SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, CA
Board of Directors Engineering Workshop
Agenda
January 9, 2017 at 4:00 p.m.

1. **Call to Order, Flag Salute and Roll Call**

2. **Public Comment:**
   Members of the public may address the Board at this time concerning items relating to any matter within the Agency's jurisdiction. To comment on specific agenda items, please complete a speaker's request form and hand it to the board secretary.

3. **Review of Draft Water Conditions Report* (Page 2)**

4. **Review of Sites Reservoir Project Agreement* (Page 50)**

5. **Discussion of Resolution 2014-02, Policy for Meeting Future Water Demands* (Page 89)**

6. **Announcements**
   A. Office closed January 16, 2017 in observance of Martin Luther King Jr. Day
   B. Regular Board Meeting, **Tuesday,** January 17, 2017 at 7:00 p.m.
   C. Finance and Budget Workshop, January 23, 2017 at 4:00 p.m.

7. **Adjournment**

***Information included in Agenda Packet**

(1) Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for Public inspection in the Agency's office at 1210 Beaumont Avenue, Beaumont during normal business hours. (2) Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Agency's office, located at 1210 Beaumont Avenue, Beaumont, California 92223, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Web site, accessible at http://www.sgpwa.com." (3) Any person with a disability who requires accommodation in order to participate in this meeting should telephone the Agency (951 845-2577) at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.

San Gorgonio Pass Water Agency
Annual Report on Water Conditions
Reporting Period 2015

DRAFT

Prepared by

San Gorgonio Pass Water Agency
1210 Beaumont Avenue
Beaumont, CA 92223

January 2017

SAN GORGONIO PASS WATER AGENCY

Board of Directors

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1.0 Background

The San Gorgonio Pass Water Agency is a State Water Contractor and wholesale water agency that provides imported water to retail water purveyors within its service area, which extends from Calimesa on the west to Cabazon on the east. Its service area covers approximately 228 square miles, most of which is in Riverside County but which includes two small areas in San Bernardino County. One of these is unpopulated, adjoining the San Bernardino National Forest, and the other, in Edgar Canyon south of Oak Glen, includes a few residences owned by the Beaumont Cherry Valley Water District. The service area is depicted on **Figure 1.**

The Agency was created by the San Gorgonio Pass Water Agency Act, passed by the California Legislature in 1961 and signed by Governor Pat Brown on July 12, 1961. The first Board of Directors, appointed by the Riverside County Board of Supervisors, held its initial formal meeting on October 10 of that year. It had previously met briefly on September 22 to elect Ted Silverwood as the first President of the Agency. The area had a population of approximately 21,000 at the time (today it is over 90,000, an increase of over 400%).

The San Gorgonio Pass is an elevated, relatively narrow land mass between the San Bernardino Mountains on the north and the San Jacinto Mountains on the south, connecting the San Bernardino Valley on the west to the Coachella Valley on the east. Both of these valleys are at much lower elevations than the Pass region. The region straddles two large watersheds. The western half of the service area is drained primarily by Little San Gorgonio Creek and Noble Creek, which are tributary to San Timoteo Creek and the Santa Ana River. The eastern half of the service area is drained by the San Gorgonio River, which is tributary to the Whitewater River and is part of the Colorado River Basin. A small portion of the region drains to the San Jacinto River which drains to Lake Elsinore. **Figure 2** depicts the drainage basins and principal streams in the region.

This report, published annually by the Agency in some form for over two decades, is intended to help monitor and make available to the public the quantity and quality of water in local groundwater basins. It is based on the Agency's extensive database as well as data from other sources. It includes data from 2015 as well as historical data, which provide a basis to put the most recent data into historical context.

Tables 1, 2, and 3 are extraction (production) summaries of groundwater pumping within the Agency's service area, hereinafter referred to as the region. These tables summarize annual production for the past 13 years, and represent the heart of this report. These data were obtained from the State Water Resources Control Board, Division of Water Rights (State Board); local sources; or in some cases estimated by the Agency. The Agency does not independently verify the data. The State Board does not require reporting for well owners who extract less than 25 acre feet per year (about eight million gallons). Also, it is possible that some well owners do not file as required. The data in these tables represent the Agency's best estimate of actual pumping,

based on both actual data and production estimates. Most wells are not metered and therefore data from these wells must be estimated by various means.

The report also includes water quality data from the State Water Project's sampling station at Devil Canyon in San Bernardino. Devil Canyon is Agency's delivery point for State Water Project water, and the closest sampling station to the Agency. It is representative of the water that the Agency receives from the State Water Project. The data, summarized in **Table 5,** reflect that the water quality varies from year to year and from month to month. It is primarily a function of water quality conditions in the Sacramento/San Joaquin Delta and of runoff in watersheds tributary to the Delta. That water quality in turn is largely a function of hydrology. In wet years and during wet periods within dry and average years, fresh water from upland rivers drains to the Delta and improves overall water quality.

The water quality constituent of greatest interest to the Agency and other local water agencies is TDS, or total dissolved solids (also known as salinity or salts). Salinity is becoming more heavily regulated by Regional Water Quality Control Boards throughout the State, especially as water agencies around the state implement recycled water systems. In order to maintain reasonable TDS levels in the lower reaches of the Santa Ana watershed (primarily Orange County), the Santa Ana Regional Water Quality Control Board must set standards for TDS at relatively low concentrations in the upper reaches of the watershed, where the western portion of the Agency's service area is located. Salinity is less of an issue in the eastern portion of the region, which is part of the Colorado River watershed and is more sparsely populated. This watershed already has among the highest levels of TDS in the State.

Sewage treatment plant effluent from Beaumont, Yucaipa, and Calimesa is discharged into tributaries to the Santa Ana River and is regulated by the Santa Ana Regional Board; effluent from Banning is currently regulated by the Colorado River Regional Board, though it is likely that the Santa Ana Regional Board may at some time regulate this discharge or portions thereof. This is due to the fact that the City of Banning has plans for a recycled water system, parts of which will overlie a portion of the Santa Ana watershed.

State legislation passed in 2009 requires more extensive groundwater elevation monitoring in basins throughout the State similar to what the Agency has performed for over a decade. The California Department of Water Resources has set up CASGEM (the California Statewide Groundwater Elevation Monitoring system). The Agency has been accepted as the regional monitoring entity for the region. This represents a legislative mandate to perform the groundwater level monitoring that the Agency has performed on its own for many years. The data uploaded by the Agency to the CASGEM system represent a relatively small subset of the Agency's overall groundwater database.

Newer legislation passed in 2014 (the Sustainable Groundwater Management Act or SGMA) requires virtually all groundwater basins in California to be managed sustainably by 2022. This could have a long-term impact on how groundwater basins in the region are managed. A Groundwater Sustainability Plan, or GSP, must be developed for all these basins by 2020 or, at the latest, 2022.

2.0 Water Supply Conditions

There are three principal sources of water within the region—groundwater, which begins as precipitation in the form of rain and snow in the local mountains; imported water from the State Water Project; and recycled wastewater. A fourth source—local runoff of surface water—accounts for a small but important portion of local water resources, primarily in Edgar and Banning Canyons. Even most of this runoff is typically recharged into local groundwater basins where it becomes part of the groundwater supply.

Recycled water from Yucaipa Valley Water District is in use in Calimesa as of the end of 2015. Two other retail water agencies, including the Beaumont Cherry Valley Water District and the City of Banning, have plans to implement recycled water systems in the next few years and have begun planning, designing, and constructing the needed infrastructure for these systems.

2.1 Precipitation

Annual precipitation in the Beaumont area since 1900 is shown on **Figure 4.** The long-term mean annual precipitation in Beaumont is approximately 17.4 inches. This figure depicts the variable nature of precipitation. Of the approximately 115 years of records, the precipitation in 50 years has exceeded the average, while 75 years have been relatively dry as compared to the average. The figure shows several periods—1900-1904, 1948-1952, 1960-1965, 1986-1992, 1999-2002, 2005-2009, and 2011-2014—with multiple consecutive dry years. The figure shows that 2007, 2009, 2013, and 2014 were among the driest on record in Beaumont (and in fact in all of Southern California), while 2010 was one of the wettest and 2011 and 2012 were below normal. The figure indicates that, since 1999, there have been only three years that met or exceeded the long-term average rainfall. In fact, since 2005 there has been only one "wet" year. This is dramatic evidence of the current drought that has persisted in California and the West. Officially, 2015 is the fourth year of a drought, but as can be seen by the data, the sixteen years since 1999 represent a very dry period. Data presented are for Beaumont because the National Weather Service's official weather station in the region is located in Beaumont.

Precipitation is highly variable, both spatially and temporally. The National Weather Service's official station is at an elevation of about 2600 feet. It is highly likely that higher elevations receive more precipitation, including snow, and lower elevations receive relatively less precipitation. In addition, storms, particularly summer storms, can be highly concentrated and impact one area, while another area a mile or two away may get little or no rain. Thus, while the long-term average rainfall may be approximately 17.4 inches in one part of the region, it could easily be an inch or two more or less at other locations in the same region. A rain gauge in Cabazon would almost certainly show a lower average precipitation than a similar gauge in Calimesa. These gauges would show that climatic differences are present even within the region.

Groundwater basins are able to naturally capture and store much, but not all, of the precipitation in wet years. During and after a rainfall event, runoff drains to streams where it runs into creeks and rivers. Some of this will recharge the local groundwater basins. During large storm events, much of the runoff will flow downstream. In this case, it will either flow from San Timoteo

Creek into the Santa Ana River in Redlands, or it will flow from the San Gorgonio River into the Whitewater River in the Coachella Valley. A small portion of runoff from the region flows to the San Jacinto River in Hemet. Cities and water agencies in the region have begun planning how to capture additional stormwater that currently runs down the Santa Ana River to Prado Dam and eventually to the Pacific Ocean.

Stormwater capture represents a potential new source of water to the region. While additional sources of local water are always good for a region, stormwater capture requires a lot of land, and thus has been found to be too expensive for large-scale development in many areas, particularly where land prices are high. Large areas of land are required in order to construct ponds to settle out the particulate matter that accompanies storm flows. Since large storms are not abundant every year, land acquired for large scale stormwater capture would not be used on a consistent basis, and therefore represents a large investment that does not reap benefits every year. A huge benefit in capturing stormwater is the fact that its salinity is very low, and any stormwater captured would improve the water quality of groundwater basins.

2.2 State Water Project

The San Gorgonio Pass Water Agency Act was signed by Governor Pat Brown in 1961, and the first Board of Directors, appointed by the Riverside County Board of Supervisors, held its initial meeting in September of that year. Within another year, the Agency had signed a contract with the State of California for 15,000 acre feet of water from what at the time was known as the Feather River Project. A year later, the Agency increased its contract amount, or Table A amount, to 17,300 acre feet, an increase of 15%. The Agency's Board of Directors fought hard to get this amount, and made financial sacrifices to do so. The additional water increased the annual amount of debt service owed by the Agency, and the expenditure of these additional funds precluded the ability to begin construction on a pipeline to San Bernardino to take delivery of the water at that time.

