
- California County

N

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Scale in Miles

December 2020

TODD GROUNDWATER

Figure 3-7
Water Level Hydrographs

4-WATER SUPPLY AND USE IN ZONE 6

Water Supply Sources

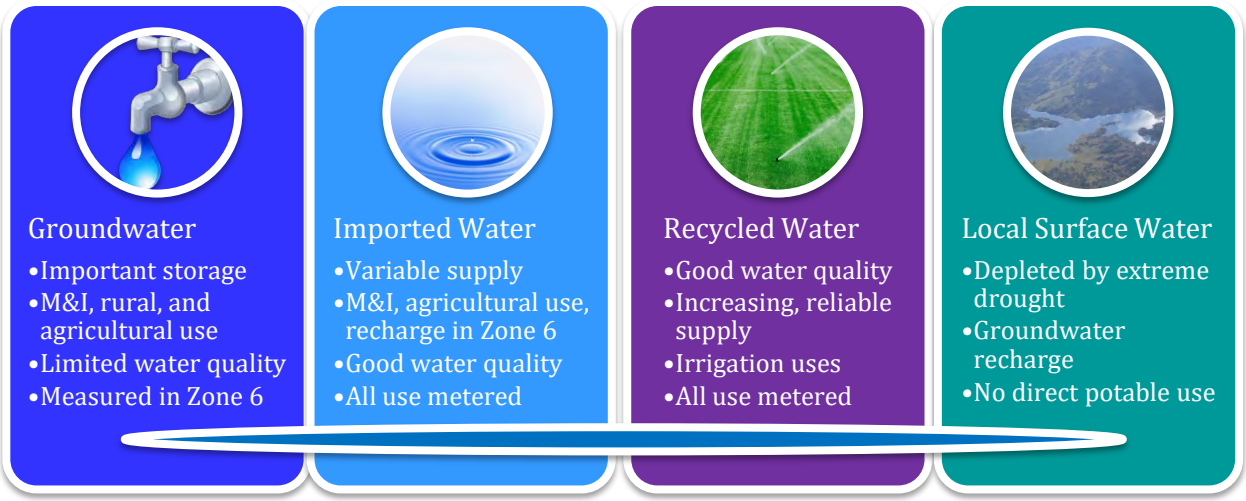
Four major sources of water supply are available for municipal, rural, and agricultural water demands in Zone 6. These are summarized below; for more data and graphs, see **Appendix E.**

Local Groundwater. Groundwater is pumped by private irrigation and domestic wells and by public water supply retailers. The District does not directly produce or sell groundwater but has the responsibility and authority to manage groundwater throughout San Benito County.

Imported Water. The District purchases Central Valley Project (CVP) water from the U.S. Bureau of Reclamation (USBR) and distributes to customers in Zone 6. Some CVP water has also been released for groundwater recharge. The District has a 40-year contract (extending to 2027 and renewable thereafter) for a maximum of 8,250 AFY of municipal and industrial (M&I) water and 35,550 AFY of agricultural water.

Recycled Water. Water recycling began in 2010 with landscape irrigation at Riverside Park. The system was expanded in 2014, including infrastructure and treatment capability for the purpose of agricultural irrigation. Recycled water currently is provided to approximately 865 acres for agricultural production and landscape irrigation. This source is reliable during drought and helps secure a sustainable water supply.

Local Surface Water. Surface water is not used directly for potable or irrigation use in the basin, but creek percolation is a significant source of groundwater recharge. In 2020, releases from the District's Hernandez and Paicines reservoirs were slightly above and slightly below average, respectively , contributing to recharge of the groundwater basin. Stormwater capture currently is limited to some diversion by the City of Hollister to the Hollister Industrial WWTP (via a combined sewer system) with subsequent treatment and discharge to percolation and evaporation ponds.



Available Imported Water

The District distributes CVP water to agricultural and M&I customers in Zone 6. The allocation of the contract for each year is variable and contingent on total available supply of the CVP system. In dry years, the allocation may be zero and in wet years, it may be 100 percent of the contract amount. The USBR contract years are March through February, so Water Year 2020 (Oct 2019-Sept 2020) overlapped two contract years. The above-average hydrological conditions of last year resulted in increased allocations for the March 2019-February 2020 contract year but the below-average hydrological conditions of the current water resulted in relatively low allocations. **Table 4-1** shows the contract entitlements and recent allocations for both USBR contract years that overlap Water Year 2020 (SLDMWA 2020).

As shown in **Table 4-1**, USBR contract year 2019 (March 2019 - February 2020) allocations were 75 percent and 100 percent for agricultural users and M&I users respectively. For USBR contract year 2020 (March 2020 - February 2021), allocations were 20 percent and 70 percent for agricultural users and M&I users, respectively. While both years were above the average allocations for municipal users, the current water year was less than the average allocation of agricultural uses; for the last ten years (2011-2020), the average allocations were 39 percent and 66 percent for agricultural users and M&I users respectively.

Table 4-1. Allocation for USBR Water Years 2019-2020

March 2019 - February 2020

	Contract	% Allocation	Allocation Volume (AF)
Agriculture	35,550	75%	26,663
M&I	8,250	100%	8,250
TOTAL	43,800		34,913

March 2020 - February 2021

	Contract	% Allocation	Allocation Volume (AF)
Agriculture	35,550	20%	7,110
M&I	8,250	70%	5,775
TOTAL	43,800		12,885

Reported Water Use

Table 4-2 shows the total reported water use in Zone 6 by source and user type for Water Years 2019 and 2020. Municipal use is metered. Agricultural CVP water use is recorded and agricultural groundwater use in Zone 6 is estimated using power meters. Independent estimates of total groundwater pumping based on crop type and irrigation rates generally indicate more groundwater use than is reported by the meters. At this time, the Annual Groundwater Report continues to use the reported water use to allow for consistency of analysis from year to year. The District is currently developing a program that will accurately estimate groundwater use over the entire basin area. Future SGMA annual reports will provide an assessment of pumping in Zone 6 and throughout the basin.

In Water Year 2020, total water use increased slightly (10 percent) from 2019, consistent with the five-year average. Reported water use increased for all user types and most water sources. However, recycled water use decreased 8 percent, slowing the growth of this new water source that has been occurring over the last four years.

Figure 4-1 shows Zone 6 reported water use by source since 1988. Overall, the graph indicates that water use since 2008 has remained steady with the exception of higher than normal water use in 2013 and 2018. The average total water use from 2008 to 2020 was 39,000 AFY; in the preceding period of the same length 1995-2007, the average water use was 45,000 AFY, reflecting 15 percent less water use in recent times. The reduction in water use may be the result of a combination of reduced supply of CVP imported during dry conditions, changes in crops and irrigation practices, and/or improved water conservation. Water conservation efforts that began during the 2013-2016 drought continue to moderate water use in the basin. The graph also shows the general balance between CVP and groundwater use; groundwater represented a large portion of the supply during the drought and following year when CVP water was curtailed. Since 2000, CVP supply has represented 14 to 54 percent of supply largely controlled by the allocation for agricultural users; allocations have ranged from 0 to 100 percent of contract over this period. In Water Year 2020, groundwater was 54 percent of the total reported water use, CVP represented 45 percent of supply, and recycled water was 1 percent.

Figure 4-2 illustrates the use of groundwater and CVP supply by user type in Zone 6. Groundwater use is shown in green. The darker green represents agricultural water use and the lighter green represents domestic and municipal use. Similarly, CVP use is shown in blue – where light blue is agricultural use and dark blue is domestic and municipal. While total water use has remained fairly stable, the portion served by groundwater varies based on CVP allocations. On **Figure 4-2,** this can be seen during the 2013-2016 period when CVP allocations were minimal and groundwater use increased. In recent years, municipal demand has transitioned. Historically municipal demand was satisfied totally by groundwater and currently more than half is served by CVP; this is due to expansion of treatment capacity for CVP municipal use with the Lessalt and West Hills Treatment Plants. In Water Year 2020, 58 percent of municipal supply was served by CVP imports.

Table 4-2. Total Water Use in Zone 6 by User and Water Source 2019-2020

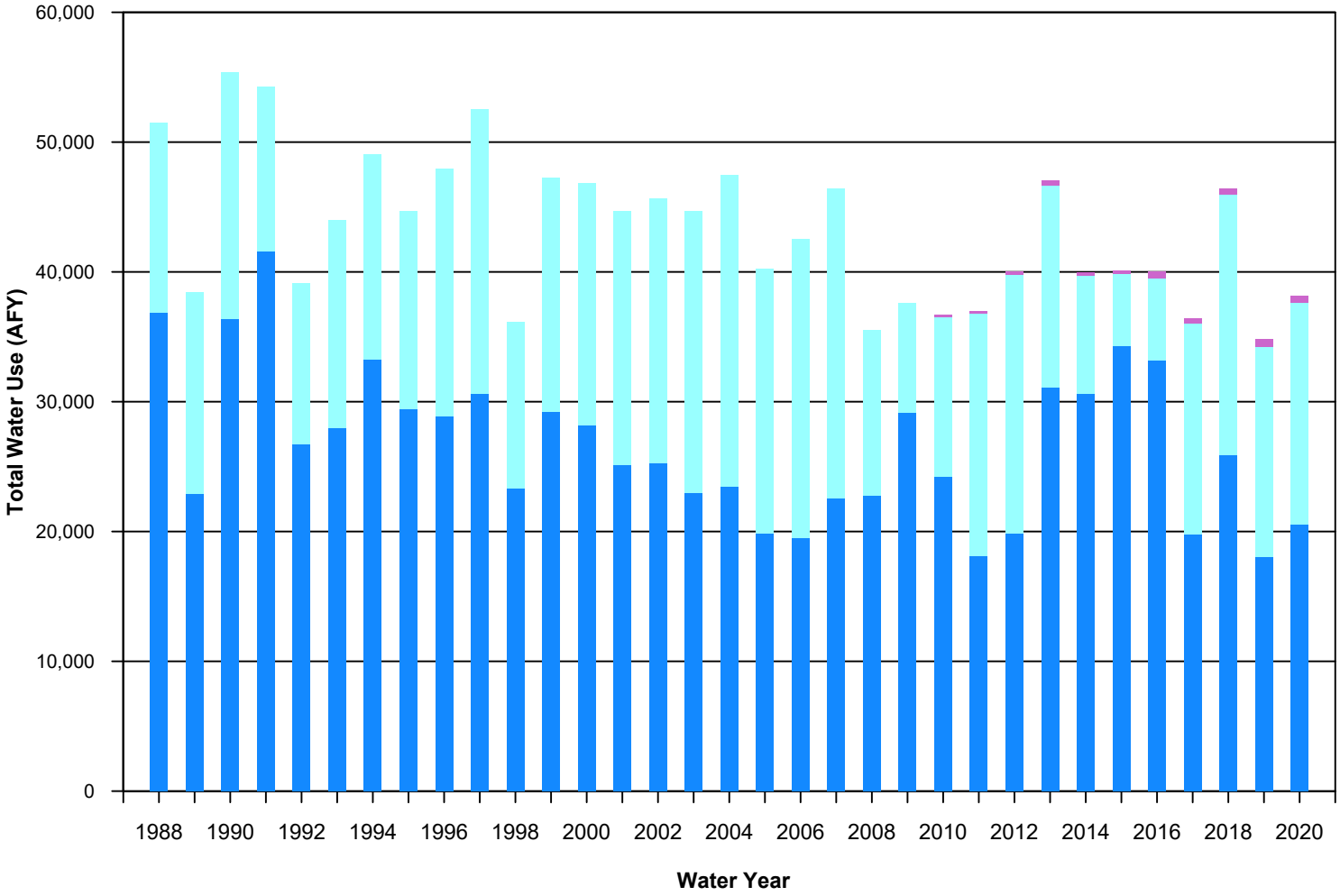
	CVP		GW		RW		Total	
	2019	2020	2019	2020	2019	2020	2019	2020
Agriculture	11,731	12,166	15,423	17,021	461	428	27,616	29,616
M&I	4,457	4,953	2,660	3,514	108	97	7,225	8,565
TOTAL	**16,188**	**17,119**	**18,083**	**20,536**	**569**	**526**	**34,841**	**38,181**

Table 4-3 shows the breakdown of total water use by each subbasin (and management area) in Zone 6. Consistent with past patterns, San Juan is the largest producer of groundwater and the second largest user of CVP supplies, mainly for agricultural irrigation. Hollister East is the largest user of CVP for both agricultural users and municipal uses, reflecting extensive agriculture and the expanded municipal water treatment capacity.

Table 4-3. Zone 6 Water Use by User and Water Source 2019-2020

Management Area	Subbasin	CVP Water		Groundwater		Recycled Water	
		Agriculture	Domestic & Municipal	Agriculture	Domestic & Municipal	Agriculture	Domestic & Municipal
Hollister	Bolsa South East	391	0	2,083	9	21	0
	Hollister East[1]	5,924	3,766	3,527	475	0	0
	Hollister West	263	24	1,475	965	407	97
	Tres Pinos	121	91	249	1,147	0	0
	Pacheco	1,867	56	2,725	425	0	0
San Juan	San Juan	3,602	1,017	6961	493	0	0
TOTAL		**12,166**	**4,953**	**17,021**	**3,514**	**428**	**97**

1. Hollister East includes 1,990 AF of CVP water delivered to the West Hills Treatment Plant in San Juan but supplied to Hollister East customers.

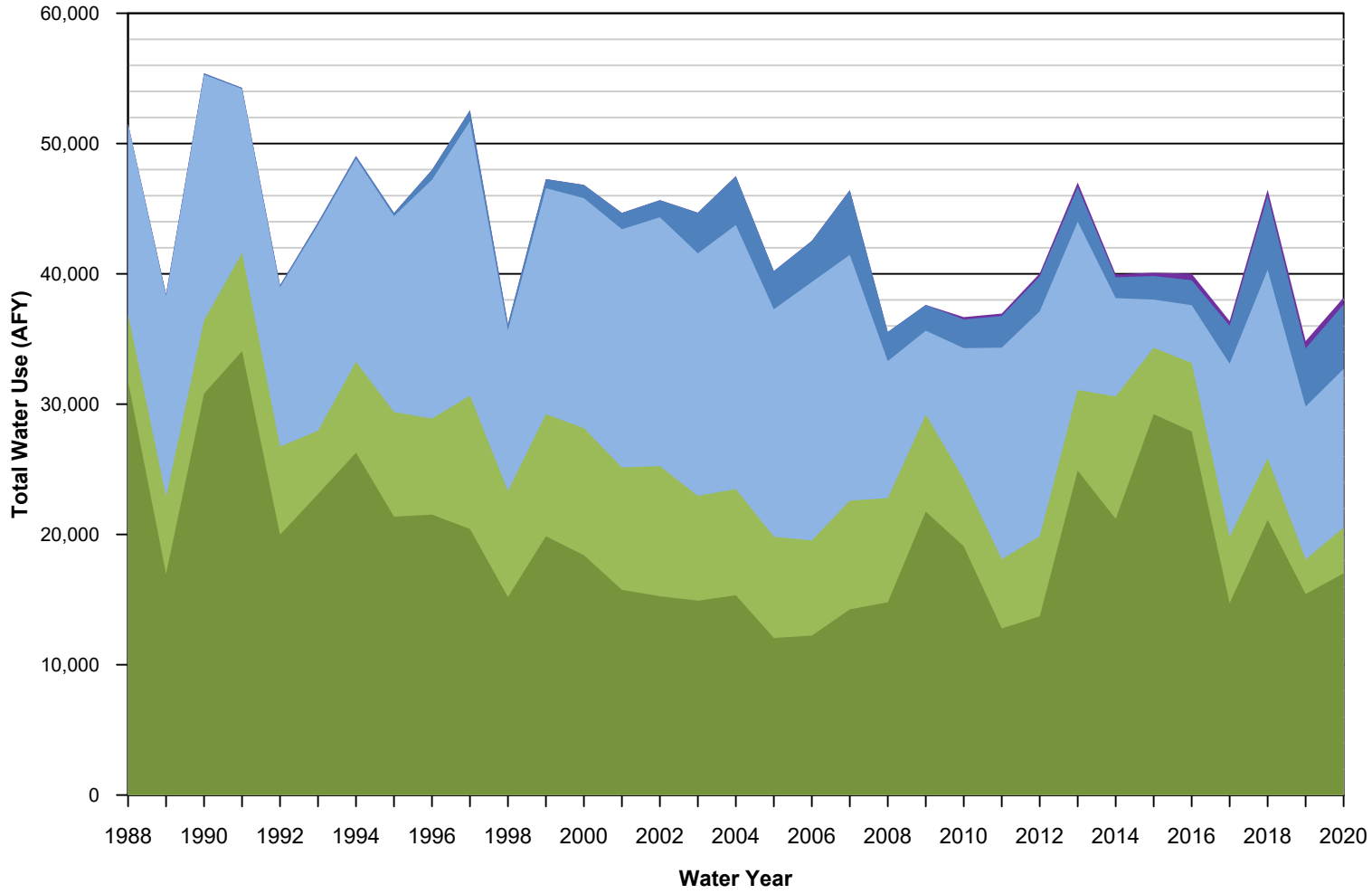


Recycled Water
CVP
Groundwater

December 2020

TODD GROUNDWATER

Figure 4-1
Total Water Use by Source and Use 1988-2020 (AFY)

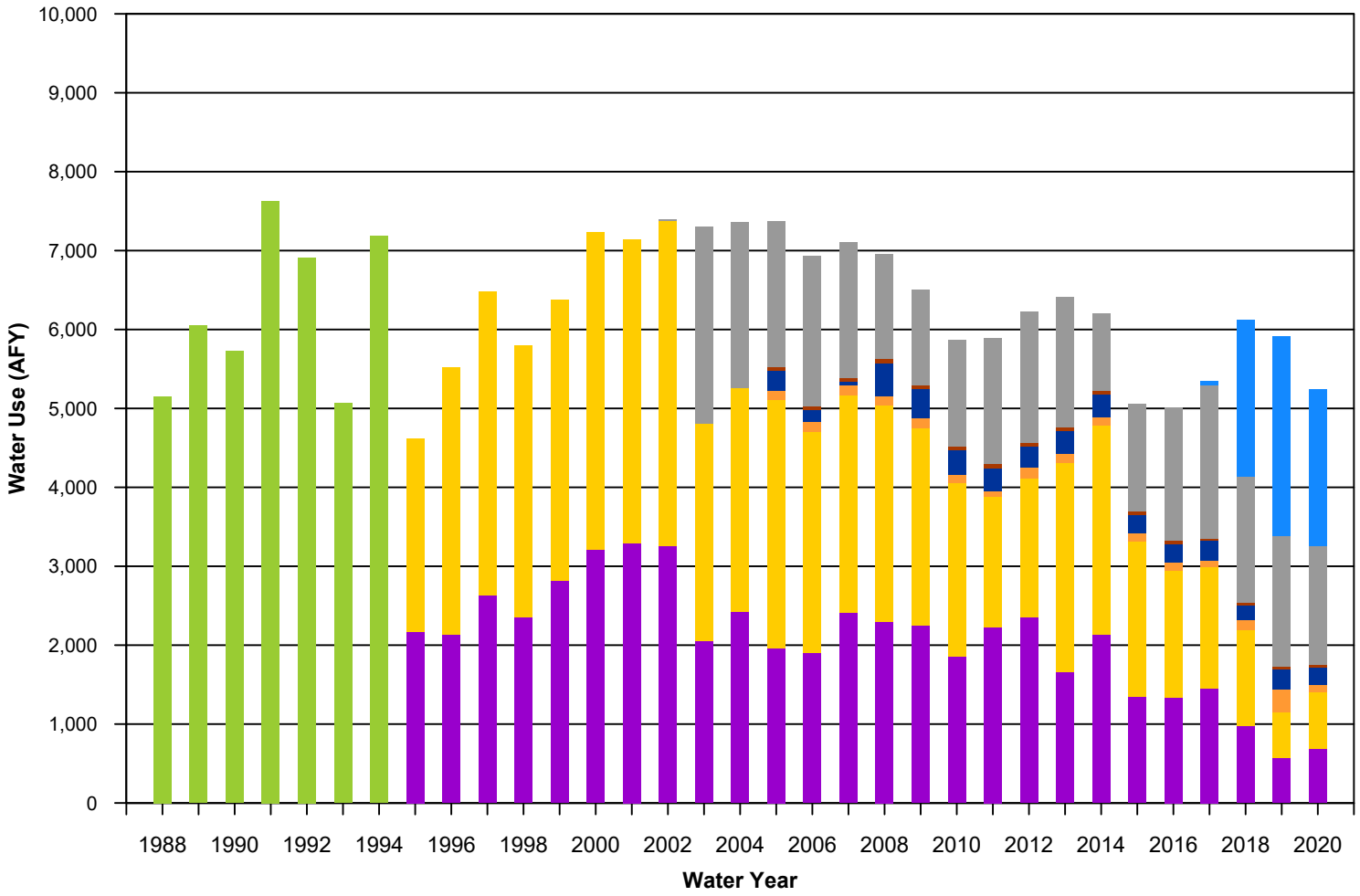


December 2020

TODD GROUNDWATER

Figure 4-2
Groundwater and CVP supply in Zone 6

Figure 4-3 shows the municipal water supply for the City of Hollister, SSCWD, San Juan Bautista, and Tres Pinos County Water District. While historical data are not readily available for the Tres Pinos CWD, Cienega, and San Juan Bautista wells, municipal demand was satisfied entirely by groundwater prior to 2003. The completion of Lessalt Water Treatment Plant (WTP) in 2003, the expansion of Lessalt in 2016, and the completion of West Hills WTP in 2018 have significantly increased the use of CVP water for the Hollister and SSCWD municipal systems. In **Figure 4-3**, annual water supply provided through the Lessalt WTP is shown in grey and West Hills WTP in dark blue. In 2020, these two treatment plants served about 67 percent of the M&I supply, a slight decrease from last water year. This ability to maximize CVP use will increase flexibility for local water users to use groundwater or CVP. It also provides better quality water for delivery to municipal customers and result in improved wastewater quality, which supports water recycling.



