# Tables

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# Tables

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**Table 2.2-01 Existing Water Resources Monitoring Programs.**

| Program | Agency | Parameter(s) | Description | Incorporated into GSP Monitoring Networks | Reference |
|---|---|---|---|---|---|
| **Member Agency Groundwater Levels** | MOWD, VRWD, and City of Ventura | Groundwater Levels | Groundwater level monitoring as part of normal well operations. | Yes | N/A |
| **Countywide Groundwater Monitoring Program** | Ventura County Watershed Protection District | Groundwater Levels<br>Groundwater Quality | Countywide groundwater monitoring program | Yes | https://s29422.pcdn.co/wp-content/uploads/2018/08/2015-Annual-Report-Final-Reduced.pdf |
| **Division of Drinking Water Compliance Monitoring** | Public Water Suppliers in the Basin | Groundwater Quality | Public water suppliers are required to monitor groundwater quality in potable supply wells in the Basin. Data are reported to the Division of Drinking Water. | Yes | https://sdwis.waterboards.ca.gov/PDWW/<br><br>https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EDTlibrary.html |
| **California Statewide Groundwater Elevation Monitoring (CASGEM)** | Ventura County Watershed Protection District | Groundwater Levels | VCWPD is the CASGEM monitoring entity for the Ventura County. Data is compiled from the Countywide Groundwater Monitoring Program and cooperative entities. | Yes | https://water.ca.gov/Programs/Groundwater-Management/Groundwater-Elevation-Monitoring--CASGEM |
| **Groundwater Ambient Monitoring and Assessment Program (GAMA)** | State Water Resources Control Board | Groundwater Quality | SWRCB Program implemented in 2000 (modified by Assembly Bill 599 in 2001) to monitor and assess groundwater basins throughout the state. | No<br>(currently no GAMA data in last 10 years that is not captured in other data sources) | https://www.waterboards.ca.gov/water_issues/programs/gama/ |
| **GeoTracker** | State Water Resources Control Board | Groundwater Quality | Records for contamination remediation sites. | No<br>(currently no plumes of concern in UVRGB) | https://geotracker.waterboards.ca.gov/ |
| **Countywide Precipitation Monitoring** | Ventura County Watershed Protection District | Precipitation | Countywide rainfall monitoring program (2 active stations located within Basin and three immediately adjacent to Basin See Figure 3.1-04) | Yes | https://www.vcwatershed.net/hydrodata/ |
| **Countywide Stream Flow Monitoring** | Ventura County Watershed Protection District | Stream flow | Countywide stream flow monitoring program (3 station located near Basin boundaries See Figure 3.1-07) | Yes | https://www.vcwatershed.net/hydrodata/ |
| **Countywide Evaporation Monitoring** | Ventura County Watershed Protection District | Evaporation | Countywide evaporation monitoring program (no stations located within UVRGB, but data is useful for estimating conditions in the Basin) | N/A | https://www.vcwatershed.net/hydrodata/ |
| **California Irrigation Management Information System (CIMIS)** | California Department of Water Resources | Weather Station (multiple parameters) | Statewide weather station network (no stations located within UVRB, but data is useful for estimating conditions in the Basin) | N/A | https://cimis.water.ca.gov/ |
| **National Water Information System** | United States Geologic Survey | Streamflow | Countrywide monitoring network (Streamflow Station 11118500) | Yes | https://maps.waterdata.usgs.gov/mapper/index.html |
| **CMWD Ventura River Near Meiners Oaks Stream Flow Monitoring (former known as Gage 607)** | Casitas Municipal Water District | Stream flow | Stream flow monitoring in accordance with a National Oceanic and Atmospheric Administration National Marine Fisheries Service Biological Opinion (BO) | Yes | https://www.casitaswater.org/home/showpublisheddocument/2377/637195232693670000 |
| **Electronic Water Rights Information Management System (eWRIMS)** | State Water Resources Control Board | Surface Water Diversions | eWRIMS is a SWRCB database that contains Statements of Water Diversion and Use filed by water diverters. | Yes | https://www.waterboards.ca.gov/waterrights/water_issues/programs/ewrims/index.html |
| **Groundwater Extraction Reporting** | MOWD, VRWD, CMWD, and City of Ventura | Groundwater Extractions | Groundwater extractions by UVRGA member agencies are provided to UVRGA upon request. | Yes | N/A |

**Table 2.2-02 Existing Water Resources Management Programs.**

| Program | Agency | Parameter(s) | Description | Incorporation into GSP | Reference |
|---|---|---|---|---|---|
| **Casitas Municipal Water District Urban Water Management Plan and Agricultural Water Management Plan**<br><br>**Casitas Municipal Water District Draft Comprehensive Water Resources Plan** | Casitas Municipal Water District | Water Supply | Planning documents that generally guides the actions related to water supply issues for the Casitas Municipal Water District service area. | References for reliability of surface water supplies and evaluation of potential future demands. | https://www.casitaswater.org/home/showpublisheddocument/163/636896291075730000<br><br>Casitas – Comprehensive Water Resources Plan (casitaswaterplan.com) |
| **City of Ventura Urban Water Management Plan**<br><br>**City of Ventura Annual Comprehensive Water Resources Reports** | City of Ventura (Ventura Water) | Water Supply | Planning documents that guide the actions related to water supply issues for the Ventura Water service area. | Future water groundwater extractions for projected water budget based on CCWRP. | https://www.cityofventura.ca.gov/DocumentCenter/View/5623/2015-Urban-Water-Management-Plan-Main-Text<br><br>https://www.cityofventura.ca.gov/DocumentCenter/View/27422/2021-Comprehensive-Water-Resources-Report |
| **Casitas Municipal Water District Robles Diversion Operations** | Casitas Municipal Water District | Surface Water Diversion | CMWD operates the Robles Diversion on the Ventura River (located within UVRGB) in accordance with a National Oceanic and Atmospheric Administration National Marine Fisheries Service Biological Opinion (BO), which includes certain stream flow criteria for diversion operations that are intended to furnish a downstream flow regime that mimics the natural storm recession rate and address flow depth for fish passage in critical riffles located within UVRGB. | Actual diversion quantities incorporated into historical water budget. BO operations rules used to estimate potential future diversions for projected water budget. | https://www.casitaswater.org/home/showpublisheddocument/1825/636934387800970000<br><br>https://www.casitaswater.org/home/showpublisheddocument/2377/637195232693670000 |
| **RWQCB Water Quality Management Programs** | Los Angeles Regional Water Quality Control Board | Surface Water and Groundwater Quality | The RWQCB Basin Plan includes water quality objectives (WQOs) for surface water and groundwater. RWQCB operates various water quality regulatory programs to meet the WQOs, including NPDES permits, and the Algae TMDL. | WQOs were used to establish measurable objectives for the degraded water quality sustainability indicator. Actions undertaken by RWQCB contribute to maintenance of groundwater quality below the measurable objective concentrations. | https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html |
| **Ventura County Stormwater Quality Monitoring Program** | Ventura County Watershed Protection District and City Partners | Surface Water Quality | Program meets the requirements of the Ventura County Stormwater Permits. Includes water quality sampling, watershed assessments, business inspections, and pollution prevention programs. | This program contributes to maintenance of groundwater quality below the measurable objective concentrations. | http://www.vcstormwater.org/ |
| **VCAILG Water Quality Management Plan** | Los Angeles Regional Water Quality Control Board and regulated entities. Program is managed by the Ventura County Farm Bureau | Surface Water Quality | VCAILG's Water Quality Management Plan (WQMP) serves as the roadmap to meet local water quality standards and goals. These plans are prepared and submitted to the Los Angeles Regional Water Quality Control Board (Regional Board) to comply with the agricultural conditional waiver of waste discharge requirements. The plan addresses measurement and control of discharges from irrigated farmland to protect surface water quality. | This program contributes to maintenance of groundwater quality below the measurable objective concentrations. | http://www.farmbureauvc.com/issues/water-issues/water-quality/vcailg |
| **Integrated Regional Water Management (IRWM) Program and Plan** | Watershed Coalition of Ventura County (WCVC) and Ventura River Watershed Council (VRWC) | Watershed Management Plan | Initiated with Proposition 50 in 2006, the program provides competitive grant funds for projects and studies in accordance with a comprehensive IRWM Plan. | UVRGA participates in the VRWC, which is an important clearinghouse for exchange of information and ideas concerning important water issues affecting UVRGB and the rest of the watershed. | http://wcvc.ventura.org/<br><br>http://venturawatershed.org/ |
| **Ojai Basin Groundwater Sustainability Plan** | Ojai Basin Groundwater Management Agency (OBGMA) | Groundwater Management | Management of the Ojai Basin will impact stream flow in San Antonio Creek, a key tributary that flows into to the Ventura River in the southern portion of the UVRGB near Casitas Springs. Inflows from San Antonio Creek are an important source of water for sustaining the Confluence and Foster Park aquatic and riparian GDEs within the UVRGB. | N/A – currently under development | http://obgma.com/ |
| **California Water Action Plan Ventura River Streamflow Enhancement** | SWRQB | Surface Water Management | The Ventura River is one of five streams prioritized pursuant to the California Water Action Plan (CWAP) for efforts to enhance flows for anadromous fish. SWRCB will is currently working to develop objectives for streamflow enhancement. The streamflow objectives are expected in 2023-24. | N/A – currently under development | https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing/ventura_river.html |
| **Ventura Watershed Instream Flow Enhancement and Water Resiliency Regional Framework (VRIF)** | Ventura County Resource Conservation District | Surface Water Flow | This project includes a framework and project planning tools to help enhance streamflow in the Ventura River and increase water supply reliability for the region. The tools will provide landowners and others a means of quantifying water demand, infiltration, and opportunities for reduced consumptive use at the parcel scale. | N/A – currently under development | https://www.vcrcd.org/vrif-project-overview |
| **Ventura River Watershed Adjudication** | Superior Court of the State of California, County of Los Angeles | To Be Determined | Includes 2014 complaint by Santa Barbara Channelkeeper against the City of Ventura and State of California concerning effects of water extraction in Foster Park on steelhead and a 2019 cross-complaint by the City of Ventura that incorporates all water users in the Ventura River Watershed.<br><br>Foster Park Protocols are included in the settlement agreement with Santa Barbara Channelkeeper. The Foster Park Protocols are operational protocols for the City of Ventura's Foster Park extraction facilities. The Foster Park Protocols address direct depletion of interconnected surface water in Foster Park.<br><br>A future judgment to settle the remainder of the case will likely include aspects relevant to implementation of the GSP. There is no definitive timeline for a judgment. UVRGA will monitor, and to the extent possible, coordinate with the adjudication process during GSP implementation. UVRGA is not a party to the lawsuit. | Foster Park Protocols are incorporated into this GSP as a management action. | https://www.venturariverwatershedadjudication.com/ |

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**Table 3.1-01 Streamflow Gages Period of Record and Daily Flow Statistics.**

| Gage ID(s) | Tributary/River | Period of Record | 5th Percentile Daily Flow (cfs) | Median Daily Flow (cfs) | Average Daily Flow (cfs) | 95th Percentile Daily Flow (cfs) | Peak Daily Flow (cfs) |
|---|---|---|---|---|---|---|---|
| **602/602B** | Matilija Creek | Oct 1927 – Aug 2019 | 0.6 | 5.8 | 33.3 | 128.8 | 8,340 |
| **604** | North Fork Matilija Creek | Oct 1928 – Aug 2017 | 0.3 | 2.1 | 10.6 | 34.0 | 4,980 |
| **607** | Ventura River (Robles Diversion) | Oct 1959 – Sept 2017 | 0.0 | 2.3 | 30.0 | 52.0 | 13,300 |
| **605/605A** | San Antonio Creek | Oct 1949 – May 2017 | 0.0 | 1.1 | 15.8 | 41.0 | 10,405 |
| **601** | Coyote Creek | Oct 1927 – Sept 1982 | 0.0 | 0.3 | 10.1 | 26.0 | 3,970 |
| **608** | Ventura River (Foster Park) | Oct 1929 – Mar 2020 | 0.0 | 3.5 | 62.3 | 160.0 | 22,000 |

**Table 3.1-02 Water Quality Objectives for the UVRGB.**

| Constituent | Groundwater Quality Objective | Surface Water Quality Objective |
|---|---|---|
| **Nitrate as N (mg/L)** | 10 | 5 (Nitrate and Nitrite as N) |
| **TDS (mg/L)** | 800 | 800 |
| **Sulfate (mg/L)** | 300 | 300 |
| **Chloride (mg/L)** | 100 | 60 |
| **Boron (mg/L)** | 0.5 | 1 |

**Table 3.2-01 Summary of Streamflows and Streamflow Depletions for Different Locations and Times of the Year, 2005–2019 Historical Simulation.**

| South Kennedy (Boundary of Kennedy & Robles Area) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Median Flow (Historical) | 32.1 | 39.6 | 42.4 | 18.6 | 10.8 | 4.1 | 1.2 | 0.2 | 0.0 | 0.1 | 0.9 | 5.8 |
| Median Flow (Historical No Pumping) | 33.0 | 39.9 | 43.0 | 19.0 | 11.3 | 4.8 | 2.4 | 0.8 | 0.3 | 0.5 | 1.7 | 6.3 |
| Median Depletion | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.7 | 0.6 | 0.4 | 0.2 | 0.2 | 0.4 | 0.4 |
| **Robles Diversion (Gage 607)** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Median Flow (Historical) | 23.2 | 34.3 | 30.0 | 14.6 | 7.8 | 1.7 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 3.2 |
| Median Flow (Historical No Pumping) | 23.4 | 34.8 | 30.4 | 14.7 | 8.3 | 2.3 | 0.4 | 0.0 | 0.0 | 0.0 | 0.5 | 3.6 |
| Median Depletion | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.3 |
| **North Robles (near Happy Valley Drain)** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Median Flow (Historical) | 3.9 | 15.4 | 17.8 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Median Flow (Historical No Pumping) | 3.9 | 15.8 | 18.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Median Depletion | 0.1 | 0.2 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **South Robles (150 Bridge)** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Median Flow (Historical) | 4.7 | 14.1 | 14.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Median Flow (Historical No Pumping) | 5.3 | 14.3 | 14.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Median Depletion | 0.1 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Santa Ana Bridge** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Median Flow (Historical) | 7.3 | 17.6 | 16.8 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Median Flow (Historical No Pumping) | 7.4 | 17.7 | 16.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Median Depletion | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **San Antonio Confluence** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Median Flow (Historical) | 7.1 | 28.7 | 27.3 | 10.5 | 6.1 | 3.1 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| Median Flow (Historical No Pumping) | 10.7 | 31.2 | 29.3 | 13.6 | 9.2 | 6.7 | 4.7 | 2.2 | 0.3 | 0.0 | 0.1 | 1.2 |
| Median Depletion | 1.5 | 2.2 | 1.8 | 1.1 | 0.7 | 0.7 | 0.3 | 0.6 | 0.3 | 0.0 | 0.1 | 0.4 |
| **Foster Park (Gage 608)** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Median Flow (Historical) | 10.7 | 28.2 | 25.8 | 10.9 | 6.9 | 4.7 | 4.5 | 4.1 | 2.7 | 3.5 | 4.2 | 4.3 |
| Median Flow (Historical No Pumping) | 15.8 | 36.1 | 33.1 | 17.5 | 14.3 | 12.6 | 11.3 | 10.2 | 9.8 | 9.8 | 9.7 | 8.9 |
| Median Depletion | 5.1 | 5.1 | 6.7 | 4.6 | 4.5 | 4.6 | 4.4 | 4.3 | 4.4 | 4.5 | 4.2 | 4.6 |

*All values are cubic feet per second (cfs).*

*The term depletion refers to the direct or indirect reduction of stream flow resulting from groundwater extraction. Please see Section 3.2.6 for further description of direct versus indirect reductions (depletions) of surface water.*

## Table 3.3-01 Summary of Data Sources for Water Budget Components.

| Water Budget Component | Data Source or Estimation Method |
|---|---|
| ***Directly measured components:*** | |
| **Precipitation (i.e., rainfall)** | • Historical and current: Precipitation data for Meiners Oaks-County Fire Station and other rain gauges in Ventura County collected and maintained by Ventura County Watershed Protection District (VCWPD) at https://www.vcwatershed.net/hydrodata/.<br>• Projected: VCWPD precipitation data as noted above (assume baseline period of water year 1970-2019 rainfall amounts), modified in accordance with precipitation climate-change factors for 2030 and 2070, as recommended by California Department of Water Resources (2018). |
| **Surface water diversions** | • Historical and current: Annual volumes of surface water diverted at the Robles Diversion by CMWD and at a private sump. Robles Diversion data was obtained from CMWD. The private sump reported water use to the eWRIMS database.<br>• Projected: The Robles Diversion operating logic as specified in the non-jeopardy Biological Opinion Operating Criteria (USBR, 2003) was programmed into code and used to simulated diversions. Inflows used to calculate diversion amounts were adjusted by the respective climate-change streamflow change factors. The owner of the private sump provided planned future use to the URVGA board. |
| **Groundwater extractions (pumping)** | • Historical and current: Historical groundwater extractions for the four M&I entities as well as for four agricultural wells were provided to the UVRGA board. Extractions for the remainder of the agricultural wells, the two domestic MWCs, and private de minimis users were estimated for 2017 according to the Groundwater Extraction Estimates Technical Memorandum presented to the UVRGA board on June 30, 2020. Extractions for agricultural wells without historical records were taken as the 2017 volumes scaled by historical precipitation. De minimis extractions were assumed to be constant throughout the historical period.<br>• Projected: The four M&I entities and an agricultural user provided estimates of future use under normal and dry conditions, which were determined by the projected precipitation data above. The remaining agricultural extractions were the 2017 estimates scaled by future projected precipitation and modified in accordance with central-tendency climate-change evapotranspiration factors for 2030 and 2070, as recommended by California Department of Water Resources (2018). De minimis extractions were assumed to be constant throughout the projected period. |
| **Gaged surface flows entering and exiting Upper Ventura River Basin** | • Historical and current: Surface inflows to the basin are gaged at Matilija and North Fork Matilija Creeks (stations 602 and 604), and San Antonio Creek (605). Surface outflows are gaged at station 608 at the Foster Park Bridge and are used to calibrate streamflows in the numerical model.<br>• Projected: Historical streamflow data (as noted above) was used for the baseline projected simulation from the reference period 1970-2019). The historical data was modified in accordance with the climate-change streamflow Change Factors for the 2030 and 2070 scenarios, respectively, as recommended by California Department of Water Resources (2018). |
| ***Components estimated using related data:*** | |
| **Ungauged stream flows entering and exiting Upper Ventura River Basin** | • Historical and current: Ungauged flows at ephemeral tributaries feeding the Ventura River were estimated using the curve number method with baseflow computed using exponential decay to simulate baseflow recession. Runoff generated using the curve number method was computed using precipitation from VCWPD precipitation gage 20 located in the basin. .<br>• Projected: Ungauged flows were computed for the reference historical period (1970-2019) using the method described above with data from VCWPD precipitation gage 20. Ungauged flows for the climate-change scenarios were adjusted using the climate-change streamflow change factors for the 2030 and 2070 scenarios, respectively. |
| **Direct runoff** | • Historical and current: Direct runoff is calculated for the area directly adjacent to the main river using the curve number method based on precipitation from VCWPD precipitation gage 20 located in the basin.<br>• Projected: Direct runoff is calculated using the curve number method for the historical reference period for the baseline scenario with data from VCWPD precipitation gage 20. The runoff data is adjusted by climate-change streamflow change factors for the respective 2030 and 2070 scenarios. |

| Water Budget Component | Data Source or Estimation Method |
|---|---|
| ***Components estimated by groundwater flow modeling:*** | |
| **Interaction (exchanges) of groundwater and surface water within Upper Ventura River Basin** | • Historical, current, and projected: The Ventura River has both gaining and losing reaches within the basin. Both stream percolation directly into the aquifer as well as discharge from the aquifer into the river is calculated in the model and is dependent on the difference between river stage and groundwater elevations as well as the width and slope of the riverbed. |
| **Recharge (including infiltration of precipitation, water distribution system losses, septic system leachate, and agricultural and M&I return flows)** | • Historical and current: Areal recharge via precipitation was taken from the BCM model. M&I return flows were estimated by taking residential usage from UWMPs, distributing the water evenly across each M&I entities' service area within the basin (CMWD, VRWD, and MOWD) and assuming that 50% of the water is applied outdoors and 20% of that water is lost to return flows. Distribution system losses were either taken from UWMPs where available and were otherwise estimated as 4% of total deliveries. Septic leachate was applied to parcels with known septic systems and was estimated as total indoor usage times a constant rate per area. Agricultural return flows were estimated at 20% of 2 acre-feet per acre per year for all cropland in the basin.<br>• Projected: Areal recharge via precipitation in the historical period 1970 – 2019 is taken from the BCM data and used to simulate future conditions. For the climate change scenarios, precipitation and ET change factors are both used. Projected return flows are based on VRWD's per area water usage rates applied to all service areas within the basin. Dry years are assigned a water usage rate based on the average water usage from years 2015-2020. Wet years are based on 85% of the average water usage rate from years 2005-2009. Agricultural return flows for the baseline projected simulation were represented in the same way as in the historical model. Agricultural return flows were scaled by the average climate change ET factor for each respective climate-change scenario to represent increased evaporative crop demand. |
| **Direct evapotranspiration (ET) of groundwater in aquifers** | • Historical and current: ET from non-riparian surfaces and vegetation is already accounted for in the BCM recharge data, therefore only ET from phreatophytes is accounted for in this section. Areas in the basin known to have GDEs were available in data from The Nature Conservancy, with additional areas of Arundo sourced from surveys in 2007, 2011, 2015, and 2019. Seasonal and spatial crop coefficients for different vegetation groups were used to estimate max ET rates with a reference ET that relied on local pan evaporation stations. Rooting depths for each vegetation group were also used to limit ET as extinction depths in which no ET occurs when groundwater levels fall below that depth.<br>• Projected: The historical and current ET rates were scaled for the climate change scenarios using the ET change factor. Current phreatophyte distribution (with corresponding vegetation type and rooting depths) was assumed for future conditions. |