The Agency began importing State Water Project water into the region in 2003, when Phase 1 of the East Branch Extension of the California Aqueduct was completed. Since that time, deliveries of State Water Project water within the region increased steadily until the current drought took hold. **Table 4** summarizes these deliveries. This table shows that the Agency delivered nearly 11,000 acre-feet in 2011 and 2012, dropping to less than 10,000 acre-feet in 2013, to just over 5,000 acre-feet in 2014, and under 4,000 acre-feet in 2015. The 80% allocation of Table A water in 2011 was the highest since 2006, and enabled the Agency to deliver water that not only met local water demands, but that added to local banked groundwater as well. Even though the 35% allocation of water in 2012 was considerably less, the Agency was able to deliver virtually the same amount as in 2011 due to its ability to carry over water from the previous year. This number dropped in 2013 as the Agency had less carryover water to deliver. The 5% allocation in 2014 was one of the lowest on record, and reflects the state of the current drought.

The Table A allocation is a function of hydraulic conditions in the Sacramento/San Joaquin delta as well as northern California hydrology. The average long-term reliability of the State Water Project is approximately 60%. For the Agency, this represents a long-term annual supply of approximately 10,400 acre-feet, nearly 7,000 acre-feet less than its contracted amount. And, this reliability is expected to decrease over time for a number of reasons. This points out the

importance of being able to store water in those years when the Table A allocation is greater than 60%. The ability to import and store more water locally in wet years in the future will be a key to the sustainability of the region and to minimizing the amount of additional supplemental water that must be procured to meet projected water demands.

Currently, the Agency can import a maximum of approximately 11,000 acre feet per year with existing infrastructure. When Phase 2 of the East Branch Extension is completed in early 2017, the Agency will be able to import its entire Table A allocation when it is available, plus additional supplies. Completion of this $250 million project is a high priority for the Agency, the San Bernardino Valley Municipal Water District (Valley District), and the California Department of Water Resources, the Agency's partners in this project.

Phase 2 of the project (named EBX 2) consists of a pipeline under the Santa Ana River near Highland, a reservoir and pump station in Mentone, and a pipeline from this pump station to the existing Crafton Hills Pump Station in Mentone. The project also includes new pumps in the Crafton Hills Pump Station and the Cherry Valley Pump Station. The new pipeline, which will be 72-inches and 66-inches in diameter, will replace an existing 48-inch diameter line under the Santa Ana River that was constructed in the 1980's. In addition, the Agency and Valley District are constructing improvements to the existing EBX that will make it more reliable and able to deliver water in the event Crafton Hills Reservoir is out of service. These improvements include an expansion of Crafton Hills Reservoir from approximately 90 acre-feet to approximately 135 acre-feet, and a bypass line around the reservoir that can be used to deliver water when the reservoir is out of service for any reason.

The ability to import and store more water in the region will depend on these projects, additional connection capacity to the East Branch Extension, and additional regional recharge and storage capacity. As of 2015, the total turnout capacity of the pipeline is 20 cfs. The current pipeline capacity is 16 cfs. When EBX 2 goes online in 2017, the total pipeline capacity will be 32 cfs, expandable to 64 cfs. However, unless additional infrastructure is constructed to be able to convey this additional water out of the pipeline to new or existing recharge or treatment facilities, the project will not add appreciably to the region's water resources.

The Agency is currently planning such infrastructure. The Beaumont Avenue Recharge Facility includes a new connection to the EBX, a new recharge facility, and a short pipeline connecting the two. The Agency is moving forward on this project and plans to have it on-line by 2017 or 2018, just after EBX 2 is expected to be completed. The facility will enable the region to import additional water in wet years and store it for dry years. This "conjunctive use" of water is an effective water management tool that is used throughout the West, and whose use is increasing.

In addition, the Agency is considering purchasing capacity in the Valley District's proposed Bunker Hill Conjunctive Use Project, which would enable the Agency to store water in the Bunker Hill Basin in San Bernardino and deliver it to retail water agencies such as the Yucaipa Valley Water District and the South Mesa Water Company in dry years.

2.3 Wastewater

Three public agencies, plus one Native American tribe, discharge treated wastewater in the region—the cities of Beaumont and Banning, the Yucaipa Valley Water District, and the

Morongo Band of Mission Indians. The annual discharges since 1987 for the three public sewage treatment entities are shown on **Figure 5.** Figures for the Morongo plant are not included. Unlike precipitation and the State Water Project, which are highly variable from year to year, wastewater discharges from the region have consistently increased over time, as the region has developed. They have been relatively constant over the past five years. Wastewater treatment plant discharges are a function of indoor water use, not hydrology or exterior water use. Hence they are considered to be relatively more reliable and stable than imported water or local runoff or stormwater.

Thus, treated wastewater, or recycled water, is an important asset to the region, because it can be a reliable, non-potable water source in the future. All three of the public agencies mentioned above are in various stages of implementing recycled and/or non-potable water systems for irrigation, golf courses, parks, medians, etc., or to recharge it into local groundwater basins. The Yucaipa Valley Water District will receive its permit to deliver recycled water in 2016.

As mentioned in Section 1.0, salinity is a growing concern in California, and recycled water is high in dissolved solids or salinity. While recycled water is a huge potential benefit to the region, its use as a water supply will require desalting. Desalting is an expensive operation that requires brine disposal, a costly process. The Yucaipa Valley Water District has constructed a desalination plant and brine disposal pipeline. Once this is permitted, it will be able to utilize recycled water in lieu of groundwater or imported water for non-potable uses, primarily irrigation and construction water.

The City of Banning is moving towards a recycled water system, and the City of Beaumont, which owns a sewage treatment plan, and the Beaumont Cherry Valley Water District, which is the water purveyor in the City and surrounding areas, are in talks to distribute the City's treated effluent as part of a recycled water system owned by BCVWD. Beaumont Cherry Valley Water District is also discussing construction of a joint pipeline with the Yucaipa Valley District that would enable the two agencies to eventually move recycled water from one area to the other as needed.

Use of recycled water either for direct non-potable use or for recharge requires a permit from the Santa Ana Regional Water Quality Control Board. Such permits will be granted only when the Regional Board is convinced that the permit holder will take all required steps to meet its standards for salinity and other constituents based on its current Basin Plan.

3.0 Groundwater Conditions

Figure 3 shows the principal groundwater basins, sometimes referred to as storage units, in the region. The boundaries of these basins are as defined by the United States Geological Survey. It should be noted that these basins are very different from the groundwater basins identified by the California Department of Water Resources in its Bulletin 118. The Beaumont Basin is the largest and most productive of these local basins, and serves a large majority of the population in the region. By the Bulletin 118 definition, the Beaumont Basin is partly in the San Timoteo Sub-basin of the Santa Ana Basin and partly in the San Gorgonio Pass Sub-basin of the Coachella Valley Basin.

The region is characterized by numerous faults, which make for complex geology. The Beaumont Basin is characterized by a number of smaller sub-basins, but can be viewed as one continuous basin, or storage unit, and has been modeled in that manner. East of the Beaumont Basin is the Banning Basin, and east of that is the Cabazon Basin. The Agency is in the process of expanding its model of the Beaumont Basin (developed by the United States Geologic Survey) eastward to include both the Banning and Cabazon basins, or storage units. This work should be completed and peer-reviewed by 2016.

The existing model is a tool that can be used to predict how various recharge scenarios will impact water levels in the Beaumont Basin.

As the Sustainable Groundwater Management Act (SGMA) is implemented by the Department of Water Resources, the Agency will place great emphasis on participating in Groundwater Sustainability Agencies (GSA's) for each of the basins within the Agency's service area. This will unfold over the next few years, with definition of all GSA's required by June 2017.

3.1 Groundwater Extractions (Production)

Table 1 summarizes groundwater production from the eleven basins in the region. **Table 2** summarizes reported production from each individual producer, whether public or private. **Table 3** provides a detailed breakdown of extractions by each reporting producer (including some based in San Bernardino County) for each basin for the thirteen most recent years of available data. Surface diversions from the Whitewater River are not included, as the Agency is not convinced the available data are reliable enough to report. These diversions serve the Banning Bench and parts of the City of Banning.

Figure 6 illustrates the long-term trend in reported groundwater production in the region since 1947. **Figure 7** summarizes the same data since 1997, about the time significant growth started. Both figures show a distinct increasing trend in groundwater extractions both over the long term and over the past 18 years, though there is variability within that trend, especially over the past eight years. The results of these recent years show a sharp reduction in local extractions from 2008 to 2010, followed by gradual increases over the past four years, in contrast to decades of

increases prior to 2008. Perhaps the most striking element of these figures is the sharp decline in production in 2015, also characterized in Tables 1, 2, and 3.

Figure 6 indicates that extractions remained relatively constant from the early 1960's to the mid 1980's. Extractions increased gradually from that point until the mid-1990's, when they started to increase significantly. **Figure 7** shows a significant increase from 1998 to 2007 (from less than 25,000 AF to over 35,000 AF, an increase of over 40%), and a significant decrease since that time, from over 35,000 AF to just under 31,000 AF in 2014 and just under 23,000 AF in 2015 (a decrease of about 36% over 8 years).

Figure 8 illustrates the percentage share for each basin's total production within the region in 2015. This is slightly different from the 2014 percentages, with the primary change being a reduction in the Beaumont Basin from 59% to 57%, and a corresponding increase in the Banning Canyon Basin from 9% to 11%. In 2012, the Beaumont Basin represented only 48% of all extractions, compared to 54% in 2013 and 57% in 2015. This increase was primarily at the expense of the Banning Canyon Basin (decreased from 14% to 11%), the Banning Bench Basin (decreased from 6% to 3%), and Edgar Canyon (reduced from 11% to 7%). The Beaumont Basin is the largest basin by far, with over half of all production. The Banning Canyon, Banning, and Edgar Canyon basins are next. The Banning Canyon Basin is fed largely by runoff from an interbasin transfer, the flows of which have been greatly reduced during the current drought. With smaller, runoff-fed basins yielding less water, purveyors must make up the difference with more water from larger basins. This is reflected in the increased dependence on the Beaumont Basin, with its yield increasing from less than half to nearly 60% of all production in three years.

Table 1 indicates that total production in the region decreased about 25% from 2014 to 2015, from 30,671 to 22,835 acre-feet. Compared to the peak year of 2007, when total production totaled 35,474 acre-feet, this represents a 36% reduction in groundwater production over the past seven years, with most of this decrease coming in one year—2015. It should be noted that, in 2015, the State Water Resources Control Board implemented mandatory water conservation measures throughout the State. This was the primary reason for the large decrease in production from 2014 to 2015.

In the Beaumont Basin, the region's largest, production decreased about 28%, from 17,970 to 12,954 acre-feet. This represents a decrease of 28%, confirming the ability of local residents to conserve water when required. As can be seen from Table 3, most of this decrease can be attributed to reduced extractions from three retail water purveyors, Beaumont Cherry Valley Water District (a decrease of over 2600 acre-feet), the City of Banning (a decrease of about 850 acre-feet), and the Yucaipa Valley Water District (a decrease of nearly 1100 acre-feet).

The Cabazon Basin presents an interesting data set. According to the data submitted to the Agency, extractions from this basin decreased by approximately 55% from 2007 to 2012, yet increased by over 80% in 2013 and decreased by 12% in 2014 and another 18% in 2015. These numbers lead to a question of whether the data are correct every year, especially in 2012, when the data showed extractions of 654 acre-feet, compared to 900 acre-feet in 2011 and 1226 acre-feet in 2013. In verbal discussions with the General Manager of the Cabazon Water District,

there was an indication that these numbers are in fact correct, and reflect a rapidly decreasing demand for a number of years, followed by an increase in demand when the outlet malls expanded and began taking water deliveries from the District. The 12% reduction in production from 2013 to 2014 is not readily explained, while the 18% decrease from 2014 to 2015 is readily explained by the aforementioned water conservation regulations.