December 2020

TODD GROUNDWATER

Figure 4-3
Water Use in Zone 6 by Source

5-WATER MANAGEMENT ACTIVITIES

District water management activities include comprehensive monitoring (summarized in Section 2) and importation and distribution of CVP water in Zone 6 (Section 4). In addition, the District provides water resources planning, water conservation support services, and managed percolation of local surface water to augment groundwater; these are summarized in this section. Sources of revenue to support District operations also are presented here.

Water Resources Planning

The District has used multiple planning efforts to support groundwater sustainability. These have included water management plans such as the Groundwater Management Plan (1998 and 2003), Integrated Regional Water Management Plan (2007) and subsequent updates, Salt and Nutrient Management Plan (2014), Agricultural Water Management Plan (2015), and Urban Water Management Plans (2016). These plans have addressed a range of groundwater sustainability issues with advancement of water conservation, protection of water quality, and conjunctive use of imported water, local surface water, recycled water and groundwater. Current efforts and recent accomplishments are summarized below.

Hollister Urban Area Water Project. This project is an ongoing collaborative effort with local agencies to provide a secure and stable water supply to the region. The project has involved provision of water treatment for CVP water, which allows its direct use for municipal and industrial (M&I) purposes. It also allows delivery of improved quality water to customers. 2020 continues to see the beneficial effects of the new West Hills WTP and newly expanded Lessalt WTP. The District also has worked cooperatively for years with the City of Hollister to implement recycled water use primarily for agricultural irrigation, which is expected to increase in coming years.

Urban Water Management Plan (UWMP). The District, in collaboration with Sunnyslope County Water District (SSCWD) and the City of Hollister, has begun the 2020 Urban Water Management Plan (UWMP) that will be submitted to DWR by the July 2021 deadline. The UWMP provides detailed information on the current and future water supply and demand for the Hollister Urban Area and provides a comparison of supply and demand in normal years plus single-year and multi-year droughts. The UWMP will dovetail with the 2020 Agricultural Water Management Plan and the GSP to provide a framework of strong water management.

Recycled Water

Water recycling began with targeted municipal irrigation. The system was expanded in 2014, including infrastructure and treatment capability to improve water quality for the purpose of agricultural irrigation. The system was further improved in 2015 when SBCWD installed 1.65 miles of additional distribution system piping and 30 metered deliveries to provide water for agricultural customers for approximately $1,000,000. In 2016, the Recycled Water Storage Pond was installed in "Pond 2" at the Domestic Waste Reclamation Facility (DWRF) to improve distribution system water quality and be able to store surplus supply during high agricultural demand periods when the DWRF is not producing enough recycled water. Last year in 2019, SBCWD installed a series of sand media filters upstream of the Recycled Water Distribution System to improve water quality to allow agricultural customers the ability to use drip irrigation and minimize backwash waste. These upgrades to the Recycled Water Storage Pond and distribution system cost approximately $1,500,000. Recycled water currently is provided to approximately 865 acres for agricultural production and landscape irrigation.

Water Conservation

Water conservation is an important tool to manage demands on the groundwater basin particularly during drought. Water conservation efforts in San Benito County are conducted through the Water Resources Association (WRA). WRA is a cooperative effort among the District, City of Hollister, City of San Juan Bautista, and Sunnyslope County Water District.

In Water Year 2020, the COVID-19 pandemic altered the programs offered by the WRASBC. Most active programs were put on hold March through May but WRA staff continued to reach out via phone and video calls. Since May, field programs have resumed, including irrigation system checks and water softener replacement assistance. These programs have been altered to meet all safety measures including social distancing and masks for all participants. Indoor programs such as residential water use surveys have not restarted.

The public education program had been growing steadily over the past several years. The in-person program, which included school visits and guided field trips, is temporarily suspended due to COVID-19 but will resume when appropriate. However, WRA staff have continued to find creative ways to continue the program. In partnership with the school district, water conservation activity books were distributed to elementary to offer additional enrichment during distance learning. The WRA staff is also pursuing additional education activities including virtual tours of the water treatment and wastewater plants for students.

Public outreach has also shifted to virtual platforms. WRA staff continues to author news articles for the online news sites that serve San Benito County. In March, these articles allowed WRA to quell public concern over the safety of our water supply. Later, the articles provided water conservation and

efficiency tips that were seasonal in nature and they continue to provide timely advice for water use. To supplement this effort, the WRA is developing a series of water conservation videos for distribution to the local news media and the newly updated WRA website.

WRA has been monitoring changes in water use sectors due to the COVID-19 response. With more residential water use and less water use in the agricultural and business sector, they are focusing their conservation message to residential customers. This focus extends to new residential development in the City. WRA reviews landscape plans for the City of Hollister to make sure that new homes comply with the State's Model Water Efficient Landscape Ordinance (MWELO) and follows up with a post inspection after the landscape materials are installed to ensure the landscape plans were followed.

Finally, WRA continues to provide various rebates (toilets, landscape hardware, etc.). The most popular rebate program is the water softener demolishing/replacement program. With provision of CVP supply for municipal use, the delivered water quality has improved, and customers are willing to abandon unneeded water softeners. This program has the benefit of improving the water quality of municipal wastewater and recycled water.

5-WATER MANAGEMENT ACTIVITIES

Managed Percolation

Percolation of Local Surface Water. In most years, local surface water released from Hernandez and Paicines reservoirs is percolated along the San Benito River and Tres Pinos Creek. Releases are managed to maximize percolation along the stream channels of the San Benito River and Tres Pinos Creek and to avoid any losses out of the basin. Hernandez Reservoir releases in 2020 were slightly below average (reflecting the below normal rainfall), amounting to 9,473 AF. Releases from Paicines were 2,037 AF, slightly above average.

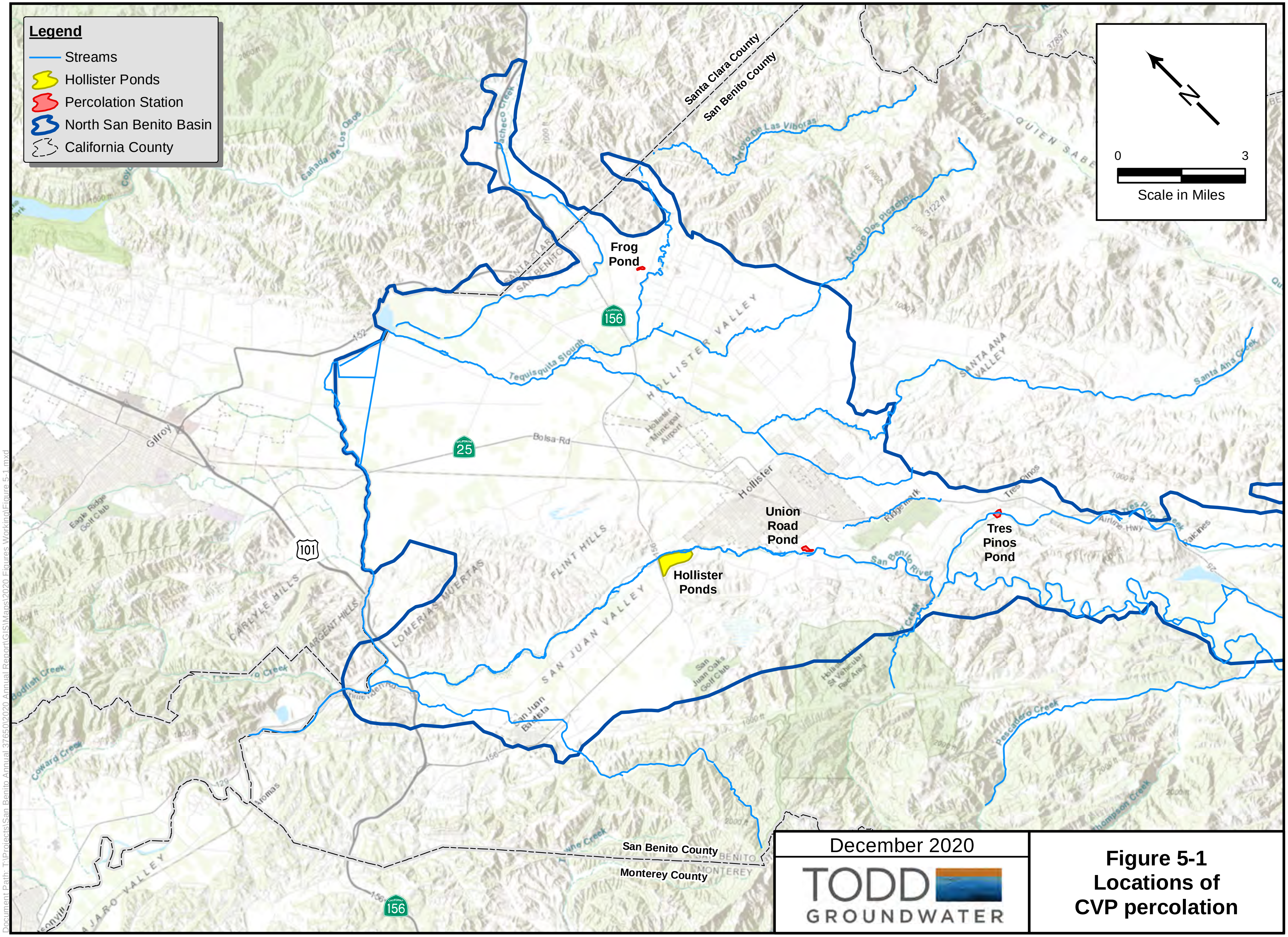
Percolation of Wastewater. Wastewater is percolated by the City of Hollister at its Domestic and Industrial plants, by SSCWD at its Ridgemark Facilities, and by Tres Pinos County Water District. While the City of San Juan Bautista wastewater treatment plant also discharges wastewater, the flows are not considered to percolate to the groundwater basin because of the local hydrogeologic conditions. Recent changes in operation of the wastewater facilities (including increased water recycling) and decreased municipal water use have decreased the volume percolating to the groundwater. Information about the amount of groundwater recharged from wastewater facilities is found in **Appendix D**.

Percolation of CVP Water. In Water Year 2020, the District percolated 3,161 AF of CVP water in four dedicated off-stream basins; locations are shown in **Figure 5-1. Figure 5-2** shows the volume of CVP recharge by major water way over time. The managed recharge of the imported water was critical in replenishing the basin in the 1980s and 1990s; however, the threat of zebra mussel contamination and low CVP allocations prevented the practice from 2008 to 2016. The District has resumed recharge at dedicated basins adjacent to streams.

Financial Information

The District derives its operating revenue from charges levied on landowners and water users. Non-operating revenue is generated from property taxes, interest, standby and availability charges, and grants. District zones of benefit are listed in **Appendix A**. Zone 6 charges, relating to the importation and distribution of CVP water, are the focus of this section.

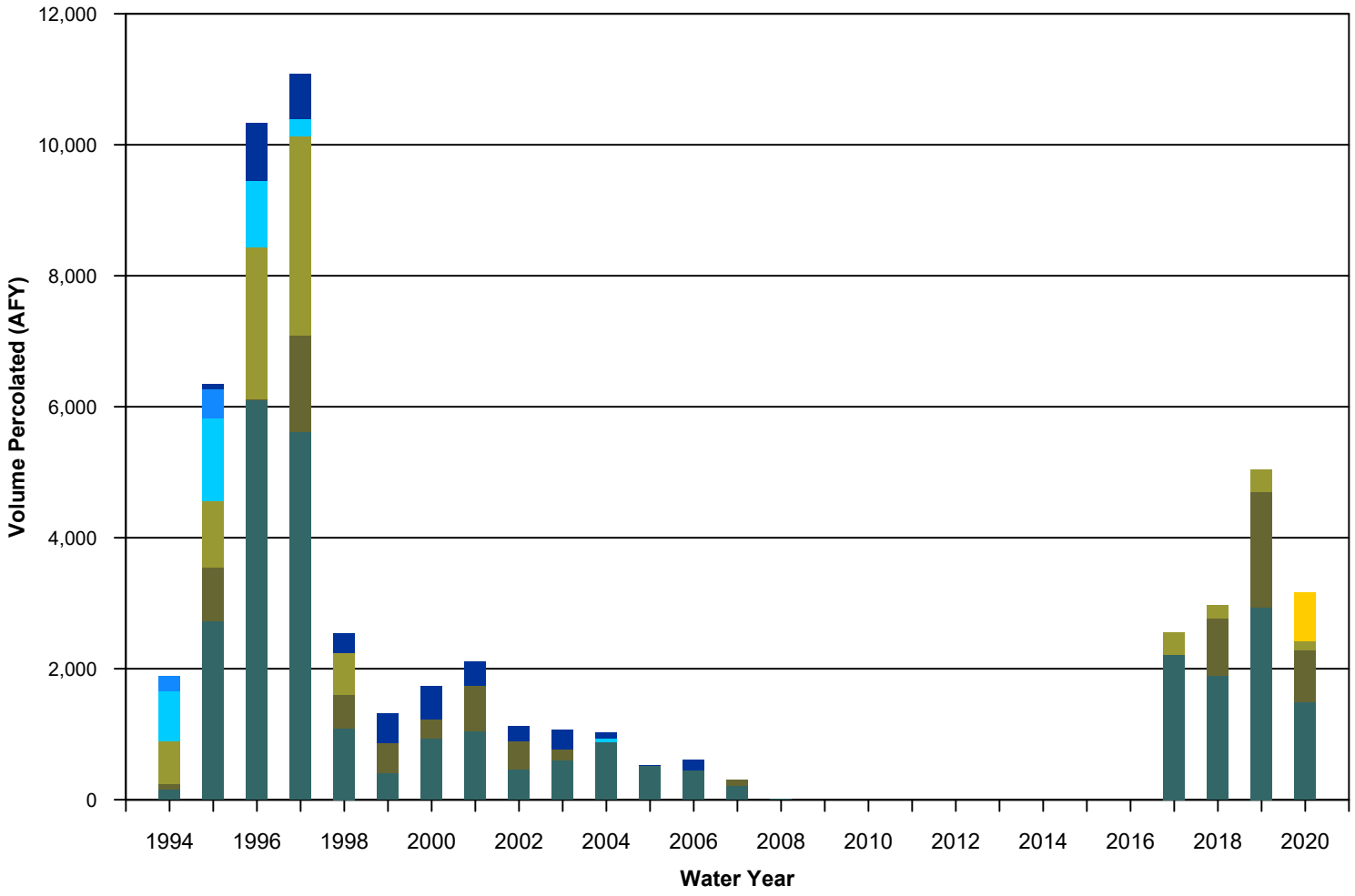
Table 5-1 presents the groundwater charges for Zone 6 water users, which reflect costs associated with monitoring and management. A full worksheet of how groundwater charges are determined can be found in **Appendix F**. Groundwater charges are adjusted annually in March. For March 2020 – February 2021, District rates are $13.15 for agricultural use and $39.40 for M&I use. The District adopts rates on a three-year cycle. Current water rates were adopted January 30, 2019.



December 2020

TODD GROUNDWATER

Figure 5-1
Locations of CVP percolation



December 2020

TODD GROUNDWATER

Figure 5-2
Volume of Percolation

Table 5-1. Adopted Groundwater Charges

Year	Agriculture ($/AF)	M&I ($/AF)
2020-2021	$13.15	$39.40
2021-2022	$13.55	$40.55

CVP rates (provided by the USBR) include the cost of service, restoration fund payment, charges for maintenance of San Luis Delta Mendota Water Authority facilities, and other fees (the breakdown is found in **Appendix F**). The District's blue valve rates (paid by users of CVP water) include a water charge and a power charge. Additionally, the standby and availability charge is a $6 per-acre charge assessed on all parcels with access to CVP water (an active or idle turnout from the distribution system). **Table 5-2** shows the CVP water charge and **Table 5-3** shows the CVP power charge.

Table 5-2. Adopted Blue Valve Water Charges

	Blue Valve Water Charge ($/AF)			
		Agricultural		
Year	Non - Full Cost	Full Cost (1a)	Full Cost (1b)	Municipal & Industrial
2020-2021	$265.00	$400.00	$421.00	$415.00
2021-2022	$274.00	$411.00	$433.00	$424.00

Table 5-3. Adopted Blue Valve Power Charges

Blue Valve Power Charge ($/AF)	Subsystem 2	Subsystem 6H	Subsystem 9L	Subsystem 9H	All other subsystems
2020-2021	$82.85	$40.45	$90.80	$134.20	$34.75
2021-2022	$85.35	$41.50	$93.55	$138.25	$35.75

Recycled water charges (**Table 5-4**) are set to recover current operating and maintenance costs related to the water service. Recycled water rates include those associated with water supply, water quality, and infrastructure.