**Table 3.3-02 Comparison of Water Year Types used in the UVRGB GSP and DWR Water Year Types for the Ventura River Watershed.**

| Water Year | Precipitation(in) | UVRGB GSP Water Year Type | DWR Water Year Type |
|---|---|---|---|
| 2006 | 25.9 | Wet | Wet |
| 2007 | 7.0 | Dry | Critical |
| 2008 | 23.9 | Normal | Dry |
| 2009 | 0.0 | Dry | Dry |
| 2010 | 25.4 | Wet | Above Normal |
| 2011 | 27.6 | Wet | Wet |
| 2012 | 10.6 | Dry | Below Normal |
| 2013 | 8.6 | Dry | Critical |
| 2014 | 9.1 | Dry | Critical |
| 2015 | 10.5 | Dry | Critical |
| 2016 | 10.7 | Dry | Critical |
| 2017 | 26.5 | Wet | Below Normal |
| 2018 | 10.9 | Dry | Dry |
| 2019 | 25.7 | Wet | (Not Available) |

**Table 3.3-03 Estimated Historical Demands and Supplies in the UVRGB by Category and Source.**

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies* | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supply |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006 | Wet | 2,595 | 505 | 147 | 3,247 | 1,104 | 67 | 147 | 1,318 | 1,491 | 439 | 1,930 | 3,248 |
| 2007 | Dry | 2,974 | 505 | 194 | 3,673 | 1,220 | 90 | 194 | 1,504 | 1,754 | 415 | 2,169 | 3,673 |
| 2008 | Normal | 2,710 | 505 | 196 | 3,411 | 1,126 | 88 | 196 | 1,410 | 1,584 | 417 | 2,001 | 3,411 |
| 2009 | Dry | 2,565 | 505 | 197 | 3,267 | 894 | 92 | 197 | 1183 | 1,671 | 413 | 2,084 | 3,267 |
| 2010 | Wet | 2,261 | 505 | 196 | 2,962 | 956 | 83 | 196 | 1,235 | 1,305 | 422 | 1,727 | 2,962 |
| 2011 | Wet | 2,165 | 505 | 193 | 2,863 | 854 | 86 | 193 | 1133 | 1,311 | 420 | 1,730 | 2,863 |
| 2012 | Dry | 2,292 | 505 | 197 | 2,994 | 1,056 | 95 | 197 | 1,348 | 1,236 | 410 | 1,646 | 2,994 |
| 2013 | Dry | 2,198 | 505 | 199 | 2,902 | 944 | 90 | 199 | 1,233 | 1,255 | 415 | 1,670 | 2,903 |
| 2014 | Dry | 2,089 | 505 | 195 | 2,789 | 651 | 70 | 195 | 916 | 1,438 | 436 | 1,874 | 2,790 |
| 2015 | Dry | 1,782 | 505 | 182 | 2,469 | 604 | 77 | 182 | 863 | 1,178 | 428 | 1,607 | 2,470 |
| 2016 | Dry | 1,501 | 505 | 173 | 2,179 | 443 | 57 | 173 | 673 | 1,058 | 449 | 1,507 | 2,180 |
| 2017 | Wet | 1,464 | 505 | 168 | 2,137 | 680 | 77 | 168 | 925 | 784 | 428 | 1,212 | 2,137 |
| 2018 | Dry | 1,618 | 505 | 183 | 2,306 | 689 | 102 | 183 | 974 | 928 | 404 | 1,332 | 2,306 |
| 2019 | Wet | 1,482 | 505 | 191 | 2,178 | 614 | 82 | 191 | 887 | 868 | 424 | 1,292 | 2,179 |
| **Average (2006 – 2016)** | | 2121 | 505 | 179 | 2,813 | 845 | 83 | 179 | 1,114 | 1,276 | 423 | 1,699 | 2,813 |

Sums of values may not match averages or totals due to rounding.

**Ag groundwater supplies are less than Ag groundwater extractions shown in Table 3.3-06 due to groundwater exports for agricultural uses located outside of the Basin.*

**Table 3.3-04 Actual and Planned CMWD Surface-Water Deliveries.**

| Water Year | Water Year Type | Actual Deliveries | Planned Deliveries |
|---|---|---|---|
| 2006 | Wet | 15,368 | 18,820 |
| 2007 | Dry | 19,394 | 18,820 |
| 2008 | Normal | 17,203 | 18,820 |
| 2009 | Dry | 15,523 | 18,820 |
| 2010 | Wet | 15,204 | 18,820 |
| 2011 | Wet | 14,432 | 17,354 |
| 2012 | Dry | 14,106 | 17,354 |
| 2013 | Dry | 16,987 | 17,354 |
| 2014 | Dry | 18,799 | 17,354 |
| 2015 | Dry | 15,612 | 17,354 |
| 2016 | Dry | 14,131 | 17,200 |
| 2017 | Wet | 10,855 | 17,200 |
| 2018 | Dry | 11,196 | 17,200 |
| 2019 | Wet | 7,320 | 17,200 |

**Table 3.3-05 UVRGB Surface Water Inflows and Outflows by Water Year, Historical and Current Period.**

| Period | Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL Package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Historical | 2006 | Wet | 44,605 | 12,527 | 37,128 | 5,833 | 18,642 | 708 | (82,387) | (13,009) | (24,048) | 119,444 | (119,444) |
| | 2007 | Dry | 5,381 | 1,270 | 297 | 309 | 8,632 | 804 | (10,120) | (1,064) | (5,509) | 16,694 | (16,694) |
| | 2008 | Normal | 40,874 | 10,332 | 36,188 | 5,871 | 12,588 | 846 | (71,136) | (11,036) | (24,526) | 106,698 | (106,698) |
| | 2009 | Dry | 6,829 | 1,416 | 4,032 | 1,182 | 7,178 | 903 | (10,759) | (1,685) | (9,096) | 21,540 | (21,540) |
| | 2010 | Wet | 21,348 | 4,544 | 33,228 | 5,525 | 13,492 | 886 | (46,999) | (7,660) | (24,365) | 79,024 | (79,024) |
| | 2011 | Wet | 45,682 | 10,580 | 49,632 | 7,243 | 17,267 | 856 | (82,672) | (23,443) | (25,145) | 131,260 | (131,260) |
| | 2012 | Dry | 11,029 | 901 | 1,298 | 742 | 8,768 | 785 | (10,172) | (1,105) | (12,246) | 23,524 | (23,524) |
| | 2013 | Dry | 1,817 | 110 | 470 | 478 | 5,015 | 765 | (5,443) | (987) | (2,225) | 8,655 | (8,655) |
| | 2014 | Dry | 4,188 | 685 | 1,474 | 1,131 | 573 | 787 | (2,845) | (1,952) | (4,041) | 8,839 | (8,839) |
| | 2015 | Dry | 1,978 | 153 | 964 | 843 | 1,056 | 271 | (1,933) | (427) | (2,904) | 5,265 | (5,265) |
| | 2016 | Dry | 1,138 | 501 | 3,512 | 1,574 | 397 | 207 | (3,047) | (327) | (3,955) | 7,329 | (7,329) |
| Current | 2017 | Wet | 23,963 | 7,152 | 49,881 | 6,540 | 9,055 | 256 | (65,770) | (6,468) | (24,609) | 96,847 | (96,847) |
| | 2018 | Dry | 8,027 | 1,306 | 1,842 | 1,427 | 6,363 | 199 | (9,621) | (877) | (8,665) | 19,164 | (19,164) |
| | 2019 | Wet | 69,779 | 13,801 | 36,595 | 5,748 | 16,696 | 93 | (92,791) | (20,983) | (28,938) | 142,711 | (142,711) |
| **Historical Average* (2006 – 2016)** | | | 16,806 | 3,911 | 15,293 | 2,794 | 8,510 | 711 | (29,774) | (5,700) | (12,551) | 48,025 | (48,025) |
| **Current Average* (2017 – 2019)** | | | 33,923 | 7,420 | 29,439 | 4,572 | 10,705 | 183 | (56,061) | (9,443) | (20,737) | 86,241 | (86,241) |

*Sums of values may not match averages or totals due to rounding.

**Table 3.3-06 UVRGB Groundwater Inflows and Outflows by Water Year, Historical and Current Period.**

| Period | Water Year | Year Type | Precipitation-Based Recharge | Agricultural Return Flows | M&I Return Flows | Septic Return Flows | Distribution losses Return Flows | Net Stream Percolation from Losing Reaches | Net GW Discharge to Gaining Reaches | Shallow Groundwater Drainage to the East | SW Diversion simulated using WEL package | M&I Pumping‡ | Agricultural Pumping† | Domestic Pumping | GW ET from Riparian Vegetation | Inflows | Outflows | Change in Storage | Cumulative Change in Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Historical | **2006** | Wet | 152 | 62 | 242 | 125 | 97 | 24,048 | (18,642) | (5) | (708) | (4,600) | (215) | (194) | (1,525) | 24,726 | (25,889) | (1,090) | (1,090) |
| | **2007** | Dry | 0 | 62 | 271 | 140 | 108 | 5,509 | (8,632) | (3) | (804) | (5,009) | (283) | (196) | (1,359) | 6,090 | (16,286) | (10,115) | (11,205) |
| | **2008** | Normal | 1,744 | 62 | 262 | 135 | 105 | 24,526 | (12,588) | (5) | (846) | (5,292) | (266) | (197) | (1,802) | 26,834 | (20,996) | 5,930 | (5,274) |
| | **2009** | Dry | 44 | 62 | 245 | 126 | 98 | 9,096 | (7,178) | (6) | (903) | (5,618) | (290) | (197) | (1,275) | 9,670 | (15,466) | (5,523) | (10,798) |
| | **2010** | Wet | 1,478 | 62 | 220 | 113 | 88 | 24,365 | (13,492) | (9) | (886) | (5,542) | (240) | (193) | (1,399) | 26,325 | (21,763) | 4,673 | (6,125) |
| | **2011** | Wet | 2,215 | 62 | 206 | 106 | 82 | 25,145 | (17,267) | (14) | (856) | (4,727) | (252) | (197) | (1,538) | 27,816 | (24,851) | 3,045 | (3,080) |
| | **2012** | Dry | 0 | 62 | 213 | 110 | 85 | 12,246 | (8,768) | (13) | (785) | (5,908) | (284) | (199) | (1,439) | 12,717 | (17,398) | (4,490) | (7,569) |
| | **2013** | Dry | 5 | 62 | 209 | 109 | 84 | 2,225 | (5,015) | (12) | (765) | (4,449) | (310) | (196) | (944) | 2,693 | (11,690) | (8,439) | (16,008) |
| | **2014** | Dry | 0 | 62 | 199 | 102 | 80 | 4,041 | (573) | (11) | (787) | (4,867) | (266) | (183) | (809) | 4,484 | (7,497) | (2,532) | (18,540) |
| | **2015** | Dry | 42 | 62 | 175 | 90 | 70 | 2,904 | (1,056) | (11) | (271) | (2,815) | (294) | (170) | (678) | 3,343 | (5,296) | (1,808) | (20,348) |
| | **2016** | Dry | 6 | 62 | 148 | 76 | 59 | 3,955 | (397) | (11) | (207) | (2,944) | (338) | (166) | (662) | 4,307 | (4,725) | (354) | (20,702) |
| Current | **2017** | Wet | 1,724 | 62 | 116 | 71 | 76 | 24,609 | (9,055) | (15) | (256) | (4,494) | (367) | (184) | (1,001) | 26,658 | (15,372) | 11,363 | (9,339) |
| | **2018** | Dry | 1,309 | 62 | 121 | 74 | 78 | 8,665 | (6,363) | (15) | (199) | (4,142) | (335) | (192) | (767) | 10,309 | (12,012) | (1,592) | (10,931) |
| | **2019** | Wet | 1,570 | 62 | 119 | 73 | 77 | 28,938 | (16,696) | (18) | (93) | (3,288) | (395) | (192) | (1,314) | 30,838 | (21,996) | 8,939 | (1,992) |
| **Average* (2006 – 2016)** | | | 517 | 62 | 217 | 112 | 87 | 12,551 | (8,510) | (9) | (711) | (4,707) | (276) | (190) | (1,221) | 13,546 | (15,623) | (1,882) | |
| **Average* (2017 – 2019)** | | | 1,535 | 62 | 119 | 73 | 77 | 20,737 | (10,705) | (16) | (183) | (3,975) | (366) | (189) | (1,027) | 22,602 | (16,460) | 6,237 | |

*Sums of values may not match averages or totals due to rounding.

†Estimated for the Basin. Note that some of the agricultural pumped groundwater is used outside of the Basin.

‡These values are much higher than the "M&I GW Supplies" term in Table 3.3-03 due to City of Ventura pumping exported to the City of Ventura.

**Table 3.3-07 Current and Projected Population for CMWD Retail Service Area (CMWD, 2020).**

| Year | Population |
|---|---|
| **2020** | 11,042 |
| **2025** | 11,101 |
| **2030** | 11,161 |
| **2035** | 11,221 |
| **2040** | 11,281 |

**Table 3.3-08 Projected Baseline Demands and Supplies by Category and Source.**

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supplies |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2020 | Normal | 2133 | 505 | 193 | 2831 | 720 | 101 | 193 | 1014 | 1412 | 404 | 1817 | 2831 |
| 2021 | Normal | 2133 | 505 | 192 | 2830 | 721 | 109 | 192 | 1022 | 1412 | 396 | 1808 | 2830 |
| 2022 | Dry | 1502 | 505 | 188 | 2196 | 482 | 120 | 188 | 790 | 1020 | 386 | 1406 | 2196 |
| 2023 | Wet | 2133 | 505 | 193 | 2831 | 647 | 99 | 193 | 939 | 1485 | 407 | 1892 | 2831 |
| 2024 | Normal | 2133 | 505 | 193 | 2831 | 721 | 105 | 193 | 1019 | 1412 | 401 | 1813 | 2831 |
| 2025 | Normal | 2133 | 505 | 191 | 2829 | 721 | 107 | 191 | 1019 | 1412 | 399 | 1811 | 2829 |
| 2026 | Dry | 1502 | 505 | 187 | 2194 | 482 | 113 | 187 | 782 | 1020 | 392 | 1412 | 2194 |
| 2027 | Dry | 1502 | 505 | 184 | 2191 | 409 | 121 | 184 | 714 | 1093 | 384 | 1477 | 2191 |
| 2028 | Wet | 2133 | 505 | 196 | 2834 | 647 | 86 | 196 | 929 | 1485 | 420 | 1905 | 2834 |
| 2029 | Normal | 2133 | 505 | 195 | 2833 | 721 | 95 | 195 | 1011 | 1412 | 410 | 1822 | 2833 |
| 2030 | Wet | 2133 | 505 | 198 | 2836 | 721 | 93 | 198 | 1011 | 1412 | 412 | 1824 | 2836 |
| 2031 | Normal | 2133 | 505 | 192 | 2830 | 721 | 106 | 192 | 1019 | 1412 | 399 | 1811 | 2830 |
| 2032 | Normal | 2133 | 505 | 187 | 2825 | 721 | 106 | 187 | 1014 | 1412 | 399 | 1811 | 2825 |
| 2033 | Wet | 2133 | 505 | 196 | 2834 | 721 | 85 | 196 | 1001 | 1412 | 420 | 1833 | 2834 |
| 2034 | Normal | 2133 | 505 | 192 | 2830 | 721 | 103 | 192 | 1016 | 1412 | 402 | 1814 | 2830 |
| 2035 | Normal | 2133 | 505 | 186 | 2824 | 721 | 115 | 186 | 1021 | 1412 | 391 | 1803 | 2824 |
| 2036 | Wet | 2133 | 505 | 190 | 2828 | 721 | 98 | 190 | 1008 | 1412 | 408 | 1820 | 2828 |
| 2037 | Dry | 1502 | 505 | 190 | 2197 | 482 | 118 | 190 | 790 | 1020 | 387 | 1407 | 2197 |
| 2038 | Normal | 2133 | 505 | 191 | 2829 | 647 | 115 | 191 | 954 | 1485 | 390 | 1875 | 2829 |
| 2039 | Dry | 1502 | 505 | 185 | 2193 | 482 | 119 | 185 | 786 | 1020 | 386 | 1406 | 2193 |
| 2040 | Dry | 1502 | 505 | 178 | 2186 | 409 | 120 | 178 | 707 | 1093 | 385 | 1478 | 2186 |
| 2041 | Normal | 2133 | 505 | 185 | 2823 | 647 | 106 | 185 | 938 | 1485 | 400 | 1885 | 2823 |
| 2042 | Wet | 2133 | 505 | 194 | 2832 | 721 | 100 | 194 | 1015 | 1412 | 405 | 1817 | 2832 |
| 2043 | Wet | 2133 | 505 | 199 | 2837 | 721 | 85 | 199 | 1004 | 1412 | 420 | 1833 | 2837 |
| 2044 | Dry | 1502 | 505 | 193 | 2201 | 482 | 108 | 193 | 784 | 1020 | 397 | 1417 | 2201 |
| 2045 | Wet | 2133 | 505 | 197 | 2835 | 647 | 89 | 197 | 934 | 1485 | 416 | 1901 | 2835 |
| 2046 | Normal | 2133 | 505 | 194 | 2832 | 721 | 103 | 194 | 1018 | 1412 | 402 | 1814 | 2832 |
| 2047 | Normal | 2133 | 505 | 193 | 2831 | 721 | 104 | 193 | 1018 | 1412 | 401 | 1813 | 2831 |
| 2048 | Wet | 2133 | 505 | 197 | 2835 | 721 | 79 | 197 | 997 | 1412 | 426 | 1838 | 2835 |
| 2049 | Dry | 1502 | 505 | 194 | 2201 | 482 | 111 | 194 | 786 | 1020 | 395 | 1414 | 2201 |
| 2050 | Normal | 2133 | 505 | 191 | 2829 | 647 | 113 | 191 | 951 | 1485 | 393 | 1878 | 2829 |
| 2051 | Wet | 2133 | 505 | 193 | 2831 | 721 | 101 | 193 | 1015 | 1412 | 405 | 1817 | 2831 |
| 2052 | Dry | 1502 | 505 | 188 | 2195 | 482 | 122 | 188 | 792 | 1020 | 383 | 1403 | 2195 |
| 2053 | Normal | 2133 | 505 | 191 | 2829 | 647 | 108 | 191 | 946 | 1485 | 397 | 1882 | 2829 |
| 2054 | Dry | 1502 | 505 | 189 | 2196 | 482 | 112 | 189 | 783 | 1020 | 393 | 1413 | 2196 |
| 2055 | Wet | 2133 | 505 | 197 | 2835 | 647 | 87 | 197 | 932 | 1485 | 418 | 1904 | 2835 |
| 2056 | Wet | 2133 | 505 | 194 | 2832 | 721 | 94 | 194 | 1008 | 1412 | 411 | 1823 | 2832 |
| 2057 | Dry | 1502 | 505 | 188 | 2195 | 482 | 125 | 188 | 795 | 1020 | 380 | 1400 | 2195 |
| 2058 | Normal | 2133 | 505 | 191 | 2829 | 647 | 111 | 191 | 949 | 1485 | 395 | 1880 | 2829 |

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supplies |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2059 | Dry | 1502 | 505 | 187 | 2194 | 482 | 115 | 187 | 784 | 1020 | 390 | 1410 | 2194 |
| 2060 | Wet | 2133 | 505 | 191 | 2829 | 647 | 104 | 191 | 943 | 1485 | 401 | 1886 | 2829 |
| 2061 | Wet | 2133 | 505 | 193 | 2831 | 721 | 96 | 193 | 1010 | 1412 | 410 | 1822 | 2831 |
| 2062 | Dry | 1502 | 505 | 192 | 2199 | 482 | 115 | 192 | 789 | 1020 | 390 | 1410 | 2199 |
| 2063 | Dry | 1502 | 505 | 182 | 2189 | 409 | 121 | 182 | 711 | 1093 | 384 | 1477 | 2189 |
| 2064 | Dry | 1502 | 505 | 175 | 2182 | 409 | 87 | 175 | 671 | 1093 | 419 | 1512 | 2182 |
| 2065 | Dry | 1502 | 505 | 162 | 2169 | 409 | 76 | 162 | 647 | 1093 | 429 | 1522 | 2169 |
| 2066 | Dry | 1502 | 505 | 157 | 2165 | 409 | 72 | 157 | 638 | 1093 | 434 | 1527 | 2165 |
| 2067 | Wet | 2133 | 505 | 178 | 2816 | 647 | 77 | 178 | 902 | 1485 | 429 | 1914 | 2816 |
| 2068 | Dry | 1502 | 505 | 185 | 2192 | 482 | 114 | 185 | 781 | 1020 | 391 | 1411 | 2192 |
| 2069 | Wet | 2133 | 505 | 190 | 2828 | 647 | 104 | 190 | 942 | 1485 | 401 | 1886 | 2828 |
| **Average (2020-2069)** | | 1906 | 505 | 189 | 2600 | 608 | 103 | 189 | 901 | 1297 | 402 | 1699 | 2600 |

Sums of values may not match averages or totals due to rounding.