Table 2 summarizes overall production by owner, regardless of basin. In reviewing the production by the major water agencies and overliers, the data are relatively consistent, with most owners showing decreases in production, with only a few exceptions. One of the few increases in production is from Robertson's Ready Mix, an increase from 293 to 322 AF, or about 10%. However this represents a small fraction of overall production. Beaumont Cherry Valley Water District decreased its production by 2,671 acre-feet, a decrease of 20%. Banning decreased its production by 1,746 acre-feet, a decrease of about 21%. The Morongo Band of Mission Indians, which owns the Tukwet Canyon golf course, decreased production by 427 acre-feet, a decrease of 21%.

An examination of the groundwater production data demonstrates that, overall, economic conditions and annual precipitation and temperature play large roles in determining water demand in any given year. The gradual increase in water production in the region over the four years previous to this past year can be explained in large measure by a gradually recovering economy, which causes higher water use. Per capita reductions in water use in homes over the three years prior to that could be explained either by cutbacks due to economic conditions during that time, reduced usage due to higher water rates, or water conservation efforts on the part of local residents. A detailed study would have to be performed to determine the specific impacts of these issues on the reduction in water demand during that three year period.

The reduction in production due to decreased water demand from 2008 to 2010, and especially the dramatic drop in 2015, point out a major issue within the water industry. As water demand falls, water sales revenues fall, making it difficult for water agencies to meet financial obligations, especially fixed costs. Most of their costs (primarily labor) are fixed and do not decrease when water demand falls. These agencies have to make up for these lost revenues in other ways, either by changing their rate structures, by increasing water rates, by reducing their costs, or by drawing from reserves. Over the past several years, water districts throughout California have gradually begun implementing tiered rate structures, which charge a higher rate for more water use.

Review of the data for 2015 clearly shows that mandatory water conservation measures trump all other factors in determining water use. Residents of the San Gorgonio Pass significantly decreased their water use in 2015 in response to the Governor's Executive Order and its implementation by the State Water Resources Control Board. The Agency will monitor this trend in future years to see if the conservation ethic remains, even when the drought ends.

3.2 State of Overdraft

Overdraft of a groundwater basin refers to the amount of water pumped out in excess of its safe yield. Safe yield is the average annual replenishment of a basin through natural sources such as

rainfall, runoff, snowmelt, and underflows from other groundwater basins. Safe yield is difficult to establish and represents only an average. In a given year, natural replenishment of a groundwater basin could be more or less than the average safe yield, depending on local hydrology. As a basin changes, for example through development, or as its management changes, the safe yield can also change.

The Agency has been closely monitoring overdraft of the Beaumont Basin since at least 1988, when the Agency's first engineering investigation of the basin indicated that pumping significantly exceeded the basin's probable safe yield. Studies by the Agency have pointed to an estimated long-term average safe yield of about 5,000 to 6,100 acre feet per year for the Beaumont Basin (Boyle Engineering, 1995; Boyle Engineering, 2002). This is smaller than the safe yield of 8,650 acre feet defined in the Beaumont Basin Stipulated Judgment, a number which represents the sum of overlier water rights. Overlier water rights refer to rights based on historical production for water used on the land.

Thus, current and future pumping from the Beaumont Basin, even if in accordance with the Judgment, could exceed the long-term average safe yield of the basin as identified in Boyle. The Judgment includes a clause enabling a party to challenge the determinations of the Judgment ("seek judicial relief') if that party demonstrates harm from the consequences of the Judgment (if pumping activities of others "constitute an unreasonable interference with the complaining party's ability to extract groundwater").

In order to remedy the possibility of long-term overdraft, the Judgment requires the Beaumont Basin Watermaster to "redetermine" the safe yield of the basin at least once every ten years, beginning ten years after the date of entry of the Judgment (no later than February 2014). If the redetermined safe yield were to be different from the 8,650 acre feet per year identified in the Judgment, it would change the amount of overdraft on an annual basis. Depending on the redetermined safe yield, this could be more or less than the current overdraft.

In April 2015, the Watermaster adopted a resolution determining the safe yield at 6,700 acre-feet per year, after having hired a consultant to model the basin. This is very close to the Agency's earlier estimate of 6,100 acre-feet per year. This has broad-ranging implications for the future, as it means that less water will be able to be pumped out of the basin each year. However it also means that the Basin will be more sustainable in the long term, which will serve the region well.

According to the Judgment, the basin must be in balance after 2014. That is, the total amount pumped out cannot exceed the average safe yield as identified by the Watermaster unless it is drawn out of storage accounts already in place at that time, or replenished from additional sources, including State Water Project water, recycled water, stormwater, or some other source.

Total production in 2015 from the basin, as reported, was 12,954 acre feet. Therefore, the Beaumont Basin experienced an apparent overdraft of about 6,854 acre feet, assuming an average safe yield of 6,100 acre feet. This was partially offset by importing 3,930 acre-feet of supplemental water. This is the second time in five years that the volume pumped out of the basin significantly exceeded the sum of average natural recharge plus imported water. This is another impact of the drought on local water resources. This "apparent" overdraft was in fact not a true overdraft, as the excess production came out of storage accounts. That is, water that was

previously purchased from the Agency and added to basin storage through recharge was drawn out of storage, thus not counting against the safe yield.

Selecting 1997 as a base year (the year when significant increases in production began in the region), the cumulative overdraft in the Beaumont Basin since that time (assuming a safe yield of 6,100 acre feet) would be 154,600 acre feet, an average of approximately 9,000 acre feet per year over the past 17 years, without importation of State Water Project water. **Figure 9a** depicts this graphically. Through 2014, the Agency has imported over 67,000 acre-feet of supplemental water. This offsets the cumulative overdraft and reduces it to less than 90,000 acre-feet over the same time period. This is depicted in **Figure 9b.** The difference in these two figures shows the immense impact that the State Water Project has had on the region in the last decade.

Although other local groundwater basins are at similar risk of overdraft, the state of the overdraft of the Beaumont Basin is far more apparent (in part because it has been studied more) and, due to the large population served by the basin, more critical to the region. Since the safe yields of other basins in the region have not yet been defined, it is impossible to determine whether or not they are in overdraft at this time. However, monitoring of water levels in these basins shows that levels are decreasing in at least some of the eleven basins in the region.

The Agency is continuing studies of the Cabazon Basin and at some point in the next few years will likely define an average safe yield for this basin. It is estimated that this is the second largest basin in the region based on storage volume. Other basins will require additional studies over time to better understand their geology and hydrology. It is believed that most of them have storage volumes and safe yields far smaller than the Beaumont and Cabazon basins.

With the advent of the Sustainable Groundwater Management Act, passed by the Legislature in 2014, management of groundwater basins in California will change significantly. Virtually all basins will be required to be managed sustainably by 2022. This means that a plan must be in place to ensure that each basin is in long-term balance. Each plan must detail a method for implementing this, either through reductions in production or through artificial recharge (recharge of the basin with non-native water, recycled water, or stormwater), or both.

3.3 Groundwater Levels

The Agency monitors water levels in a large monitoring well network. Currently there are approximately 110 wells in the system, each of which is monitored for groundwater elevation twice a year, typically in May and November. The monitoring network is depicted in **Figure 10.**

Between Fall 2015 and Fall 2016, approximately 80 of the wells had water level changes, including a number of sites with multiple wells. Of these, seven sites had wells that recorded a water level increase of more than five feet, 13 recorded a decline of more than five feet, and 60 recorded little or no change. Of the seven wells showing a large increase in water levels, approximately 4 are in the Beaumont Basin, while one is in the Banning Canyon Basin. Of the 13 wells showing declines of more than five feet, five of them are in the Beaumont Basin, one in the San Timoteo, four are in the Cabazon, and three in the Banning Bench Basin. These are depicted on **Figure 11**.

As of 2011, the Agency is part of the California State Groundwater Elevation Monitoring (CASGEM) system. This is a formal statewide groundwater monitoring system initiated through 2009 legislation. The Agency is a formal monitoring entity for two basins—the San Timoteo sub-basin and the San Gorgonio sub-basin—which roughly correspond to the Agency's boundaries. The state uses different basin names because it views the statewide geology and hydrology on a larger scale, and aggregates smaller basins into larger ones. What is known in the CASGEM system as the San Timoteo sub-basin is essentially the Beaumont Basin, the Singleton Basin, the South Beaumont Basin, and the San Timoteo Basin, and what CASGEM labels the San Gorgonio sub-basin is essentially the Cabazon Basin, the Banning Bench Basin, the Banning Canyon Basin, the Banning Basin, and the Millard Canyon Basin. While the boundaries are not exact, they are similar. The Agency files water level data for selected wells through the Department of Water Resources into the CASGEM database. These data are available on the CASGEM web site.

Figures 12 through 17 show time-series groundwater elevations (hydrographs) for selected wells in five different basins within the Agency service area. These same wells have been depicted in this report for the past several years.

The two wells shown in **Figure 12** are Banning production wells in the Banning Basin. Each shows great variability in groundwater elevation from 2002 to 2006. Both of these wells show a long-term trend of lower groundwater levels. However, both appear to be relatively stable over the past few years. The well depicted in **Figure 12a** appears to be holding at a water level between 350 and 400 feet below ground surface. The well in **Figure 12b** is down about 75 feet since 1998, but appears to be stable at approximately 350 feet below ground surface.

The five wells depicted in **Figures 13-15** are in the Beaumont Basin. The wells in **Figures 13b and 15b** are in the same location, approximately 1000 feet east of Beaumont Avenue and 50 feet south of Cherry Valley Boulevard in Cherry Valley. This location is likely influenced by the past recharge at Little San Gorgonio Creek, and possibly by the recharge at Noble Creek. The upturn in water levels from 2008 to 2014 indicate that this is quite likely the case. The downturn since that time could be attributed to the fact that no water has been recharged at Little San Gorgonio during that time. The well in **Figure 13a** is on the Oak Valley Golf Course. After a steady drop over at least a decade, the water surface appears to be stabilizing over the past two years. This may be due to reduced production from Oak Valley Partners and/or Oak Valley Management, as indicated in **Table 2**. The wells in **Figures 14 and 15a** are on Calimesa Boulevard near the western edge of the Beaumont Basin. These wells show continually falling water levels over the past decade and a half. That portion of the Beaumont Basin would appear to not be influenced as yet by the ongoing recharge efforts and reduced production. While it is clear that ongoing recharge and reduced extractions have had an impact on at least some of the wells in the Beaumont Basin, water levels at other wells are still falling.

The two wells in **Figure 16** are both in the Cabazon Basin. The well in **Figure 16a** is a production well of the Mission Springs Water District, while the well in **Figure 16b** is a former production well currently used as a monitoring well in the Jensen area of South Cabazon. Both show severe drops in water surface elevation over the past 15 years. The well in **Figure 16a** shows a drop of more than 15 feet over the past ten years. The well in **Figure 16b** is changed

from previous reports. Previously this report depicted the Cabazon Water District's Well Number 1. However, this well has become difficult if not impossible to monitor. Thus the change to the Jensen well. This well shows a drop of approximately 20 feet over the past eight years. These data would seem to indicate that, even though the wells are several miles away from each other, that water levels in the Cabazon Basin are dropping and have been for a number of years. This is somewhat surprising, given the decline in extractions from this basin over the past several years. This could mean that inflows to the basin have also declined over the same period of time. It could mean that any impact of reduced extractions just requires a longer period of time before the impact is seen in wells. It certainly means that there are other factors at work in this basin that impact water surface elevations that are beyond the scope of this report. This is one reason that the Agency has worked with the United States Geological Survey to extend its model of the Beaumont Basin to the Cabazon Basin. The Agency wishes to learn more about the Cabazon Basin and how it reacts to various hydrologic events. The basin is an important regional resource as a water supply source and storage reservoir and the Agency is trying to better understand the detailed workings of the basin.