Table 5-4. Adopted Recycled Water Charges

	Recycled Water ($/AF)	
Effective	Agriculture Rate	Power Charge
Apr-2020	$208	$60.64
Mar-2021	$210	$61.85

6-GROUNDWATER SUSTAINABILITY

Sustainable Groundwater Management Act (SGMA)

The Sustainable Groundwater Management Act (SGMA) requires sustainable management of priority groundwater basins and empowers local Groundwater Sustainability Agencies (GSAs) to manage groundwater resources. San Benito County Water District GSA (SBCWD GSA), in partnership with Santa Clara Valley Water District GSA (SCVWD GSA) for small portions of the basin in Santa Clara County, is developing a Groundwater Sustainability Plan (GSP) for the North San Benito Basin, which encompasses the historically-defined Bolsa, Hollister, and San Juan Bautista Subbasins of the Gilroy-Hollister Basin and the Tres Pinos Valley Basin. This GSP is currently being developed and several chapters are posted on the GSA website for public comment. **Figure 1-1** shows the GSP area, which is mostly in San Benito County with small portions extending into Santa Clara County.

Groundwater Sustainability Plan Development

The District began GSP development in 2018 and several draft plan sections are already available to the public through the District's website: https://www.sbcwd.com/sustainable-groundwater-management/. These following draft sections of the initial GSP are posted on the website:

Plan Area/Institutional Setting. The first two sections of the GSP, Introduction and Plan Area, describe the North San Benito Basin and the institutional setting.

Hydrogeologic Conceptual Model/Groundwater Conditions. The hydrogeologic conceptual model is a description of the structural and physical characteristics that govern groundwater occurrence, flow, storage, and quality. The Groundwater Conditions section documents historical and current groundwater conditions including groundwater levels and flow, groundwater quality, land subsidence, and interactions of groundwater and surface water.

Water Budgets. The water budget section quantifies the surface water and groundwater inflows, outflows, and change in storage. The section also includes a brief description of the numerical model. The technical memorandum describing the model is also available on the District's website.

Sustainability Criteria. The GSP addresses the five undesirable results/sustainability indicators relevant to North San Benito Basin. These include: chronic lowering of groundwater levels, groundwater storage depletion, water quality degradation, land subsidence, and depletion of interconnected surface water. For each, systematic quantification is presented of the undesirable results, minimum thresholds, and measurable objectives to guide GSP implementation.

The following two sections currently are in development and will be presented to the Technical Advisory Committee (TAC) and made available to the public in early 2021.

Monitoring. This GSP section establishes the GSP monitoring network and protocols that: 1) provide data to inform the hydrogeologic conceptual model, water budget and numerical model, 2) provide tracking and early warning regarding groundwater conditions and undesirable results, and 3) demonstrate progress toward and achievement of sustainability.

Management Actions. This GSP section will present management actions—policies, programs, and projects—that address the sustainability criteria and provide for sustainable management into the future.

Amendment for GSP Preparation, Round 3 Tasks

In 2019, SBCWD GSA applied to DWR for additional grant funding as part of the 2019 Sustainable Groundwater Management Grant Program Planning – Round 3 Grant and in 2020 was awarded $1.17 million in grant funds. With SBCWD GSA cost sharing of $390,000, the total Round 3 project cost is $1.56 million. The Round 3 project, entitled Reaching Sustainability: Dedicated Monitoring Wells and Managed Aquifer Recharge for North San Benito Basin, was initiated in June 2020. In addition to project administration, it involves three technical tasks:

- Dedicated Monitoring Well Program
- Managed Aquifer Recharge (MAR)
- Annual Reports

These tasks, summarized below, are intended to supplement GSP preparation and to occur within the overall GSP schedule (with submittal of the GSP in January 2022).

Dedicated Monitoring Well Program

Additional collection of hydrogeologic data and new dedicated monitoring wells are needed for GSP preparation and implementation. This reflects the expanded area of the new North San Benito Basin, an area larger than previously monitored, especially in the Southern Management Area. In addition, specific data gaps and uncertainties have been identified during preparation of GSP chapters. Objectives for siting new dedicated monitoring wells are to fill gaps in the existing monitoring network and provide a groundwater monitoring framework to support GSP implementation.

Achieving these objectives has required detailed analysis including development and implementation of a geographically based index overlay methodology. This indexed overlay method has included development of GIS datasets and subsequent mapping of these datasets together to find locations that fill multiple data gaps. As needed, the relative priorities of various data needs have been assessed qualitatively with input from District staff. This process has identified areas for the installation of both

deep and shallow monitoring wells. The areas identified for deep monitoring wells have been delineated on an parcel basis, and at time of writing, District staff are contacting property owners of these parcels to identify owners willing to have a monitoring well installed on their property. The areas identified for shallow monitoring wells are primarily within public rights of way, and the District is working to secure access to those locations for the installation of shallow wells for monitoring of interconnected surface water. Next steps include preparation of well designs, drilling and construction of the monitoring wells, and preparation of a technical memorandum documenting the work.

Managed Aquifer Recharge Study

This study addresses questions of how additional MAR can be achieved in North San Benito: where, which method, what water source and when, and how much benefit can be gained. Unlike some basins with highly permeable alluvial fans and recharge forebays, the most useful recharge areas in the North San Benito Subbasin may not be obvious. Moreover, the best areas are likely to represent the sum of many various factors. Hence a systematic and precise analysis of geographically distributed recharge factors is provided in this study along with field exploration to provide subsurface documentation of site suitability. At time of writing, substantial information has been compiled relevant to MAR and spatial datasets have been developed for factors including land use, topography, soils, geology, depth to groundwater, groundwater quality, and water supply infrastructure. Three basic methods have been identified: recharge basins, injection wells, and FloodMAR or AgMAR, which involve application of floodwater or available surface water supply to farmland (water spreading). Potential sources of recharge supply have been evaluated and CVP water has been identified as the primary source. The spatial database has been used to identify promising areas for recharge. At time of writing, a short list of promising sites is being developed field investigation (soil borings) and numerical modeling. Next steps involve selection of most promising sites for conceptual design, technical feasibility, and cost estimating, followed by preparation of a technical memorandum.

2020 and 2021 Annual Reports

This task involves preparation of the 2020 and 2021 Annual Reports and presentation to the SBCWD Board of Directors. This will involve transitioning Annual Reports, prepared consistent with requirements of the San Benito County Water District Act, to satisfy SGMA requirements in addition to SBCWD requirements. These Annual Reports will summarize GSP progress, including the Dedicated Monitoring Well Program and MAR study.

Future Annual Reports

When the GSP is completed (before January 31, 2022) the GSP implementation process will continue with annual reporting and with five-year updates. SBCWD has been preparing Annual Groundwater Reports for many decades consistent with the District Act (see **Appendix A**) and future Annual Reports will be revised to be responsive to SGMA and GSP Regulations. SGMA Annual Reports have specific requirements that include documentation of groundwater levels and storage change and reporting of basin-wide groundwater extraction.

Several elements are required by GSP Regulation and already are included in the District's Annual Reports, including:

- Monitoring data stored in a Data Management System
- General information, including an executive summery and location map
- Detailed description and graphical representation of groundwater levels (contours and hydrographs)
- Surface water supply by use

GSP regulations require future annual reports to include additional information and to address the entire North San Benito Basin:

- Detailed description and graphical representation of groundwater use.
- Groundwater extractions and a map that illustrates general location and volume.
- Total water use for the basin collected by the best available measurement methods reported by sector.
- Change in storage maps for the basin and cumulative change in storage for the basin. While this is currently provided in the Annual Report for the northern portion of the basin, the analysis must be extended to the entire basin. Consistent with the GSP under preparation, the numerical model will be used to calculate and present change in storage values.
- Description of progress towards implanting the plan.

The Annual SGMA Reports will serve as a bridge between the GSP being developed now and the first 5-year update in 2027. The Annual Reports will describe progress in implementing the plan, including monitoring programs, management actions, and projects. Groundwater basin conditions will be described in terms of the sustainability indicators (undesirable results) and with reference to the sustainability criteria including the minimum threshold and measurable objectives defined in the GSP. The table below summarizes the indicators and indicates briefly how the annual report will provide status updates.

Table 6-1. SGMA Indicators in Future Annual Reports

	Indicator	Status of Minimum Threshold
	Groundwater-Level Declines	Compile water level data. Compare key wells elevations with MTs
	Groundwater-Storage Reductions	Compute groundwater storage using the numerical model.
	Water-Quality Degradation	Compile water quality data. Summarize the findings for the triennal review.
	Land Subsidence	Download and review DWR InSar data
	Interconnected Surface-Water Depletions	Review key shallow wells elevations with MTs

7-RECOMMENDATIONS

District policies and programs have served to effectively manage water resources for many years. The District, working collaboratively with other agencies, has eliminated historical overdraft through importation of CVP water, has developed and managed multiple sources of supply to address drought, has established an active and effective water conservation program, has initiated programs to protect water quality, and has improved delivered water quality to many municipal customers. The District also has provided consistent reporting and outreach. The following recommendations are responsive to the District Act and look forward to continuing effective management consistent with SGMA.

Monitoring Programs

Through GSP implementation, the monitoring programs will be expanded to the entire North San Benito Groundwater Basin and improved to ensure accurate and consistent data for GSP management and the Annual Reports. Detailed monitoring recommendations are being developed as part of the GSP. As summarized here, the Round 3 Dedicated Monitoring Program is being conducted to provide a framework of dedicated monitoring wells to support documentation of groundwater levels, storage, and quality in the Annual Reports and GSP. Accurate measurement of groundwater pumping has been identified as an important data gap and GSP preparation includes consideration of different methods to evaluate groundwater pumping. SGMA Annual Reports will need to document groundwater extraction for the entire basin.

Groundwater Production and Replenishment

Past District percolation operations helped to reverse historical overdraft and then accumulate a water supply reserve. The District currently manages groundwater storage and surface water to minimize excessively high or low groundwater elevations on a temporal and geographic basis. The District should continue to operate Hernandez and Paicines to improve downstream groundwater conditions. In 2020, the District provided off-channel percolation of CVP water; this too should be continued given availability of CVP water and persistence of local low groundwater levels. Basin-wide analysis of opportunities for additional percolation is being conducted as part of the Round 3 Managed Aquifer Recharge Study to develop additional percolation capacity to capture and store available imported water when available; such replenishment operations are critical to sustainable groundwater supply.

Groundwater Charges

The groundwater charge for the USBR contract year (March 2021-February 2022) is recommended to be $13.55 per AF for agricultural use in Zone 6 and a groundwater charge of $40.55 per AF is recommended for M&I use The District adopts rates on a three-year cycle. Current water rates were adopted January 30, 2019.

8-REFERENCES

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APPENDIX A REPORTING REQUIREMENTS

List of Tables

APPENDIX A REPORTING REQUIREMENTS

The San Benito County Water District Act (1953) is codified in California Water Code Appendix 70. Section 70-7.6 authorizes the District Board of Directors to require the District to prepare an annual groundwater report; this report addresses groundwater conditions of the District and its zones of benefit (**Table A-1**) for the water year, which begins October 1 of the preceding calendar year and ends September 30 of the current calendar year. The Board has consistently ordered preparation of Annual Reports, and the reports have included the contents specified Section 70-7.6:

- An estimate of the annual overdraft for the current water year and for the ensuing water year
- Information for the consideration of the Board in its determination of the annual overdraft and accumulated overdraft as of September 30 of the current year
- A report as to the total production of water from the groundwater supplies of the District and its zones as of September 30 of the current year
- Information for the consideration of the Board in its determination of the estimated amount of agricultural water and the estimated amount of water other than agricultural water to be withdrawn from the groundwater supplies of the District and its zones
- 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 and its zones during the ensuing water year
- A recommendation as to whether or not a groundwater charge should be levied in any zone(s) of the District in the ensuing water year and if so, a rate per acre-foot for all water other than agricultural water for such zone(s)
- Any other information the Board requires.
- The full text of Appendix 70, Section 70-7.6 through 7.8 is enclosed at the end of this appendix.
- Each water year a special topic is identified for further consideration. These topics have included water quality, salt loading, shallow wells, and others. Additional analyses and documentation provided in previous annual reports are summarized in **Table A-2.**

District management of water resources is focused on three Zones of Benefit, listed below.

Table A-1. District Zones of Benefit

Zone	Area	Provides
1	Entire County	Specific District administrative expenses
3	San Benito River Valley (Paicines to San Juan) and Tres Pinos River Valley (Paicines to San Benito River)	Operation of Hernandez and Paicines reservoirs and related groundwater recharge and management activities
6	San Juan, Hollister East, Hollister West, Pacheco, Bolsa SE, and Tres Pinos subbasins	Importation and distribution of CVP water and related groundwater management activities

APPENDIX A REPORTING REQUIREMENTS

Table A-2. Special Topics in Previous Annual Reports

Water Year	Additional Analyses and Reporting
2000	Methodology to calculate water supply benefits of Zone 3 and 6 operations
2001	Preliminary salt balance
2002	Investigation of individual salt loading sources
2003	Documentation of nitrate in supply wells, drains, monitor wells, San Juan Creek
2004	Documentation of depth to groundwater in shallow wells
2005	Tabulation of waste discharger permit conditions and recent water quality monitoring results
2006	Rate study
2007	Water quality update
2008	Water budget update
2009	Water demand and supply
2010	Water quality update
2011	Water budget update
2012	Land use update
2013	Water quality update
2014	Water balance update and Groundwater Sustainability
2015	Groundwater Sustainability – Basin Boundaries and GSAs
2016	Water quality update
2017	Water budget update
2018	GSP Update
2019	Water quality update

APPENDIX A REPORTING REQUIREMENTS

Water Code Appendix 70 Excerpts

Section 70-7.6. Groundwater; investigation and report: recommendations San Benito County

Sec. 7.6. the board by resolution require the district to annually prepare an investigation and report on groundwater conditions of the district and the zones thereof, for the period from October 1 of the preceding calendar year through September 30 of the current year and on activities of the district for protection and augmentation of the water supplies of the district and the zones thereof. The investigation and report shall include all of the following information:

(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 September 30 of the current calendar year.

(c) A report as to the total production of water from the groundwater supplies of the district and the zones thereof as of September 30 of the current calendar year.

(d) An estimate of the annual overdraft for the current water year and for the ensuing water year.

(e) Information for the consideration of the board in its determination of the estimated amount of agricultural water and the estimated amount of water other than agricultural water to be withdrawn from the groundwater supplies of the district and the zones thereof for the ensuing water year.

(f) The amount of water the district is obligated to purchase during the ensuing water year.

(g) A recommendation as to the quantity of water needed for surface delivery and for replenishment of the groundwater supplies of the district and the zones thereof the ensuing water year.

(h) A recommendation as to whether or not a groundwater charge should be levied in any zone or zones of the district during the ensuing year.

(i) If any groundwater charge is recommended, a proposal of a rate per acre-foot for agricultural water and a rate per acre-foot for all water other than agricultural water for such zone or zones.

(j) Any other information the board requires.

(Added by Stats. 1965, c. 1798, p.4167, 7. Amended by Stats.1967,c.934, 5, eff. July27,1967; Stats. 1983, c. 402, 1; Stats. 1998, c. 219 (A.B.2135), 1.)

Section 70-7.7. Receipt of report; notice of hearing; contents; hearing

Sec. 7.7. (a) On the third Monday in December of each year, the groundwater report shall be delivered to the clerk of the board in writing. The clerk shall publish, pursuant to Section 6061 of the Government Code, a notice of the receipt of the report and of a public hearing to be held on the second Monday of January of the following year in a newspaper of general circulation printed and published within the district, at least 10 days prior to the date at which the public hearing regarding the groundwater report shall be held. The notice shall include, but is not limited to, an invitation to all operators of water producing facilities within the district to call at the offices of the district to examine the groundwater report.

(b) The board shall hold, on the second Monday of January of each year, a public hearing, at which time any operator of a water-producing facility within the district, or any person interested in the condition of the groundwater supplies or the surface water supplies of the district, may in person, or by representative, appear and submit evidence concerning the groundwater conditions and the surface water supplies of the district. Appearances also may be made supporting or protesting the written groundwater report, including, but not limited to, the engineer's recommended groundwater charge.

(Added by Stats. 1965, c. 1798, p. 4167, 8. Amended by Stats. 1983, c. 02,2; Stats. 1998, c. 219 (A.B.2135,2.)

Section 70-7.8. Determination of groundwater charge; establishment of rates; zones; maximum charge; clerical errors

Sec. 7.8. (a) Prior to the end of the water year in which a hearing is held pursuant to subdivision (b) of Section 7.7, the board shall hold a public hearing, noticed pursuant to Section 6061 of the government Code, to determine if a groundwater charge should be levied, it shall levy, assess, and affix such a charge or charges against all persons operating groundwater- producing facilities within the zone or zones during the ensuing water year. The charge shall be computed at fixed and uniform rate per acre-foot for agricultural water, and at a fixed and uniform rate per acre-foot for all water other than agricultural water. Different rates may be established in different zones. However, in each zone, the rate for agricultural water shall be fixed and uniform and the rate for water other than agricultural water shall be fixed and uniform. The rate for agricultural water shall not exceed one-third of the rate for all water other than agricultural water.

(b) The groundwater charge in any year shall not exceed the costs reasonably borne by the district in the period of the charge in providing the water supply service authorized by this act in the district or a zone or zones thereof.

(c) Any groundwater charge levied pursuant to this section shall be in addition to any general tax or assessment levied within the district or any zone or zones thereof.

(d) Clerical errors occurring or appearing in the name of any person or in the description of the water-producing facility where the production of water there from is otherwise properly charged, or in the making or extension of any charge upon the records which do not affect the substantial rights of the assesse or assesses, shall not invalidate the groundwater charge.

(Added by Stats. 1965, c. 1798, p. 4168, 9. Amended by Stats. 1983, c. 402, 3; Stats.1983, c. 402, 3; Stats. 1998, c. 219 (A.B.2135), 3.)