**Table 3.3-09 Projected 2030 Demands and Supplies by Category and Source.**

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supply |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 2178 | 527 | 192 | 2897 | 720 | 108 | 192 | 1020 | 1458 | 419 | 1877 | 2897 |
| **2021** | Normal | 2178 | 527 | 191 | 2896 | 721 | 112 | 191 | 1024 | 1457 | 415 | 1872 | 2896 |
| **2022** | Dry | 1534 | 527 | 189 | 2250 | 482 | 124 | 189 | 795 | 1052 | 403 | 1455 | 2250 |
| **2023** | Wet | 2178 | 527 | 193 | 2898 | 647 | 106 | 193 | 946 | 1531 | 421 | 1952 | 2898 |
| **2024** | Normal | 2178 | 527 | 192 | 2897 | 721 | 110 | 192 | 1022 | 1457 | 417 | 1874 | 2897 |
| **2025** | Normal | 2178 | 527 | 191 | 2896 | 721 | 114 | 191 | 1025 | 1457 | 413 | 1870 | 2896 |
| **2026** | Normal | 2178 | 527 | 186 | 2891 | 721 | 116 | 186 | 1023 | 1457 | 411 | 1868 | 2891 |
| **2027** | Dry | 1534 | 527 | 183 | 2244 | 482 | 125 | 183 | 790 | 1052 | 402 | 1454 | 2244 |
| **2028** | Wet | 2178 | 527 | 196 | 2901 | 647 | 91 | 196 | 934 | 1531 | 436 | 1967 | 2901 |
| **2029** | Wet | 2178 | 527 | 195 | 2900 | 721 | 100 | 195 | 1016 | 1457 | 427 | 1884 | 2900 |
| **2030** | Wet | 2178 | 527 | 196 | 2901 | 721 | 99 | 196 | 1015 | 1457 | 428 | 1886 | 2901 |
| **2031** | Normal | 2178 | 527 | 189 | 2894 | 721 | 112 | 189 | 1022 | 1457 | 415 | 1872 | 2894 |
| **2032** | Normal | 2178 | 527 | 186 | 2891 | 721 | 111 | 186 | 1018 | 1457 | 416 | 1874 | 2891 |
| **2033** | Wet | 2178 | 527 | 196 | 2901 | 721 | 88 | 196 | 1005 | 1457 | 439 | 1896 | 2901 |
| **2034** | Dry | 1534 | 527 | 192 | 2253 | 482 | 113 | 192 | 787 | 1052 | 414 | 1466 | 2253 |
| **2035** | Dry | 1534 | 527 | 187 | 2248 | 409 | 124 | 187 | 720 | 1125 | 403 | 1529 | 2248 |
| **2036** | Wet | 2178 | 527 | 190 | 2895 | 647 | 104 | 190 | 942 | 1531 | 423 | 1954 | 2895 |
| **2037** | Dry | 1534 | 527 | 188 | 2249 | 482 | 123 | 188 | 793 | 1052 | 404 | 1456 | 2249 |
| **2038** | Normal | 2178 | 527 | 191 | 2896 | 647 | 121 | 191 | 959 | 1531 | 406 | 1937 | 2896 |
| **2039** | Dry | 1534 | 527 | 185 | 2246 | 482 | 123 | 185 | 790 | 1052 | 404 | 1456 | 2246 |
| **2040** | Dry | 1534 | 527 | 178 | 2239 | 409 | 125 | 178 | 712 | 1125 | 402 | 1527 | 2239 |
| **2041** | Normal | 2178 | 527 | 184 | 2889 | 647 | 105 | 184 | 937 | 1531 | 422 | 1953 | 2889 |
| **2042** | Wet | 2178 | 527 | 193 | 2898 | 721 | 107 | 193 | 1020 | 1457 | 420 | 1878 | 2898 |
| **2043** | Wet | 2178 | 527 | 199 | 2904 | 721 | 91 | 199 | 1011 | 1457 | 436 | 1893 | 2904 |
| **2044** | Dry | 1534 | 527 | 193 | 2254 | 482 | 114 | 193 | 789 | 1052 | 413 | 1465 | 2254 |
| **2045** | Wet | 2178 | 527 | 196 | 2901 | 647 | 97 | 196 | 941 | 1531 | 430 | 1961 | 2901 |
| **2046** | Normal | 2178 | 527 | 194 | 2899 | 721 | 107 | 194 | 1022 | 1457 | 420 | 1877 | 2899 |
| **2047** | Normal | 2178 | 527 | 192 | 2897 | 721 | 108 | 192 | 1021 | 1457 | 419 | 1876 | 2897 |
| **2048** | Wet | 2178 | 527 | 197 | 2902 | 721 | 82 | 197 | 1000 | 1457 | 445 | 1902 | 2902 |
| **2049** | Dry | 1534 | 527 | 194 | 2255 | 482 | 115 | 194 | 791 | 1052 | 412 | 1464 | 2255 |
| **2050** | Normal | 2178 | 527 | 190 | 2895 | 647 | 117 | 190 | 955 | 1531 | 410 | 1941 | 2895 |
| **2051** | Wet | 2178 | 527 | 193 | 2898 | 721 | 108 | 193 | 1021 | 1457 | 419 | 1877 | 2898 |
| **2052** | Dry | 1534 | 527 | 186 | 2247 | 482 | 128 | 186 | 797 | 1052 | 399 | 1450 | 2247 |
| **2053** | Normal | 2178 | 527 | 189 | 2894 | 647 | 115 | 189 | 952 | 1531 | 412 | 1942 | 2894 |
| **2054** | Normal | 2178 | 527 | 189 | 2894 | 721 | 117 | 189 | 1027 | 1457 | 410 | 1867 | 2894 |
| **2055** | Wet | 2178 | 527 | 197 | 2902 | 721 | 95 | 197 | 1013 | 1457 | 432 | 1889 | 2902 |
| **2056** | Normal | 2178 | 527 | 193 | 2898 | 721 | 104 | 193 | 1017 | 1457 | 423 | 1881 | 2898 |

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supply |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2057 | Dry | 1534 | 527 | 185 | 2246 | 482 | 132 | 185 | 799 | 1052 | 395 | 1447 | 2246 |
| 2058 | Normal | 2178 | 527 | 191 | 2896 | 647 | 115 | 191 | 953 | 1531 | 412 | 1942 | 2896 |
| 2059 | Dry | 1534 | 527 | 186 | 2247 | 482 | 117 | 186 | 785 | 1052 | 410 | 1462 | 2247 |
| 2060 | Wet | 2178 | 527 | 191 | 2896 | 647 | 109 | 191 | 947 | 1531 | 418 | 1949 | 2896 |
| 2061 | Wet | 2178 | 527 | 193 | 2898 | 721 | 102 | 193 | 1016 | 1457 | 425 | 1882 | 2898 |
| 2062 | Dry | 1534 | 527 | 190 | 2251 | 482 | 123 | 190 | 795 | 1052 | 404 | 1456 | 2251 |
| 2063 | Dry | 1534 | 527 | 181 | 2242 | 409 | 128 | 181 | 718 | 1125 | 399 | 1524 | 2242 |
| 2064 | Dry | 1534 | 527 | 174 | 2235 | 409 | 90 | 174 | 673 | 1125 | 437 | 1562 | 2235 |
| 2065 | Dry | 1534 | 527 | 158 | 2219 | 409 | 80 | 158 | 648 | 1125 | 447 | 1572 | 2219 |
| 2066 | Dry | 1534 | 527 | 156 | 2217 | 409 | 72 | 156 | 637 | 1125 | 455 | 1580 | 2217 |
| 2067 | Wet | 2178 | 527 | 178 | 2883 | 647 | 80 | 178 | 905 | 1531 | 447 | 1978 | 2883 |
| 2068 | Dry | 1534 | 527 | 184 | 2245 | 482 | 121 | 184 | 787 | 1052 | 406 | 1458 | 2245 |
| 2069 | Wet | 2178 | 527 | 190 | 2895 | 647 | 113 | 190 | 951 | 1531 | 414 | 1944 | 2895 |
| **Average (2020-2069)** | | 1946 | 527 | 188 | 2662 | 608 | 109 | 188 | 906 | 1338 | 418 | 1756 | 2662 |

Sums of values may not match averages or totals due to rounding.

**Table 3.3-10 Projected 2070 Demands and Supplies by Category and Source.**

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supply |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 2228 | 551 | 192 | 2971 | 720 | 116 | 192 | 1028 | 1508 | 435 | 1943 | 2971 |
| **2021** | Normal | 2228 | 551 | 191 | 2970 | 721 | 127 | 191 | 1039 | 1507 | 424 | 1931 | 2970 |
| **2022** | Dry | 1569 | 551 | 187 | 2307 | 482 | 133 | 187 | 802 | 1087 | 418 | 1505 | 2307 |
| **2023** | Wet | 2228 | 551 | 192 | 2971 | 647 | 113 | 192 | 953 | 1581 | 438 | 2018 | 2971 |
| **2024** | Normal | 2228 | 551 | 191 | 2970 | 721 | 119 | 191 | 1031 | 1507 | 432 | 1939 | 2970 |
| **2025** | Normal | 2228 | 551 | 191 | 2970 | 721 | 122 | 191 | 1033 | 1507 | 429 | 1937 | 2970 |
| **2026** | Normal | 2228 | 551 | 190 | 2969 | 721 | 120 | 190 | 1031 | 1507 | 431 | 1938 | 2969 |
| **2027** | Dry | 1569 | 551 | 189 | 2309 | 482 | 134 | 189 | 805 | 1087 | 417 | 1504 | 2309 |
| **2028** | Wet | 2228 | 551 | 196 | 2975 | 647 | 95 | 196 | 938 | 1581 | 456 | 2037 | 2975 |
| **2029** | Wet | 2228 | 551 | 195 | 2974 | 721 | 108 | 195 | 1024 | 1507 | 443 | 1951 | 2974 |
| **2030** | Wet | 2228 | 551 | 196 | 2975 | 721 | 104 | 196 | 1021 | 1507 | 447 | 1954 | 2975 |
| **2031** | Normal | 2228 | 551 | 190 | 2969 | 721 | 120 | 190 | 1030 | 1507 | 431 | 1939 | 2969 |
| **2032** | Normal | 2228 | 551 | 187 | 2966 | 721 | 117 | 187 | 1025 | 1507 | 434 | 1941 | 2966 |
| **2033** | Wet | 2228 | 551 | 196 | 2975 | 721 | 96 | 196 | 1012 | 1507 | 455 | 1962 | 2975 |
| **2034** | Dry | 1569 | 551 | 192 | 2312 | 482 | 120 | 192 | 794 | 1087 | 431 | 1518 | 2312 |
| **2035** | Dry | 1569 | 551 | 186 | 2306 | 409 | 130 | 186 | 724 | 1160 | 421 | 1582 | 2306 |
| **2036** | Wet | 2228 | 551 | 190 | 2969 | 647 | 112 | 190 | 950 | 1581 | 439 | 2019 | 2969 |
| **2037** | Dry | 1569 | 551 | 187 | 2307 | 482 | 136 | 187 | 805 | 1087 | 415 | 1502 | 2307 |
| **2038** | Normal | 2228 | 551 | 190 | 2969 | 647 | 130 | 190 | 967 | 1581 | 421 | 2002 | 2969 |
| **2039** | Dry | 1569 | 551 | 183 | 2303 | 482 | 130 | 183 | 795 | 1087 | 421 | 1508 | 2303 |
| **2040** | Dry | 1569 | 551 | 178 | 2298 | 409 | 135 | 178 | 722 | 1160 | 416 | 1576 | 2298 |
| **2041** | Normal | 2228 | 551 | 184 | 2963 | 647 | 110 | 184 | 942 | 1581 | 441 | 2022 | 2963 |
| **2042** | Wet | 2228 | 551 | 193 | 2972 | 721 | 112 | 193 | 1026 | 1507 | 439 | 1946 | 2972 |
| **2043** | Wet | 2228 | 551 | 198 | 2977 | 721 | 97 | 198 | 1016 | 1507 | 454 | 1961 | 2977 |
| **2044** | Normal | 2228 | 551 | 193 | 2972 | 721 | 124 | 193 | 1037 | 1507 | 427 | 1935 | 2972 |
| **2045** | Wet | 2228 | 551 | 197 | 2976 | 721 | 102 | 197 | 1019 | 1507 | 449 | 1956 | 2976 |
| **2046** | Normal | 2228 | 551 | 193 | 2972 | 721 | 115 | 193 | 1029 | 1507 | 436 | 1943 | 2972 |
| **2047** | Normal | 2228 | 551 | 191 | 2970 | 721 | 116 | 191 | 1028 | 1507 | 435 | 1943 | 2970 |
| **2048** | Wet | 2228 | 551 | 197 | 2976 | 721 | 89 | 197 | 1006 | 1507 | 462 | 1969 | 2976 |
| **2049** | Dry | 1569 | 551 | 193 | 2313 | 482 | 127 | 193 | 802 | 1087 | 424 | 1511 | 2313 |
| **2050** | Normal | 2228 | 551 | 190 | 2969 | 647 | 126 | 190 | 964 | 1581 | 425 | 2005 | 2969 |
| **2051** | Wet | 2228 | 551 | 193 | 2972 | 721 | 115 | 193 | 1028 | 1507 | 436 | 1943 | 2972 |
| **2052** | Dry | 1569 | 551 | 185 | 2305 | 482 | 141 | 185 | 809 | 1087 | 410 | 1497 | 2305 |
| **2053** | Normal | 2228 | 551 | 188 | 2967 | 647 | 126 | 188 | 962 | 1581 | 425 | 2005 | 2967 |
| **2054** | Normal | 2228 | 551 | 189 | 2968 | 721 | 125 | 189 | 1034 | 1507 | 426 | 1934 | 2968 |
| **2055** | Wet | 2228 | 551 | 197 | 2976 | 721 | 101 | 197 | 1019 | 1507 | 450 | 1957 | 2976 |
| **2056** | Normal | 2228 | 551 | 193 | 2972 | 721 | 112 | 193 | 1026 | 1507 | 439 | 1946 | 2972 |

| Water Year | Year Type | M&I Demand | Ag Demand | Domestic Demand | Total Demand | M&I GW Supplies | Ag GW Supplies | Domestic GW Supplies | Total GW Supplies | M&I SW Supplies | Ag SW Supplies | Total SW Supplies | Total Supply |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2057 | Dry | 1569 | 551 | 185 | 2305 | 482 | 145 | 185 | 812 | 1087 | 406 | 1493 | 2305 |
| 2058 | Normal | 2228 | 551 | 191 | 2970 | 647 | 123 | 191 | 961 | 1581 | 428 | 2009 | 2970 |
| 2059 | Dry | 1569 | 551 | 184 | 2304 | 482 | 125 | 184 | 792 | 1087 | 426 | 1513 | 2304 |
| 2060 | Wet | 2228 | 551 | 190 | 2969 | 647 | 117 | 190 | 955 | 1581 | 434 | 2014 | 2969 |
| 2061 | Wet | 2228 | 551 | 193 | 2972 | 721 | 108 | 193 | 1021 | 1507 | 443 | 1950 | 2972 |
| 2062 | Dry | 1569 | 551 | 188 | 2308 | 482 | 132 | 188 | 802 | 1087 | 419 | 1505 | 2308 |
| 2063 | Dry | 1569 | 551 | 181 | 2301 | 409 | 131 | 181 | 721 | 1160 | 420 | 1580 | 2301 |
| 2064 | Dry | 1569 | 551 | 174 | 2294 | 409 | 101 | 174 | 684 | 1160 | 450 | 1610 | 2294 |
| 2065 | Dry | 1569 | 551 | 156 | 2276 | 409 | 89 | 156 | 654 | 1160 | 462 | 1622 | 2276 |
| 2066 | Dry | 1569 | 551 | 154 | 2274 | 409 | 81 | 154 | 644 | 1160 | 470 | 1631 | 2274 |
| 2067 | Wet | 2228 | 551 | 177 | 2956 | 647 | 85 | 177 | 910 | 1581 | 466 | 2047 | 2956 |
| 2068 | Dry | 1569 | 551 | 184 | 2304 | 482 | 130 | 184 | 796 | 1087 | 421 | 1508 | 2304 |
| 2069 | Wet | 2228 | 551 | 190 | 2969 | 647 | 106 | 190 | 944 | 1581 | 445 | 2025 | 2969 |
| **Average (2020-2069)** | | 2004 | 551 | 188 | 2743 | 615 | 117 | 188 | 919 | 1389 | 434 | 1824 | 2743 |

Sums of values may not match averages or totals due to rounding.