The wells depicted in **Figure 17** are in the Calimesa and Banning Canyon Basins. The data in **Figure 17b** show clearly that the Banning Canyon Basin is a shallow basin, and that water levels fluctuate more in such basins. The year 2006 was a wet one locally, and the figure shows that groundwater levels in the basin came up nearly 15 feet that year. The next three years, on the other hand, were dry ones, and the water level dropped nearly seven feet in that time. The data for the well in the Calimesa Basin show that groundwater levels increased in 2006 and have remained relatively constant since, with a slight downward trend. This could have to do with the Yucaipa Valley Water District's filtration plant, which came online in 2006. This event reduced extractions from the Calimesa Basin and most likely contributed to the stabilization of the water level.

These figures represent only a small portion of all groundwater elevation data available in the region. These data indicate that, in general, groundwater elevations continue to decline except in certain areas where recharge of imported water or the switch to surface water is apparently stabilizing or even raising the water levels. Reductions in extractions over the past six years have in many cases slowed the rate of decline. It remains to be seen if the gradual increase in extractions over the past four years will contribute to a long-term trend in downward water levels.

The implications of lower water levels are great. As water levels decline throughout the local basins, every well will have to pump water from a lower elevation, thus increasing power costs for well owners and rate payers. Some overliers' wells may be quite shallow, and as water levels decline further some of these wells may be in danger of going dry. This would necessitate a large expense to the overlier—either a new well, a deeper well, or connection to one of the water purveyors' systems.

In general, continually decreasing water levels can also lead to land subsidence (sinking) and the drying up of traditional wetlands or streambeds. In the region, most of these wet areas dried up many years ago. The Beaumont Basin Watermaster is charged with monitoring land elevations

to determine if subsidence is taking place in the Beaumont Basin. As of this time, the Watermaster has not reported any appreciable land subsidence over the basin.

The Sustainable Groundwater Management Act (SGMA) will require Groundwater Sustainability Plans (GSP's) for all medium and high priority groundwater basins in California by 2022, with sustainability to be reached within 20 years after that time. According to the California Department of Water Resources, there are only two basins in the Agency's service area—not 11, as reported herein. DWR's data are collected at a much higher level. It remains to be seen how SGMA may impact long-term groundwater levels, though it is likely that they will stabilize over the next two decades. This report will continue to monitor water levels in part to determine if implementation of these GSP's will impact all wells, or some fraction thereof.

4.0 Water Quality

4.1 State Water Project

The Agency takes delivery of its State Water Project water at the Devil Canyon hydroelectric facility in San Bernardino and conveys it through the East Branch Extension to various delivery points. Water quality is a very important component of the Agency's supplemental water supply program.

Table 5 shows six common constituents and their measured concentrations from the SWP system at Devil Canyon over the past four years. TDS, or total dissolved solids, is perhaps the most significant constituent in this table. It represents salinity, which is becoming more important to water agencies in California. Over the past five years it can be seen that TDS has mostly been below 300 parts per million (ppm) or milligrams per liter (mg/l) through 2013. In 2014, the third consecutive year of drought, a number of readings above 300 appear; this is to be expected in dry years. This continued in 2015, another dry year, as the monthly average was above 300 every month that year. Many readings from 2011 through 2013 are in the 240-250 ppm range, and there are a number of readings in the 220 range and below. In 2011, which was a relatively wet year in northern California, TDS readings were very low after January. This is significant because the ambient salinity concentration of the Beaumont Basin is approximately 280 ppm, so the great majority of the time, importation of SWP water reduces the overall concentration of salinity in the Beaumont basin.

Figure 18 shows the monthly average salinity concentration at Devil Canyon since 2004, while **Figure 19** shows the annual average since 1990. **Table 5** and **Figure 18** clearly show an outlier salinity concentration that is likely the result of an incorrect reading or analysis. The annual average shown in Figure 19 is useful because it indicates clearly that salinity is higher in dry years and lower in wet years. The two highest years, 1991 and 1992, were very dry and the last two years of a five year drought in California. The years 1996, 1997, 1998, 2006, and 2011 were all very wet years (in the case of 2011, it was a wet year in northern California, where State Water Project water originates). Salinity in 2010 is significantly lower than the previous three years, which represented a three year drought in California. This inverse correlation between salinity and rainfall comes about because State Water Project passes through the Sacramento/San Joaquin delta. In dry years, there is less fresh water available to flush out the system by pushing relatively more saline water to the ocean, so the fresh water/salt water interface is higher in the delta and hence salinity of SWP water is higher.

These figures also point out why it is advantageous to take more water in wet years when it is available—the water has a lower salinity in those years. In the long term, water quality (from a salinity standpoint) is helped by hydrology, as more water is typically delivered in wet years when salinity is lower, and less water is delivered in dry years when salinity is higher.

4.2 Groundwater

The Santa Ana Regional Water Quality Control Board's Basin Plan has a maximum benefit goal of 330 ppm of salinity for the Beaumont Management Zone, which includes the Beaumont Basin. The current ambient salinity concentration is the Beaumont basin is approximately 280 ppm. The Basin Plan requires local entities to begin planning desalters when the ambient TDS concentration increases to 320 ppm or if other conditions are met. These desalters must be online within seven years after that time.

Groundwater quality in the region is very high. There is no known historical industrial or mining activity in the region that has generated harmful plumes of pollutants. In addition to salinity or TDS, nitrate is the only other constituent that needs to be monitored closely. This too is regulated by the Regional Board, but nitrate concentrations are currently well within the maximum benefit standards. Over the past few years there have been isolated incidents of high nitrates at individual wells for short periods of time, typically after a large rainstorm that causes flushing of the system. However these have not proven to be a health hazard.

Nitrates in ambient groundwater do not necessarily translate to a danger in drinking water. Nitrates in drinking water are regulated by the California Department of Public Health, not the Regional Board. Nitrates in groundwater can effectively be managed if needed through dilution. If nitrates were to become a persistent problem in a particular location, the local purveyor may consider installing wellhead treatment for nitrates. Such treatment is costly. However, there is no evidence that such treatment is needed in the region in the near future.

It should be noted that salinity in drinking water is regulated by a secondary water quality standard, while nitrate is regulated under a primary standard. Primary standards are for constituents that can directly impact human health. Secondary standards are for constituents that do not directly impact human health, but that may have aesthetic issues. Salinity is not harmful to human health and safety directly, while nitrate can be harmful at high concentrations, particularly to infants.

In 2013, the California Department of Public Health changed the maximum contaminant level (MCL) for chromium 6 in drinking water, lowering the standard. Because of this change in the standard, several wells in the region suddenly became unusable, as they produced water with chrome 6 that met the previous MCL, but not the new one. Chrome 6 is a naturally occurring contaminant that is present at some level in many areas of California, including the San Gorgonio Pass. Because of the more stringent standard, some wells owned by the City of Banning and the Beaumont Cherry Valley Water District were temporarily taken out of service, pending implementation of a fix to the problem. This water quality issue has had an impact on water supplies in the region, as those wells are now not able to produce potable water for those two purveyors. Those entities are currently taking steps to ensure that all drinking water served meets this more stringent standard, and plan to meet the State's timeline for doing so, thus ensuring that drinking water meets all water quality standards.

4.3 Emerging Contaminants

There is a relatively new class of chemical constituents that has recently been found in the environment and in drinking water known as emerging contaminants. These are primarily

pharmaceuticals and personal care products (PPCP's) that pass through human or animal bodies or get flushed and end up in sewage or septic flows. They have become known because of the technological ability to measure concentrations at increasingly small concentrations (parts per billion or even parts per trillion). Because of their presence in the environment, the Santa Ana Regional Water Quality Control Board has required that dischargers (those entities that own and operate sewage treatment plants) monitor for these constituents on an annual basis.

There is no evidence that these constituents are harmful to humans in their current concentrations in the environment. Some groups have claimed that these products could harm animals in the environment and thus have called for their regulation. At this point in time they are not regulated. Water agencies in the watershed are developing a database so that the number and concentrations of these constituents can be monitored on an ongoing basis.

Emerging contaminants are mentioned in this report not because they have any immediate impact on water quality in the region, or even that they are expected to have an impact in the near future. They are included because they are mentioned increasingly in the literature and by regulators as a growing issue for the water industry to be aware of.

5.0 SUMMARY

Reported groundwater extractions within the region decreased significantly in 2015, following four consecutive years of slight increases. Total extractions in 2015 were down nearly 25% from 2014, or 36% below levels for 2007, the peak historical year for extractions in the region. This is likely due to water conservation regulations imposed by the State Water Resources Control Board.

Local retail water purveyors continue to make progress in implementing recycled water systems. These systems are complex and expensive to complete, and funding and water quality (salinity) are key issues that require attention. Implementation of these systems over the next few years should reduce groundwater extractions significantly. Such reductions began 2015, when the Yucaipa Valley Water District received a permit to deliver recycled water. The Regional Water Quality Control Board has adopted a Basin Plan Amendment which will have an impact on the proposed recycled systems by changing water quality rules.

Another factor leading to reduced withdrawals is the reduction in the safe yield of the Beaumont Basin, as published by the Beaumont Basin Watermaster.

Based on data in this report, there is evidence that groundwater levels have increased slightly in portions of the region over the past three to four years. In other areas, the rate of groundwater decline has slowed. At the same time, groundwater levels continue to drop in some areas within the region. Future reports will determine the significance of these data. Lower groundwater levels in shallow basins in dry years is not a long-term concern; however, continued falling groundwater levels in larger, deeper basins would be cause for concern.

The Sustainable Groundwater Management Act, passed by the Legislature and signed by Governor Brown in 2014, will require virtually all groundwater basins in California to be managed sustainably by 2022. Groundwater overdraft, and thus declining groundwater levels, will not be allowed after that time.

Over the past six to eight years, retail water agencies in the region have done a very good job of managing local water resources. The Yucaipa Valley Water District has built a surface water treatment plant in order to reduce its groundwater withdrawals, and also a desalter and brine line to facilitate use of recycled water for nonpotable uses. The Beaumont Cherry Valley Water District has constructed a recharge facility in the Beaumont Basin and has purchased a large quantity of replenishment water from the Agency. The City of Banning has purchased water for replenishment as well, and is working with Southern California Edison, the Banning Heights Mutual Water Company, and the Agency to make improvements to a system that delivers runoff from the San Bernardino Mountains to the Banning Bench and the City of Banning. High Valleys Water District has replaced much of its old, leaky pipe, thus reducing its water losses significantly. The Cabazon Water District has also reduced its water losses significantly. The South Mesa Water Company has drilled a new, more efficient well. Several water purveyors have implemented tiered rate structures, which tend to reduce water usage. Three major recycled

water systems are in the planning, design, or construction phase. These are all positive steps that will help extend and preserve local groundwater basins into the future.

During this same time period, the Agency has increased its imported water deliveries to such an extent that, in three of the past five years, more water was put into the Beaumont Basin than withdrawn from it. A three-year string was broken in 2014 and 2015 due to the fact that less water was available from the State Water Project. Since the completion of Phase I of the East Branch Extension in 2003, the Agency has increased its deliveries to the region every year, with the exception of 2005, 2013, 2014, and 2015 (the latter three being dry years). Overall, the Agency has delivered approximately 71,000 acre feet of State Water Project water over the past twelve years, either for replenishment, overdraft mitigation, or direct deliveries.