APPENDIX B CLIMATE DATA

List of Tables and Figures

Table B-1. Monthly Precipitation at the SBCWD CIMIS Station (inches)

Water Year	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL	% Normal
1996	0.12	0.01	2.21	4.38	4.52	1.56	1.33	1.32	0.00	0.01	0.00	0.00	15.46	117%
1997	0.96	3.16	4.26	6.84	0.21	0.09	0.19	0.02	0.10	0.00	0.00	0.03	15.86	120%
1998	0.16	3.78	2.59	4.94	9.06	2.70	2.31	2.40	0.09	0.02	0.00	0.08	28.13	213%
1999	0.54	1.93	0.79	2.54	2.49	1.52	0.67	0.06	0.07	0.00	0.00	0.00	10.61	80%
2000	0.14	0.98	0.11	4.05	4.53	0.68	0.40	0.45	0.10	0.00	0.00	0.02	11.46	87%
2001	3.54	0.80	0.23	2.86	2.77	0.62	2.20	0.01	0.01	0.03	0.02	0.00	13.09	99%
2002	0.70	11.48	11.93	0.66	1.15	1.57	0.37	0.28	0.00	0.00	0.00	0.00	28.14	213%
2003	0.00	1.67	5.04	0.77	1.41	1.06	3.05	0.06	0.00	0.00	0.06	0.00	13.12	99%
2004	0.20	0.60	5.25	1.31	4.21	0.59	0.27	0.08	0.01	0.00	0.00	0.01	12.53	95%
2005	1.95	0.54	3.46	2.49	2.89	3.42	0.83	0.64	0.43	0.00	0.00	0.04	16.69	126%
2006	0.07	0.27	3.08	1.49	1.01	4.96	1.73	0.39	0.01	0.00	0.02	0.01	13.04	99%
2007	0.20	0.73	1.69	0.57	2.22	0.29	0.55	0.02	0.00	0.02	0.00	0.43	6.72	51%
2008	0.71	0.67	0.92	4.56	2.06	0.09	0.06	0.00	0.00	0.00	0.00	0.00	9.07	69%
2009	0.28	1.05	1.89	0.35	3.73	1.83	0.20	0.47	0.00	0.00	0.00	0.15	9.95	75%
2010	0.50	0.02	1.31	2.29	2.19	1.74	3.44	0.61	0.00	0.01	0.00	0.00	12.11	92%
2011	0.72	1.85	2.59	1.57	2.63	2.33	0.19	0.78	0.30	0.00	0.00	0.00	12.96	98%
2012	0.69	0.96	0.07	0.81	0.46	2.34	1.39	0.26	0.09	0.00	0.00	0.00	7.07	54%
2013	0.01	2.23	1.15	1.35	0.64	0.46	0.30	0.02	0.01	0.00	0.03	0.10	6.30	48%
2014	0.07	0.37	0.17	0.22	1.91	1.59	0.86	0.02	0.00	0.00	0.00	0.14	5.35	41%
2015	1.57	0.48	5.78	0.02	1.20	0.22	0.24	0.87	0.00	0.01	0.09	0.08	10.56	80%
2016	0.22	3.65	1.58	3.98	0.57	3.72	0.79	0.05	0.08	0.08	0.06	0.10	14.88	113%
2017	1.77	2.48	3.33	4.66	6.05	1.70	1.09	0.50	0.32	0.00	0.02	0.00	21.92	166%
2018	0.20	1.12	0.19	2.39	0.29	2.74	1.33	0.00	0.00	0.00	0.00	0.00	8.26	63%
2019	0.17	2.52	1.48	2.24	4.02	2.55	0.25	1.95	0.20	0.00	0.00	0.00	15.38	117%
2020	0.00	1.40	3.69	1.39	0.00	2.78	1.18	0.42	0.24	0.13	0.02	0.00	11.25	85%
AVG	0.62	1.79	2.59	2.35	2.49	1.73	1.01	0.47	0.08	0.01	0.01	0.05	13.20	100%

Note: The average precipitation is based on the period of record (1875-2018).

-The CIMIS value for September 2017 (2.4") includes measurement error due to irrigation overspray. The corrected District value is 0".

-The CIMIS value for February, May, June, and August 2018 (0.8", 2.6", 0.1", 0.03") includes measurement error due to irrigation overspray. The corrected District value is 0.3" for February and 0" for all other months.

-The CIMIS value for October and November 2018 included measurement error due to irrigation overspray. The corrected District value is 0.17" for October and 2.52" for

Table B-2. Reference Evapotranspiration at the SBCWD CIMIS Station (inches)

Water Year	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL	% Normal
1996	3.88	2.24	1.22	1.48	1.88	3.67	5.10	6.06	6.73	7.39	6.68	4.71	51.04	104%
1997	3.84	1.84	1.37	1.38	2.48	4.27	5.84	7.51	7.13	7.18	6.71	5.67	55.22	112%
1998	3.85	1.84	1.52	1.29	1.38	2.82	4.26	4.53	5.27	6.91	6.83	4.72	45.22	92%
1999	3.51	1.73	1.52	1.54	1.84	3.01	4.72	5.80	6.66	6.92	5.91	4.67	47.83	97%
2000	4.00	1.98	1.89	1.22	1.62	3.69	5.14	6.04	6.73	6.74	6.19	4.74	49.98	101%
2001	2.91	1.71	1.47	1.47	1.81	3.07	3.90	6.15	6.54	6.02	6.23	4.75	46.03	93%
2002	3.51	1.91	1.24	1.53	2.26	3.66	4.21	6.37	7.05	7.24	6.14	5.39	50.51	102%
2003	3.57	1.94	1.25	1.56	1.80	3.87	3.79	6.00	6.47	7.29	6.15	5.07	48.76	99%
2004	4.11	1.73	1.24	1.32	1.72	3.98	5.19	6.38	6.71	6.63	5.98	5.32	50.31	102%
2005	3.08	1.69	1.44	1.30	1.69	2.95	4.38	5.74	6.36	6.86	6.13	4.55	46.17	94%
2006	3.59	2.00	1.19	1.43	2.18	2.43	3.00	5.49	6.41	7.02	5.60	4.38	44.72	91%
2007	3.28	1.69	1.37	1.77	1.77	4.11	4.76	6.29	6.89	6.79	6.46	4.65	49.83	101%
2008	3.48	2.21	1.44	1.25	2.03	3.76	5.17	5.97	6.88	6.74	6.31	5.00	50.24	102%
2009	3.82	1.87	1.36	1.70	1.72	3.51	4.83	5.53	6.31	7.08	6.31	5.30	49.34	100%
2010	3.45	2.21	1.71	1.26	1.80	3.49	3.87	5.37	6.71	6.29	5.88	4.98	47.02	95%
2011	3.02	1.86	1.05	1.59	2.05	2.71	4.43	5.34	5.99	6.56	5.74	4.64	44.98	91%
2012	3.27	1.89	1.83	1.84	2.46	3.34	4.39	6.39	6.81	6.63	6.00	4.60	49.45	100%
2013	3.25	1.82	1.16	1.50	2.10	3.71	5.39	6.26	6.36	6.46	5.98	4.83	48.82	99%
2014	3.51	2.02	1.80	2.08	1.85	3.58	4.89	6.83	6.61	6.43	6.02	4.74	50.36	102%
2015	3.90	1.86	1.45	1.80	2.16	4.13	5.12	5.01	6.41	6.52	6.49	5.34	50.19	102%
2016	4.11	2.05	1.39	1.32	2.72	3.40	4.65	5.71	7.54	7.22	5.74	5.15	51.00	103%
2017	3.40	2.11	1.47	1.55	1.76	3.73	4.45	6.29	6.82	7.62	6.03	5.16	50.39	102%
2018	4.15	1.93	1.98	1.57	2.66	3.25	4.81	5.83	7.29	7.65	6.60	5.15	52.87	107%
2019	3.85	2.20	1.54	1.58	1.91	3.42	4.81	5.17	6.68	7.15	6.54	5.36	50.21	102%
2020	4.24	2.31	1.37	1.60	2.78	3.15	4.54	6.53	7.17	6.96	6.23	4.78	51.66	105%
AVG	3.62	1.95	1.45	1.52	2.02	3.47	4.63	5.94	6.66	6.89	6.20	4.95	49.29	100%

Note: The averages are for the available period of record, 1995 for reference evapotranspiration.

APPENDIX C GROUNDWATER DATA

List of Tables and Figures

Table C-1. Groundwater Elevations October 2019 through October 2020

Well Number	Well Depth (feet)	Depth to Top of Screens (feet)	Subbasin	Groundwater Elevations (feet MSL)				
				Oct-19	Jan-20	Apr-20	Jul-20	Oct-20
Southern Management Area								
14-6-14Q	UNK	UNK	Paicines	634.5	638.0	636.2	627.8	635.4
14-6-35B	UNK	UNK	Paicines	655.0	655.7	658.6	654.8	654.8
14-6-26K1	UNK	UNK	Paicines	642.6	644.2	645.9	643.4	644.3
14-6-26F	UNK	UNK	Paicines	644.8	644.3	644.7	644.5	644.0
14-6-36D	UNK	UNK	Paicines	NM	NM	649.5	642.5	640.5
14-6-26H1	UNK	UNK	Paicines	640.1	650.3	642.4	638.5	633.5
1536	UNK	UNK	TPCV	298.0	303.0	304.0	299.0	294.0
14-6-13B	UNK	UNK	TPCV	648.2	649.7	649.0	643.8	639.4
GRANITE ROCK WELL 1	UNK	UNK	TPCV	312.4	314.2	312.4	309.9	307.5
GRANITE ROCK WELL 2	UNK	UNK	TPCV	337.0	337.1	332.2	326.1	321.1
San Justo 5	UNK	UNK	TPCV	275.5	275.1	275.0	275.0	274.8
14-7-19G	UNK	UNK	TPCV	711.3	714.5	715.2	710.0	705.8
14-7-20K	UNK	UNK	TPCV	719.3	721.1	726.6	718.9	715.5
San Juan Management Area								
12-4-17L20	UNK	UNK	SJ	120.5	124.1	NM	121.3	120.2
12-4-18J1	UNK	UNK	SJ	123.0	124.6	125.2	122.1	120.6
12-4-20C3	UNK	UNK	SJ	111.8	113.1	NM	NM	NM
12-4-21M1	250	UNK	SJ	142.4	143.9	147.7	142.8	141.6
12-4-26G1	876	240	SJ	148.3	156.1	154.8	150.7	155.5
12-4-34H1	387	120	SJ	151.7	168.4	173.7	142.6	146.0
12-4-35A1	325	110	SJ	172.6	191.1		164.0	167.7
12-5-30H1	240	UNK	SJ	206.2	206.6	208.1	208.6	207.0
12-5-30R1	199	87	SJ	366.5	NM	NM	NM	NM
12-5-31H1	UNK	UNK	SJ	199.5	211.7	212.0	200.5	195.4
13-4-03H1	312	168	SJ	149.8	169.1	171.7	145.9	138.5
13-4-4A3	UNK	UNK	SJ	191.2	194.0	194.2	190.3	165.0
RIDER BERRY	UNK	UNK	SJ	146.2	160.0	160.7	151.3	134.4
Bolsa Management Area								
11-4-25H1	UNK	UNK	B	75.3	118.4	122.0	46.5	63.5
11-4-26B1	UNK	UNK	B	127.4	137.0	137.7	124.3	123.1
11-4-34A1	100	UNK	B	132.8	135.0	134.8	128.1	130.5
11-5-20N1	300	UNK	B	68.8	111.4	117.1	57.6	55.6
11-5-21E2	220	100	B	155.0	155.0	155.0	155.0	155.0
11-5-27P2	331	67	B	170.4	174.2	174.2	169.2	168.7
11-5-28B1	198	125	B	168.0	168.0	168.0	168.0	168.0
11-5-28P4	140	80	B	165.0	165.0	165.0	165.0	165.0
11-5-31F1	515	312	B	57.2	93.7	96.2	47.1	51.5
11-5-33B1	125	UNK	B	169.0	169.0	169.0	169.0	169.0
12-5-05G1	500	150	B	107.1	107.7	107.0	105.2	104.8
12-5-05M1	UNK	UNK	B	58.3	81.8	85.0	40.6	49.6
12-5-06L1	UNK	UNK	B	147.0	150.6	148.0	149.0	146.4
12-5-07P1	750	360	B	68.0	69.0	70.0	64.0	65.8
12-5-17D1	950	314	B	75.0	77.0	74.0	70.0	71.5
Llagas - SCVWD								
11S04E02D008	UNK	UNK	SCVWD	146.3	165.1	NM	137.0	136.9
11S04E02N001	UNK	UNK	SCVWD	139.6	158.6	NM	119.4	128.2
11S04E03J002	UNK	UNK	SCVWD	144.9	165.1	NM	132.1	132.5
11S04E08K002	UNK	UNK	SCVWD	152.1	162.2	NM	151.3	144.0
11S04E10D004	UNK	UNK	SCVWD	148.0	159.9	155.5	139.0	137.9
11S04E15J002	UNK	UNK	SCVWD	136.4	144.0	140.8	123.8	125.3
11S04E17N004	UNK	UNK	SCVWD	151.6	162.3	NM	151.2	143.9
11S04E22N001	UNK	UNK	SCVWD	124.0	142.5	NM	121.9	122.7
11S04E32R002	UNK	UNK	SCVWD	120.9	133.8	126.6	117.4	117.0

Table C-1. Groundwater Elevations October 2019 through October 2020

Well Number	Well Depth (feet)	Depth to Top of Screens (feet)	Subbasin	Groundwater Elevations (feet MSL)				
				Oct-19	Jan-20	Apr-20	Jul-20	Oct-20
Hollister Management Area								
12-5-09M1	240	105	BSE	124.9	126.3	137.0	126.4	127.8
12-5-22N1	372	250	BSE	NM	87.1	92.9	89.4	90.3
2317	UNK	UNK	HE	224.5	225.1	225.6	225.4	225.2
12-5-22C1	237	102	HE	176.0	187.7	188.8	129.5	178.3
12-5-22J2	355	120	HE	192.5	195.0	196.0	194.7	194.2
12-5-23A20	862	178	HE	184.0	184.8	186.0	185.5	180.0
12-5-36B20	500	430	HE	199.2	200.0	196.7	196.8	194.8
12-6-07P1	147	UNK	HE	243.6	246.1	248.0	243.5	242.5
12-6-18G1	198	70	HE	265.3	270.0	275.0	267.5	265.0
12-6-30E1	UNK	UNK	HE	347.9	348.9	348.0	347.5	347.0
13-6-07D2	UNK	UNK	HE	338.3	338.5	338.9	337.9	337.3
ROSSI 1	UNK	UNK	HE	231.6	233.2	233.2	228.3	230.5
12-5-27E1	175	UNK	HW	201.7	233.6	209.2	205.6	204.6
12-5-28J1	220	UNK	HW	215.0	217.8	221.7	218.2	217.0
12-5-28N1	408	168	HW	222.7	223.3	230.6	NM	NM
12-5-33E2	121	81	HW	216.0	217.7	221.4	217.3	218.0
12-5-34P1	195	153	HW	220.0	223.5	227.0	225.0	222.5
13-5-03L1	126	UNK	HW	231.0	233.7	237.6	235.1	233.1
13-5-04B	UNK	UNK	HW	230.4	233.4	235.7	233.6	231.3
13-5-10B1	UNK	UNK	HW	220.5	224.3	214.5	213.0	216.5
13-5-10L1	252	52	HW	292.0	NM	NM	NM	NM
13-5-11E1	UNK	UNK	HW	281.7	290.2	288.4	287.5	284.5
San Justo 4	UNK	UNK	HW	272.1	271.9	270.4	271.8	271.0
San Justo 6	UNK	UNK	HW	236.2	233.5	235.5	236.0	234.3
11-5-26N2	232	95	P	171.0	174.6	174.6	170.0	169.3
11-5-26R3	225	65	P	189.0	185.3	185.8	180.6	178.6
11-5-35C1	180	UNK	P	157.5	180.5	180.7	170.4	174.6
11-5-35G1	230	UNK	P	182.2	184.8	185.2	182.6	182.9
11-5-35Q3	UNK	UNK	P	170.0	179.1	176.9	158.7	168.7
11-5-36C1	98	UNK	P	195.4	197.2	197.1	198.5	192.2
11-5-36M1	UNK	UNK	P	183.9	183.9	186.0	184.1	182.0
11-6-31M2	188	155	P	236.5	227.3	227.0	224.6	218.9
12-5-01G2	300	UNK	P	183.7	184.4	182.8	177.3	180.8
12-5-02H5	128	42	P	182.8	184.1	181.7	179.8	178.8
12-5-02L2	170	UNK	P	195.1	196.5	197.0	195.1	194.1
12-5-03B1	128	100	P	182.0	182.0	182.0	182.0	182.0
12-6-06K1	260	16	P	260.0	260.0	260.0	260.0	260.0
12-6-06L4	235	50	P	220.4	220.2	220.0	219.0	215.3
13-5-11Q1	178	61	TP	294.4	295.4	294.4	293.0	294.6
13-5-12D4	UNK	UNK	TP	229.0	251.0	250.0	249.0	244.0
13-5-12K1	UNK	UNK	TP	328.0	329.0	330.0	321.0	288.0
13-5-12N20	352	301	TP	319.6	320.3	320.7	319.0	317.4
13-5-13F1	134	30	TP	334.1	335.0	335.9	335.3	334.0
13-5-13H1	252	112	TP	344.9	346.1	346.1	344.0	342.7
13-5-13J2	180	UNK	TP	347.1	348.2	347.5	346.0	344.2
13-5-13Q1	185	44	TP	333.0	336.8	336.0	332.9	331.5
13-5-14C1	UNK	UNK	TP	293.0	294.1	294.0	291.8	289.3
13-6-19J1	340	128	TP	435.2	434.6	434.6	NM	NM
13-6-19K1	211	UNK	TP	360.8	361.2	359.9	399.7	394.6
13-6-20K1	UNK	UNK	TP	429.0	425.0	420.3	420.9	417.8
11-5-12E1	103	52	PC	NM	235.4	NM	NM	NM
11-5-13D1	125	UNK	PC	227.3	229.7	232.0	220.8	222.5
11-5-23R2	118	43	PC	206.7	NM	210.3	207.5	205.5
11-5-24C1	134	UNK	PC	213.0	NM	NM	NM	NM
11-5-24C2	165	70	PC	223.0	226.1	226.7	223.5	218.3
11-5-24L1	70	UNK	PC	207.6	212.0	212.6	207.6	202.5
11-5-25G1	225	UNK	PC	208.4	208.4	208.0	201.0	198.9

UNK - Unknown
NM - Not Monitored

Table C-2. Groundwater Change Attributes

Subbasin	Subbasin Area (Acres)	Average Storativity[1]
San Juan	11,708	0.05
Hollister West	6,050	0.05
Tres Pinos	4,725	0.05
Pacheco	6,743	0.03
Northern Hollister East	10,686	0.03
Southern Hollister East	5,175	0.03
Bolsa SE	2,691	0.08
Bolsa	20,003	0.01