**Table 3.3-11 UVRGB Surface Water Inflows and Outflows by Water Year, Future Baseline Conditions.**

| Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL Package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 16,204 | 4,901 | 20,731 | 3,309 | 14,334 | 784 | (36,778) | (5,281) | (18,203) | 60,263 | (60,263) |
| **2021** | Normal | 20,172 | 5,513 | 21,826 | 3,831 | 13,795 | 784 | (40,950) | (4,758) | (20,213) | 65,922 | (65,922) |
| **2022** | Dry | 10,721 | 1,972 | 2,936 | 1,471 | 9,160 | 302 | (13,704) | (991) | (11,868) | 26,562 | (26,562) |
| **2023** | Wet | 58,273 | 19,145 | 76,065 | 9,250 | 15,081 | 716 | (127,755) | (24,774) | (26,002) | 178,531 | (178,530) |
| **2024** | Normal | 18,448 | 4,852 | 20,292 | 3,597 | 14,646 | 784 | (36,880) | (7,033) | (18,707) | 62,620 | (62,620) |
| **2025** | Normal | 23,653 | 5,105 | 25,328 | 5,020 | 14,371 | 784 | (42,794) | (7,863) | (23,604) | 74,261 | (74,261) |
| **2026** | Dry | 9,920 | 1,250 | 2,295 | 1,751 | 7,523 | 302 | (9,917) | (1,995) | (11,130) | 23,041 | (23,041) |
| **2027** | Dry | 4,812 | 861 | 2,254 | 853 | 7,376 | 234 | (9,103) | (733) | (6,556) | 16,391 | (16,391) |
| **2028** | Wet | 135,574 | 53,947 | 118,373 | 13,993 | 17,358 | 716 | (265,227) | (43,550) | (31,183) | 339,960 | (339,960) |
| **2029** | Normal | 27,908 | 11,499 | 32,825 | 4,680 | 18,290 | 784 | (64,600) | (8,361) | (23,025) | 95,986 | (95,986) |
| **2030** | Wet | 69,751 | 27,305 | 71,787 | 9,079 | 18,163 | 784 | (148,703) | (24,580) | (23,588) | 196,871 | (196,871) |
| **2031** | Normal | 10,101 | 4,507 | 14,162 | 3,116 | 12,069 | 784 | (27,190) | (3,591) | (13,958) | 44,739 | (44,739) |
| **2032** | Normal | 9,938 | 3,232 | 15,187 | 2,836 | 9,017 | 784 | (21,348) | (3,705) | (15,940) | 40,993 | (40,993) |
| **2033** | Wet | 119,319 | 50,110 | 96,700 | 12,272 | 18,954 | 784 | (224,425) | (40,641) | (33,073) | 298,139 | (298,139) |
| **2034** | Normal | 15,729 | 5,401 | 14,100 | 2,895 | 16,633 | 784 | (37,437) | (3,235) | (14,870) | 55,542 | (55,542) |
| **2035** | Normal | 6,624 | 1,745 | 10,651 | 2,198 | 7,943 | 784 | (15,254) | (1,900) | (12,791) | 29,945 | (29,945) |
| **2036** | Wet | 59,645 | 12,835 | 55,898 | 7,942 | 13,203 | 784 | (99,495) | (21,299) | (29,514) | 150,308 | (150,308) |
| **2037** | Dry | 7,640 | 1,400 | 1,053 | 807 | 9,713 | 302 | (11,630) | (1,313) | (7,972) | 20,915 | (20,915) |
| **2038** | Normal | 21,551 | 2,233 | 17,186 | 2,965 | 12,134 | 716 | (27,509) | (6,919) | (22,357) | 56,785 | (56,785) |
| **2039** | Dry | 5,877 | 736 | 2,091 | 1,205 | 7,557 | 302 | (9,340) | (1,028) | (7,400) | 17,768 | (17,768) |
| **2040** | Dry | 2,947 | 298 | 1,273 | 986 | 4,564 | 234 | (5,753) | (553) | (3,997) | 10,303 | (10,303) |
| **2041** | Normal | 29,307 | 6,685 | 34,865 | 5,282 | 8,273 | 716 | (50,701) | (11,211) | (23,217) | 85,129 | (85,129) |
| **2042** | Wet | 75,028 | 20,511 | 41,257 | 6,084 | 15,553 | 784 | (104,696) | (28,556) | (25,963) | 159,215 | (159,215) |
| **2043** | Wet | 155,396 | 61,083 | 101,824 | 12,555 | 21,776 | 784 | (265,965) | (56,905) | (30,548) | 353,418 | (353,418) |
| **2044** | Dry | 12,745 | 3,312 | 3,480 | 1,709 | 15,742 | 302 | (21,512) | (3,123) | (12,657) | 37,292 | (37,292) |
| **2045** | Wet | 141,479 | 48,603 | 111,416 | 12,861 | 19,160 | 716 | (262,549) | (43,298) | (28,389) | 334,236 | (334,236) |
| **2046** | Normal | 11,173 | 4,722 | 15,347 | 3,294 | 14,384 | 784 | (31,266) | (3,239) | (15,199) | 49,705 | (49,705) |
| **2047** | Normal | 24,488 | 8,752 | 31,175 | 5,481 | 14,511 | 784 | (56,893) | (6,556) | (21,742) | 85,191 | (85,191) |
| **2048** | Wet | 140,192 | 73,503 | 125,957 | 15,216 | 19,646 | 784 | (297,523) | (44,875) | (32,900) | 375,299 | (375,299) |
| **2049** | Dry | 10,126 | 3,943 | 978 | 489 | 14,316 | 302 | (18,351) | (754) | (11,049) | 30,154 | (30,154) |

| Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL Package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2050** | Normal | 21,113 | 5,406 | 24,519 | 3,817 | 13,178 | 716 | (40,810) | (7,203) | (20,738) | 68,750 | (68,750) |
| **2051** | Wet | 55,372 | 18,402 | 46,454 | 6,559 | 15,319 | 784 | (103,666) | (15,845) | (23,379) | 142,890 | (142,890) |
| **2052** | Dry | 7,996 | 1,099 | 356 | 387 | 8,314 | 302 | (9,335) | (695) | (8,425) | 18,455 | (18,455) |
| **2053** | Normal | 12,304 | 2,790 | 27,936 | 5,065 | 12,453 | 716 | (36,850) | (3,130) | (21,285) | 61,265 | (61,265) |
| **2054** | Dry | 9,699 | 1,847 | 15,097 | 2,615 | 12,043 | 302 | (25,443) | (1,861) | (14,300) | 41,604 | (41,604) |
| **2055** | Wet | 102,614 | 71,059 | 114,060 | 14,233 | 19,511 | 716 | (266,449) | (27,713) | (28,030) | 322,193 | (322,193) |
| **2056** | Wet | 44,605 | 12,527 | 37,128 | 5,833 | 16,550 | 784 | (79,511) | (13,858) | (24,059) | 117,428 | (117,428) |
| **2057** | Dry | 5,381 | 1,270 | 297 | 309 | 9,118 | 302 | (10,305) | (695) | (5,679) | 16,678 | (16,678) |
| **2058** | Normal | 40,874 | 10,332 | 36,188 | 5,871 | 12,935 | 716 | (70,210) | (13,735) | (22,971) | 106,916 | (106,916) |
| **2059** | Dry | 6,829 | 1,416 | 4,032 | 1,182 | 8,555 | 302 | (11,840) | (1,198) | (9,279) | 22,317 | (22,317) |
| **2060** | Wet | 21,348 | 4,544 | 33,228 | 5,525 | 14,380 | 716 | (49,880) | (6,120) | (23,742) | 79,742 | (79,742) |
| **2061** | Wet | 45,676 | 10,580 | 49,632 | 7,243 | 18,164 | 784 | (90,301) | (13,945) | (27,834) | 132,080 | (132,080) |
| **2062** | Dry | 11,037 | 901 | 1,298 | 742 | 10,563 | 302 | (11,659) | (1,692) | (11,493) | 24,843 | (24,843) |
| **2063** | Dry | 1,820 | 110 | 470 | 478 | 6,457 | 234 | (6,645) | (544) | (2,380) | 9,569 | (9,569) |
| **2064** | Dry | 4,188 | 685 | 1,474 | 1,131 | 3,153 | 234 | (5,250) | (1,439) | (4,178) | 10,866 | (10,866) |
| **2065** | Dry | 1,978 | 153 | 964 | 843 | 2,206 | 234 | (2,847) | (542) | (2,989) | 6,378 | (6,378) |
| **2066** | Dry | 1,139 | 501 | 3,512 | 1,574 | 1,407 | 234 | (3,830) | (531) | (4,006) | 8,367 | (8,367) |
| **2067** | Wet | 23,961 | 7,152 | 49,881 | 6,540 | 8,996 | 716 | (65,319) | (6,953) | (24,973) | 97,246 | (97,246) |
| **2068** | Dry | 8,001 | 1,306 | 1,842 | 1,427 | 6,282 | 302 | (9,254) | (1,049) | (8,857) | 19,160 | (19,160) |
| **2069** | Wet | 69,788 | 13,801 | 36,595 | 5,748 | 14,802 | 716 | (85,355) | (27,214) | (28,880) | 141,450 | (141,450) |
| **Average (2020-2069)** | | 35,009 | 12,317 | 31,486 | 4,683 | 12,393 | 586 | (67,400) | (11,172) | (17,902) | 96,474 | (96,474) |

Sums of values may not match averages or totals due to rounding.

**Table 3.3-12 UVRGB Surface Water Inflows and Outflows by Water Year, 2030 Climate Change Factors.**

| Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL Package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 13,258 | 3,981 | 17,672 | 2,534 | 13,609 | 817 | (31,293) | (4,843) | (15,737) | 51,872 | (51,872) |
| **2021** | Normal | 20,390 | 5,572 | 22,516 | 3,869 | 13,270 | 817 | (40,894) | (4,843) | (20,698) | 66,435 | (66,435) |
| **2022** | Dry | 11,285 | 2,076 | 3,184 | 1,543 | 9,171 | 315 | (14,145) | (1,082) | (12,347) | 27,574 | (27,574) |
| **2023** | Wet | 56,879 | 18,687 | 74,765 | 8,978 | 14,750 | 747 | (125,722) | (24,254) | (24,830) | 174,806 | (174,806) |
| **2024** | Normal | 17,471 | 4,595 | 18,498 | 3,410 | 13,681 | 817 | (33,187) | (7,313) | (17,971) | 58,472 | (58,472) |
| **2025** | Normal | 21,707 | 4,685 | 23,674 | 4,588 | 13,260 | 817 | (38,651) | (7,663) | (22,416) | 68,731 | (68,731) |
| **2026** | Normal | 11,833 | 1,491 | 2,739 | 2,082 | 5,431 | 817 | (7,948) | (3,665) | (12,781) | 24,394 | (24,394) |
| **2027** | Dry | 5,220 | 934 | 2,451 | 916 | 6,572 | 315 | (8,437) | (1,023) | (6,947) | 16,407 | (16,407) |
| **2028** | Wet | 134,937 | 53,694 | 117,735 | 13,927 | 16,815 | 747 | (265,590) | (42,957) | (29,308) | 337,855 | (337,855) |
| **2029** | Wet | 27,115 | 11,172 | 31,910 | 4,521 | 16,634 | 817 | (61,938) | (8,747) | (21,485) | 92,170 | (92,170) |
| **2030** | Wet | 69,130 | 27,062 | 71,264 | 8,969 | 16,823 | 817 | (147,111) | (24,315) | (22,639) | 194,065 | (194,065) |
| **2031** | Normal | 8,968 | 4,002 | 12,519 | 2,773 | 10,610 | 817 | (23,308) | (3,605) | (12,776) | 39,690 | (39,690) |
| **2032** | Normal | 8,813 | 2,866 | 12,954 | 2,550 | 8,023 | 817 | (17,646) | (3,423) | (14,955) | 36,024 | (36,024) |
| **2033** | Wet | 117,722 | 49,439 | 95,324 | 12,076 | 18,097 | 817 | (222,420) | (40,002) | (31,054) | 293,476 | (293,476) |
| **2034** | Dry | 16,909 | 5,806 | 16,286 | 3,047 | 17,246 | 315 | (41,129) | (2,584) | (15,897) | 59,610 | (59,610) |
| **2035** | Dry | 6,480 | 1,707 | 10,579 | 2,127 | 10,823 | 244 | (18,611) | (665) | (12,684) | 31,960 | (31,960) |
| **2036** | Wet | 59,927 | 12,896 | 55,791 | 7,926 | 13,993 | 747 | (103,881) | (21,102) | (26,296) | 151,279 | (151,279) |
| **2037** | Dry | 8,177 | 1,498 | 1,132 | 856 | 8,551 | 315 | (10,669) | (1,138) | (8,722) | 20,529 | (20,529) |
| **2038** | Normal | 22,737 | 2,356 | 18,183 | 3,102 | 12,184 | 747 | (30,202) | (7,272) | (21,835) | 59,308 | (59,308) |
| **2039** | Dry | 6,049 | 757 | 2,153 | 1,230 | 7,129 | 315 | (8,983) | (1,254) | (7,397) | 17,634 | (17,634) |
| **2040** | Dry | 3,279 | 331 | 1,419 | 1,097 | 4,426 | 244 | (5,824) | (598) | (4,375) | 10,797 | (10,797) |
| **2041** | Normal | 26,958 | 6,149 | 32,586 | 4,836 | 7,951 | 747 | (46,600) | (10,520) | (22,106) | 79,226 | (79,226) |
| **2042** | Wet | 74,728 | 20,429 | 41,226 | 6,031 | 14,652 | 817 | (105,340) | (27,764) | (24,779) | 157,884 | (157,884) |
| **2043** | Wet | 151,219 | 59,442 | 99,464 | 12,205 | 20,015 | 817 | (260,844) | (54,856) | (27,462) | 343,161 | (343,161) |
| **2044** | Dry | 13,735 | 3,569 | 3,689 | 1,828 | 13,788 | 315 | (20,042) | (3,022) | (13,861) | 36,925 | (36,925) |
| **2045** | Wet | 124,752 | 42,857 | 98,148 | 11,333 | 18,611 | 747 | (232,577) | (37,809) | (26,061) | 296,448 | (296,448) |
| **2046** | Normal | 12,047 | 5,091 | 16,422 | 3,526 | 13,207 | 817 | (31,653) | (3,473) | (15,985) | 51,111 | (51,111) |
| **2047** | Normal | 24,879 | 8,892 | 31,784 | 5,549 | 14,229 | 817 | (58,289) | (6,599) | (21,263) | 86,151 | (86,151) |
| **2048** | Wet | 149,849 | 78,566 | 134,899 | 16,232 | 19,075 | 817 | (321,863) | (46,773) | (30,801) | 399,438 | (399,438) |

| Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL Package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2049 | Dry | 10,428 | 4,060 | 990 | 504 | 12,850 | 315 | (16,955) | (865) | (11,327) | 29,147 | (29,147) |
| 2050 | Normal | 23,452 | 6,005 | 26,843 | 4,278 | 13,105 | 747 | (45,334) | (8,497) | (20,598) | 74,429 | (74,429) |
| 2051 | Wet | 52,877 | 17,573 | 44,624 | 6,221 | 14,433 | 817 | (99,429) | (15,260) | (21,857) | 136,546 | (136,546) |
| 2052 | Dry | 7,652 | 1,052 | 341 | 370 | 7,511 | 315 | (8,445) | (724) | (8,073) | 17,242 | (17,242) |
| 2053 | Normal | 12,072 | 2,737 | 27,725 | 4,992 | 11,893 | 747 | (35,409) | (3,785) | (20,972) | 60,165 | (60,165) |
| 2054 | Normal | 10,249 | 1,952 | 15,990 | 2,741 | 10,051 | 817 | (24,023) | (3,328) | (14,450) | 41,801 | (41,801) |
| 2055 | Wet | 99,011 | 68,564 | 110,385 | 13,731 | 17,846 | 817 | (255,971) | (26,421) | (27,961) | 310,354 | (310,354) |
| 2056 | Normal | 36,146 | 10,151 | 29,305 | 4,746 | 14,923 | 817 | (62,859) | (11,506) | (21,725) | 96,089 | (96,089) |
| 2057 | Dry | 5,568 | 1,315 | 308 | 320 | 7,743 | 315 | (8,977) | (724) | (5,867) | 15,568 | (15,568) |
| 2058 | Normal | 39,941 | 10,096 | 35,524 | 5,724 | 12,286 | 747 | (68,605) | (13,810) | (21,902) | 104,317 | (104,317) |
| 2059 | Dry | 6,763 | 1,403 | 4,182 | 1,138 | 7,840 | 315 | (11,226) | (1,504) | (8,912) | 21,641 | (21,641) |
| 2060 | Wet | 21,742 | 4,628 | 33,758 | 5,618 | 14,037 | 747 | (50,269) | (6,501) | (23,760) | 80,530 | (80,530) |
| 2061 | Wet | 44,136 | 10,223 | 47,767 | 6,991 | 17,741 | 817 | (87,007) | (13,803) | (26,866) | 127,676 | (127,676) |
| 2062 | Dry | 11,662 | 878 | 1,043 | 600 | 9,384 | 315 | (10,320) | (2,337) | (11,226) | 23,883 | (23,883) |
| 2063 | Dry | 1,823 | 114 | 387 | 379 | 6,060 | 244 | (6,179) | (567) | (2,261) | 9,008 | (9,008) |
| 2064 | Dry | 4,004 | 647 | 1,036 | 795 | 2,913 | 244 | (4,415) | (1,438) | (3,786) | 9,639 | (9,639) |
| 2065 | Dry | 2,026 | 161 | 755 | 650 | 1,905 | 244 | (2,319) | (565) | (2,856) | 5,741 | (5,741) |
| 2066 | Dry | 1,191 | 554 | 2,889 | 1,299 | 1,117 | 244 | (3,088) | (554) | (3,652) | 7,293 | (7,293) |
| 2067 | Wet | 26,831 | 8,637 | 46,073 | 6,008 | 8,718 | 747 | (63,580) | (8,437) | (24,996) | 97,013 | (97,013) |
| 2068 | Dry | 7,869 | 1,288 | 1,367 | 1,058 | 5,888 | 315 | (8,357) | (1,068) | (8,361) | 17,786 | (17,786) |
| 2069 | Wet | 69,939 | 14,586 | 28,041 | 4,546 | 14,162 | 747 | (78,625) | (26,324) | (27,071) | 132,021 | (132,020) |
| **Average (2020-2069)** | | 34,437 | 12,145 | 30,606 | 4,527 | 11,701 | 611 | (65,724) | (11,024) | (17,279) | 94,026 | (94,026) |

Sums of values may not match averages or totals due to rounding.