In the future, the local economy and local weather patterns will continue to play large roles in determining water demands each year. As new homes are constructed in the future, recent legislation will require lower water use landscaping. This should reduce per capita water consumption for future development, further extending the life of local water resources. Production data for 2015 bear this out.

Based on data in this report and observation of ongoing events, it is apparent that the recession is slowly coming to an end, and construction of new homes in the region will begin within the next 1-2 years, thereby increasing water demands. The Agency and retail water purveyors will need to work together to continue to meet the increasing water demands of the region.

A newly adopted MCL for chrome 6 has had a negative impact on local groundwater supplies. Purveyors impacted by this will have to determine how to address this issue so that these supplies may be brought back online or replaced with other sources.

San Gorgonio Pass Water Agency
Totals by Basin
Non-Verified Production Data
(in acre feet)

Basin	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Banning	2,381	1,180	1,485	1,787	2,512	1,999	2,787	1,782	1,845	1,715	1,759	2,180	1,734
Banning Bench	952	1,319	2,332	2,987	2,199	1,299	1,415	1,561	1,395	1,719	1,776	1,076	723
Banning Canyon	2,582	3,329	3,649	3,464	2,662	3,237	2,771	3,941	3,820	4,091	3,216	2,636	2,491
Beaumont	19,356	17,478	13,390	17,140	19,032	17,264	14,643	13,158	13,600	14,302	16,236	17,970	12,954
Cabazon	1,208	1,604	1,379	1,314	1,466	1,412	1,258	1,054	900	654	1,226	1,076	983
Calimesa (2)	1,725	1,535	1,575	1,445	1,532	1,133	1,315	1,114	993	1,169	950	853	767
Edgar Canyon (1)	2,549	2,759	2,766	3,872	3,085	3,140	2,784	3,100	3,467	3,313	2,813	2,502	1,460
Millard Canyon (3)	675	823	595	707	842	757	750	750	750	750	850	850	750
San Timoteo	1,392	1,469	2,132	1,904	1,384	1,533	1,367	1,329	1,297	1,312	1,062	982	722
Singleton	345	483	636	645	666	471	382	405	412	448	312	443	217
South Beaumont	95	92	85	83	94	79	97	119	115	102	92	103	34
Totals	**33,260**	**32,071**	**30,024**	**35,348**	**35,474**	**32,324**	**29,569**	**28,313**	**28,594**	**29,575**	**30,292**	**30,671**	**22,835**

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es:
Amounts shown are rounded to nearest acre-foot
Amounts as reported to the SWRCB Division of Water Rights, made available by a purveyor, reported by Beaumont Basin Watermaster or estimated by SGPWA
Data revised to agree with basin boundaries as defined in USGS 2004 report
(1) Includes wells located in Upper Edgar Canyon in San Bernardino County
(2) Includes wells located in Riverside and San Bernardino County
(3) Estimate only

Table 1: Groundwater Production in San Gorgonio Pass Water Agency by Basin (2003 through 2015 as reported)

San Gorgonio Pass Water Agency
Totals by Owner
Non-Verified Production Data
(in acre feet)

Owner	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Albor Properties III, LP	163	163	165	170	175	200	193	174	177	4	51	7	7
Banning Heights Mutual Water Co.	207	32	73	21	22	31	4	17	13	45	69	78	29
Banning, City of (1)	10053	8934	9082	10162	10223	9583	8996	8415	8454	8576	8743	8468	6722
Beaumont-Cherry Valley Water District (1)	9205	8606	7070	11748	13031	12744	10849	10975	11698	12153	12829	13284	10613
Beckman, Dave				116	83	13							
Brinton, Barbara	10	10	10		10	10	10	10	10	10	10	10	10
Cabazon Water District	1035	1261	1069	966	923	875	905	710	509	269	854	628	515
Dowling, Frances M. Jr.	95	92	85	83	94	79	72	96	92	79	69	80	11
El Casco LLC c/o Riv. Land Conserv(4)	160	160	160	165	165	165	165	165	160	165	10	10	10
Hudson, Merton Lonnie	430	430	430	435	445	435	430	430	410	485	521	540	130
Illy, Katharina	267	267	267	267	265	265	265	270	270	270	270	270	270
Lane, Christie	7	7	1										
Merlin Properties, LLC	520	500	500	100	100	150	175	100	150	200	5	5	10
Mission Spring Water District	169	157	171	190	206	164	162	144	150	146	148	155	146
Morongo Band of Mission Indians (3) (6)	2057	2191	1822	2530	2326	1890	1908	1541	1634	1736	1949	2076	1649
Oak Valley Management	950	852	991	965	742	781	753	546	573	821	597	625	512
Oak Valley Partners	453	430	350	312	312	311	311	311	12	12		24	24
Perisits, Jack	40	40	40										
Plantation on the Lake (2)	32	32	40	47	46	47	49	43	46	48	50	50	40
Ranc Calimesa Mobile Home Ranch	202	202	60	61	61	40	40	42	42	24	24	16	16
Rivel County Parks Department									50	50	50	50	50
Robe n's Ready Mix	4	186	139	158	337	373	191	200	241	239	224	293	322
Rom Catholic Bishop	140	140	70	70	70								
Shar dale Mesa Owners Association	182	158	181	189	183	196	154	131	133	145	147	130	94
Shiloh's Hill LLC	11	121	160	146	150	61	172	200	229	193			
South Mesa Water Co.	2645	2679	2551	2711	2839	2681	2514	2222	2224	2376	1889	1918	1424
Summit Cemetery District	65	65	65	65	65	65	90	88	88	88	88	88	88
Sun Cal Companies	49	89	839	555									
Sunny-Cal Egg & Poultry, Inc.	1475	1477	1153	50	50	50	50	25	28	28		1	22
Wildlands Conservancy, The	317	462	283	301	9	21	40	16	8	7	20	17	0
Yucaipa Valley Water District	2091	2134	1854	2422	2072	659	685	949	665	901	1266	1344	121
Totals	**33,034**	**31,877**	**29,681**	**35,005**	**35,004**	**31,889**	**29,183**	**27,820**	**28,066**	**29,070**	**29,883**	**30,167**	**22,835**

Notes:
Amounts shown are rounded to nearest acre-foot
Amounts as reported to the SWRCB Division of Water Rights, made available by a purveyor, reported by Beaumont Watermaster or estimated by SGPWA
Data revised to agree with basin boundaries as defined in USGS 2004 report
(1) Amount adjusted for production in 2006, 2007, 2008 & 2009 by BCVWD for City of Banning from co-owned wells
(2) 2010 Data not reported - Preceeding year (2009) data used
(3) Previous Well Owners - Arrowhead Mtn Spring Bottling Co. & East Valley Golf Club LLC
(4) El Casco Lake Ranch merged with Riverside Land Conservancy
(5) Desert Hills Premium Outlets merged with Cabazon Water District
(6) Estimate only

Table 2: Groundwater Production in San Gorgonio Pass Water Agency by Purveyor (2003 through 2015, as reported)

San Gorgonio Pass Water Agency
Totals by Owner by Basin
Non-Verified Production Data
(in acre feet)

Owner	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
BANNING BASIN													
Banning, City of	2,381	1,180	1,485	1,787	2,512	1,999	2,787	1,782	1,845	1,715	1,759	2,180	1,734
TOTALS FOR BANNING BASIN	2,381	1,180	1,485	1,787	2,512	1,999	2,787	1,782	1,845	1,715	1,759	2,180	1,734
BANNING BENCH BASIN													
Banning, City of	877	1,244	2,257	2,922	2,124	1,224	1,340	1,486	1,320	1,644	1,701	1,001	648
Brinton, Barbara	10	10	10	0	10	10	10	10	10	10	10	10	10
Summit Cemetery District	65	65	65	65	65	65	65	65	65	65	65	65	65
TOTALS FOR BANNING BENCH BASIN	952	1,319	2,332	2,987	2,199	1,299	1,415	1,561	1,395	1,719	1,776	1,076	723
BANNING CANYON BASIN													
Banning Heights Mutual Water Co.	207	32	73	21	22	31	4	17	13	45	69	78	29
Banning, City of	2,368	3,290	3,575	3,443	2,640	3,206	2,767	3,924	3,807	4,046	3,147	2,558	2,462
Lane, Christie	7	7	1	0	0	0	0	0	0				
TOTALS FOR BANNING CANYON BASIN	2,582	3,329	3,649	3,464	2,662	3,237	2,771	3,941	3,820	4,091	3,216	2,636	2,491
BEAUMONT BASIN													
...bor Properties III, LP	163	163	165	170	175	200	193	174	177	4	51	7	7
...nning, City of (1)	4,427	3,220	1,765	2,010	2,947	3,154	1,623	1,223	1,482	1,171	2,136	2,729	1,878
...aumont-Cherry Valley Water District (1)	7,692	7,103	5,607	9,200	11,096	10,617	9,643	9,100	9,539	10,163	11,096	11,959	9,333
...ave Beckman				116	83	13	0	0	0	0	0	0	0
...erlin Properties, LLC	520	500	500	100	100	150	175	100	150	200	5	5	10
...orongo Band of Mission Indians (2)	1,382	1,368	1,227	1,823	1,484	1,133	1,158	791	884	986	1,099	1,226	899
Oak Valley Management, LLC	950	852	991	965	742	781	753	546	573	821	597	625	512
Oak Valley Partners	453	430	350	312	312	311	311	311	12	12	0	24	24
Plantation on the Lake	32	32	40	47	46	47	49	43	46	48	50	50	40
Rancho Calimesa Mobile Home Ranch	202	202	60	61	61	40	40	42	42	24	24	16	16
Roman Catholic Bishop	140	140	70	70	70	0	0	0	0	0	0	0	0
Sharondale Mesa Owners Association	182	158	181	189	183	196	154	131	133	145	147	130	94
Sunny-Cal Egg & Poultry, Inc.	1,475	1,477	1,153	50	50	50	50	25	28	28	0	1	22
Yucaipa Valley Water District	1,738	1,833	1,281	2,027	1,683	572	494	672	534	700	1,031	1,198	119
TOTALS FOR BEAUMONT BASIN	19,356	17,478	13,390	17,140	19,032	17,264	14,643	13,158	13,600	14,302	16,236	17,970	12,954
CABAZON BASIN													
Cabazon Water District	1,035	1,261	1,069	966	923	875	905	710	509	269	854	628	515
Mission Springs Water District	169	157	171	190	206	164	162	144	150	146	148	155	146
Robertson's Ready Mix	4	186	139	158	337	373	191	200	241	239	224	293	322
TOTALS FOR CABAZON BASIN	1,208	1,604	1,379	1,314	1,466	1,412	1,258	1,054	900	654	1,226	1,076	983

Table 3: Groundwater Production in San Gorgonio Pass Water Agency by Purveyor by Basin (2003 through 2015 as reported)

San Gorgonio Pass Water Agency
Totals by Owner by Basin
Non-Verified Production Data
(in acre feet)