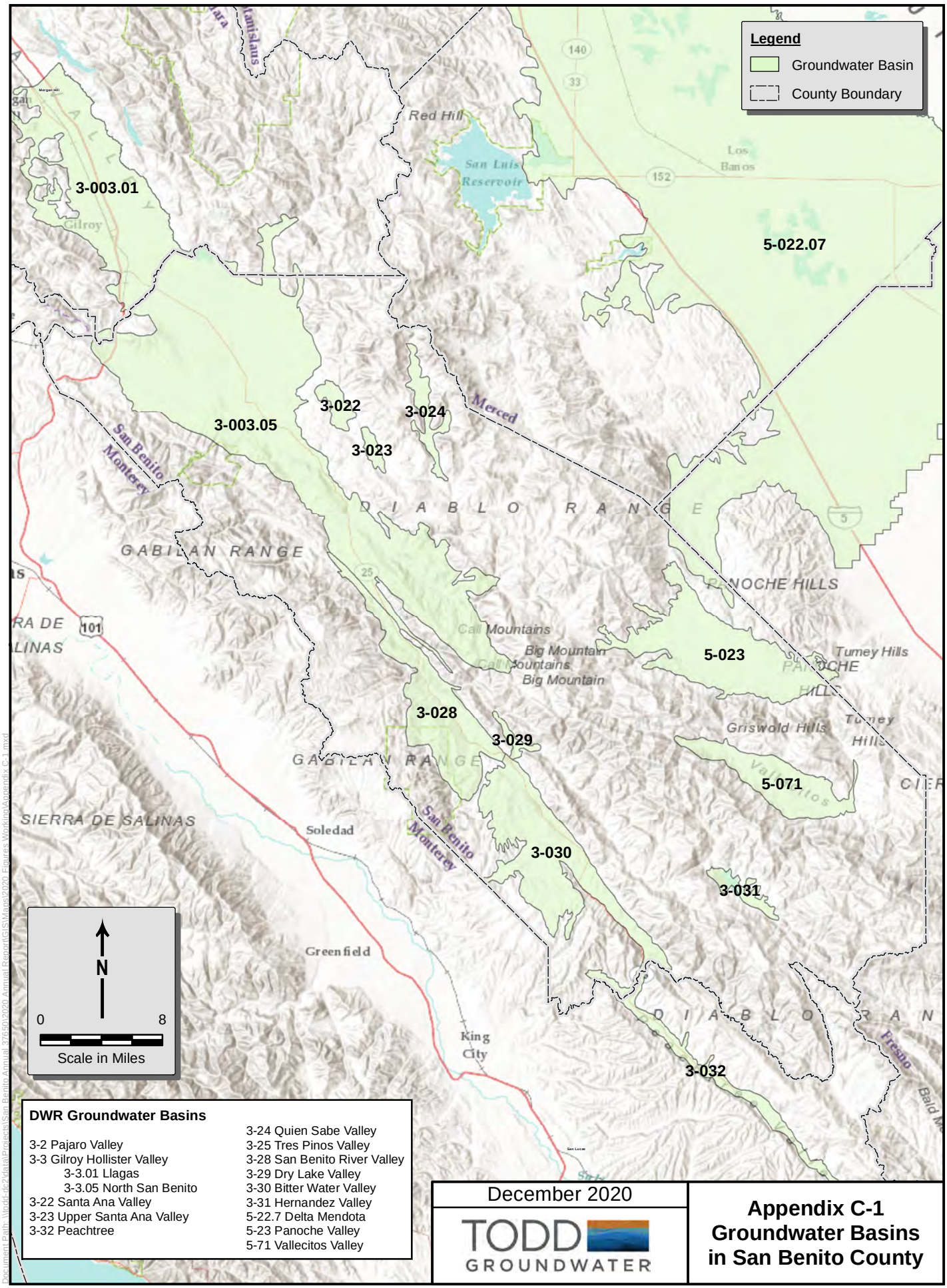
1. Storativity values from Yates/Zhang, 2001

Table C-3. Groundwater Change in Elevation 2006-2020 (feet)

	Average Change in Groundwater Elevation														
Subbasin	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
San Juan	0.9	(4.5)	0.3	(0.7)	(1.4)	(0.9)	0.0	(10.7)	(7.9)	(9.4)	(3.6)	14.6	3.5	(1.7)	(5.8)
Hollister West	3.1	(1.7)	3.3	(1.4)	(1.6)	(0.7)	2.1	(5.7)	(17.4)	(3.6)	0.9	6.9	9.5	6.5	2.3
Tres Pinos	2.5	(2.3)	0.7	8.1	(10.5)	1.0	2.5	(2.5)	(6.7)	(6.7)	(6.0)	4.4	0.9	15.0	(7.6)
Pacheco	1.9	(4.4)	(1.4)	8.1	(6.6)	1.9	(4.4)	(3.0)	(7.4)	1.9	3.0	8.6	(2.4)	1.8	(3.2)
Northern Hollister East	3.6	(6.5)	(4.2)	10.1	(8.7)	2.7	(2.4)	1.6	(9.1)	0.8	(1.5)	5.8	2.6	0.6	(1.6)
Southern Hollister East	3.3	(1.5)	5.5	9.4	4.9	(1.9)	(2.2)	(1.1)	(6.9)	1.6	8.1	0.5	7.2	2.4	(1.2)
Bolsa SE	1.5	(6.8)	11.5	(24.8)	25.3	(11.6)	0.2	(4.3)	(10.7)	(3.3)	(9.9)	8.2	7.2	3.2	0.2
Bolsa	6.8	(3.3)	9.0	(16.9)	23.2	(11.2)	10.7	(3.4)	(25.6)	4.6	(2.9)	10.6	(2.6)	(0.6)	(3.29)

Table C-4. Groundwater Change in Storage 2006-2020 (acre-feet)

	Average Change in Groundwater Storage (AF)														
Subbasin	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
San Juan	510	(2,626)	168	(437)	(811)	(523)	0	(6,239)	(4,653)	(5,530)	(2,086)	8,531	2,077	(1,016.0)	(3,383.3)
Hollister West	947	(510)	1,001	(431)	(477)	(198)	640	(1,730)	(5,267)	(1,090)	282	2,084	2,878	1,962.0	684.0
Tres Pinos	584	(553)	169	1,913	(2,485)	228	601	(586)	(1,574)	(1,579)	(1,427)	1,034	216	3,552.0	(1,802.8)
Pacheco	391	(892)	(275)	1,639	(1,335)	389	(882)	(597)	(1,490)	388	604	1,736	(488)	362.0	(654.1)
Northern Hollister East	1,167	(2,087)	(1,350)	3,253	(2,798)	870	(757)	528	(2,918)	242	(474)	1,867	818	203.0	(515.7)
Southern Hollister East	506	(227)	846	1,457	766	(301)	(339)	(177)	(1,067)	250	1,263	72	1,123	365.0	(185.0)
Bolsa SE	333	(1,458)	2,478	(5,338)	5,443	(2,508)	53	(918)	(2,300)	(719)	(2,139)	1,767	1,543	695.0	37.0
Bolsa	1,358	(659)	1,794	(3,372)	4,631	(2,239)	2,144	(674)	(5,112)	915	(578)	2,125	(514)	(112.0)	(658.1)



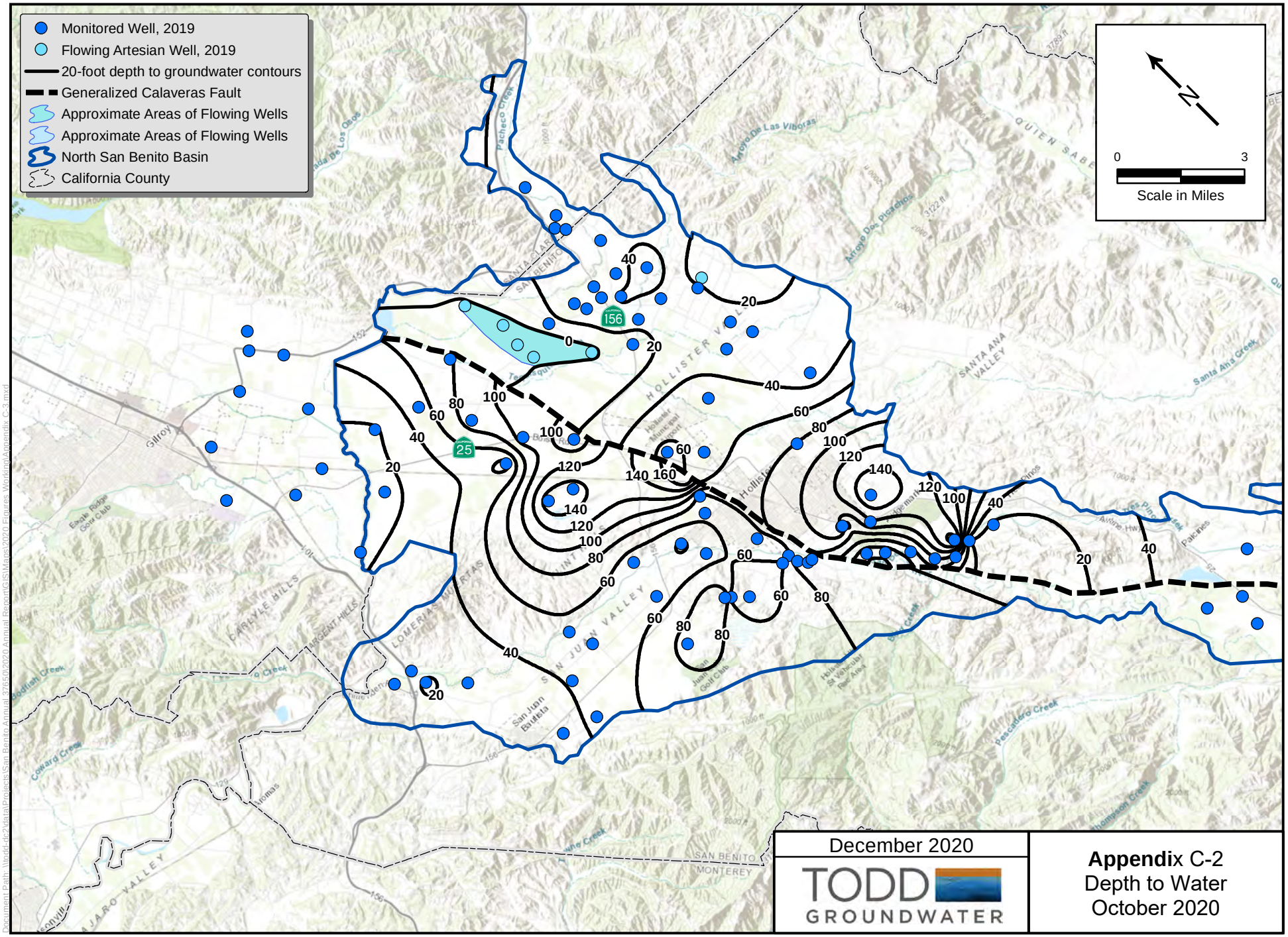
DWR Groundwater Basins

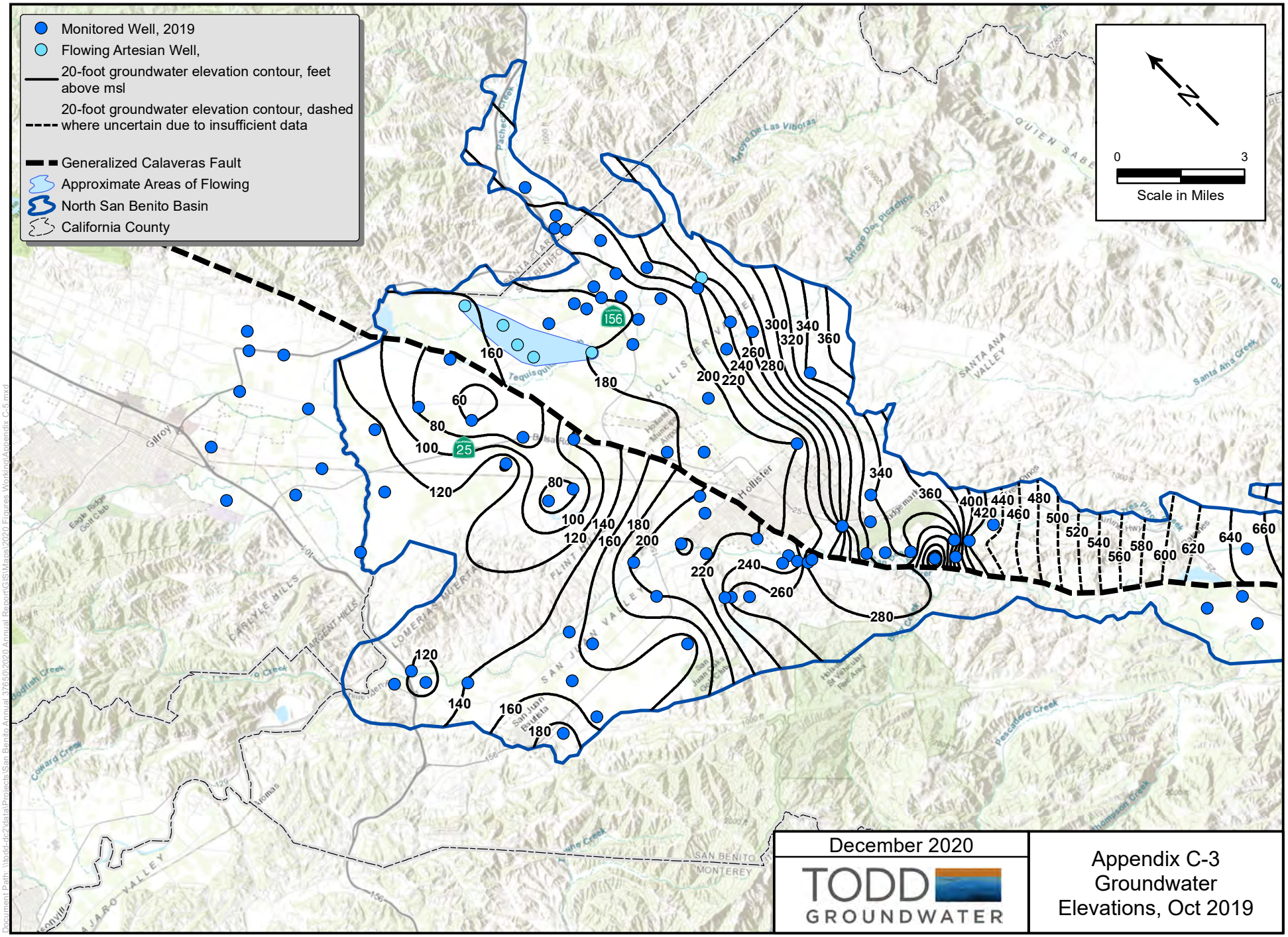
3-2 Pajaro Valley
3-3 Gilroy Hollister Valley
3-3.01 Llagas
3-3.05 North San Benito
3-22 Santa Ana Valley
3-23 Upper Santa Ana Valley
3-32 Peachtree
3-24 Quien Sabe Valley
3-25 Tres Pinos Valley
3-28 San Benito River Valley
3-29 Dry Lake Valley
3-30 Bitter Water Valley
3-31 Hernandez Valley
5-22.7 Delta Mendota
5-23 Panoche Valley
5-71 Vallecitos Valley

December 2020

TODD GROUNDWATER

Appendix C-1 Groundwater Basins in San Benito County


Monitored Well, 2019
Flowing Artesian Well, 2019
20-foot depth to groundwater contours
Generalized Calaveras Fault
Approximate Areas of Flowing Wells
Approximate Areas of Flowing Wells
North San Benito Basin
California County
N
0
3
Scale in Miles
December 2020
TODD GROUNDWATER
Appendix C-2
Depth to Water
October 2020


Monitored Well, 2019
Flowing Artesian Well,
20-foot groundwater elevation contour, feet above msl
20-foot groundwater elevation contour, dashed where uncertain due to insufficient data
Generalized Calaveras Fault
Approximate Areas of Flowing
North San Benito Basin
California County
N
0
3
Scale in Miles
December 2020
TODD GROUNDWATER
Appendix C-3
Groundwater
Elevations, Oct 2019

APPENDIX D PERCOLATION DATA

List of Tables and Figures

Table D-1. Reservoir Water Budgets for Water Year 2020 (acre-feet)

	Hernandez	Paicines	San Justo	
Observed Storage				
Starting Storage (Oct 2019)	2,100	300	4,861	
Ending Storage (Sept 2020)	506	300	6,143	
Inflows				
Rainfall	128	60	199	
San Benito River	8,390	1,248	n.a.	
Hernandez-Paicines transfer	n.a.	535	n.a.	
San Felipe Project*	n.a.	n.a.	21,357	*
Total Inflows	**8,518**	**1,842**	**21,556**	
Outflows				
Hernandez spills	0	n.a.	n.a.	
Hernandez-Paicines transfer	535	n.a.	n.a.	
Tres Pinos Creek percolation releases	n.a.	2,037	n.a.	
San Benito River percolation releases	9,473	0	n.a.	
CVP Deliveries*	n.a.	n.a.	20,287	*
Evaporation and seepage (less interceptor wells)	476	310	1,152	
Total Outflows	**10,484**	**2,347**	**21,439**	
Change in Storage				
Observed storage change (Ending - Starting)	**-1,594**	**0**	**1,282**	
Calculated net storage change (Inflow - Outflows)	**-1,966**	**-505**	**116**	
Unaccounted for Water (Observed - Calculated)**	**372**	**505**	**1,166**	

Reservoir Information				
Reservoir capacity	17,200	2,870	11,000	
Maximum storage	12,572	2,580	10,308	
Minimum storage	558	250	4,573	

* Reflects imported water for beneficial use, not all stored in reservoir

** Negative value is water shortage, positive value is water surplus

Table D-2. Historical Reservoir Releases (AFY)

WY	Hernandez	Paicines	TOTAL
1996	13,535	6,139	19,674
1997	3,573	2,269	5,842
1998	26,302	450	26,752
1999	12,084	1,293	13,377
2000	13,246	2,326	15,572
2001	12,919	3,583	16,502
2002	9,698	310	10,008
2003	5,434	0	5,434
2004	3,336	0	3,336
2005	19,914	677	20,591
2006	14,112	196	14,308
2007	12,022	1,254	13,276
2008	7,646	495	8,141
2009	4,883	0	4,883
2010	8,484	4,147	12,631
2011	9,757	2,397	12,154
2012	6,341	1,321	7,662
2013	3,963	677	4,640
2014	0	0	0
2015	0	0	0
2016	0	0	0
2017	23,191	2,407	25,597
2018	6,054	384	6,438
2019	15,924	2,045	17,969
2020	9,473	2,037	11,510
AVG	**9,676**	**1,376**	**11,052**

Table D-3. Historical Percolation of CVP Water (AFY)

Water Year[1]	Pacheco Creek	Arroyo de las Viboras			Arroyo Dos Picachos			Santa Ana Creek				Tres Pinos Creek (and Pond)	San Benito River		Total
		Road	Creek 1 (Frog Ponds)	Creek 2	Fallon Road	Jarvis Lane	Creek	John Smith Road	Maranatha Road	Airline Highway	Ridgemark		Union Road Pond	Hollister Ponds	
1994	232	136	515	0	0	550	209	0	0	0	0	85	158	0	1,885
1995	444	238	770	2	0	654	622	73	0	0	0	809	2,734	0	6,345
1996	0	494	989	832	67	235	708	531	197	134	25	21	6,097	0	10,330
1997	0	447	601	1,981	77	0	200	17	353	286	29	1,477	5,619	0	11,087
1998	0	132	109	403	0	0	0	65	0	158	74	518	1,084	0	2,543
1999	0	0	0	0	0	0	4	256	48	141	10	452	413	0	1,322
2000	1	0	0	6	0	0	3	236	21	240	12	285	938	0	1,740
2001	0	0	0	0	0	0	0	161	17	186	1	703	1,041	0	2,110
2002	0	0	0	2	0	0	1	78	2	143	0	426	470	0	1,122
2003	0	0	0	0	0	0	5	119	9	172	0	163	605	0	1,074
2004	0	0	0	0	0	0	52	83	0	0	0	1	882	0	1,018
2005	0	0	0	0	0	0	0	0	0	0	0	0	527	0	527
2006	0	0	0	0	0	0	7	156	0	0	0	1	451	0	614
2007	0	0	0	0	0	0	0	0	0	0	0	88	216	0	304
2008	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	340	0	0	0	0	0	0	0	0	0	2,209	0	2,549
2018	0	0	199	0	0	0	0	0	0	0	0	867	1,899	0	2,965
2019	0	0	335	0	0	0	0	0	0	0	0	1,775	2,932	0	5,043
2020	0	0	134	0	0	0	0	0	0	0	0	780	1,499	747	3,161

1. 2017-2020 percolation occurred only to recharge basins adjacent to the listed streams.