**Table 3.3-13 UVRGB Projected Surface Water Inflows and Outflows by Water Year, 2070 Climate Change Factors.**

| Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 15,317 | 4,580 | 20,279 | 3,011 | 13,904 | 854 | (35,674) | (6,131) | (16,140) | 57,944 | (57,944) |
| **2021** | Normal | 18,702 | 5,111 | 21,592 | 3,524 | 13,082 | 854 | (38,904) | (4,549) | (19,411) | 62,864 | (62,864) |
| **2022** | Dry | 9,597 | 1,765 | 2,620 | 1,310 | 7,701 | 329 | (11,811) | (988) | (10,525) | 23,323 | (23,323) |
| **2023** | Wet | 63,225 | 20,772 | 84,398 | 9,870 | 14,164 | 780 | (142,105) | (26,311) | (24,792) | 193,208 | (193,208) |
| **2024** | Normal | 18,951 | 4,985 | 20,438 | 3,677 | 13,552 | 854 | (35,495) | (8,616) | (18,346) | 62,457 | (62,457) |
| **2025** | Normal | 20,689 | 4,465 | 23,507 | 4,346 | 12,768 | 854 | (37,485) | (7,791) | (21,354) | 66,630 | (66,630) |
| **2026** | Normal | 25,994 | 3,276 | 6,049 | 4,423 | 9,841 | 854 | (19,938) | (6,158) | (24,341) | 50,437 | (50,437) |
| **2027** | Dry | 6,147 | 1,100 | 2,917 | 1,065 | 11,533 | 329 | (13,931) | (1,279) | (7,882) | 23,092 | (23,092) |
| **2028** | Wet | 146,975 | 58,484 | 128,600 | 15,154 | 17,192 | 780 | (293,173) | (46,515) | (27,495) | 367,184 | (367,184) |
| **2029** | Wet | 31,299 | 12,897 | 36,957 | 5,178 | 16,398 | 854 | (71,427) | (11,295) | (20,860) | 103,582 | (103,582) |
| **2030** | Wet | 77,878 | 30,487 | 80,397 | 10,044 | 16,505 | 854 | (167,833) | (25,895) | (22,437) | 216,165 | (216,165) |
| **2031** | Normal | 11,369 | 5,073 | 16,146 | 3,494 | 11,277 | 854 | (29,288) | (4,269) | (14,656) | 48,212 | (48,212) |
| **2032** | Normal | 9,516 | 3,094 | 13,987 | 2,755 | 8,679 | 854 | (19,844) | (3,728) | (15,313) | 38,885 | (38,885) |
| **2033** | Wet | 122,106 | 51,280 | 99,764 | 12,457 | 17,972 | 854 | (233,636) | (41,853) | (28,944) | 304,433 | (304,433) |
| **2034** | Dry | 13,116 | 4,504 | 13,608 | 2,310 | 15,372 | 329 | (32,785) | (1,992) | (14,461) | 49,239 | (49,239) |
| **2035** | Dry | 5,269 | 1,388 | 8,617 | 1,731 | 9,262 | 255 | (15,103) | (669) | (10,750) | 26,522 | (26,522) |
| **2036** | Wet | 68,192 | 14,674 | 64,834 | 8,881 | 13,034 | 780 | (120,564) | (23,480) | (26,350) | 170,395 | (170,395) |
| **2037** | Dry | 7,772 | 1,424 | 1,082 | 801 | 8,124 | 329 | (10,223) | (1,178) | (8,131) | 19,533 | (19,533) |
| **2038** | Normal | 21,914 | 2,270 | 17,056 | 3,003 | 11,673 | 780 | (28,218) | (7,603) | (20,877) | 56,697 | (56,697) |
| **2039** | Dry | 5,227 | 654 | 1,857 | 1,061 | 6,245 | 329 | (7,740) | (1,189) | (6,444) | 15,373 | (15,373) |
| **2040** | Dry | 3,900 | 394 | 1,688 | 1,292 | 3,967 | 255 | (5,749) | (663) | (5,086) | 11,497 | (11,497) |
| **2041** | Normal | 33,596 | 7,663 | 41,420 | 5,982 | 8,108 | 780 | (61,848) | (13,210) | (22,490) | 97,548 | (97,548) |
| **2042** | Wet | 82,495 | 22,552 | 45,858 | 6,563 | 14,189 | 854 | (120,329) | (28,723) | (23,459) | 172,511 | (172,511) |
| **2043** | Wet | 163,589 | 64,304 | 108,669 | 13,151 | 19,133 | 854 | (286,758) | (57,095) | (25,846) | 369,700 | (369,700) |
| **2044** | Normal | 15,818 | 4,110 | 4,127 | 2,076 | 11,472 | 854 | (18,444) | (5,105) | (14,907) | 38,457 | (38,457) |
| **2045** | Wet | 148,331 | 50,957 | 116,640 | 13,443 | 17,424 | 854 | (278,804) | (42,863) | (25,982) | 347,649 | (347,649) |

| Water Year | Year Type | Matilija Creek Inflows | San Antonio Creek Inflows | Ungauged Tributary Inflows | Direct Runoff | Groundwater Discharge to Stream | SW Diversion Simulated using WEL package | Stream Outflows | Surface Water Diversions | Stream Percolation | Inflows | Outflows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2046** | Normal | 14,065 | 5,944 | 18,872 | 4,045 | 13,054 | 854 | (35,957) | (4,578) | (16,300) | 56,835 | (56,835) |
| **2047** | Normal | 23,524 | 8,408 | 31,331 | 5,178 | 13,705 | 854 | (55,971) | (7,075) | (19,953) | 82,999 | (82,999) |
| **2048** | Wet | 147,129 | 77,139 | 133,148 | 15,864 | 18,329 | 854 | (317,800) | (45,247) | (29,416) | 392,463 | (392,463) |
| **2049** | Dry | 9,464 | 3,685 | 849 | 460 | 11,136 | 329 | (14,784) | (929) | (10,209) | 25,922 | (25,922) |
| **2050** | Normal | 24,913 | 6,379 | 27,391 | 4,622 | 12,613 | 780 | (47,044) | (9,567) | (20,086) | 76,698 | (76,698) |
| **2051** | Wet | 62,537 | 20,783 | 53,207 | 7,306 | 14,111 | 854 | (119,020) | (17,732) | (22,048) | 158,799 | (158,799) |
| **2052** | Dry | 6,851 | 942 | 304 | 337 | 7,172 | 329 | (7,942) | (756) | (7,237) | 15,936 | (15,936) |
| **2053** | Normal | 10,110 | 2,292 | 23,860 | 4,194 | 10,782 | 780 | (28,894) | (3,345) | (19,779) | 52,018 | (52,018) |
| **2054** | Normal | 11,919 | 2,270 | 18,748 | 3,146 | 9,999 | 854 | (27,455) | (4,015) | (15,467) | 46,936 | (46,936) |
| **2055** | Wet | 108,576 | 75,188 | 122,751 | 14,955 | 17,850 | 854 | (284,463) | (29,000) | (26,711) | 340,174 | (340,174) |
| **2056** | Normal | 38,167 | 10,719 | 29,734 | 5,028 | 14,778 | 854 | (65,184) | (12,249) | (21,847) | 99,279 | (99,279) |
| **2057** | Dry | 5,451 | 1,287 | 300 | 315 | 7,430 | 329 | (8,616) | (756) | (5,741) | 15,113 | (15,113) |
| **2058** | Normal | 43,293 | 10,943 | 38,783 | 6,172 | 12,095 | 780 | (75,719) | (14,921) | (21,426) | 112,066 | (112,066) |
| **2059** | Dry | 5,846 | 1,212 | 3,765 | 958 | 7,207 | 329 | (10,106) | (1,485) | (7,727) | 19,318 | (19,318) |
| **2060** | Wet | 21,313 | 4,537 | 35,107 | 5,435 | 13,192 | 780 | (49,632) | (7,533) | (23,199) | 80,364 | (80,364) |
| **2061** | Wet | 42,002 | 9,729 | 45,642 | 6,620 | 17,191 | 854 | (82,744) | (13,233) | (26,061) | 122,038 | (122,038) |
| **2062** | Dry | 11,100 | 783 | 725 | 426 | 8,311 | 329 | (9,009) | (2,369) | (10,297) | 21,675 | (21,675) |
| **2063** | Dry | 1,823 | 114 | 314 | 290 | 5,613 | 255 | (5,669) | (593) | (2,148) | 8,410 | (8,410) |
| **2064** | Dry | 4,004 | 647 | 850 | 647 | 2,717 | 255 | (4,006) | (1,462) | (3,652) | 9,120 | (9,120) |
| **2065** | Dry | 2,026 | 161 | 571 | 487 | 1,703 | 255 | (1,933) | (591) | (2,679) | 5,203 | (5,203) |
| **2066** | Dry | 1,191 | 554 | 2,369 | 1,127 | 938 | 255 | (2,540) | (578) | (3,315) | 6,434 | (6,434) |
| **2067** | Wet | 26,831 | 8,637 | 46,156 | 6,020 | 8,484 | 780 | (63,338) | (8,514) | (25,055) | 96,907 | (96,907) |
| **2068** | Dry | 7,869 | 1,288 | 943 | 728 | 5,654 | 329 | (7,717) | (1,100) | (7,994) | 16,811 | (16,811) |
| **2069** | Wet | 78,001 | 16,795 | 24,412 | 4,068 | 13,702 | 780 | (82,195) | (29,586) | (25,978) | 137,759 | (137,759) |
| **Average (2020-2069)** | | 37,100 | 13,054 | 32,865 | 4,781 | 11,407 | 650 | (70,897) | (11,927) | (17,032) | 99,856 | (99,856) |

Sums of values may not match averages or totals due to rounding.

## Table 3.3-14 UVRGB Projected Groundwater Inflows and Outflows by Water Year, Future Baseline Conditions.

| Water Year | Year Type | Precipitation-Based Recharge | Agricultural Return Flows | M&I Return Flows | Septic Return Flows | Distribution losses Return Flows | Net Stream Percolation from Losing Reaches | Net GW Discharge to Gaining Reaches | Shallow Groundwater Drainage to the East | SW Diversion simulated using WEL package | M&I Pumping | Agricultural Pumping | Domestic Pumping | GW ET from Riparian Vegetation | Inflows | Outflows | Change in Storage | Cumulative Change in Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 53 | 62 | 201 | 102 | 80 | 18,203 | (14,334) | (13) | (784) | (6,261) | (468) | (193) | (1,294) | 18,700 | (23,347) | (4,548) | (4,548) |
| **2021** | Normal | 1,336 | 62 | 201 | 102 | 80 | 20,213 | (13,795) | (15) | (784) | (6,262) | (491) | (192) | (1,159) | 21,994 | (22,699) | (607) | (5,154) |
| **2022** | Dry | 670 | 62 | 177 | 90 | 71 | 11,868 | (9,160) | (15) | (302) | (4,053) | (520) | (188) | (946) | 12,938 | (15,185) | (2,139) | (7,294) |
| **2023** | Wet | 3,590 | 62 | 193 | 98 | 77 | 26,002 | (15,081) | (19) | (716) | (5,177) | (461) | (193) | (1,225) | 30,021 | (22,873) | 7,244 | (50) |
| **2024** | Normal | 888 | 62 | 201 | 102 | 80 | 18,707 | (14,646) | (20) | (784) | (6,262) | (480) | (193) | (1,135) | 20,039 | (23,521) | (3,383) | (3,432) |
| **2025** | Normal | 782 | 62 | 201 | 102 | 80 | 23,604 | (14,371) | (19) | (784) | (6,262) | (484) | (191) | (1,100) | 24,831 | (23,212) | 1,729 | (1,703) |
| **2026** | Dry | 66 | 62 | 177 | 90 | 71 | 11,130 | (7,523) | (17) | (302) | (4,053) | (501) | (187) | (892) | 11,596 | (13,475) | (1,777) | (3,480) |
| **2027** | Dry | 30 | 62 | 169 | 86 | 68 | 6,556 | (7,376) | (14) | (234) | (2,967) | (527) | (184) | (793) | 6,970 | (12,096) | (5,012) | (8,492) |
| **2028** | Wet | 8,713 | 62 | 193 | 98 | 77 | 31,183 | (17,358) | (34) | (716) | (5,177) | (431) | (196) | (1,443) | 40,325 | (25,355) | 15,062 | 6,570 |
| **2029** | Normal | 1,887 | 62 | 201 | 102 | 80 | 23,025 | (18,290) | (37) | (784) | (6,262) | (451) | (195) | (1,356) | 25,356 | (27,376) | (1,922) | 4,648 |
| **2030** | Wet | 4,233 | 62 | 201 | 102 | 81 | 23,588 | (18,163) | (46) | (784) | (6,262) | (446) | (198) | (1,361) | 28,267 | (27,260) | 1,097 | 5,744 |
| **2031** | Normal | 69 | 62 | 201 | 102 | 80 | 13,958 | (12,069) | (37) | (784) | (6,262) | (486) | (192) | (1,117) | 14,472 | (20,947) | (6,320) | (575) |
| **2032** | Normal | 60 | 62 | 201 | 102 | 80 | 15,940 | (9,017) | (31) | (784) | (6,262) | (489) | (187) | (939) | 16,445 | (17,710) | (1,111) | (1,687) |
| **2033** | Wet | 5,935 | 62 | 201 | 102 | 80 | 33,073 | (18,954) | (51) | (784) | (6,262) | (426) | (196) | (1,349) | 39,452 | (28,023) | 11,517 | 9,830 |
| **2034** | Normal | 75 | 62 | 201 | 102 | 81 | 14,870 | (16,633) | (42) | (784) | (6,262) | (477) | (192) | (1,184) | 15,391 | (25,576) | (9,996) | (167) |
| **2035** | Normal | 87 | 62 | 201 | 102 | 80 | 12,791 | (7,943) | (35) | (784) | (6,262) | (508) | (186) | (893) | 13,322 | (16,611) | (3,127) | (3,293) |
| **2036** | Wet | 1,258 | 62 | 201 | 102 | 80 | 29,514 | (13,203) | (36) | (784) | (6,262) | (458) | (190) | (1,249) | 31,216 | (22,183) | 9,133 | 5,840 |
| **2037** | Dry | 0 | 62 | 177 | 90 | 71 | 7,972 | (9,713) | (31) | (302) | (4,053) | (516) | (190) | (900) | 8,371 | (15,705) | (7,229) | (1,389) |
| **2038** | Normal | 55 | 62 | 193 | 98 | 77 | 22,357 | (12,134) | (27) | (716) | (5,177) | (508) | (191) | (1,179) | 22,842 | (19,932) | 3,016 | 1,627 |
| **2039** | Dry | 36 | 62 | 177 | 90 | 71 | 7,400 | (7,557) | (23) | (302) | (4,053) | (518) | (185) | (844) | 7,835 | (13,483) | (5,546) | (3,919) |
| **2040** | Dry | 16 | 62 | 169 | 86 | 68 | 3,997 | (4,564) | (21) | (234) | (2,967) | (534) | (178) | (620) | 4,396 | (9,118) | (4,613) | (8,532) |
| **2041** | Normal | 1,658 | 62 | 193 | 98 | 77 | 23,217 | (8,273) | (23) | (716) | (5,177) | (495) | (185) | (1,051) | 25,304 | (15,920) | 9,495 | 962 |
| **2042** | Wet | 3,474 | 62 | 201 | 102 | 81 | 25,963 | (15,553) | (31) | (784) | (6,262) | (466) | (194) | (1,322) | 29,883 | (24,613) | 5,367 | 6,329 |
| **2043** | Wet | 6,739 | 62 | 201 | 102 | 80 | 30,548 | (21,776) | (54) | (784) | (6,262) | (423) | (199) | (1,525) | 37,732 | (31,023) | 6,801 | 13,130 |
| **2044** | Dry | 88 | 62 | 177 | 90 | 71 | 12,657 | (15,742) | (41) | (302) | (4,053) | (488) | (193) | (1,137) | 13,145 | (21,957) | (8,698) | 4,432 |
| **2045** | Wet | 6,751 | 62 | 193 | 98 | 77 | 28,389 | (19,160) | (66) | (716) | (5,177) | (435) | (197) | (1,512) | 35,569 | (27,264) | 8,397 | 12,829 |
| **2046** | Normal | 287 | 62 | 201 | 102 | 81 | 15,199 | (14,384) | (54) | (784) | (6,262) | (475) | (194) | (1,253) | 15,932 | (23,407) | (7,380) | 5,449 |
| **2047** | Normal | 1,307 | 62 | 201 | 102 | 80 | 21,742 | (14,511) | (53) | (784) | (6,262) | (479) | (193) | (1,292) | 23,494 | (23,575) | 26 | 5,475 |
| **2048** | Wet | 6,722 | 62 | 201 | 102 | 80 | 32,900 | (19,646) | (87) | (784) | (6,262) | (410) | (197) | (1,492) | 40,067 | (28,878) | 11,278 | 16,754 |
| **2049** | Dry | 1 | 62 | 177 | 90 | 71 | 11,049 | (14,316) | (64) | (302) | (4,053) | (495) | (194) | (1,068) | 11,449 | (20,492) | (8,935) | 7,819 |
| **2050** | Normal | 597 | 62 | 193 | 98 | 77 | 20,738 | (13,178) | (57) | (716) | (5,177) | (500) | (191) | (1,284) | 21,765 | (21,103) | 766 | 8,585 |
| **2051** | Wet | 2,185 | 62 | 201 | 102 | 80 | 23,379 | (15,319) | (62) | (784) | (6,262) | (467) | (193) | (1,346) | 26,009 | (24,434) | 1,671 | 10,256 |
| **2052** | Dry | 0 | 62 | 177 | 90 | 71 | 8,425 | (8,314) | (50) | (302) | (4,053) | (527) | (188) | (756) | 8,824 | (14,190) | (5,256) | 5,000 |
| **2053** | Normal | 260 | 62 | 193 | 98 | 77 | 21,285 | (12,453) | (44) | (716) | (5,177) | (491) | (191) | (1,083) | 21,974 | (20,155) | 1,945 | 6,945 |
| **2054** | Dry | 104 | 62 | 177 | 90 | 71 | 14,300 | (12,043) | (39) | (302) | (4,053) | (499) | (189) | (1,020) | 14,804 | (18,145) | (3,248) | 3,698 |
| **2055** | Wet | 7,991 | 62 | 193 | 98 | 77 | 28,030 | (19,511) | (81) | (716) | (5,177) | (429) | (197) | (1,115) | 36,451 | (27,226) | 9,314 | 13,012 |
| **2056** | Wet | 152 | 62 | 201 | 102 | 80 | 24,059 | (16,550) | (60) | (784) | (6,262) | (448) | (194) | (1,002) | 24,655 | (25,300) | (552) | 12,459 |
| **2057** | Dry | 0 | 62 | 177 | 90 | 71 | 5,679 | (9,118) | (48) | (302) | (4,053) | (536) | (188) | (730) | 6,078 | (14,974) | (8,788) | 3,672 |
| **2058** | Normal | 1,744 | 62 | 193 | 98 | 77 | 22,971 | (12,935) | (50) | (716) | (5,177) | (495) | (191) | (1,123) | 25,145 | (20,688) | 4,564 | 8,236 |
| **2059** | Dry | 44 | 62 | 177 | 90 | 71 | 9,279 | (8,555) | (41) | (302) | (4,053) | (507) | (187) | (790) | 9,721 | (14,436) | (4,605) | 3,631 |
| **2060** | Wet | 1,478 | 62 | 193 | 98 | 77 | 23,742 | (14,380) | (43) | (716) | (5,177) | (478) | (191) | (973) | 25,649 | (21,959) | 3,787 | 7,418 |
| **2061** | Wet | 2,215 | 62 | 201 | 102 | 80 | 27,834 | (18,164) | (47) | (784) | (6,262) | (453) | (193) | (1,139) | 30,493 | (27,044) | 3,539 | 10,958 |
| **2062** | Dry | 0 | 62 | 177 | 90 | 71 | 11,493 | (10,563) | (39) | (302) | (4,053) | (507) | (192) | (918) | 11,893 | (16,575) | (4,572) | 6,385 |
| **2063** | Dry | 5 | 62 | 169 | 86 | 68 | 2,380 | (6,457) | (33) | (234) | (2,967) | (535) | (182) | (601) | 2,768 | (11,010) | (8,099) | (1,714) |
| **2064** | Dry | 0 | 62 | 169 | 86 | 68 | 4,178 | (3,153) | (28) | (234) | (2,692) | (503) | (175) | (566) | 4,561 | (7,353) | (2,704) | (4,418) |
| **2065** | Dry | 42 | 62 | 169 | 86 | 68 | 2,989 | (2,206) | (25) | (234) | (2,692) | (489) | (162) | (294) | 3,414 | (6,102) | (2,618) | (7,035) |
| **2066** | Dry | 6 | 62 | 169 | 86 | 68 | 4,006 | (1,407) | (22) | (234) | (2,692) | (479) | (157) | (365) | 4,397 | (5,358) | (876) | (7,911) |
| **2067** | Wet | 1,724 | 62 | 193 | 98 | 77 | 24,973 | (8,996) | (26) | (716) | (5,177) | (448) | (178) | (948) | 27,127 | (16,489) | 10,851 | 2,940 |
| **2068** | Dry | 1,309 | 62 | 177 | 90 | 71 | 8,857 | (6,282) | (25) | (302) | (4,053) | (508) | (185) | (759) | 10,565 | (12,114) | (1,421) | 1,519 |
| **2069** | Wet | 1,570 | 62 | 193 | 98 | 77 | 28,880 | (14,802) | (28) | (716) | (5,177) | (478) | (190) | (1,258) | 30,880 | (22,650) | 8,331 | 9,849 |
| **Average (2020-2069)** | | 1,566 | 62 | 189 | 96 | 76 | 17,902 | (12,393) | (38) | (586) | (5,060) | (482) | (189) | (1,054) | 19,891 | (19,802) | 197 | 2,944 |

Sums of values may not match averages or totals due to rounding.