Owner	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CALIMESA BASIN													
Illy, Katharina	267	267	267	267	265	265	265	270	270	270	270	270	270
Perisits, Jack	40	40	40	0	0	0	0	0	0	0	0	0	0
South Mesa Water Co.	1,117	976	782	882	954	842	930	653	675	781	525	503	495
Yucaipa Valley Water District	301	252	486	296	313	26	120	191	48	118	155	80	2
TOTALS FOR CALIMESA BASIN	1,725	1,535	1,575	1,445	1,532	1,133	1,315	1,114	993	1,169	950	853	767
EDGAR CANYON BASIN													
Beaumont-Cherry Valley Water District	1,513	1,503	1,463	2,548	1,935	2,127	1,685	1,875	2,159	1,990	1,733	1,325	1,280
Hudson, Merton Lonnie	430	430	430	435	445	435	430	430	410	485	521	540	130
Riverside County Parks Department									50	50	50	50	50
TOTALS FOR EDGAR CANYON BASIN	1,943	1,933	1,893	2,983	2,380	2,562	2,115	2,305	2,619	2,525	2,304	1,915	1,460
MILLARD CANYON BASIN													
Morongo Band of Mission Indians (3) (4)	675	823	595	707	842	757	750	750	750	750	850	850	750
TOTALS FOR MILLARD CANYON BASIN	675	823	595	707	842	757	750	750	750	750	850	850	750
SAN TIMOTEO BASIN													
El Casco LLC c/o Riv Land Conserv	160	160	160	165	165	165	165	165	160	165	10	10	10
Morongo Band of Mission Indians (2)	0	0	0	0	0	0	0	0	0	0	0	0	0
South Mesa Water Co.	1,183	1,220	1,133	1,184	1,219	1,368	1,202	1,164	1,137	1,147	1,052	972	712
UnCal Companies	49	89	839	555	0	0	0	0	0	0	0	0	0
TOTALS FOR SAN TIMOTEO BASIN	1,232	1,309	1,972	1,739	1,219	1,368	1,202	1,164	1,137	1,147	1,062	982	722
SINGLETON BASIN													
South Mesa Water Co.	345	483	636	645	666	471	382	405	412	448	312	443	217
TOTALS FOR SINGLETON BASIN	345	483	636	645	666	471	382	405	412	448	312	443	217
SOUTH BEAUMONT BASIN													
Dowling, Frances M. Jr.	95	92	85	83	94	79	72	96	92	79	69	80	11
Summit Cemetery District							25	23	23	23	23	23	23
TOTALS FOR SOUTH BEAUMONT BASIN	95	92	85	83	94	79	97	119	115	102	92	103	34
TOTALS FOR ALL BASINS	**32,494**	**31,085**	**28,991**	**34,294**	**34,604**	**31,581**	**28,735**	**27,353**	**27,586**	**28,622**	**29,783**	**30,084**	**22,835**

Notes:
Amounts shown are rounded to nearest acre-foot
Amounts as reported to the SWRCB Division of Water Rights, made available by a purveyor, reported by Beaumont Basin Watermaster or estimated by SGPWA
Data revised to agree with basin boundaries as defined in USGS 2004 report
(1) Amount adjusted for production in 2006, 2007, 2008 & 2009 by BCVWD for City of Banning from co-owned wells
(2) Previous Well Owner - East Valley Golf Club LLC
(3) Previous Well Owner - Arrowhead Mountain Spring Water Bottling Co.
(4) Estimate only

Table 3: Groundwater Production in San Gorgonio Pass Water Agency by Purveyor by Basin (2003 through 2015 as reported)

State Water Project Deliveries to
San Gorgonio Pass Water Agency Service Area

Calendar Year	Amount in Acre-Feet	Allocation
2003 (1)	116	90%
2004	814	65%
2005	687	90%
2006 (2)	4420	100%
2007 (2)	4815	60%
2008 (2)	4905	35%
2009 (2)	6609	40%
2010 (2)	8403	50%
2011 (2)	10,730	80%
2012 (2)	10,974	65%
2013 (2)	9,695	35%
2014 (2)	5,131	5%
2015 (2)	3,930	20%
TOTAL	***71,229***	

(1) Start Up / Partial Year
(2) Includes deliveries to Yucaipa Valley Water District

Deliveries to Beaumont Cherry Valley Water District began in September 2006
Source: San Bernardino Valley Municipal Water District Operations Manager

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Table 4: State Water Project Deliveries to
San Gorgonio Pass Water Agency Service Area

WATER QUALITY ANALYSIS AT DEVIL CANYON AFTERBAY

DATE	Chloride mg/L	Nitrate+Nitrite mg/L as N	Sodium mg/L	Sulfate mg/L	TDS mg/L	Nephelometric Turbidity Units
Jan-12	NR	0.53	34	NR	179	1
Feb-12	73	0.55	52	35	266	1
Mar-12	84	0.48	59	39	278	<1
Apr-12	71	0.61	57	41	274	<1
May-12	69	0.51	55	49	286	<1
Jun-12	63	0.55	51	41	254	2
Jul-12	59.5	0.31	47	37	244	<1
Aug-12	52	0.23	41	27	202	<1
Sep-12	59	0.08	43	20	200	<1
Oct-12	99	0.09	64	24	282	2
Nov-12	103	0.27	65	27	305	1
Dec-12	91	0.41	60	29	281	1
Jan-13	86	0.54	60	32	278	<1
Feb-13	78	0.98	55	46	290	1
Mar-13	74	1.04	64	53	301	<1
Apr-13	70	0.88	59	55	297	<1
May-13	66	0.66	56	53	282	2
Jun-13	75	0.35	57	54	278	<1
Jul-13	73	0.05	58	48	289	3
Aug-13	64	0.15	54	38	253	1
Sep-13	76	0.05	57	31	262	4
Oct-13	96	0.08	66	32	299	2
Nov-13	101	0.30	68	38	302	5
Dec-13	96	0.52	70	42	322	<1
Jan-14	91	0.60	68	47	296	1
Feb-14	88	0.48	71	50	317	< R.L.
Mar-14	85	0.64	68	50	316	< R.L.
Apr-14	84	0.64	71	53	312	2
May-14	77	0.43	69	55	298	1
Jun-14	72	0.51	68	58	292	< R.L.
Jul-14	66	0.46	67	63	1184	3
Aug-14	77	0.24	67	67	323	2
Sep-14	84	0.32	68	67	331	1
Oct-14	86	0.32	71	68	336	2
Nov-14	87	0.41	83	72	344	2
Dec-14	85	0.45	77	71	329	1
Jan-15	81	0.58	76	73	347	< R.L.
Feb-15	80	0.39	79	71	379	< R.L.
Mar-15	67	0.85	66	71	310	1
Apr-15	69	0.58	71	75	311	1
May-15	72	0.58	64	72	310	< R.L.
Jun-15	74	0.55	72	71	322	< R.L.
Jul-15	76	0.44	68	70	317	1.45
Aug-15	83	0.08	74	66	329	4.73
Sep-15	89	0.18	76	69	356	1.43
Oct-15	87	0.14	74	70	342	1.71
Nov-15	88	0.07	77	75	348	3
Dec-15	95	0.56	82	82	363	1.73

mg/L: milligrams per liter
Source: SWP/DWR Water Quality Data Reports
NR: Not Reported

Table 5: Water Quality Analysis at Devil Canyon Afterbay near San Bernardino
(Selecti 2 9 / 9 1 uents)