Table D-4. Percolation of Municipal Wastewater during Water Year 2020

	Pond Area[1] (acres)	Effluent Discharge (acre-feet)	Evaporation[2] (acre-feet)	Percolation (acre-feet)
Hollister - domestic	93	2,658	266	2,392
Hollister - industrial	39	0	0	0
Ridgemark Estates I & II	7	176	21	155
Tres Pinos	2	11	5	6
Total	141	2,846	292	2,553

Notes:

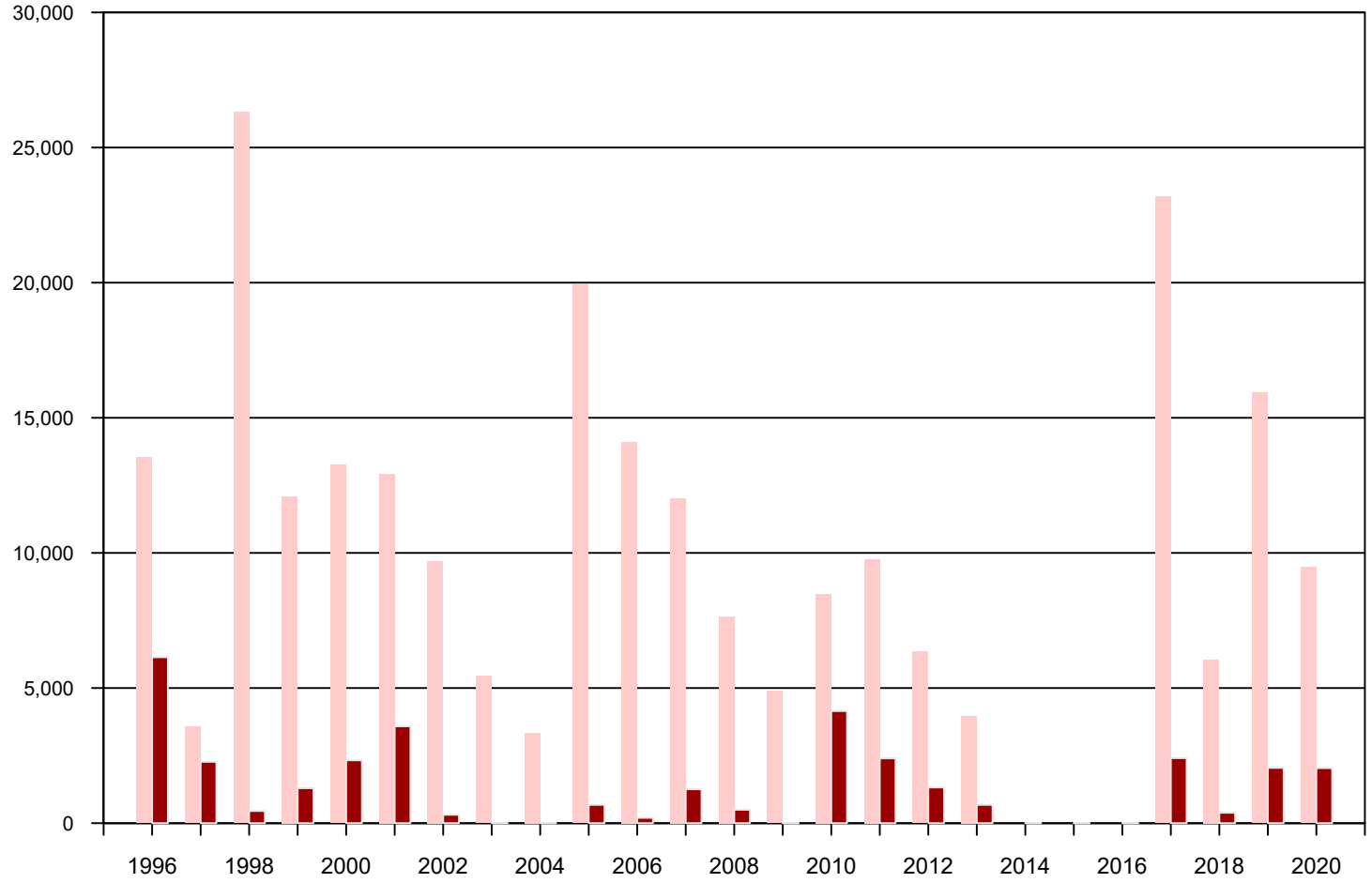
1. Hollister pond areas are from Dickson and Kenneth D. Schmidt and Associates (1999) and include treatment ponds in addition to percolation ponds at the domestic wastewater treatment plant. Assumes 80% of total pond area in use at any time (Rose, pers. comm.). These areas should be updated as operations change.

2. Average evaporation less precip = 43 inches (56 in/yr evaporation (DWR Bulletin 73-79) less 13 in/yr precip (CIMIS) The IWTP evaporation was adjusted to account only for when the ponds are in use.
The San Juan Bautista plant is not included because the unnamed tributary of San Juan Creek that receives its effluent usually gains flow along the affected reach and is on the southwest side of the San Andreas Fault. These conditions prevent the effluent from recharging the basin.

Table D-5. Historical Percolation of Municipal Wastewater (AFY)

	Hollister Reclamation Plant - Domestic	Hollister - industrial wastewater and stormwater	Ridgemark Estates I & II	Tres Pinos	TOTAL
1994	1,775	665	155	5	2,600
1995	1,935	610	180	10	2,735
1996	2,020	689	207	14	2,930
1997	1,965	909	201	17	3,092
1998	2,490	518	231	17	3,256
1999	1,693	1,476	156	12	3,337
2000	2,110	1,136	293	24	3,563
2001	1,742	1,078	303	24	3,147
2002	1,884	1,545	283	24	3,736
2003	2,009	1,432	279	24	3,744
2004	1,787	1,536	268	21	3,612
2005	1,891	1,323	227	26	3,468
2006	1,797	1,211	216	33	3,257
2007	1,740	1,228	139	19	3,126
2008	1,580	1,257	139	19	2,996
2009	1,976	428	172	19	2,594
2010	1,922	37	172	19	2,150
2011	1,807	466	183	19	2,476
2012	1,740	605	177	19	2,541
2013*	889	332	188	21	1,430
2014	1,552	86	179	21	1,838
2015	1,816	344	161	21	2,342
2016	1,923	305	154	21	2,402
2017	1,945	57	154	20	2,177
2018	1,365	57	150	15	1,587
2019	1,822	0	149	16	1,986
2020	2,392	0	155	6	2,553

*Potential missing data



Hernandez

Paicines

December 2020

TODD GROUNDWATER

Appendix D-1
Reservoir Releases for Percolation

APPENDIX E WATER USE DATA FOR ZONE 6

List of Tables and Figures

Table E-1. Recent CVP Allocation and Use

Water Year	Municipal and Industrial (M&I) CVP				Agricultural CVP			
	Percent of Contract Allocation[1]	Percent of Historic Average[2]	Contract Amount Used (AF)	Contract Amount Used (%)	Percent of Contract Allocation[3]	Percent of Contract and M&I Adjustment[2]	Contract Amount Used (AF)[4]	Contract Amount Used (%)
	(USBR Water Year Mar-Feb)		(Hydrologic Water Year Oct-Sep)		(USBR Water Year Mar-Feb)		(Hydrologic Water Year Oct-Sep)	
2006	100%		3,152	38%	100%		19,840	56%
2007	100%		4,969	60%	40%		18,865	53%
2008	37%	75%	2,232	27%	40%	45%	10,514	30%
2009	29%	60%	1,978	24%	10%	11%	6,439	18%
2010	37%	75%	2,197	27%	45%	50%	10,061	28%
2011	100%		2,433	29%	80%		16,234	46%
2012	51%	75%	2,683	33%	40%	40%	17,267	49%
2013	47%	70%	2,652	32%	20%	22%	12,914	36%
2014	34%	50%	1,599	29%	0%	0%	7,545	21%
2015	25%		1,810	22%	0%		3,697	10%
2016	55%		1,914	23%	5%		4,434	12%
2017	100%		2,909	35%	100%		15,837	45%
2018	75%		5,679	69%	50%		17,418	49%
2019	100%		4,457	54%	75%		16,774	47%
2020	70%		4,953	60%	20%		15,327	43%
Average (11-20)	**66%**				**39%**			

Notes: 1 Total contract (100% allocation) M&I 8,250 AFY
2 Shortage Policy Adjustments
3 Total contract (100% allocation) Ag 35,550 AFY
4 Includes water percolated

Table E-2. Historical Water Use by Subbasin and Water Source (AFY)

Subbasin [1]	Pacheco		Bolsa Southeast			San Juan		Hollister West			Hollister East[2]			Tres Pinos		Total Zone 6		
Source	GW	CVP	GW	CVP	RW	GW	CVP	GW	CVP	RW	GW	CVP	RW	GW	CVP	GW	CVP	RW
1993	2,251	3,210	3,474	533		9,278	4,300	7,213	90		3,744	7,275		5,658	224	31,618	15,633	0
1994	3,748	3,394	3,467	602		10,859	3,836	7,327	87		5,475	6,808		5,294	263	36,169	14,990	0
1995	2,756	3,474	2,855	720		9,328	4,554	7,092	460		3,428	6,647		4,475	275	29,935	16,130	0
1996	2,533	3,500	2,682	782		8,726	5,187	5,717	679		3,396	8,267		3,695	408	26,748	18,823	0
1997	2,209	4,205	2,755	997		9,587	6,191	7,602	907		3,534	8,284		4,620	466	30,307	21,048	0
1998	2,035	2,165	1,561	361		6,963	4,099	4,991	591		4,037	5,291		3,751	289	23,338	12,796	0
1999	2,553	3,219	2,453	433		9,312	5,990	7,013	726		3,701	7,279		4,199	391	29,231	18,038	0
2000	2,270	3,256	2,418	355		8,681	6,372	7,590	869		3,108	7,279		4,006	542	28,073	18,673	0
2001	1,848	3,443	2,126	411		7,977	7,232	7,377	685		2,213	7,010		3,599	621	25,140	19,402	0
2002	2,322	3,840	2,193	497		7,571	7,242	6,577	706		2,588	7,390		3,994	737	25,244	20,411	0
2003	2,425	3,277	2,175	493		7,434	7,127	6,222	720		1,897	9,329		2,805	788	22,958	21,734	0
2004	2,461	3,607	2,405	740		8,121	7,357	4,971	614		2,321	10,726		3,204	966	23,484	24,010	0
2005	1,320	3,106	1,849	514		6,608	6,245	5,084	680		2,586	9,198		2,378	642	19,825	20,384	0
2006	1,208	3,495	1,864	661		6,741	7,200	4,633	579		2,555	10,253		2,537	803	19,538	22,992	0
2007	1,034	3,832	2,005	572		7,658	6,160	5,118	553		3,867	10,194		2,908	804	22,590	22,115	0
2008	1,900	1,568	2,014	333		7,796	3,160	4,375	399		3,962	6,792		2,743	493	22,789	12,745	0
2009	3,370	1,257	2,082	179		11,956	1,605	4,186	19		4,733	4,697		2,871	447	29,199	8,204	0
2010	2,553	1,771	1,897	207		9,561	3,452	4,081	10	151	4,460	6,056		1,686	488	24,238	11,984	151
2011	1,992	2,420	2,781	229		4,987	5,623	3,940	394	183	1,947	9,575		2,454	427	18,102	18,667	183
2012	3,723	2,652	1,556	288		5,782	5,976	4,298	549	230	2,004	9,917		2,492	568	19,855	19,949	230
2013	4,157	1,976	2,348	292		11,044	4,134	5,656	374	357	5,430	8,224		2,452	565	31,087	15,566	357
2014	3,303	1,020	2,157	32		10,018	1,984	7,227	233	262	4,872	5,490		3,014	384	30,592	9,144	262
2015	4,279	555	2,401	20		12,739	975	4,730	148	101	7,230	3,568		2,948	241	34,327	5,507	101
2016	4,386	420	2,558	30	38	13,581	819	4,031	162	253	6,383	4,810	207	2,223	106	33,162	6,347	499
2017	2,949	2,097	1,414	365	66	7,542	5,853	3,255	217	108	2,209	7,488	192	2,447	177	19,815	16,197	366
2018	4,375	1,529	3,063	291	3	8,932	6,383	3,922	2,054	468	3,699	9,686	0	1,865	188	25,856	20,131	471
2019	2,780	2,162	2,568	318	2	6,648	3,990	2,093	273	567	2,802	9,261	0	1,193	184	18,083	16,188	569
2020	3,151	1,922	2,092	391	21	7,454	4,618	2,440	287	505	4,002	9,690	0	1,396	211	20,536	17,119	526
AVG 93-20	2,710	2,585	2,329	416	26	8,674	4,917	5,313	502	290	3,649	7,732	80	3,104	453	25,780	16,605	133

GW = groundwater, CVP = Central Valley Project, RW = recycled water

1. Subbasin refers to the 1996-defined Subbains
2. Hollister East includes CVP water delivered to the West Hills Treatment Plant in San Juan but supplied to Hollister East customers.
3. Does not include CVP water used for percolation

Table E-3a. Recent Water Use by Subbasin and User Type, Includes Recycled Water (AFY) - Agriculture

Management Area	Subbasin[1]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture																	
Hollister	Bolsa SE	2,352	2,517	2,570	2,334	2,252	2,103	3,004	1,837	2,635	2,180	2,417	2,601	1,831	3,315	2,889	2,494
	Hollister East	8,543	9,526	10,685	8,012	6,860	8,315	9,067	9,453	10,832	8,151	8,464	8,784	7,756	9,594	7,673	9,451
	Hollister West	2,128	1,936	2,145	1,509	1,708	1,888	2,190	2,228	3,324	2,584	2,750	2,192	1,338	2,337	1,807	2,145
	Pacheco	4,190	4,469	4,573	3,220	4,304	4,242	4,279	6,148	5,990	4,121	4,658	4,616	4,964	5,663	4,838	4,592
	Tres Pinos	800	1,004	954	655	670	640	471	641	652	514	1,513	572	468	448	276	370
San Juan	San Juan	11,496	12,622	12,185	9,581	12,397	11,960	10,009	10,964	14,376	11,183	13,123	13,826	11,916	14,568	10,134	10,563
	TOTAL	**29,509**	**32,074**	**33,112**	**25,310**	**28,192**	**29,148**	**29,020**	**30,980**	**37,810**	**28,734**	**32,926**	**32,591**	**28,273**	**35,925**	**27,616**	**19,053**

Table E-3b. Recent Water Use by Subbasin and User Type, Includes Recycled Water (AFY) - M&I

Management Area	Subbasin[1]	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
M&I																	
Hollister	Bolsa SE	12	8	7	13	9	0	6	6	4	9	5	25	14	43	0	9
	Hollister East[2]	3,241	3,280	3,203	2,742	2,570	2,307	2,594	2,608	2,961	2,277	2,334	2,617	2,132	3,790	4,389	4,242
	Hollister West	3,636	3,168	3,361	3,265	2,710	2,555	2,235	2,710	2,796	5,072	2,229	2,254	2,242	4,106	1,126	1,086
	Pacheco	235	234	293	248	323	83	133	227	144	203	176	191	81	241	104	481
	Tres Pinos	2,220	2,336	2,748	2,581	2,648	1,534	2,410	2,710	2,365	2,884	1,676	1,757	2,156	1,606	1,101	1,238
San Juan	San Juan	1,356	1,320	1,640	1,375	1,164	1,053	601	793	803	820	590	574	1,479	747	504	1,510
	TOTAL	**10,700**	**10,345**	**11,252**	**10,225**	**9,424**	**7,532**	**7,979**	**9,055**	**9,073**	**11,263**	**7,010**	**7,417**	**8,105**	**10,533**	**7,225**	**7,056**

1. Subbasin refers to the 1996-defined Subbains
2. Hollister East includes 1,990 AF of CVP water delivered to the West Hills Treatment Plant in San Juan but supplied to Hollister East customers.

Table E-4. Historical Water Use by User Type in Zone 6 - Includes Recycled Water (AFY)

WY	Agricultural	Municipal, and Industrial	Total	% Ag
1988	46,366	5,152	51,518	90%
1989	32,387	6,047	38,434	84%
1990	49,663	5,725	55,388	90%
1991	46,640	7,631	54,271	86%
1992	32,210	6,912	39,122	82%
1993	38,878	5,066	43,944	88%
1994	41,854	7,186	49,040	85%
1995	36,399	8,272	44,671	81%
1996	39,845	8,131	47,976	83%
1997	41,482	11,068	52,550	79%
1998	27,526	8,605	36,131	76%
1999	37,203	10,066	47,269	79%
2000	36,062	10,764	46,826	77%
2001	34,035	10,640	44,675	76%
2002	34,354	11,300	45,654	75%
2003	33,533	11,159	44,692	75%
2004	35,597	11,898	47,495	75%
2005	29,510	10,699	40,209	73%
2006	32,074	10,456	42,530	75%
2007	33,112	13,311	46,424	71%
2008	25,310	10,225	35,535	71%
2009	28,192	9,424	37,616	75%
2010	29,148	7,531	36,679	79%
2011	29,020	7,932	36,952	79%
2012	30,980	9,055	40,095	77%
2013	37,810	9,073	46,653	81%
2014	28,734	11,226	39,960	72%
2015	32,926	7,161	39,935	82%
2016	32,591	7,417	40,008	81%
2017	28,273	8,105	36,012	79%
2018	35,925	10,533	46,458	77%
2019	27,616	7,225	34,841	79%
2020	29,616	8,565	38,181	78%
AVERAGE	**34,390**	**8,896**	**43,265**	**79%**

Table E-5. Municipal Water Use by Major Purveyor for Water Year 2020 (AF)