## Table 3.3-15 UVRGB Projected Groundwater Inflows and Outflows by Water Year, 2030 Climate Change Factors.

| Water Year | Year Type | Precipitation-Based Recharge | Agricultural Return Flows | M&I Return Flows | Septic Return Flows | Distribution losses Return Flows | Net Stream Percolation from Losing Reaches | Net GW Discharge to Gaining Reaches | Shallow Groundwater Drainage to the East | SW Diversion simulated using WEL package | M&I Pumping | Agricultural Pumping | Domestic Pumping | GW ET from Riparian Vegetation | Inflows | Outflows | Change in Storage | Cumulative Change in Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 46 | 64 | 209 | 102 | 80 | 15,737 | (13,609) | (13) | (817) | (6,261) | (497) | (192) | (1,303) | 16,238 | (22,692) | (6,299) | (6,299) |
| **2021** | Normal | 1,295 | 64 | 209 | 102 | 80 | 20,698 | (13,270) | (15) | (817) | (6,262) | (511) | (191) | (1,201) | 22,448 | (22,267) | 365 | (5,935) |
| **2022** | Dry | 690 | 64 | 185 | 90 | 71 | 12,347 | (9,171) | (15) | (315) | (4,053) | (547) | (189) | (989) | 13,447 | (15,278) | (1,720) | (7,654) |
| **2023** | Wet | 3,432 | 64 | 201 | 98 | 77 | 24,830 | (14,750) | (19) | (747) | (5,177) | (490) | (193) | (1,257) | 28,702 | (22,632) | 6,161 | (1,493) |
| **2024** | Normal | 819 | 64 | 209 | 102 | 80 | 17,971 | (13,681) | (20) | (817) | (6,262) | (506) | (192) | (1,143) | 19,246 | (22,621) | (3,106) | (4,599) |
| **2025** | Normal | 695 | 64 | 209 | 102 | 80 | 22,416 | (13,260) | (19) | (817) | (6,262) | (519) | (191) | (1,104) | 23,567 | (22,172) | 1,583 | (3,016) |
| **2026** | Normal | 69 | 64 | 210 | 102 | 81 | 12,781 | (5,431) | (16) | (817) | (6,262) | (523) | (186) | (909) | 13,307 | (14,145) | (538) | (3,554) |
| **2027** | Dry | 34 | 64 | 184 | 90 | 71 | 6,947 | (6,572) | (14) | (315) | (4,053) | (545) | (183) | (819) | 7,390 | (12,501) | (4,998) | (8,552) |
| **2028** | Wet | 8,377 | 64 | 201 | 98 | 77 | 29,308 | (16,815) | (33) | (747) | (5,177) | (452) | (196) | (1,440) | 38,125 | (24,859) | 13,361 | 4,809 |
| **2029** | Wet | 1,798 | 64 | 209 | 102 | 80 | 21,485 | (16,634) | (35) | (817) | (6,262) | (474) | (195) | (1,351) | 23,739 | (25,769) | (1,936) | 2,873 |
| **2030** | Wet | 4,142 | 64 | 210 | 102 | 81 | 22,639 | (16,823) | (43) | (817) | (6,262) | (469) | (196) | (1,379) | 27,238 | (25,990) | 1,358 | 4,231 |
| **2031** | Normal | 61 | 64 | 209 | 102 | 80 | 12,776 | (10,610) | (35) | (817) | (6,262) | (513) | (189) | (1,117) | 13,292 | (19,544) | (5,895) | (1,664) |
| **2032** | Normal | 53 | 64 | 209 | 102 | 80 | 14,955 | (8,023) | (29) | (817) | (6,262) | (514) | (186) | (945) | 15,463 | (16,777) | (960) | (2,624) |
| **2033** | Wet | 5,747 | 64 | 209 | 102 | 80 | 31,054 | (18,097) | (48) | (817) | (6,262) | (445) | (196) | (1,356) | 37,257 | (27,221) | 10,124 | 7,500 |
| **2034** | Dry | 78 | 64 | 185 | 90 | 71 | 15,897 | (17,246) | (40) | (315) | (4,053) | (508) | (192) | (1,227) | 16,385 | (23,582) | (7,091) | 409 |
| **2035** | Dry | 91 | 64 | 176 | 86 | 68 | 12,684 | (10,823) | (34) | (244) | (2,967) | (539) | (187) | (974) | 13,168 | (15,768) | (2,493) | (2,084) |
| **2036** | Wet | 1,216 | 64 | 201 | 98 | 77 | 26,296 | (13,993) | (34) | (747) | (5,177) | (484) | (190) | (1,262) | 27,952 | (21,887) | 6,163 | 4,079 |
| **2037** | Dry | 0 | 64 | 184 | 90 | 71 | 8,722 | (8,551) | (29) | (315) | (4,053) | (538) | (188) | (931) | 9,131 | (14,606) | (5,367) | (1,288) |
| **2038** | Normal | 56 | 64 | 201 | 98 | 77 | 21,835 | (12,184) | (25) | (747) | (5,177) | (531) | (191) | (1,230) | 22,332 | (20,084) | 2,354 | 1,066 |
| **2039** | Dry | 35 | 64 | 184 | 90 | 71 | 7,397 | (7,129) | (22) | (315) | (4,053) | (540) | (185) | (866) | 7,841 | (13,111) | (5,160) | (4,094) |
| **2040** | Dry | 15 | 64 | 176 | 86 | 68 | 4,375 | (4,426) | (20) | (244) | (2,967) | (558) | (178) | (636) | 4,784 | (9,030) | (4,130) | (8,224) |
| **2041** | Normal | 1,514 | 64 | 201 | 98 | 77 | 22,106 | (7,951) | (22) | (747) | (5,177) | (513) | (184) | (1,079) | 24,059 | (15,673) | 8,482 | 259 |
| **2042** | Wet | 3,373 | 64 | 210 | 102 | 81 | 24,779 | (14,652) | (29) | (817) | (6,262) | (491) | (193) | (1,332) | 28,609 | (23,777) | 4,927 | 5,185 |
| **2043** | Wet | 6,471 | 64 | 209 | 102 | 80 | 27,462 | (20,015) | (50) | (817) | (6,262) | (448) | (199) | (1,482) | 34,389 | (29,274) | 5,210 | 10,395 |
| **2044** | Dry | 93 | 64 | 184 | 90 | 71 | 13,861 | (13,788) | (39) | (315) | (4,053) | (512) | (193) | (1,169) | 14,363 | (20,070) | (5,601) | 4,795 |
| **2045** | Wet | 5,991 | 64 | 201 | 98 | 77 | 26,061 | (18,611) | (57) | (747) | (5,177) | (464) | (196) | (1,523) | 32,492 | (26,776) | 5,806 | 10,601 |
| **2046** | Normal | 292 | 64 | 210 | 102 | 81 | 15,985 | (13,207) | (48) | (817) | (6,262) | (497) | (194) | (1,299) | 16,735 | (22,326) | (5,414) | 5,187 |
| **2047** | Normal | 1,252 | 64 | 209 | 102 | 80 | 21,263 | (14,229) | (47) | (817) | (6,262) | (501) | (192) | (1,337) | 22,970 | (23,386) | (53) | 5,134 |
| **2048** | Wet | 7,117 | 64 | 209 | 102 | 80 | 30,801 | (19,075) | (80) | (817) | (6,262) | (427) | (197) | (1,494) | 38,374 | (28,353) | 10,111 | 15,245 |
| **2049** | Dry | 2 | 64 | 184 | 90 | 71 | 11,327 | (12,850) | (60) | (315) | (4,053) | (515) | (194) | (1,093) | 11,738 | (19,079) | (7,222) | 8,023 |
| **2050** | Normal | 592 | 64 | 201 | 98 | 77 | 20,598 | (13,105) | (52) | (747) | (5,177) | (520) | (190) | (1,344) | 21,631 | (21,135) | 606 | 8,629 |
| **2051** | Wet | 2,181 | 64 | 209 | 102 | 80 | 21,857 | (14,433) | (57) | (817) | (6,262) | (494) | (193) | (1,352) | 24,494 | (23,610) | 980 | 9,609 |
| **2052** | Dry | 0 | 64 | 184 | 90 | 71 | 8,073 | (7,511) | (47) | (315) | (4,053) | (553) | (186) | (760) | 8,482 | (13,426) | (4,830) | 4,779 |
| **2053** | Normal | 262 | 64 | 201 | 98 | 77 | 20,972 | (11,893) | (42) | (747) | (5,177) | (519) | (189) | (1,108) | 21,674 | (19,676) | 2,268 | 7,047 |
| **2054** | Normal | 106 | 64 | 210 | 102 | 81 | 14,450 | (10,051) | (37) | (817) | (6,262) | (523) | (189) | (1,050) | 15,013 | (18,929) | (3,736) | 3,311 |
| **2055** | Wet | 7,395 | 64 | 209 | 102 | 80 | 27,961 | (17,846) | (72) | (817) | (6,262) | (459) | (197) | (1,130) | 35,811 | (26,783) | 9,125 | 12,436 |
| **2056** | Normal | 138 | 64 | 209 | 102 | 80 | 21,725 | (14,923) | (54) | (817) | (6,262) | (483) | (193) | (984) | 22,319 | (23,716) | (1,296) | 11,141 |
| **2057** | Dry | 0 | 64 | 184 | 90 | 71 | 5,867 | (7,743) | (44) | (315) | (4,053) | (562) | (185) | (716) | 6,276 | (13,618) | (7,228) | 3,912 |
| **2058** | Normal | 1,631 | 64 | 201 | 98 | 77 | 21,902 | (12,286) | (46) | (747) | (5,177) | (519) | (191) | (1,144) | 23,975 | (20,109) | 3,978 | 7,891 |
| **2059** | Dry | 44 | 64 | 184 | 90 | 71 | 8,912 | (7,840) | (38) | (315) | (4,053) | (528) | (186) | (799) | 9,365 | (13,759) | (4,287) | 3,603 |
| **2060** | Wet | 1,443 | 64 | 201 | 98 | 77 | 23,760 | (14,037) | (40) | (747) | (5,177) | (500) | (191) | (1,003) | 25,643 | (21,695) | 4,188 | 7,792 |
| **2061** | Wet | 2,132 | 64 | 209 | 102 | 80 | 26,866 | (17,741) | (44) | (817) | (6,262) | (484) | (193) | (1,168) | 29,454 | (26,710) | 2,890 | 10,681 |
| **2062** | Dry | 0 | 64 | 185 | 90 | 71 | 11,226 | (9,384) | (36) | (315) | (4,053) | (536) | (190) | (920) | 11,636 | (15,435) | (3,688) | 6,994 |
| **2063** | Dry | 4 | 64 | 176 | 86 | 68 | 2,261 | (6,060) | (30) | (244) | (2,967) | (564) | (181) | (597) | 2,659 | (10,644) | (7,835) | (841) |
| **2064** | Dry | 0 | 64 | 176 | 86 | 68 | 3,786 | (2,913) | (26) | (244) | (2,692) | (527) | (174) | (540) | 4,179 | (7,117) | (2,846) | (3,687) |
| **2065** | Dry | 43 | 64 | 176 | 86 | 68 | 2,856 | (1,905) | (23) | (244) | (2,692) | (514) | (158) | (264) | 3,292 | (5,801) | (2,431) | (6,118) |
| **2066** | Dry | 7 | 64 | 176 | 86 | 68 | 3,652 | (1,117) | (21) | (244) | (2,692) | (496) | (156) | (337) | 4,053 | (5,064) | (927) | (7,045) |
| **2067** | Wet | 1,691 | 64 | 201 | 98 | 77 | 24,996 | (8,718) | (25) | (747) | (5,177) | (468) | (178) | (977) | 27,127 | (16,289) | 11,076 | 4,031 |
| **2068** | Dry | 1,106 | 64 | 184 | 90 | 71 | 8,361 | (5,888) | (23) | (315) | (4,053) | (538) | (184) | (769) | 9,876 | (11,770) | (1,764) | 2,267 |
| **2069** | Wet | 1,681 | 64 | 201 | 98 | 77 | 27,071 | (14,162) | (27) | (747) | (5,177) | (511) | (190) | (1,264) | 29,193 | (22,077) | 7,219 | 9,486 |
| **Average (2020-2069)** | | 1,506 | 64 | 197 | 96 | 76 | 17,279 | (11,701) | (35) | (611) | (5,060) | (507) | (188) | (1,069) | 19,219 | (19,172) | 190 | 2,493 |

Sums of values may not match averages or totals due to rounding.

## Table 3.3-16 UVRGB Projected Groundwater Inflows and Outflows by Water Year, 2070 Climate Change Factors.

| Water Year | Year Type | Precipitation-Based Recharge | Agricultural Return Flows | M&I Return Flows | Septic Return Flows | Distribution losses Return Flows | Net Stream Percolation from Losing Reaches | Net GW Discharge to Gaining Reaches | Shallow interbasin flow to the east | Shallow Groundwater Drainage to the East | M&I Pumping | Agricultural Pumping | Domestic Pumping | GW ET from Riparian Vegetation | Inflows | Outflows | Change in Storage | Cumulative Change in Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2020** | Normal | 47 | 67 | 219 | 102 | 80 | 16,140 | (13,904) | (13) | (687) | (6,261) | (510) | (196) | (1,392) | 16,655 | (22,963) | (6,201) | (6,201) |
| **2021** | Normal | 1,269 | 67 | 219 | 102 | 80 | 19,411 | (13,082) | (15) | (632) | (6,262) | (544) | (195) | (1,236) | 21,149 | (21,966) | (706) | (6,907) |
| **2022** | Dry | 546 | 67 | 193 | 90 | 71 | 10,525 | (7,701) | (14) | (323) | (4,053) | (568) | (191) | (957) | 11,492 | (13,807) | (2,197) | (9,104) |
| **2023** | Wet | 3,683 | 67 | 210 | 98 | 77 | 24,792 | (14,164) | (19) | (692) | (5,177) | (506) | (196) | (1,296) | 28,927 | (22,051) | 6,978 | (2,125) |
| **2024** | Normal | 912 | 67 | 219 | 102 | 80 | 18,346 | (13,552) | (20) | (534) | (6,262) | (524) | (195) | (1,201) | 19,726 | (22,288) | (2,446) | (4,571) |
| **2025** | Normal | 693 | 67 | 219 | 102 | 80 | 21,354 | (12,768) | (19) | (616) | (6,262) | (536) | (195) | (1,140) | 22,515 | (21,537) | 1,091 | (3,480) |
| **2026** | Normal | 67 | 67 | 219 | 102 | 81 | 24,341 | (9,841) | (17) | (792) | (6,262) | (526) | (194) | (1,162) | 24,877 | (18,795) | 6,193 | 2,713 |
| **2027** | Dry | 40 | 67 | 193 | 90 | 71 | 7,882 | (11,533) | (14) | (329) | (4,053) | (559) | (193) | (988) | 8,343 | (17,671) | (9,215) | (6,503) |
| **2028** | Wet | 8,841 | 67 | 210 | 98 | 77 | 27,495 | (17,192) | (35) | (733) | (5,177) | (463) | (200) | (1,476) | 36,788 | (25,276) | 11,612 | 5,109 |
| **2029** | Wet | 1,916 | 67 | 219 | 102 | 80 | 20,860 | (16,398) | (37) | (795) | (6,262) | (487) | (199) | (1,407) | 23,244 | (25,587) | (2,244) | 2,865 |
| **2030** | Wet | 4,297 | 67 | 219 | 102 | 81 | 22,437 | (16,505) | (47) | (716) | (6,262) | (481) | (200) | (1,443) | 27,204 | (25,655) | 1,646 | 4,511 |
| **2031** | Normal | 68 | 67 | 219 | 102 | 80 | 14,656 | (11,277) | (37) | (512) | (6,262) | (526) | (194) | (1,202) | 15,192 | (20,010) | (4,709) | (199) |
| **2032** | Normal | 59 | 67 | 219 | 102 | 80 | 15,313 | (8,679) | (31) | (485) | (6,262) | (526) | (191) | (1,005) | 15,840 | (17,181) | (1,232) | (1,430) |
| **2033** | Wet | 6,003 | 67 | 219 | 102 | 80 | 28,944 | (17,972) | (52) | (790) | (6,262) | (463) | (200) | (1,382) | 35,415 | (27,122) | 8,388 | 6,958 |
| **2034** | Dry | 65 | 67 | 193 | 90 | 71 | 14,461 | (15,372) | (43) | (326) | (4,053) | (529) | (196) | (1,212) | 14,948 | (21,732) | (6,671) | 287 |
| **2035** | Dry | 79 | 67 | 184 | 86 | 68 | 10,750 | (9,262) | (36) | (255) | (2,967) | (557) | (190) | (950) | 11,234 | (14,217) | (2,866) | (2,579) |
| **2036** | Wet | 1,265 | 67 | 210 | 98 | 77 | 26,350 | (13,034) | (36) | (724) | (5,177) | (502) | (194) | (1,297) | 28,067 | (20,965) | 7,207 | 4,628 |
| **2037** | Dry | 0 | 67 | 193 | 90 | 71 | 8,131 | (8,124) | (31) | (329) | (4,053) | (562) | (191) | (949) | 8,552 | (14,239) | (5,574) | (946) |
| **2038** | Normal | 59 | 67 | 211 | 98 | 77 | 20,877 | (11,673) | (27) | (758) | (5,177) | (552) | (194) | (1,249) | 21,389 | (19,631) | 1,874 | 928 |
| **2039** | Dry | 31 | 67 | 193 | 90 | 71 | 6,444 | (6,245) | (24) | (329) | (4,053) | (560) | (187) | (845) | 6,895 | (12,243) | (5,231) | (4,303) |
| **2040** | Dry | 16 | 67 | 184 | 86 | 68 | 5,086 | (3,967) | (21) | (254) | (2,967) | (578) | (182) | (648) | 5,506 | (8,618) | (2,992) | (7,296) |
| **2041** | Normal | 1,703 | 67 | 210 | 98 | 77 | 22,490 | (8,108) | (24) | (700) | (5,177) | (526) | (188) | (1,144) | 24,646 | (15,867) | 8,616 | 1,321 |
| **2042** | Wet | 3,436 | 67 | 219 | 102 | 81 | 23,459 | (14,189) | (32) | (854) | (6,262) | (504) | (197) | (1,357) | 27,365 | (23,396) | 4,077 | 5,398 |
| **2043** | Wet | 6,849 | 67 | 219 | 102 | 80 | 25,846 | (19,133) | (55) | (805) | (6,262) | (461) | (202) | (1,513) | 33,163 | (28,431) | 4,832 | 10,230 |
| **2044** | Normal | 97 | 67 | 219 | 102 | 80 | 14,907 | (11,472) | (42) | (791) | (6,262) | (530) | (197) | (1,199) | 15,472 | (20,492) | (4,904) | 5,326 |
| **2045** | Wet | 6,653 | 67 | 219 | 102 | 80 | 25,982 | (17,424) | (67) | (779) | (6,262) | (476) | (201) | (1,602) | 33,104 | (26,811) | 6,397 | 11,723 |
| **2046** | Normal | 319 | 67 | 219 | 102 | 81 | 16,300 | (13,054) | (55) | (591) | (6,262) | (512) | (197) | (1,354) | 17,088 | (22,026) | (4,831) | 6,892 |
| **2047** | Normal | 1,444 | 67 | 219 | 102 | 80 | 19,953 | (13,705) | (55) | (470) | (6,262) | (518) | (195) | (1,357) | 21,865 | (22,562) | (591) | 6,302 |
| **2048** | Wet | 6,979 | 67 | 219 | 102 | 80 | 29,416 | (18,329) | (90) | (825) | (6,262) | (445) | (201) | (1,517) | 36,864 | (27,669) | 9,289 | 15,591 |
| **2049** | Dry | 2 | 67 | 193 | 90 | 71 | 10,209 | (11,136) | (66) | (329) | (4,053) | (538) | (197) | (1,109) | 10,631 | (17,427) | (6,680) | 8,911 |
| **2050** | Normal | 625 | 67 | 211 | 98 | 77 | 20,086 | (12,613) | (58) | (737) | (5,177) | (540) | (194) | (1,375) | 21,165 | (20,696) | 580 | 9,491 |
| **2051** | Wet | 2,376 | 67 | 219 | 102 | 80 | 22,048 | (14,111) | (65) | (854) | (6,262) | (508) | (197) | (1,413) | 24,892 | (23,410) | 1,577 | 11,067 |
| **2052** | Dry | 0 | 67 | 193 | 90 | 71 | 7,237 | (7,172) | (52) | (329) | (4,053) | (577) | (189) | (761) | 7,658 | (13,133) | (5,346) | 5,721 |
| **2053** | Normal | 231 | 67 | 210 | 98 | 77 | 19,779 | (10,782) | (46) | (501) | (5,177) | (545) | (192) | (1,114) | 20,462 | (18,356) | 2,220 | 7,941 |
| **2054** | Normal | 112 | 67 | 219 | 102 | 81 | 15,467 | (9,999) | (40) | (652) | (6,262) | (543) | (193) | (1,115) | 16,048 | (18,804) | (2,644) | 5,297 |
| **2055** | Wet | 8,071 | 67 | 219 | 102 | 80 | 26,711 | (17,850) | (83) | (765) | (6,262) | (473) | (201) | (1,176) | 35,250 | (26,811) | 8,542 | 13,839 |
| **2056** | Normal | 141 | 67 | 219 | 102 | 80 | 21,847 | (14,778) | (61) | (808) | (6,262) | (501) | (197) | (1,040) | 22,456 | (23,647) | (1,082) | 12,756 |
| **2057** | Dry | 0 | 67 | 193 | 90 | 71 | 5,741 | (7,430) | (49) | (329) | (4,053) | (588) | (189) | (722) | 6,161 | (13,359) | (7,079) | 5,678 |
| **2058** | Normal | 1,728 | 67 | 211 | 98 | 77 | 21,426 | (12,095) | (52) | (558) | (5,177) | (536) | (195) | (1,187) | 23,608 | (19,799) | 3,924 | 9,601 |
| **2059** | Dry | 42 | 67 | 193 | 90 | 71 | 7,727 | (7,207) | (43) | (329) | (4,053) | (547) | (188) | (791) | 8,189 | (13,159) | (4,848) | 4,754 |
| **2060** | Wet | 1,490 | 67 | 210 | 98 | 77 | 23,199 | (13,192) | (44) | (484) | (5,177) | (521) | (194) | (1,027) | 25,141 | (20,639) | 4,616 | 9,370 |
| **2061** | Wet | 2,159 | 67 | 219 | 102 | 80 | 26,061 | (17,191) | (48) | (569) | (6,262) | (497) | (197) | (1,209) | 28,688 | (25,974) | 2,777 | 12,146 |
| **2062** | Dry | 0 | 67 | 193 | 90 | 71 | 10,297 | (8,311) | (40) | (329) | (4,053) | (558) | (192) | (916) | 10,718 | (14,398) | (3,568) | 8,578 |
| **2063** | Dry | 4 | 67 | 184 | 86 | 68 | 2,148 | (5,613) | (33) | (226) | (2,967) | (581) | (185) | (589) | 2,556 | (10,194) | (7,528) | 1,050 |
| **2064** | Dry | 0 | 67 | 184 | 86 | 68 | 3,652 | (2,717) | (29) | (250) | (2,692) | (551) | (178) | (532) | 4,056 | (6,949) | (2,798) | (1,747) |
| **2065** | Dry | 38 | 67 | 184 | 86 | 68 | 2,679 | (1,703) | (26) | (255) | (2,692) | (534) | (160) | (242) | 3,122 | (5,612) | (2,420) | (4,167) |
| **2066** | Dry | 7 | 67 | 184 | 86 | 68 | 3,315 | (938) | (23) | (238) | (2,692) | (515) | (158) | (308) | 3,728 | (4,874) | (1,073) | (5,240) |
| **2067** | Wet | 1,733 | 67 | 210 | 98 | 77 | 25,055 | (8,484) | (27) | (623) | (5,177) | (483) | (181) | (1,017) | 27,240 | (15,992) | 11,330 | 6,090 |
| **2068** | Dry | 1,236 | 67 | 193 | 90 | 71 | 7,994 | (5,654) | (26) | (313) | (4,053) | (551) | (188) | (779) | 9,650 | (11,563) | (1,796) | 4,294 |
| **2069** | Wet | 1,784 | 67 | 210 | 98 | 77 | 25,978 | (13,702) | (30) | (732) | (5,177) | (522) | (194) | (1,278) | 28,213 | (21,635) | 6,682 | 10,976 |
| **Average (2020-2069)** | | 1,584 | 67 | 207 | 96 | 76 | 17,032 | (11,407) | (39) | (553) | (5,126) | (525) | (192) | (1,104) | 19,063 | (18,945) | 220 | 3,431 |