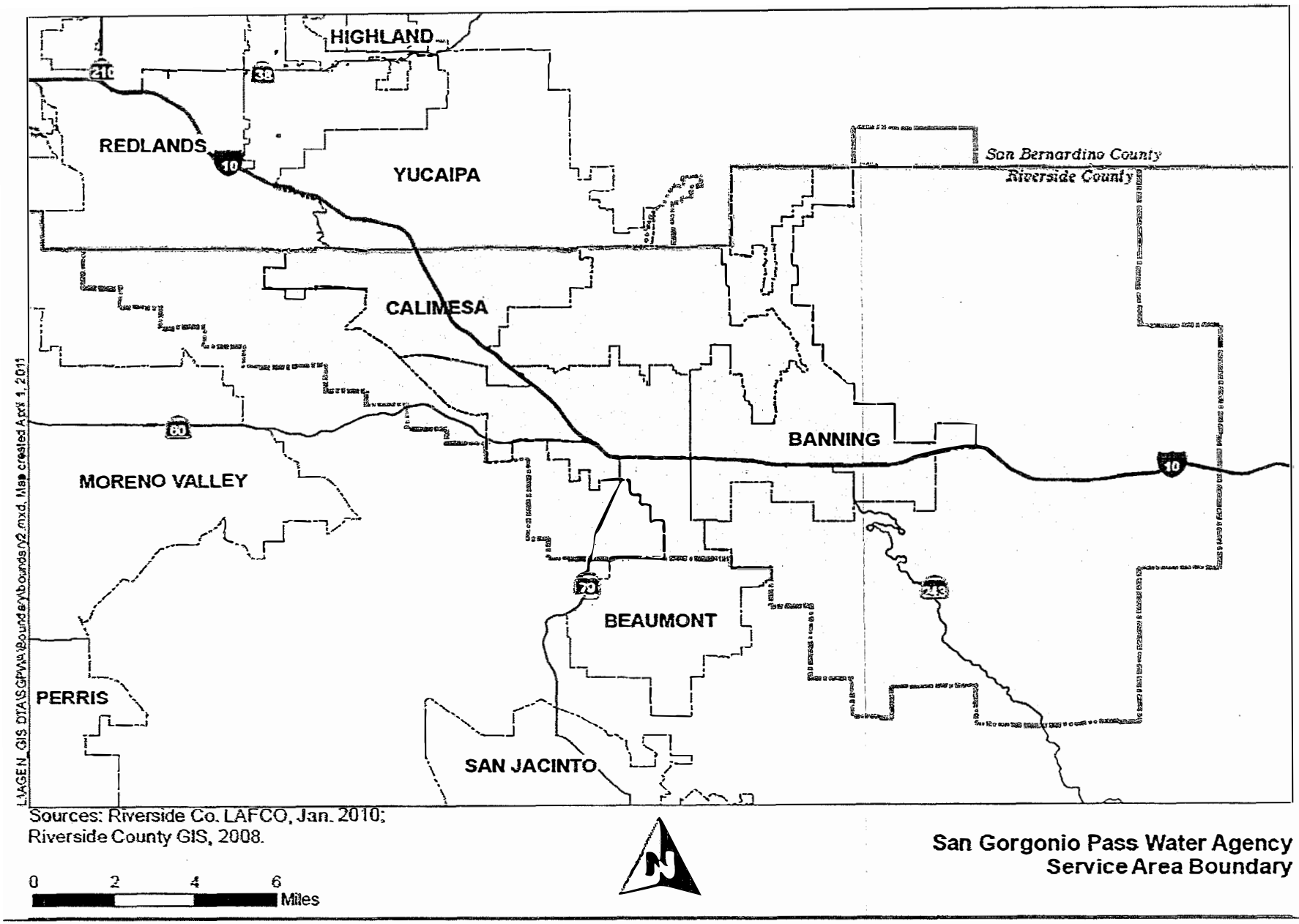

Figure 1: San Gorgonio Pass Water Agency

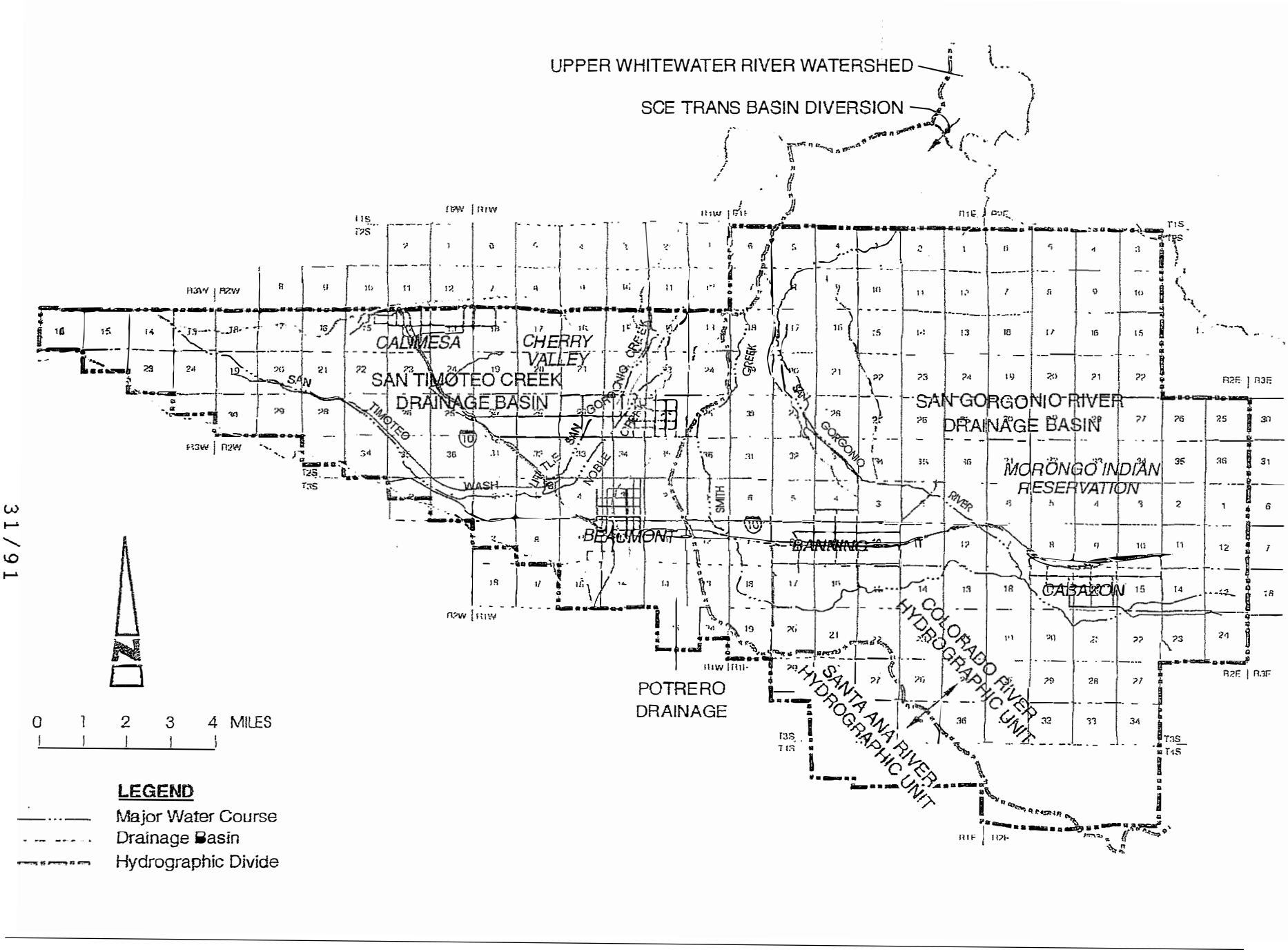

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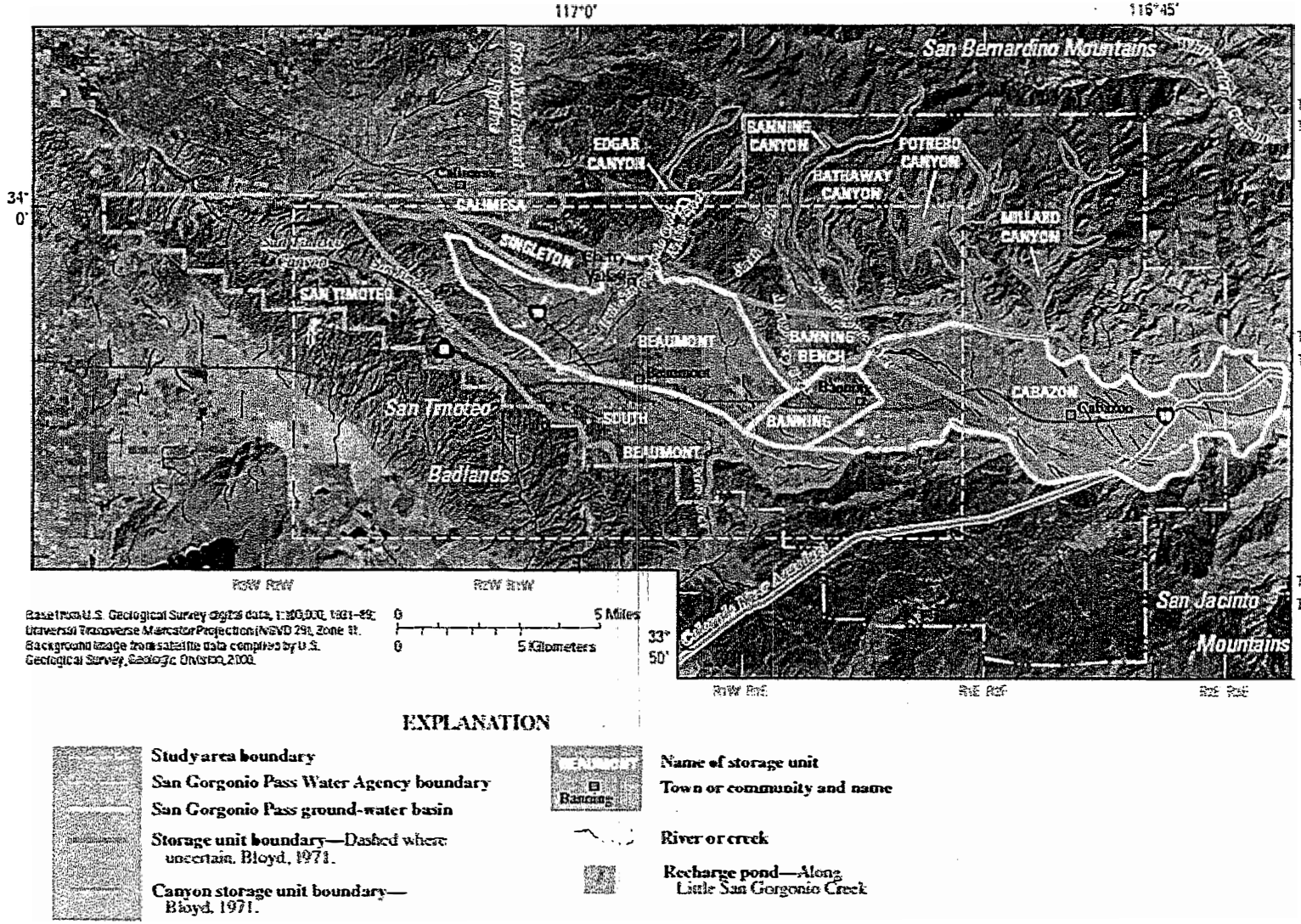
Figure 2: Drainage Basins and Principal Streams