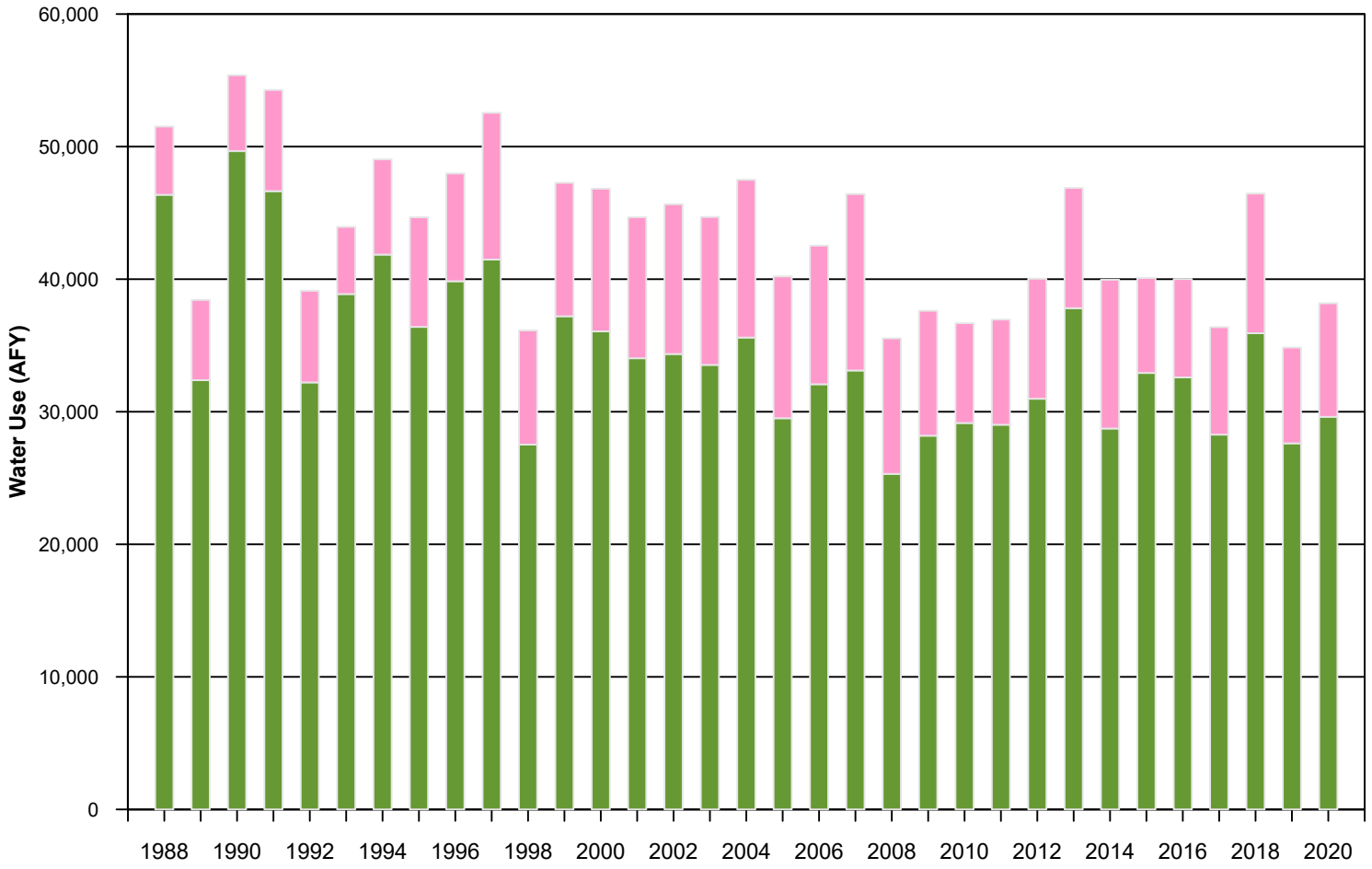
	WY 2020	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Groundwater													
Sunnyslope CWD	**694**	26	29	17	68	34	52	45	61	75	87	122	78
City of Hollister	**707**	106	23	56	21	15	29	27	81	82	72	106	90
City of Hollister - Cienega Wells	**95**	8	6	8	8	8	8	8	8	8	8	9	9
San Juan Bautista	**224**	25	15	15	16	19	13	10	15	16	26	23	32
Tres Pinos CWD	**35**	3	3	2	2	2	2	3	3	4	3	4	4
Groundwater Subtotal	**1,755**	**169**	**75**	**97**	**115**	**78**	**104**	**92**	**168**	**185**	**196**	**264**	**213**
CVP Imported Water													
Lessalt Treatment Plant	**1,503**	171	145	114	60	95	142	116	132	162	151	108	107
West Hills Treatment Plant	**1,990**	140	124	127	124	113	124	142	202	207	230	277	179
Imported Water Subtotal	**3,493**	**311**	**269**	**241**	**185**	**208**	**266**	**258**	**334**	**369**	**381**	**385**	**286**
Municipal Total													
TOTAL Municipal Water Supply	**5,248**	**480**	**344**	**338**	**299**	**286**	**370**	**350**	**502**	**553**	**578**	**649**	**499**

0.66551726

Table E-6. Historical Municipal Water Use by Major Purveyor (AFY)

WY	Sunnyslope CWD - GW	City of Hollister - GW	City of Hollister - Cienega Wells[1]	San Juan Bautista	Tres Pinos CWD	Lessalt Treatment Plant	West Hills Treatment Plant	Undivided Total	TOTAL
1988						0	0	5,152	5,152
1989						0	0	6,047	6,047
1990						0	0	5,725	5,725
1991						0	0	7,631	7,631
1992						0	0	6,912	6,912
1993						0	0	5,066	5,066
1994						0	0	7,186	7,186
1995	2,167	2,446				0	0		4,613
1996	2,139	3,386				0	0		5,525
1997	2,638	3,848				0	0		6,486
1998	2,357	3,441				0	0		5,798
1999	2,820	3,558				0	0		6,378
2000	3,214	4,021				0	0		7,235
2001	3,290	3,851				0	0		7,141
2002	3,256	4,120				21	0		7,398
2003	2,053	2,754				2,494	0		7,302
2004	2,426	2,828				2,101	0		7,356
2005	1,959	3,147	123	247	49	1,843	0		7,368
2006	1,907	2,801	123	150	49	1,900	0		6,930
2007	2,413	2,758	123	47	49	1,719	0		7,108
2008	2,294	2,746	123	417	47	1,323	0		6,949
2009	2,251	2,503	123	373	47	1,212	0		6,509
2010	1,861	2,194	108	308	47	1,344	0		5,861
2011	2,225	1,651	80	292	47	1,593	0		5,887
2012	2,360	1,761	130	267	45	1,657	0		6,219
2013	1,655	2,655	120	281	46	1,648	0		6,405
2014	2,134	2,646	114	285	49	979	0		6,207
2015	1,348	1,960	114	225	49	1,364	0		5,060
2016	1,331	1,615	105	232	49	1,682	0		5,014
2017	1,449	1,543	79	249	32	1,940	51		5,344
2018	978	1,217	121	184	34	1,596	1,990		6,119
2019	565	588	283	257	33	1,660	2,524		5,912
2020	694	707	95	224	35	1,503	1,990		5,248

1. Data from Hollister Cienega Wells for 2005-2008 was estimated to be the same as WY 2009
Cells with no data indicate that the information is unavailable, while years with no use are shown explicitly as 0's.

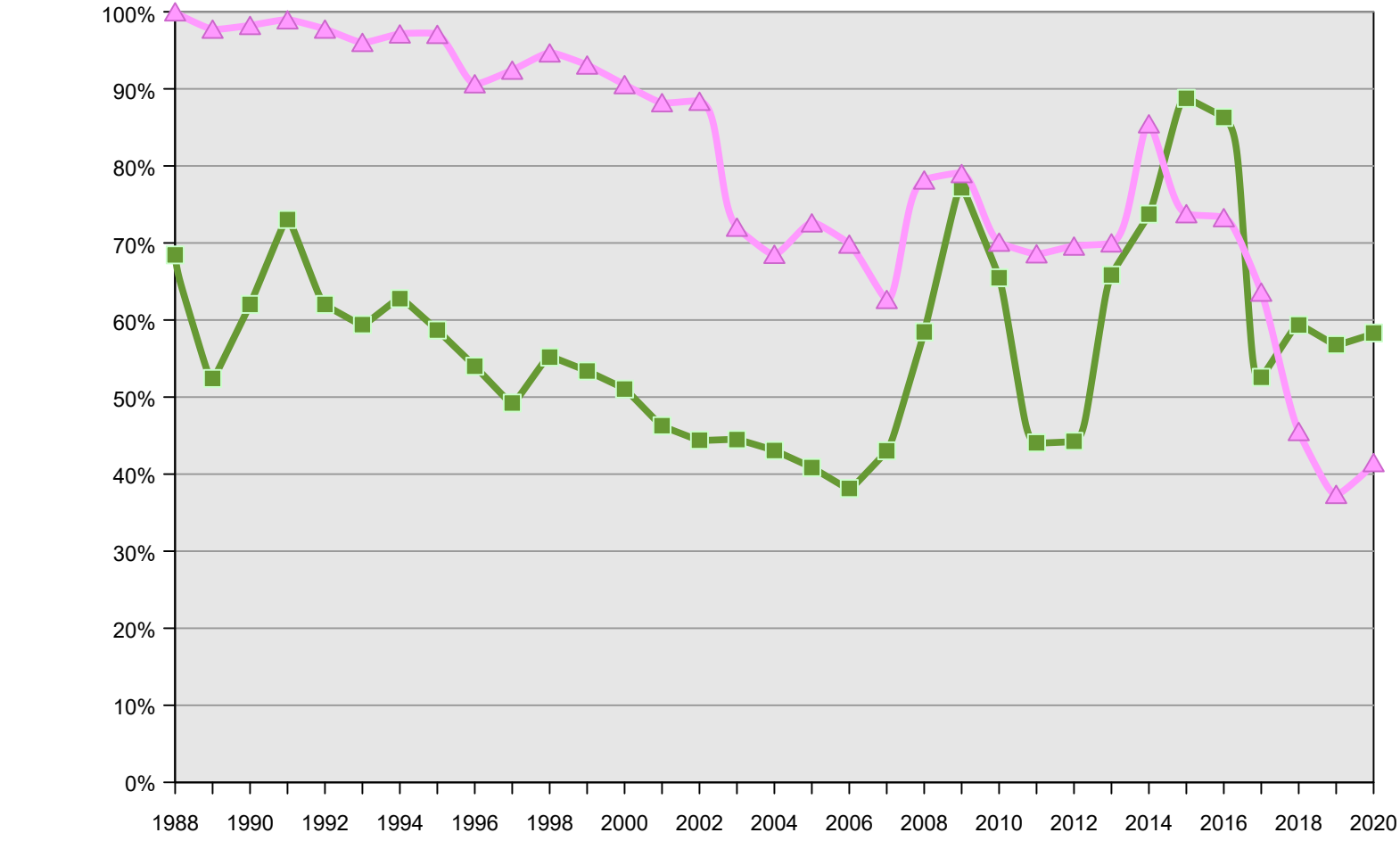


Agriculture
Groundwater

December 2020

TODD GROUNDWATER

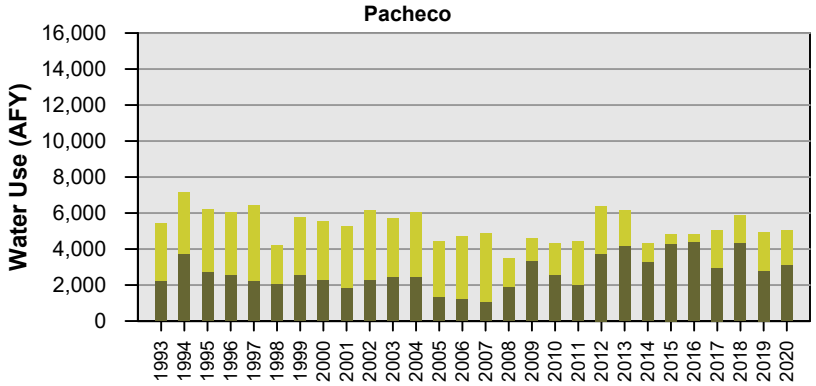
Appendix E-1
Agricultural and Municpal Water Use

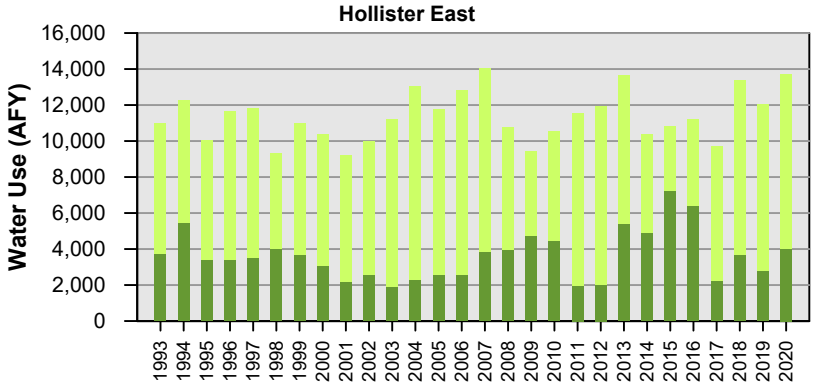


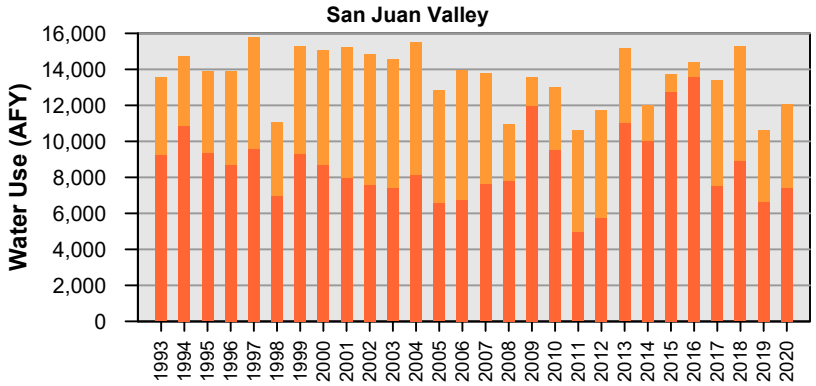
December 2020

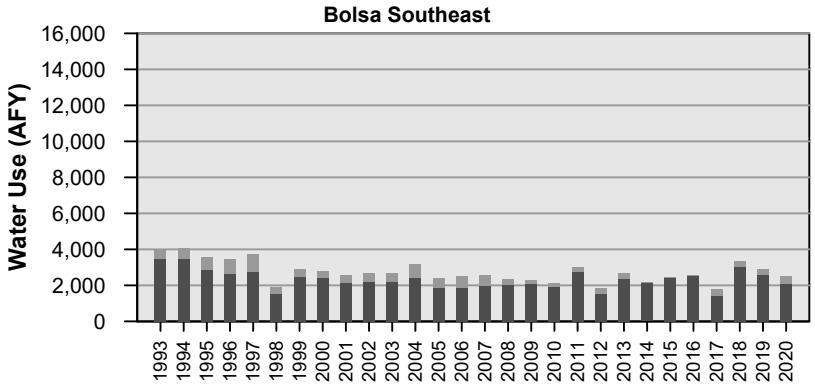
TODD GROUNDWATER

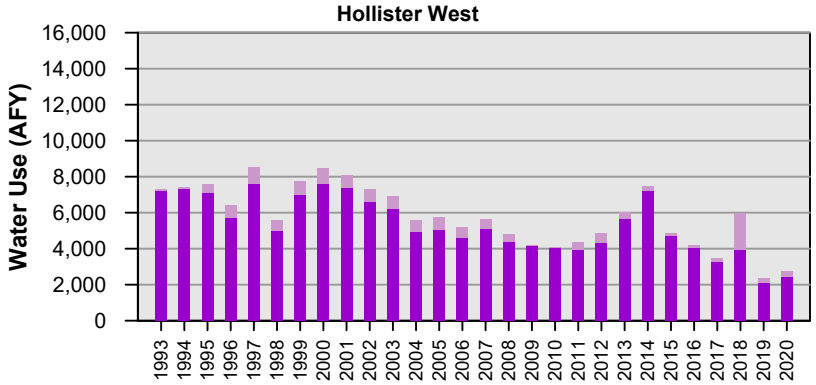
Appendix E-2
Water Use in Zone 6 by Source

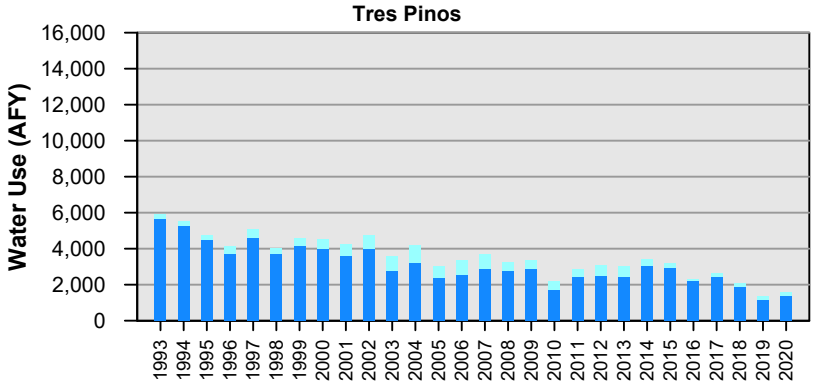












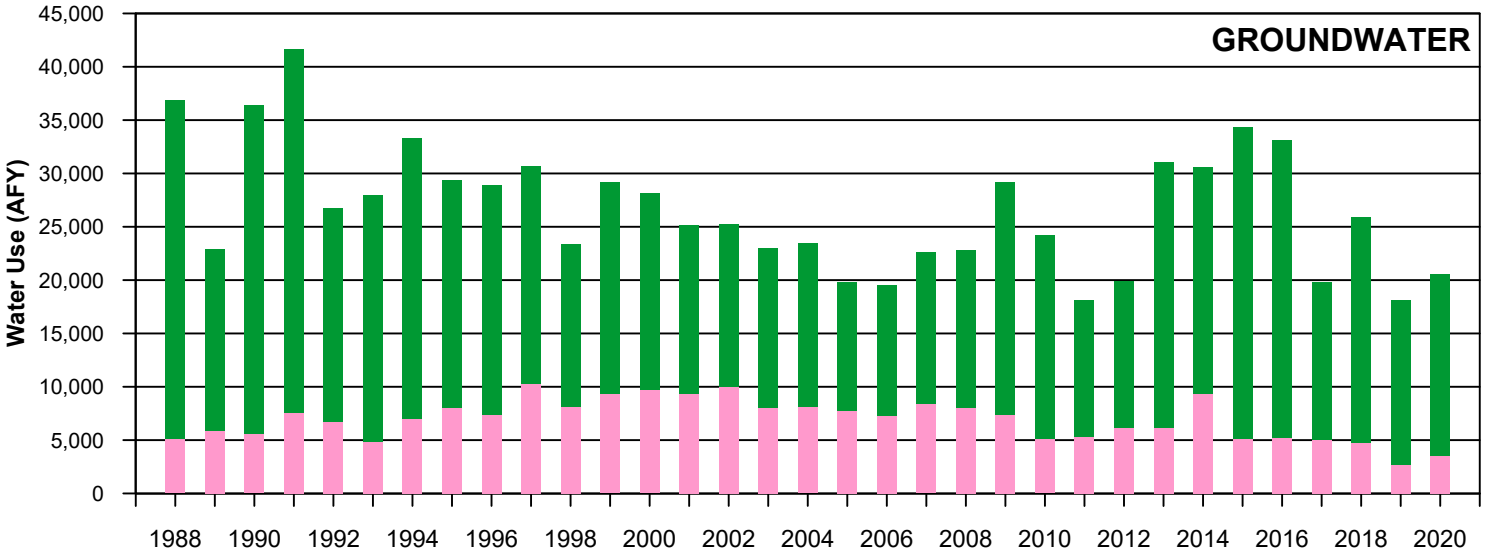
CVP water (lighter shade typ.)