Sums of values may not match averages or totals due to rounding.

# Tables

Section 4

TENTATIVE FINAL

**Table 4.4-01 Minimum Thresholds, Measurable Objectives, and Interim Milestones for Chronic Lowering of Groundwater Levels and Groundwater Storage.**

| State Well Identification Number | Well Name | Chronic Lowering of GW Levels MT (ft amsl) | Chronic Lowering of GW Levels MO (ft amsl) | GW Storage MT (ft amsl) | GW Storage MO (ft amsl) | IM 5-year (ft amsl) | IM 10-year (ft amsl) | IM 15-year (ft amsl) | IM 20-year (ft amsl) |
|---|---|---|---|---|---|---|---|---|---|
| **05N23W33B03S** | Kennedy 05N23W33B03S | 792 | 806 | 792 | 806 | 792 | 806 | 806 | 806 |
| **05N23W33G01S** | Kennedy 05N23W33G01S | 787 | 797 | 787 | 797 | 787 | 797 | 797 | 797 |
| **04N23W04J01S** | North Robles 04N23W04J01S | 625 | 679 | 625 | 679 | 625 | 679 | 679 | 679 |
| **04N23W09B01S** | North Robles 04N23W09B01S | 573 | 648 | 573 | 648 | 573 | 648 | 648 | 648 |
| **04N23W16C04S** | South Robles 04N23W16C04S | 467 | 546 | 467 | 546 | 467 | 546 | 546 | 546 |
| **04N23W29F02S** | Santa Ana 04N23W29F02S | 334 | 385 | 334 | 385 | 334 | 385 | 385 | 385 |
| **03N23W08B07S** | Casitas Springs 03N23W08B07S | 215 | 225 | 215 | 225 | 215 | 225 | 225 | 225 |

**Table 4.7-01 RWQCB established WQOs, Minimum Thresholds, and Measurable Objectives for Nitrate.**

| Constituent | MCL (mg/L) | RWQCB WQO (mg/L) | Range of Average Historical Concentrations for Wells or Well Groups (mg/l) | MT isocontour (mg/L)[1] | MT Rationale | MO isocontour (mg/L)[2] | MO Rationale |
|---|---|---|---|---|---|---|---|
| **Percolating Groundwater Areas (Kennedy, Robles, Mira Monte/Meiners Oaks, and Santa Ana Hydrogeologic Areas)** | | | | | | | |
| **Nitrate (as N)** | 10 | 10 | 1.1 – 12.6 | 10 | Prevent significant and unreasonable impact to municipal and domestic beneficial uses of groundwater consistent with the MCL. | 7.5 | Preserve existing groundwater quality for municipal and domestic beneficial uses. |
| **Areas with Rising Groundwater (Casitas Springs Hydrogeologic Areas)** | | | | | | | |
| **Nitrate (as N)** | 10 | 5 (Surface Water WQO) | 1.1 – 1.4 | 10 | Prevent significant and unreasonable impact to municipal and domestic beneficial uses of groundwater consistent with the MCL. | 3 | Preserve existing groundwater quality for municipal and domestic beneficial uses. Protect surface water beneficial uses consistent with the RWQCB surface water WQO (MO is lower than surface water WQO). |

[1] SGMA undesirable results are considered to occur when any isocontour exceeds 10 mg/L outside of the Mira Monte / Meiners Oaks Area and encompasses an area with active domestic wells producing groundwater from the alluvial aquifer that lack an alternative drinking water source. If the minimum threshold is exceeded, UVRGA will investigate to determine if caused by pumping by a GSP project or management action.

[2] The measurable objectives are not intended to be applicable in the Meiners Oaks / Mira Monte Area because this area is known to be a source area for nitrate and is an existing area of nitrate impacts. If the measurable objective is not met, UVRGA will investigate to determine if caused by pumping by a GSP project or management action.

## Table 4.9-01 Projected ISW Depletion Rates in Beneficial Use Areas.

| South Kennedy (Boundary of Kennedy & Robles Area)(Near Private Ag Diversion) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Median Flow (Baseline)** | 26.9 | 50.7 | 55.7 | 21.7 | 13.7 | 6.4 | 3.4 | 2.0 | 1.9 | 2.9 | 4.8 | 11.9 |
| **Median Flow (Baseline No Pumping)** | 27.3 | 51.2 | 56.1 | 22.2 | 14.3 | 7.2 | 4.3 | 2.9 | 2.5 | 3.5 | 5.2 | 12.3 |
| **Median Depletion** | 0.4 | 0.5 | 0.4 | 0.5 | 0.6 | 0.8 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 |
| **Robles Diversion (Gage 607)** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Median Flow (Baseline)** | 18.7 | 36.5 | 37.3 | 16.1 | 10.2 | 3.6 | 1.0 | 0.3 | 0.2 | 0.6 | 2.4 | 9.2 |
| **Median Flow (Baseline No Pumping)** | 19.0 | 36.9 | 37.8 | 16.6 | 10.8 | 4.4 | 1.8 | 0.6 | 0.5 | 1.1 | 2.9 | 9.6 |
| **Median Depletion** | 0.4 | 0.5 | 0.4 | 0.5 | 0.6 | 0.7 | 0.6 | 0.3 | 0.2 | 0.3 | 0.4 | 0.4 |
| **Robles Critical Riffle** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Median Flow (Baseline)** | 4.4 | 25.6 | 21.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| **Median Flow (Baseline No Pumping)** | 4.5 | 25.7 | 22.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| **Median Depletion** | 0.0 | 0.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Santa Ana Critical Riffle** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Median Flow (Baseline)** | 2.2 | 12.0 | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| **Median Flow (Baseline No Pumping)** | 2.3 | 12.1 | 14.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| **Median Depletion** | 0.0 | 0.1 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Robles Aquatic Habitat Area** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Median Flow (Baseline)** | 14.1 | 31.9 | 31.6 | 11.4 | 6.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 5.2 |
| **Median Flow (Baseline No Pumping)** | 14.3 | 32.3 | 32.0 | 11.9 | 6.5 | 1.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.6 | 5.5 |
| **Median Depletion** | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 |
| **Confluence Aquatic Habitat Area** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Median Flow (Baseline)** | 14.8 | 43.1 | 48.5 | 21.7 | 16.2 | 12.0 | 8.0 | 4.3 | 0.5 | 0.0 | 1.3 | 6.9 |
| **Median Flow (Baseline No Pumping)** | 16.7 | 44.9 | 50.6 | 22.2 | 17.0 | 13.1 | 9.6 | 6.4 | 3.7 | 1.9 | 3.9 | 8.4 |
| **Median Depletion** | 2.2 | 2.0 | 1.9 | 1.3 | 0.9 | 0.8 | 0.9 | 1.1 | 1.4 | 1.1 | 1.5 | 1.8 |
| **Foster Park Aquatic Habitat Area** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Median Flow (Baseline)** | 19.7 | 44.5 | 52.6 | 20.8 | 15.3 | 11.1 | 8.3 | 7.0 | 6.1 | 5.5 | 8.5 | 10.4 |
| **Median Flow (Baseline No Pumping)** | 22.7 | 51.4 | 61.2 | 28.0 | 22.9 | 18.8 | 15.7 | 13.2 | 12.2 | 11.8 | 12.5 | 15.2 |
| **Median Depletion** | 4.0 | 7.0 | 7.4 | 7.3 | 7.4 | 7.5 | 7.3 | 7.5 | 7.5 | 7.0 | 6.6 | 5.1 |

*All values are cubic feet per second (cfs).*

*The term depletion refers to the direct or indirect reduction of stream flow resulting from groundwater extraction. Please see Section 3.2.6 for further description of direct versus indirect reductions (depletions) of surface water.*

**Table 4.9-02 Summary of Depletion Below 2 cfs at Foster Park, 50-Year Baseline Simulation.**

| Period No. | Period Depleted Below 2 cfs | Days Depleted Below 2 cfs | Avg Depletion (cfs) | Total Depletion (Acre-ft) | Upstream Pumping Depletion (Acre-ft) | City of Ventura Depletion (Acre-ft) |
|---|---|---|---|---|---|---|
| **1** | July 2027 | 31 | 4.6 | 285 | 208 | 77 |
| **2** | July-Nov. 2035 | 149 | 5.4 | 1,589 | 1,209 | 380 |
| **3** | Feb. 2040 – Feb. 2041 | 331 | 1.7 | 1,093 | 762 | 331 |
| **4** | July 2052 | 31 | 4.7 | 292 | 204 | 88 |
| **5** | July 2057 | 31 | 5.0 | 305 | 221 | 84 |
| **6** | Apr. 2063 – Apr. 2065 | 611 | 1.6 | 1,969 | 1,356 | 613 |
| **7** | Jan. 2066 – Aug. 2066 | 160 | 2.1 | 654 | 419 | 235 |
| **8** | Dec. 2066 – Jan. 2067 | 18 | 2.1 | 74 | 40 | 34 |
| **Totals:** | | **1,362** | **N/A** | **6,261** | **4,419** | **1,842** |

Note: Period Nos. 1 - 8 are indicated on Figure 4.9-03.
*Depletion values do not include approximately 960 AF when undepleted flows are < 2cfs.*
*The term depletion refers to the direct or indirect reduction of stream flow resulting from groundwater extraction. Please see Section 3.2.6 for further description of direct versus indirect reductions (depletions) of surface water.*
*For context and comparison to estimated depletion, annual pumping by the City of Ventura at Foster Park under 50-Year Baseline conditions averages 3,257 AFY.*

**Table 4.9-03 City of Ventura Foster Park Pumping Schedule for 50-Year Future Model Simulations.**

| Year Type | Total Pumping | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Wet & Normal** | 4,200 | 161 | 278 | 385 | 398 | 429 | 416 | 410 | 414 | 389 | 379 | 313 | 228 |
| **1st & 2nd Dry Year** | 1,573 | 0 | 262 | 262 | 262 | 262 | 262 | 262 | 0 | 0 | 0 | 0 | 0 |
| **3rd Dry Year** | 1,298 | 0 | 216 | 216 | 216 | 216 | 216 | 216 | 0 | 0 | 0 | 0 | 0 |

Note: All values are acre-feet. Sum of values may not match totals due to rounding.

**Table 4.9-04 Minimum Thresholds and Measurable Objectives for ISW Depletion, Foster Park Habitat Area.**

| Undepleted Flow (without groundwater pumping – derived from groundwater model) | Depletion Minimum Threshold and Measurable Objective | Goal |
|---|---|---|
| > 2 cfs | Undepleted flow minus 2 cfs | The minimum threshold and measurable objective seek to prevent depletions of surface water flow caused by groundwater pumping that would cause surface water flow to be less than 2 cfs when surface water flow would not be less than 2 cfs without pumping. |
| < = 2 cfs | 0 cfs | The minimum threshold and measurable objective seek to prevent depletions of surface water flow caused by groundwater pumping when surface water would already be 2 cfs or less without groundwater pumping. |

Note: See Figure 4.9-04 for an example graph depicting the minimum threshold vs. depletion.

**Table 4.9-05 Proposed Measurable Objective & Interim Milestones, Foster Park Habitat Area.**

| IM | Year | Measurable Objective | Depletion in Excess of Measurable Objective | Comment |
|---|---|---|---|---|
| **1** | 2027 | Same as Minimum Threshold | 10.7 cfs | Maximum depletion rate from model simulation |
| **2** | 2032 | | 10.7 cfs | |
| **3** | 2037 | | 10.7 cfs | |
| **4** | 2042 | | 0 cfs (attain MO) | Implement project(s) or management action(s) to achieve MO |

*The term depletion refers to the direct or indirect reduction of stream flow resulting from groundwater extraction. Please see Section 3.2.6 for further description of direct versus indirect reductions (depletions) of surface water.*

# Tables

Section 5

TENTATIVE FINAL

## Table 5.3-01 Well Information for Groundwater Level Monitoring Sites.

| State Well Identification Number | Local Well Identifier | CASGEM Master Site Code | Year Well Constructed | Longitude[a] | Latitude[a] | Ground Surface Elevation (feet amsl)[b] | Reference Point Elevation (feet amsl)[b] | Reference Point Description | Elevation Measurement Method | Elevation Measurement Accuracy | Reported (Original) Well Use | Well Pumping Status | Well Configuration | Depth of Screened Interval(s) (feet bgs)[c] | Borehole Depth (feet bgs)[c] | Total Well (Casing) Depth (feet bgs)[c] | Casing Diameter (inches) | Aquifers Monitored | Manual Quarterly by VCWPD | Transducer by UVRGA or Member Agency | Representative Monitoring Well | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **03N23W08B07S** | County MW | 343558N1193092W001 | Unknown | -119.30935 | 34.35577 | 241.61 | 241.70 | Unknown | Surveyed to a benchmark | 0.1 ft. | Unknown | Unknown | Unknown | Unknown | 60 | 60 | 20 | Alluvial Aquifer | X | | X | |
| **03N23W08-FP-MW-1** | FP MW-1 | Unknown | Unknown | -119.30778 | 34.35278 | 223.82 | 226.01 | | Surveyed to a benchmark | 0.1 ft. | Other | | | 15-30 | Unknown | 40 | Unknown | | | X | | |
| **03N23W08-FP-MW-4** | FP MW-4 | Unknown | Unknown | -119.31000 | 34.35722 | 237.98 | 240.84 | | Surveyed to a benchmark | 0.1 ft. | Other | | | 20-50 | Unknown | 51 | Unknown | | | X | | |
| **04N23W03M01S** | Private | 344522N1192837W001 | Unknown | -119.28421 | 34.45254 | 761.97 | 763.37 | | Surveyed to a benchmark | 0.1 ft. | Domestic | Active | | 100-160 | Unknown | 172 | Unknown | | X | | | |
| **04N23W04J01S** | MOWD-8 | Unknown | Unknown | -119.28686 | 34.45526 | 707.00 | 713.00 | | GPS | Unknown | Public Supply | | | 76-126 | Unknown | 144 | Unknown | | X | X | X | Not pumped since 2013 |
| **04N23W09B01S** | Private | Unknown | 1949 | -119.29179 | 34.44584 | 659.30 | 662.30 | | GPS | Unknown | Irrigation | | Single Well | Unknown | 180 | 180 | Unknown | | X | X | X | |
| **04N23W15A02S** | Private | 344333N1192681W001 | 1949 | -119.26845 | 34.43352 | 682.43 | 683.43 | | Surveyed to a benchmark | 0.1 ft. | Irrigation | | | 90-405 | Unknown | 417 | 10 | Non-Alluvial Aquifer - Ojai Conglomerate | X | | | |
| **04N23W15B01S** | VRWD-5 | Unknown | 1992 | -119.27215 | 34.43202 | 685.15 | 686.73 | | Surveyed to a benchmark | 0.1 ft. | Public Supply | | Unknown | Unknown | Unknown | 665 | 12 | | | X | | VRWD operated transducer |
| **04N23W15D02S** | Private | 344314N1192842W001 | 1919 | -119.28420 | 34.43138 | 636.82 | 636.82 | | USGS quad | 10 ft. | Domestic | | Single Well | 80-277 | Unknown | 207 | 10 | | X | | | |
| **04N23W16C04S** | Private | 344300N1192965W001 | Unknown | -119.29718 | 34.42996 | 570.01 | 571.61 | | USGS quad | 20 ft. | Monitoring | | | Unknown | Unknown | 227 | Unknown | | X | | | |
| **04N23W16C-VRWD-MW-2** | VRWD MW-2 | Unknown | 2014 | -119.29674 | 34.43136 | 561.00 | 565.11 | | Surveyed to a benchmark | 0.1 ft. | Monitoring | | Unknown | 66-126 | 144 | 136 | 2 | | | X | X | |
| **04N23W29F02S** | Private | 343997N1193123W001 | 1949 | -119.31298 | 34.39955 | 393.90 | 396.00 | | GPS | Unknown | Domestic | | | Unknown | 5 | 65 | 5' by 5' dug well | | X | X | X | |
| **05N23W33B03S** | MOWD-1 | Unknown | Unknown | -119.29123 | 34.47580 | 823.10 | 823.10 | | Unknown | Unknown | Public Supply | | | 30-65 | Unknown | 65 | Unknown | | X | | X | |
| **05N23W33B04S** | MOWD-2 | Unknown | 1969 | -119.29164 | 34.47718 | 816.54 | 816.54 | | GPS | Unknown | Public Supply | | | 60-115 | 115 | 115 | 12 | | | X | | MOWD operated transducer |
| **05N23W33G01S** | Private | 344739N1192909W001 | Unknown | -119.29070 | 34.47386 | 816.25 | 818.75 | | Surveyed to a benchmark | 0.1 ft. | Irrigation | | Single Well | Unknown | Unknown | 108 | Unknown | | X | | X | |
| **TBD** | Planned Site A | TBD | | | | | | | | | | | | | | | | Alluvial Aquifer | TBD | | X | Future monitoring site (new construction likely necessary) |
| **TBD** | Planned Site B | | | | | | | | | | | | | | | | | | | | X | Future monitoring site (assumes access granted to existing well) |
| **TBD** | Planned Site C | | | | | | | | | | | | | | | | | | | | X | Future monitoring site (new construction likely necessary) |
| **TBD** | Planned Site D | | | | | | | | | | | | | | | | | | | | X | Future monitoring site (assumes access granted to existing well) |
| **TBD** | Planned Site E | | | | | | | | | | | | | | | | | | | | X | Future monitoring site (resume monitoring at 04N23W20A01S if access is obtained from new landowner) |

**Notes:**

"TBD" = To be determined.