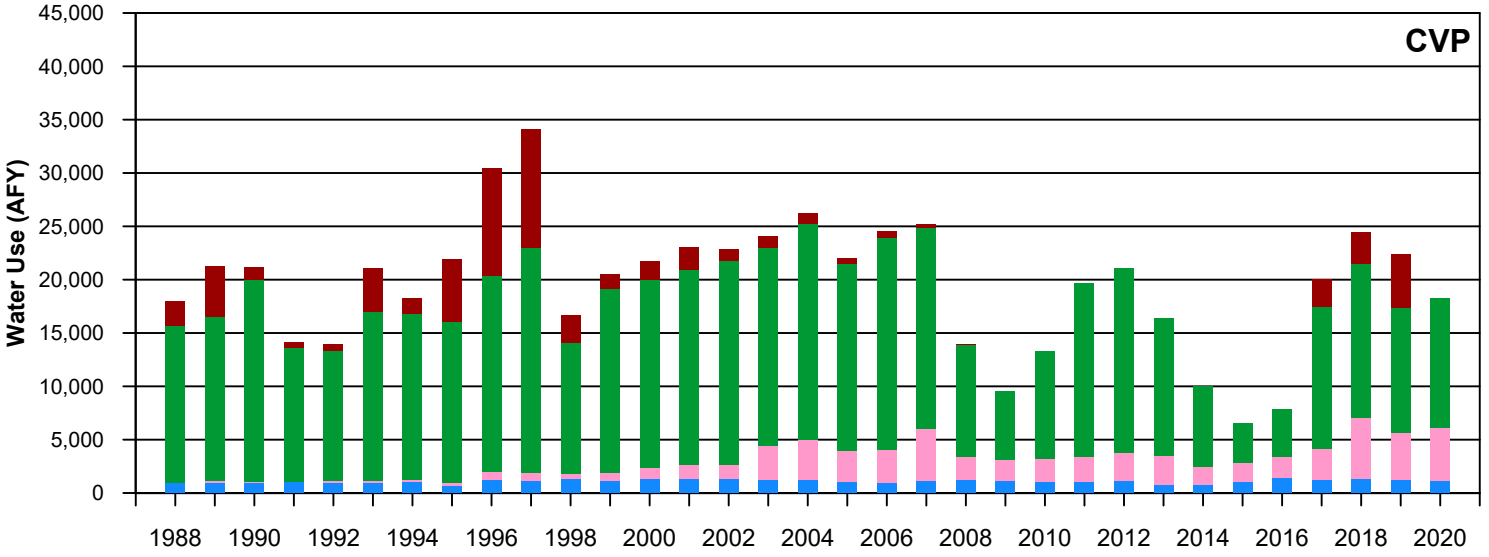
Groundwater (darker shade typ.)

December 2020

TODD GROUNDWATER

Appendix E-3
Total Subbasin Water Use by Water Type



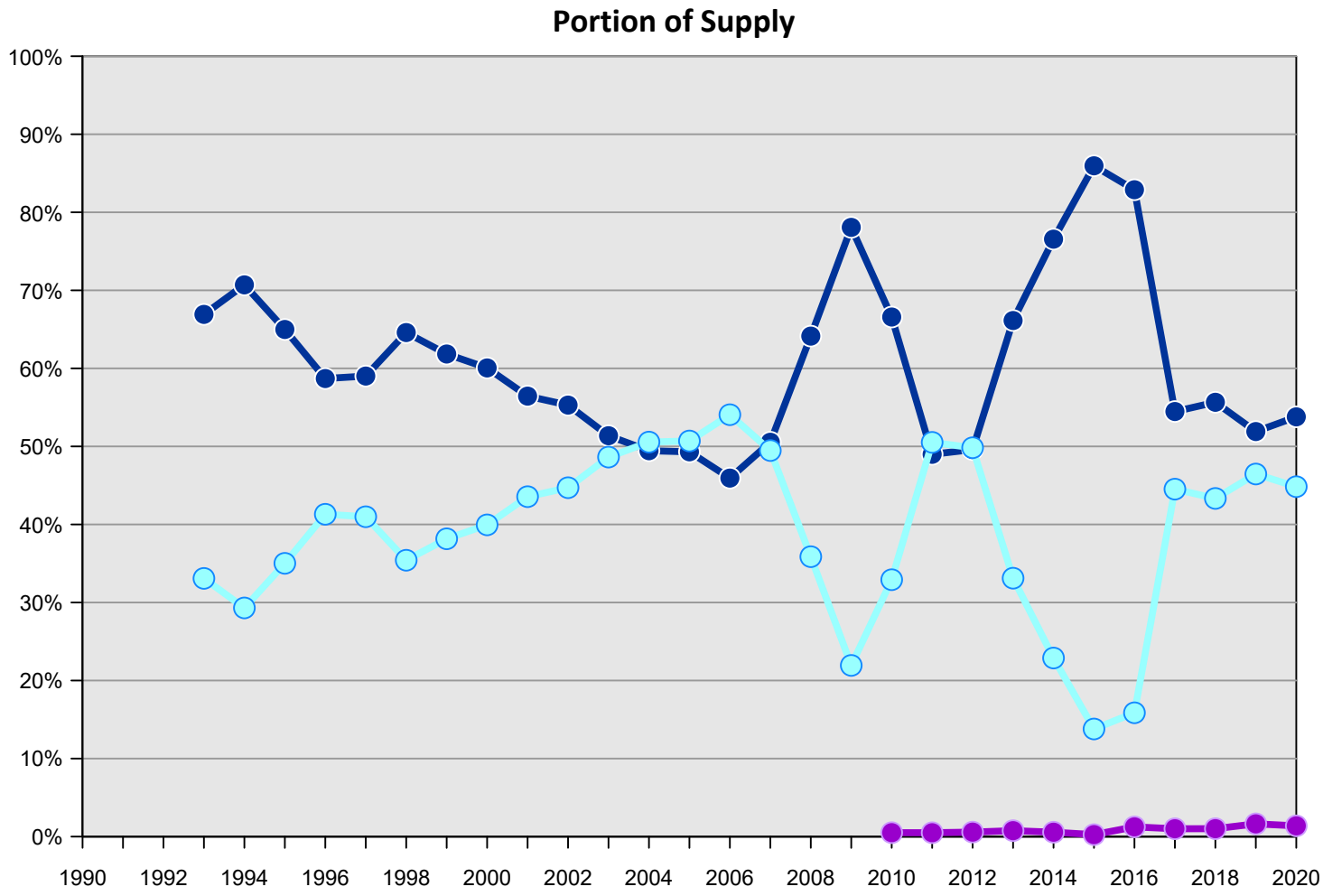


Percolation
Agricultural
Domestic & Municipal
Seepage & Evaporation

December 2020

TODD GROUNDWATER

Appendix E-4
Annual Total of CVP and Groundwater by Use



December 2020

TODD GROUNDWATER

Appendix E-5
Portion of Total Supply from Groundwater Use

APPENDIX F RATES AND CHARGES

List of Tables and Figures

Table F-1. 2019 Recommended Groundwater Revenue Requirement/Charges

San Benito County Water District
Groundwater Rates
Water Year
2019-2020, 2020-2021, 2021-2022
Zone 6

REVENUE REQUIREMENTS				Rates[2]	
Component	**Rate ($/AF)**	**Quantity (A/F)[1]**	**Amount**	**Ag** (per A/F)	**M & I** (per A/F)
SOURCE OF SUPPLY O&M					
AG	$ 18.68	23,974	$ 447,851	$ 18.68	
M&I	$ 18.68	4,877	$ 91,110		$ 18.68
PERCOLATION COSTS					
Cost of Water					
AG Cost of Water[3]	$ 53.51	2,105	$ 112,612	$ 4.70	
M&I Cost of Water[3]	$ 163.58	428	$ 70,036		$ 14.36
Power Costs					
AG Power Charge for percolation	$ 58.83	2,105	123,812	$ 5.16	
M&I Power Charge for percolation	$ 58.83	428	25,188		$ 5.16
TOTAL				$ 28.54	$ 38.21
Current Groundwater Charge[4] (per acre foot)				$ 7.95	$ 24.25
RECOMMENDED Rate Basis (per acre foot)					
Water Year 2019-2020				**$ 12.74**	**$ 38.21**
Water Year 2020-2021				**$ 13.12**	**$ 39.36**
Water Year 2021-2022				**$ 13.51**	40.54
RECOMMENDED CHARGES (per acre foot)				**$ 12.75**	38.25
Water Year 2019-2020				**$ 13.15**	39.40
Water Year 2020-2021				**$ 13.55**	40.55
Water Year 2021-2022					

Notes:

1 Assumed Volumes
Groundwater usage (based on average of past 4 years)

Ag usage	23,974
M&I usage	4,877
Total	28,851

2 Rates=Revenue Requirements/projected groundwater usage

3 Cost of Water:
AG: USBR and SLDMWA O&M
M&I: USBR and SLDMWA O&M, USBR Out-of-Basin Interest

4 Groundwater charge adopted by San Benito County Water District Board of Directors in January 2017 (Ag) and January 2016 (M&I)

5 Assumed volumes for percolation (based on 3 year average)

Ag	83%	2105
M&I	17%	428
Total	100%	2533

6 Annual escalation rate 3%

7 Rates charged will be rounded up to nearest $.05

Note: Section 70-7.8 (a) of the District Act states that the agricultural rate shall not exceed one-third of the rates for all water other than agricultural water.

Table F-2. Historical and Current San Benito County Water District CVP (Blue Valve) Water Rates (dollars/af)

USBR Water Year	Standby & Availability Charge (dollars/acre)	Water Charge		Power Charge					Groundwater Charge (dollars/af)			Recycled Water (per AF)	
		Agricultural	Municipal & Industrial	Distribution Subsystem					Agricultural	Municipal & Industrial		Agricultural	Power Charge
				2	6H	9L	9H	Others					
1987	$8.00	$34.00	n.c.						n.i.	n.i.			
1988	$2.00	$34.00	n.c.						n.i.	n.i.			
1991	$4.00	$38.00	$110.00						$6.25	$22.00			
1992	$4.00	$45.00	$120.00						$2.00	$10.00			
1994	$4.50	$77.61	$168.92						$1.00	$5.00			
1995	$4.50	$77.61	$168.92						$1.00	$15.75	First 100 af		
										$36.70	Next 500 af		
										$54.60	Over 600 af		
1996	$6.00	$75.00	$150.00						$1.50	$33.00			
1997	$6.00	$75.00	$157.00						$1.50	$33.00			
1998	$6.00	$75.00	$155.00						$1.50	$33.00			
2000	$6.00	$75.00	$155.00						$1.50	$11.50			
2001	$6.00	$75.00	$155.00						$1.50	$25.00			
2004	$6.00	$75.00	$150.00	$24.30	$46.75	$25.05	$53.70	$15.25	$1.50	$10.00			
2005	$6.00	$80.00	$150.00	$26.15	$49.40	$35.00	$66.90	$17.10	$1.50	$21.50			
2006	$6.00	$85.00	$160.00	$23.60	$36.05	$34.70	$65.75	$18.40	$1.50	$21.50			
2007	$6.00	$85.00	$160.00	$23.60	$36.05	$34.70	$65.75	$18.40	$1.50	$21.50			
2008	$6.00	$100.00	$170.00	$17.25	$19.40	$32.60	$62.75	$14.85	$1.50	$21.50			
2009	$6.00	$115.00	$180.00	$17.50	$20.25	$42.55	$74.85	$16.30	$2.50	$22.50			
2010	$6.00	$135.00	$200.00	$22.00	$27.30	$49.75	$84.35	$21.75	$2.50	$22.50			
2011	$6.00	$155.00	$220.00	$22.70	$28.15	$51.25	$86.90	$22.40	$2.50	$22.50			
2012	$6.00	$170.00	$235.00	$23.35	$29.00	$52.80	$89.50	$23.10	$2.50	$22.50			
2013	$6.00	$170.00	$235.00	$40.30	$29.25	$43.05	$91.55	$22.40	$3.25	$23.25			
2014	$6.00	$170.00	$238.00	$41.55	$30.15	$44.35	$94.30	$23.10	$3.60	$23.25			
2015	$6.00	$179.00	$247.00	$42.75	$31.05	$45.70	$97.15	$23.80	$3.95	$23.25			
2016	$6.00	$272.00	$363.00	$123.10	$75.65	$109.95	$162.55	$66.05	$4.95	$24.25		$182.55	$57.70
2017	$6.00	$191.00	$363.00	$126.80	$77.90	$113.25	$167.45	$68.05	$6.45	$24.25		$183.45	$59.45
2018	$6.00	$209.00	$363.00	$130.60	$80.25	$116.25	$172.45	$70.10	$7.95	$24.25		$183.45	$59.45
2019	$6.00	$254.00	$404.00	$80.45	$39.30	$88.15	$130.30	$33.70	$12.75	$38.25		$183.45	$59.45
2020	$6.00	$265.00	$415.00	$82.85	$40.45	$90.80	$134.10	$34.75	$13.15	$39.40		$208.00	$60.64

Notes:
af = acre-feet.
n.c. = no classification.
n.i. = not implemented
All rates effective March 1 through following February.

Table F-3. Recent US Bureau of Reclamation Charges per Acre-Foot for CVP Water

User Category and Cost Item	Irrigation[1]						Municipal & Industrial					
	Cost of service (non-full cost)	Restoration fund[3]	SLDMWA[4]	Trinity PUD Assessment	Total	Contract rate[5]	Cost of service[2] (non-full cost)	Restoration fund[3]	SLDMWA[4]	Trinity PUD Assessment	Total	Contract rate[5]
1994	$71.68	$6.20	n.a.		$77.88	$17.21	$165.67	$12.40	n.a.		$178.07	$85.86
1995	$66.47	$6.35	n.a.		$72.82	$17.21	$132.90	$12.69	n.a.		$145.59	$85.86
1996	$65.63	$6.53	n.a.		$72.16	$27.46	$127.40	$13.06	n.a.		$140.46	$85.86
1997	$69.57	$6.70	n.a.		$76.27	$27.46	$143.27	$13.39	n.a.		$156.66	$85.86
1998	$61.58	$6.88	$5.00		$73.46	$27.46	$130.88	$13.76	$5.00		$149.64	$85.86
1999	$60.30	$6.98	$2.73		$70.01	$27.46	$127.91	$13.96	$2.73		$144.60	$85.86
2000	$64.24	$7.10	$6.43		$77.77	$27.46	$129.59	$14.20	$6.43		$150.22	$85.86
2001	$69.50	$7.28	$2.65		$79.43	$27.46	$129.40	$14.56	$4.15		$148.11	$85.86
2002	$68.71	$7.54	$6.61		$82.86	$24.30	$130.32	$15.08	$6.61		$152.01	$79.13
2003	$72.20	$7.69	$5.46		$85.35	$24.30	$129.07	$15.38	$5.46		$149.91	$79.13
2004	$74.52	$7.82	$6.61		$88.95	$24.30	$134.86	$15.64	$6.61		$157.11	$79.13
2005	$77.10	$7.93	$7.99		$93.02	$24.30	$132.01	$15.87	$7.99		$155.87	$79.13
2006	$91.13	$8.24	$9.31		$108.68	$30.93	$214.41	$16.49	$9.31		$240.21	$77.12
2007	$93.53	$8.58	$9.99	$0.11	$112.21	$30.93	$215.32	$17.15	$9.99	$0.11	$242.46	$80.08
2008[6]	$28.12	$8.79	$10.95	$0.07	$47.93	$30.93	$33.34	$17.57	$10.95	$0.07	$61.68	$33.34
2009	$30.20	$9.06	$11.49	$0.07	$50.82	$30.20	$32.77	$18.12	$11.49	$0.07	$62.45	$32.77
2010	$33.27	$9.11	$11.91	$0.11	$54.40	$33.27	$36.11	$18.23	$11.91	$0.11	$66.36	$36.11
2011	$38.92	$9.29	$9.51	$0.05	$57.77	$38.92	$42.58	$18.59	$9.51	$0.05	$70.73	$42.58
2012	$39.71	$9.39	$15.20	$0.05	$64.35	$39.71	$37.95	$18.78	$15.20	$0.05	$71.98	$37.95
2013	$40.39	$9.79	$17.29	$0.05	$67.52	$39.91	$38.71	$19.58	$17.29	$0.05	$75.63	$40.92
2014	$46.87	$9.99	$28.81	$0.23	$85.90	$46.87	$29.70	$19.98	$28.81	$0.23	$78.72	$29.70
2015	$53.82	$10.07	$30.66	$0.23	$94.78	$53.82	$34.74	$20.14	$30.66	$0.23	$85.77	$34.74
2016	$85.12	$10.21	$30.66	$0.30	$126.29	$38.28	$61.24	$20.41	$30.66	$0.30	$112.61	$23.42
2017	$66.17	$10.23	$14.15	$0.30	$90.85	$39.90	$49.50	$20.45	$14.15	$0.30	$84.40	$22.85
2018	$79.09	$10.47	$20.39	$0.30	$110.25	$48.35	$43.74	$20.94	$20.39	$0.30	$85.37	$17.45
2019	$67.32	$10.63	$20.26	$0.30	$98.51	$40.14	$37.54	$21.26	$20.26	$0.30	$79.36	$17.98
2020	$72.24	$10.91	$27.57	$0.12	$110.84	$52.76	$37.18	$21.82	$27.57	$0.12	$86.69	$17.87

Notes:

(1) Total USBR rate given for non-full cost users only, as they represent the majority of water users.

(2) Cost-of-service for agricultural and municipal and industrial users includes a capital repayment rate and an operation and maintenance (O&M) rate. For municipal and industrial customers, cost-of-service also includes a deficit charge, which includes interest on unpaid O&M and interest on capital and on unpaid deficit.

(3) Restoration fund charges apply October 1 through September 30. All other rates effective March 1 through following February.

(4) Beginning in 1998, the San Luis-Delta Mendota Water Authority instituted this charge to "self-fund" costs associated with maintaining the Delta-Mendota Canal and certain other facilities, which were formerly funded directly by the Bureau of Reclamation. SLDMWA issues preliminary rates in December for the upcoming contract year (March-February). These rates are used for rate-setting purposes; actual rates may vary.

(5) The contract rate is the minimum rate CVP contractors are allowed to pay. To the extent that the contract rate does not cover interest plus actual operation and maintenance costs, a contractor deficit is accumulated that is charged interest at the current-year treasury borrowing rate.

(6) Per the amendatory contract with the USBR "out of basin" capital costs that were previously included in the cost of service are now under a separate repayment contract.

(7) Cost of service rates are inclusive of USBR direct pumping and Project Use Energy costs.

APPENDIX G LIST OF ACRONYMS

List of Acronyms

AF or A/F	acre-foot
AFY	acre-foot per year
AG	agriculture
BMP	Best Management Practices
CASGEM	California Statewide Groundwater Elevation Monitoring
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CIMIS	California Irrigation Management Information System
COC	Constituent of Concern
CVP	Central Valley Project
District or SBCWD	San Benito County Water District
CWD	County Water District
DDW	Division of Drinking Water
DWR	California Department of Water Resources
DWTP	Domestic Wastewater Treatment Plant
ET	evapotranspiration
ft	feet
GAMA	Groundwater Ambient Monitoring and Assessment
GICIMA	Groundwater Information Center Interactive Map
GPBO	General Basin Plan Objective
gpd	gallons per day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GW	groundwater
HUA	Hollister Urban Area
IRWMP	Integrated Regional Water Management Plan
ITRC	Irrigation Training and Research Center, California Polytechnic State University
IWTP	Industrial Wastewater Treatment Plant
M&I	Municipal and Industrial
MA	Management Area
MCL	Maximum Contaminant Level
MGD	million gallons per day
msl	mean sea level
MW	Monitored well
NGVD	National Geodetic Vertical Datum
pdf	Adobe Acrobat Portable Document Format
PPWD	Pacheco Pass Water District
PVWMA	Pajaro Valley Water Management Agency
RW	recycled water
RWQCB	Regional Water Quality Control Board

APPENDIX G LIST OF ACRONYMS

List of Acronyms (cont.)

SCVWD	Santa Clara Valley Water District
SEIR	Supplemental Environmental Impact Report
SGMA	Sustainable Groundwater Management Act
SLDMWA	San Luis & Delta-Mendota Water Authority
SMCL	Secondary Maximum Contaminant Levels
SSCWD	Sunnyslope County Water District
USBR	U.S. Bureau of Reclamation
UWMP	Urban Water Management Plan
WRA	Water Resources Association of San Benito County
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant
WY	water year