[a] Longitude and latitude are in decimal degrees, North American Datum 1983 (NAD83).

[b] feet amsl = Feet above mean sea level, North American Vertical Datum 1988 (NAVD88).

[c] feet bgs = Feet below ground surface.

[d] VCWPD = Ventura County Watershed Protection District; VRWD = Ventura River Water District; MOWD = Meniers Oaks Water District; FP = Foster Park

**Table 5.6-01 Well Information for Groundwater Quality Monitoring Sites.**

| Well Group | State Well Identification Number | Local Well Identifier | CASGEM Master Site Code | Longitude[a] | Latitude[a] | Ground Surface Elevation (ft amsl)[b] | Reference Point Elevation (ft amsl)[b] | Reference Point Description | Elevation Measurement Method | Elevation Measurement Accuracy | Reported Well Use | Depth of Screened Interval (ft bgs)[c] | Total Well Depth (ft bgs)[c] | Aquifers Monitored | Casing Diameter (inches) | Minimum Frequency of Groundwater Quality Sampling | Current Monitoring Entity[d] | Notes | Analytes for Sampling Events |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05N23W33B03S | MOWD-1 | Not currently in CASGEM | -119.29123 | 34.47580 | 823.10 | 823.10 | Unknown | Unknown | Unknown | Public Supply | 30-65 | 65 | Alluvial Aquifer | | per DDW requirements | Owner | | TDS, sulfate, chloride, boron, and nitrate |
| | 05N23W33B04S | MOWD-2 | | -119.29164 | 34.47718 | 816.54 | 816.54 | | GPS | Unknown | | 60-115 | 115 | | | | | | |
| 2 | 04N23W09B05S | MOWD-4 | | -119.29093 | 34.44581 | 656.44 | 656.44 | | DEM | Unknown | Irrigation | | | | | | Owner | | |
| | 04N23W09B04S | MOWD-7 | | -119.29104 | 34.44604 | 659.00 | 659.00 | | Unknown | Unknown | Public Supply | | 167 | | | | | | |
| | 04N23W09G03S | Private | | -119.29187 | 34.44402 | 688.71 | 688.71 | | DEM | Unknown | Domestic | 45-125 | 125 | | | Annually (subject to access) | VCWPD | | |
| 3 | 04N23W16C07S | VRWD-2 | | -119.29734 | 34.42991 | 580.00 | 580.00 | | Unknown | Unknown | Public Supply | 65-240 | 230 | | 13 | per DDW requirements | Owner | | |
| | 04N23W16C08S | VRWD-1 | | -119.29659 | 34.43168 | 572.92 | 572.92 | | DEM | Unknown | | 92-132, 152-232 | 600 | | 17 | | | | |
| | 04N23W16C10S | VRWD-4 | | -119.29727 | 34.43020 | 569.95 | 569.95 | | DEM | Unknown | | | 250 | | | | | | |
| | 04N23W16C11S | VRWD-7 | | -119.29653 | 34.43202 | 577.85 | 577.85 | | DEM | Unknown | | | | | | | | | |
| | 04N23W16F04S | VRWD-3 | | -119.29730 | 34.42908 | 573.97 | 573.97 | | DEM | Unknown | | 0-220 | 296 | | 16 | | | | |
| 4 | 03N23W08B01S | Ventura Nye 7 | | -119.31009 | 34.35972 | 250.68 | 250.68 | | DEM | Unknown | | | 55 | | | | | | |
| | 03N23W08B11S | Ventura Nye 11 | | -119.30989 | 34.35872 | 247.09 | 247.09 | | DEM | Unknown | | 15-60 | 62 | | 18 | | | | |
| | 03N23W08C02S | Ventura Nye 8 | | -119.31228 | 34.35991 | 249.84 | 249.84 | | DEM | Unknown | | 28-34 | 75 | | 16 | | | | |
| | 03N23W08-Subsurface Intake | Ventura Subsurface Intake | | -119.31020 | 34.35530 | 229.60 | 229.60 | | DEM | Unknown | Public Supply | | | | | | | | |
| N/A | 03N23W05H01S | Casitas MWC | | -119.30725 | 34.36986 | 281.88 | 281.88 | | DEM | Unknown | Public Supply | | 62 | Alluvial Aquifer | 12 | per DDW requirements | Owner | | |
| | 04N23W15B02S | VRWD-6 | | -119.27313 | 34.43192 | 685.00 | 685.00 | | Unknown | Unknown | | 200-280, 300-360, 380-440 | 460 | Non-Alluvial Aquifer - Ojai Conglomerate | | | | | |
| | 04N23W16A01S | CMWD Mira Monte | | -119.28669 | 34.43322 | 628.83 | 628.83 | | DEM | Unknown | | 130-256 | 270 | Alluvial Aquifer | 16 | | | | |
| | 04N23W16B07S | Tico MWC | | -119.29031 | 34.42963 | 627.01 | 627.01 | | DEM | Unknown | | | 262 | | 18 | | | | |
| | TBD | Planned Site A | TBD | | | | | | | | | | | | | Annually (subject to access) | UVRGA | Future monitoring site | |
| | | Planned Site B | | | | | | | | | | | | | | | | | |
| | | Planned Site C | | | | | | | | | | | | | | | | | |
| | | Planned Site D | | | | | | | | | | | | | | | | | |
| | | Planned Site E | | | | | | | | | | | | | | | | | |

**Notes:**

"TBD" = To be determined

[a] Longitude and latitude are in decimal degrees, North American Datum 1983 (NAD83).

[b] feet amsl = Feet above mean sea level, North American Vertical Datum 1988 (NAVD88).

[c] feet bgs = Feet below ground surface.

[d] VCWPD = Ventura County Watershed Protection District; VRWD = Ventura River Water District; MOWD = Meiners Oaks Water District; CMWD = Casitas Municipal Water District

## Table 5.8-01 Current and Proposed Streamflow Gages in the UVRGB.

| Stream Gage Identifier | Stream monitored | General Site Location Description | USGS Station ID | Current Monitoring Entity[a] | Longitude[b] | Latitude[b] | Reference Point Elevation (ft amsl)[c] | Minimum Sampling Frequency | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **602B** | Matilija Creek | Matilija Creek at Matilija Hot Springs | 11115500 | VCWPD | -119.30182 | 34.48269 | 937.10 | daily | |
| **604** | North Fork Matilija Creek | North Fork Matilija Creek at Matilija Hot Springs | 11116000 | VCWPD | -119.30649 | 34.49275 | 1166.20 | | |
| **605A** | San Antonio Creek | San Antonio Creek at Old Creek Road | 11117500 | VCWPD | -119.30266 | 34.38255 | 327.30 | | |
| **607** | Ventura River | Downstream of Robles Diversion near Meiners Oaks | 11116550 | VCWPD | -119.29063 | 34.46477 | 767.70 | | |
| **608** | Ventura River | Ventura River Diversion at Foster Park | 11118500 | VCWPD | -119.30799 | 34.35238 | 210.80 | | |
| **VR-1** | Ventura River | North of Foster Park at confluence of channels | TBD | City of Ventura | -119.31086 | 34.36589 | 257.52 | 30 min | |
| **VR-2** | Ventura River | Adjacent to Foster Park Underground Dam | TBD | City of Ventura | -119.31007 | 34.35613 | 228.02 | 30 min | |
| **Proposed Stream Gage A** | Ventura River | Downstream of confluence of San Antonio Creek | TBD | UVRGA | -119.30748 | 34.37605 | 288.66 | TBD | |
| **Proposed DWR Gage at Santa Ana Blvd** | Ventura River | Upstream of Santa Ana Blvd. Bridge | TBD | DWR | -119.30829 | 34.39972 | 398.84 | | Installed 6/2021 |
| **Proposed Camino Cielo Gage** | Ventura River | Downstream of confluence of Matilija Creeks | TBD | UVRGA | -119.29634 | 34.48284 | 872.99 | | |

**Notes:**

"TBD" = To be determined

[a] VCWPD = Ventura County Watershed Protection District; DWR = California Department of Water Resources

[b] Longitude and latitude are in decimal degrees, North American Datum 1983 (NAD83).

[c] feet amsl = Feet above mean sea level, North American Vertical Datum 1988 (NAVD88).

# Table

Section 6

TENTATIVE FINAL

**Table 6.1-01 Outline of Proposed Process for Developing and Implementing Projects and/or Management Actions to Address Indirect ISW Depletion in the Foster Park Aquatic Habitat Area.**

| Action No. | Action Description | Milestone | Target Date |
|---|---|---|---|
| **IM #1 Period: 0-5 years (2022 – 2027)** | | | |
| **1-1** | Develop Foster Park Aquatic Habitat Area Monitoring Plan | Foster Park Habitat Area Monitoring Plan approved by the UVRGA Board of Directors | 6/30/2023 |
| **1-2** | Initiate Foster Park Aquatic Habitat Area Monitoring Program | Initiate monitoring activities; annual monitoring data published in GSP annual reports | 10/1/2023 |
| **1-3** | Coordinate w/ OBGMA & others to assess San Antonio Creek flow depletion | Agreements for coordinated assessment and monitoring of San Antonio Creek flow depletion | 9/30/2023 |
| **1-4** | Add monitoring wells and stream gauge to monitoring networks | Access agreements, constructed monitoring wells, and stream gage installation | 9/30/2025 |
| **1-5** | Add new monitoring wells to groundwater level and quality monitoring networks | Initiate monitoring of new wells | 10/1/2025 |
| **1-6** | Update numerical model calibration and ISW depletion estimates | Model update tech memo and updated depletion simulation results | 6/30/2026 |
| **1-7** | Begin planning for project(s) and/or management action(s) to achieve measurable objective. | Memo: preliminary feasibility analysis of project(s) and/or management action(s) to achieve measurable objective | 6/30/2026 |
| **1-8** | 5-year GSP assessment. Update SMC, if appropriate. | GSP assessment document and GSP update | 1/31/2027 |
| **IM #2 Period: 5-10 years (2027 – 2032)** | | | |
| **2-1** | Continued Foster Park Aquatic Habitat Area monitoring | Annual monitoring data published in GSP annual reports | Annually by April 1 |
| **2-2** | Update numerical model calibration, update depletion simulations, simulate potential project(s) and/or management action(s) | Model update and simulations tech memo | 6/30/2029 |
| **2-3** | Feasibility study of project(s) and/or management action(s) to achieve measurable objective | Feasibility study report | 12/31/2030 |
| **2-4** | Select project(s) and/or management action(s) to achieve measurable objective | UVRGA Board-approved project(s) and/or management actions for inclusion in GSP update. | 6/30/2031 |
| **2-5** | 5-year GSP assessment and update. Include updated SMC, if appropriate. Add projects and/or management actions selected to achieve measurable objective. | GSP assessment document and GSP update | 1/31/2032 |
| **IM #3 Period: 10-15 years (2032 – 2037)** | | | |
| **3-1** | Continued Foster Park Aquatic Habitat Area monitoring | Annual monitoring data published in GSP annual reports | Annually by April 1 |
| **3-2** | Develop project(s) and/or management action(s) | Progress toward ordinance(s), agreement(s), or design, as appropriate, based on selected project(s) and/or management action(s). | 1/31/2037 |
| **3-3** | 5-year GSP assessment. Update GSP, as needed | GSP assessment document and GSP update | 1/31/2037 |
| **IM #4 Period: 15-20 years (2037 – 2042)** | | | |
| **4-1** | Continued Foster Park Aquatic Habitat Area monitoring | Annual monitoring data published in GSP annual reports | Annually by April 1 |
| **4-2** | Implement project(s) and/or management action(s) | Completed ordinance(s), agreement(s), or construction, as appropriate, based on selected project(s) and/or management action(s). | 1/31/2040 |
| **4-3** | 5-year GSP assessment. Update GSP, as needed | GSP assessment document and GSP update | 1/31/2042 |

# Table

Section 7

TENTATIVE FINAL

**Table 7.1-01 UVRGA 20-Year Budget for GSP.**

| Fiscal Year | Agency Administration | Legal Counsel | GW Mgmt., Coord., & Outreach | Monitoring Programs | Annual Reports | Projects and Mgmt. Actions | Model Update and Simulations | GSP Evaluation | GSP Update | Respond to DWR Comments and Requests | Contingency Non-Capital | Monitoring Well Construction | Contingency Capital Projects | Totals | | Extraction Fee ($/AF) | Ending Cash |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2022** | $ 61,050 | $ 35,000 | $ 55,000 | $ 71,624 | $ 45,000 | $ - | $ - | $ - | $ - | $ - | $ 26,767 | $ 17,537 | $ 1,754 | $ 313,732 | | $ 79.16 | $ 262,463 |
| **2023** | $ 62,602 | $ 25,000 | $ 30,900 | $ 138,511 | $ 32,500 | $ 5,000 | $ - | $ - | $ - | $ - | $ 29,451 | $ 72,253 | $ 7,225 | $ 403,441 | | $ 111.17 | $ 236,521 |
| **2024** | $ 64,207 | $ 25,750 | $ 31,827 | $ 125,815 | $ 33,475 | $ 5,000 | $ - | $ - | $ - | $ 50,000 | $ 33,607 | $ 111,630 | $ 11,163 | $ 492,475 | | $ 111.17 | $ 286,546 |
| **2025** | $ 65,868 | $ 26,523 | $ 32,782 | $ 137,805 | $ 34,479 | $ 10,000 | $ 54,636 | $ - | $ - | $ - | $ 36,209 | $ 167,303 | $ 16,730 | $ 582,336 | | $ 108.39 | $ 233,148 |
| **2026** | $ 67,844 | $ 27,318 | $ 33,765 | $ 131,465 | $ 35,514 | $ 10,000 | $ 56,275 | $ 25,000 | $ 50,000 | $ - | $ 43,718 | $ - | $ - | $ 480,900 | | $ 102.83 | $ 254,060 |
| **2027** | $ 69,880 | $ 28,138 | $ 34,778 | $ 146,132 | $ 36,579 | $ 10,000 | $ - | $ 25,000 | $ 100,000 | $ - | $ 45,051 | $ - | $ - | $ 495,557 | | $ 100.05 | $ 246,753 |
| **2028** | $ 71,976 | $ 28,982 | $ 35,822 | $ 107,555 | $ 37,676 | $ 10,000 | $ - | $ - | $ - | $ 28,138 | $ 32,015 | $ - | $ - | $ 352,164 | | $ 100.05 | $ 382,839 |
| **2029** | $ 74,135 | $ 29,851 | $ 36,896 | $ 110,782 | $ 38,807 | $ 125,000 | $ - | $ - | $ - | $ - | $ 41,547 | $ - | $ - | $ 457,019 | | $ 100.05 | $ 414,070 |
| **2030** | $ 76,359 | $ 30,747 | $ 38,003 | $ 114,105 | $ 39,971 | $ 125,000 | $ - | $ - | $ - | $ - | $ 42,419 | $ - | $ - | $ 466,604 | | $ 100.05 | $ 435,716 |
| **2031** | $ 78,650 | $ 31,669 | $ 39,143 | $ 117,529 | $ 41,170 | $ - | $ 65,017 | $ 28,982 | $ 57,964 | $ - | $ 46,012 | $ - | $ - | $ 506,136 | | $ 100.05 | $ 417,829 |
| **2032** | $ 81,010 | $ 32,619 | $ 40,317 | $ 121,055 | $ 42,405 | $ - | $ - | $ 28,982 | $ 115,927 | $ - | $ 46,232 | $ - | $ - | $ 508,547 | | $ 100.05 | $ 397,532 |
| **2033** | $ 83,440 | $ 33,598 | $ 41,527 | $ 124,686 | $ 43,677 | $ - | $ - | $ - | $ - | $ 32,640 | $ 35,957 | $ - | $ - | $ 395,525 | | $ 100.05 | $ 490,258 |
| **2034** | $ 85,943 | $ 34,606 | $ 42,773 | $ 128,427 | $ 44,988 | $ - | $ - | $ - | $ - | $ - | $ 33,674 | $ - | $ - | $ 370,410 | | $ 100.05 | $ 608,098 |
| **2035** | $ 88,521 | $ 35,644 | $ 44,056 | $ 132,280 | $ 46,337 | $ - | $ - | $ - | $ - | $ - | $ 34,684 | $ - | $ - | $ 381,522 | | $ 97.27 | $ 701,263 |
| **2036** | $ 91,177 | $ 36,713 | $ 45,378 | $ 136,248 | $ 47,727 | $ - | $ 73,144 | $ 33,598 | $ 67,196 | $ - | $ 53,118 | $ - | $ - | $ 584,300 | | $ 97.27 | $ 591,651 |
| **2037** | $ 93,912 | $ 37,815 | $ 46,739 | $ 140,335 | $ 49,159 | $ - | $ - | $ 33,598 | $ 134,392 | $ - | $ 53,595 | $ - | $ - | $ 589,545 | | $ 97.27 | $ 476,793 |
| **2038** | $ 96,730 | $ 38,949 | $ 48,141 | $ 144,545 | $ 50,634 | $ - | $ - | $ - | $ - | $ 37,862 | $ 41,686 | $ - | $ - | $ 458,548 | | $ 97.27 | $ 492,933 |
| **2039** | $ 99,632 | $ 40,118 | $ 49,585 | $ 148,882 | $ 52,153 | $ - | $ - | $ - | $ - | $ - | $ 39,037 | $ - | $ - | $ 429,406 | | $ 100.05 | $ 551,777 |
| **2040** | $ 102,621 | $ 41,321 | $ 51,073 | $ 153,348 | $ 53,718 | $ - | $ - | $ - | $ - | $ - | $ 40,208 | $ - | $ - | $ 442,289 | | $ 100.05 | $ 597,738 |
| **2041** | $ 105,699 | $ 42,561 | $ 52,605 | $ 157,949 | $ 55,329 | $ - | $ 82,287 | $ 38,949 | $ 77,898 | $ - | $ 61,328 | $ - | $ - | $ 674,606 | | $ 105.61 | $ 438,507 |
| **2042** | $ 108,870 | $ 43,838 | $ 54,183 | $ 162,687 | $ 56,989 | $ - | $ - | $ 38,949 | $ 155,797 | $ - | $ 62,131 | $ - | $ - | $ 683,445 | | $ 105.61 | $ 270,438 |
| | | | | | | | | | | | | | | | | | |
| **Yrs. 1-5** | $ 321,571 | $ 139,591 | $ 184,274 | $ 605,221 | $ 180,968 | $ 30,000 | $ 110,912 | $ 25,000 | $ 50,000 | $ 50,000 | $ 169,754 | $ 368,723 | $ 36,872 | $ 2,272,885 | | | |
| **Yrs. 6-20** | $ 1,408,555 | $ 567,169 | $ 701,020 | $ 2,146,545 | $ 737,319 | $ 270,000 | $ 220,449 | $ 228,058 | $ 709,174 | $ 98,640 | $ 708,693 | $ - | $ - | $ 7,795,622 | | | |
| **Total** | $ 1,730,127 | $ 706,759 | $ 885,295 | $ 2,751,766 | $ 918,287 | $ 300,000 | $ 331,361 | $ 253,058 | $ 759,174 | $ 148,640 | $ 878,447 | $ 368,723 | $ 36,872 | $ 10,068,507 | | | |

**Notes:**

Section 7.1 activities wholly funded by Member Agencies are not listed in the table.

Costs escalated for inflation at an assume rate of 3% per year