Source USGS Scientific Investigations Report 2006-5026

Figure 3: Groundwater Storage Units

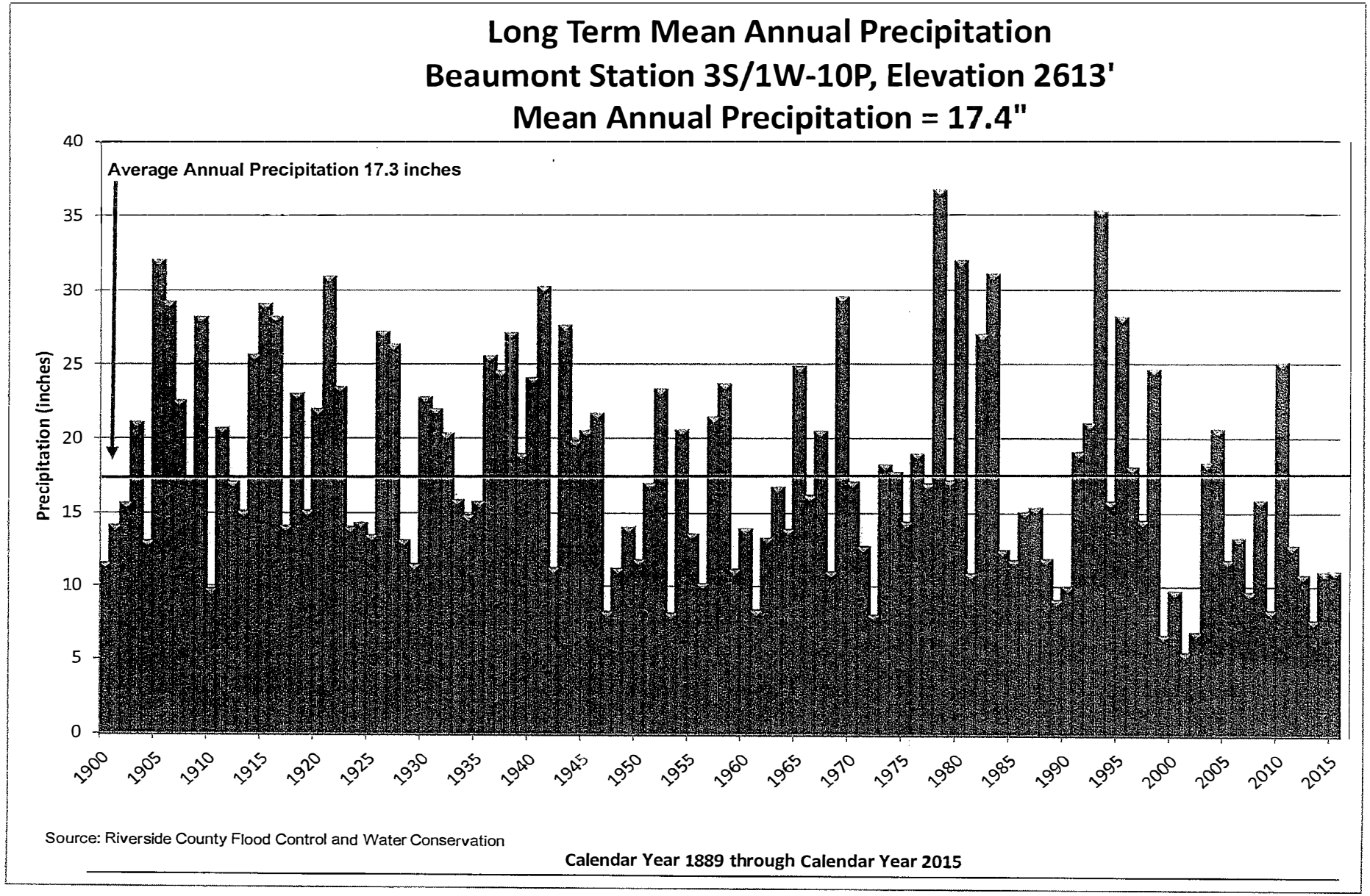


Figure 4: Long Term Mean Annual Precipitation at Beaumont

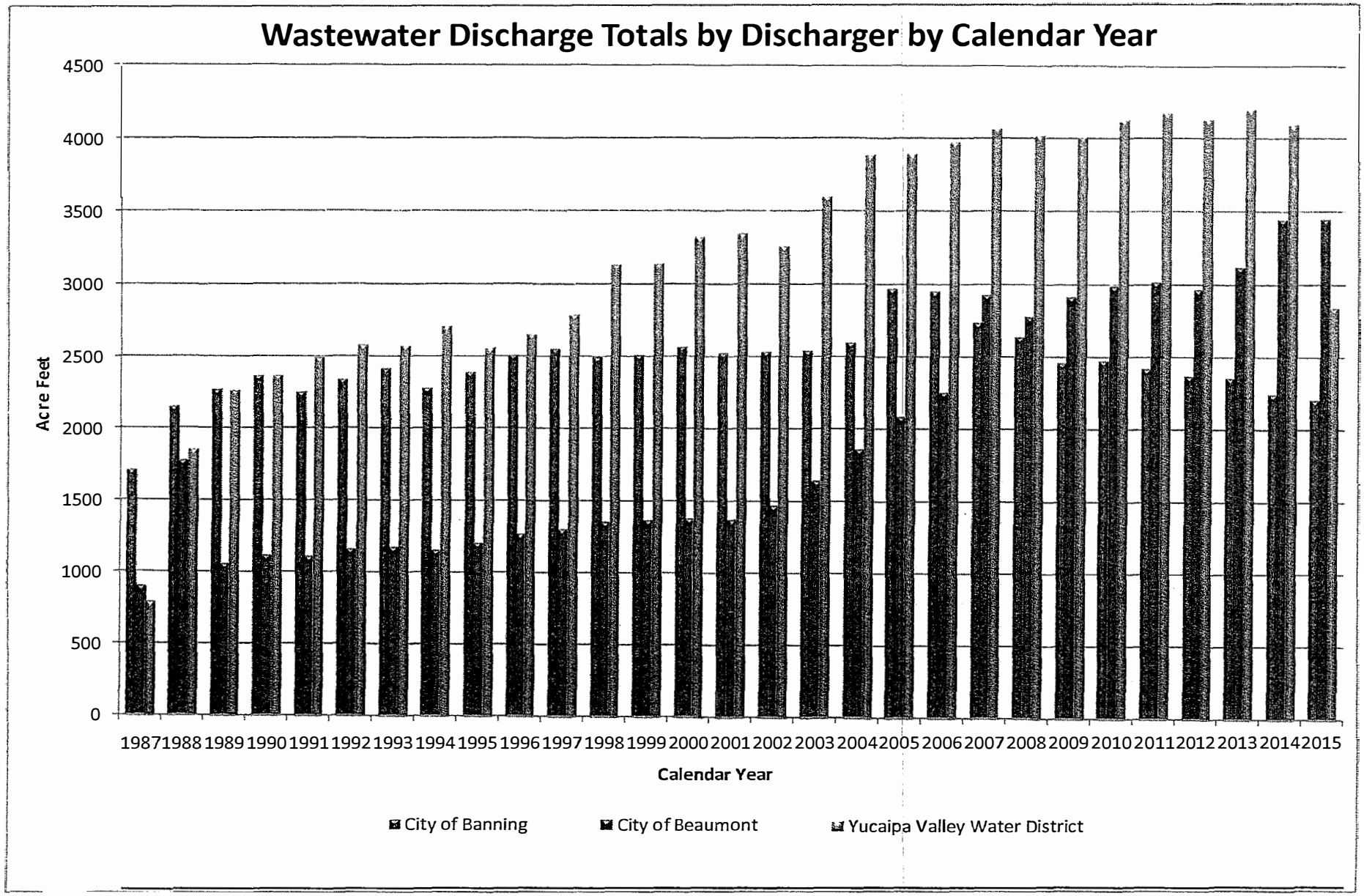


Figure 5: Wastewater Discharge Totals by Discharger by Calendar Year

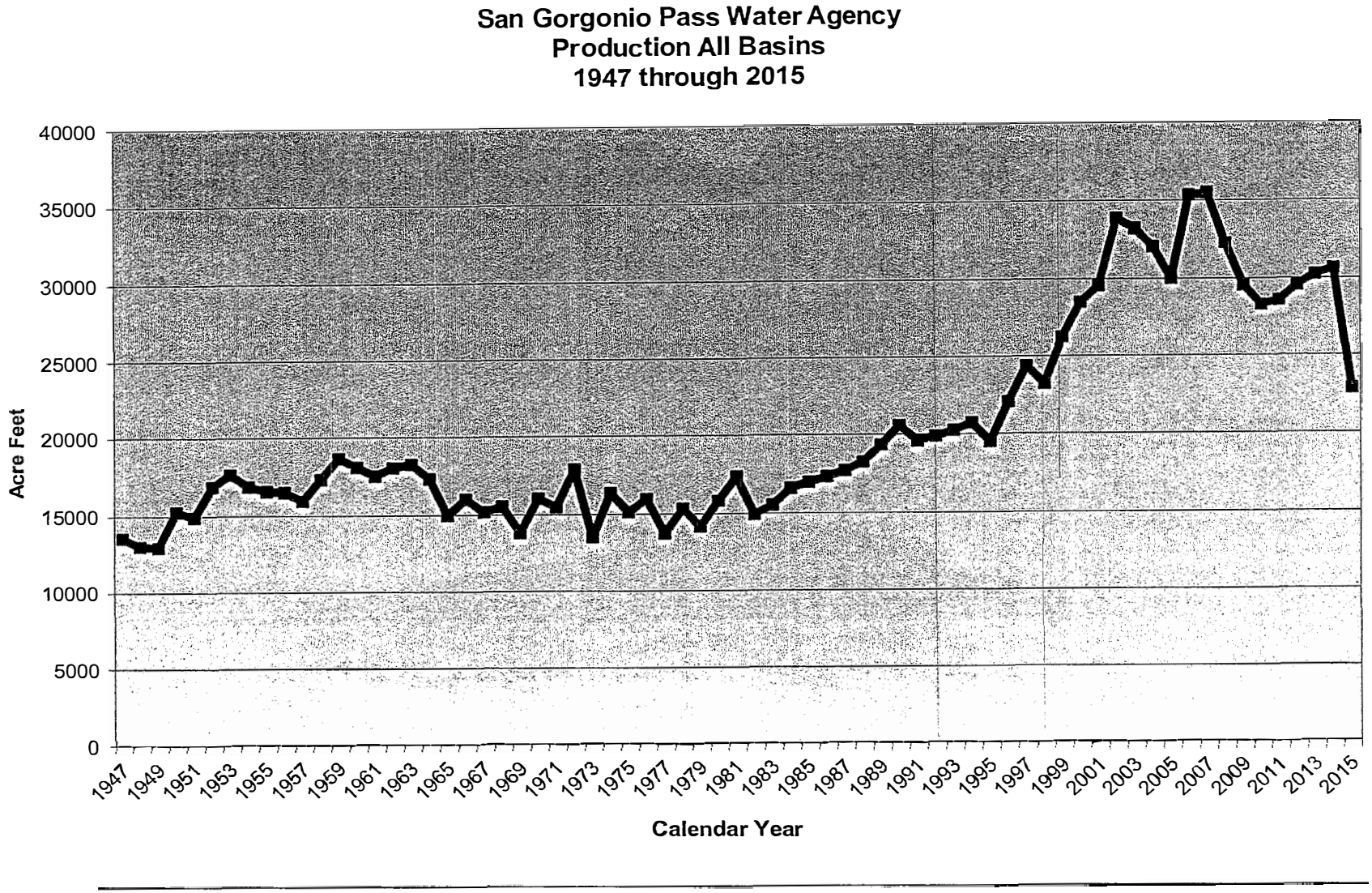


Figure 6: Historical Groundwater Production All Basins 1947 through 2015
(as reported)

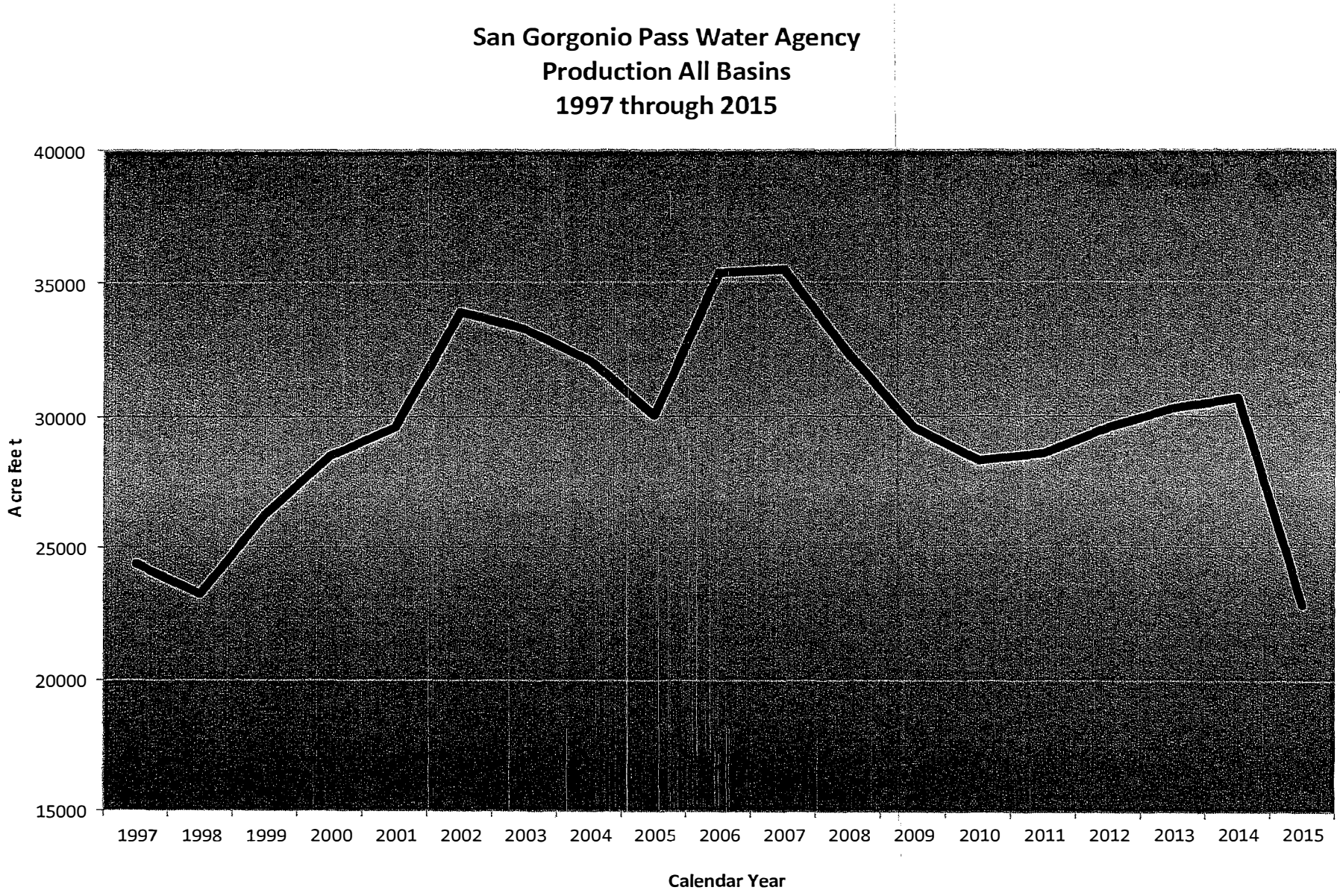


Figure 7: Historical Groundwater Production All Basins 1997 through 2015
(as reported)

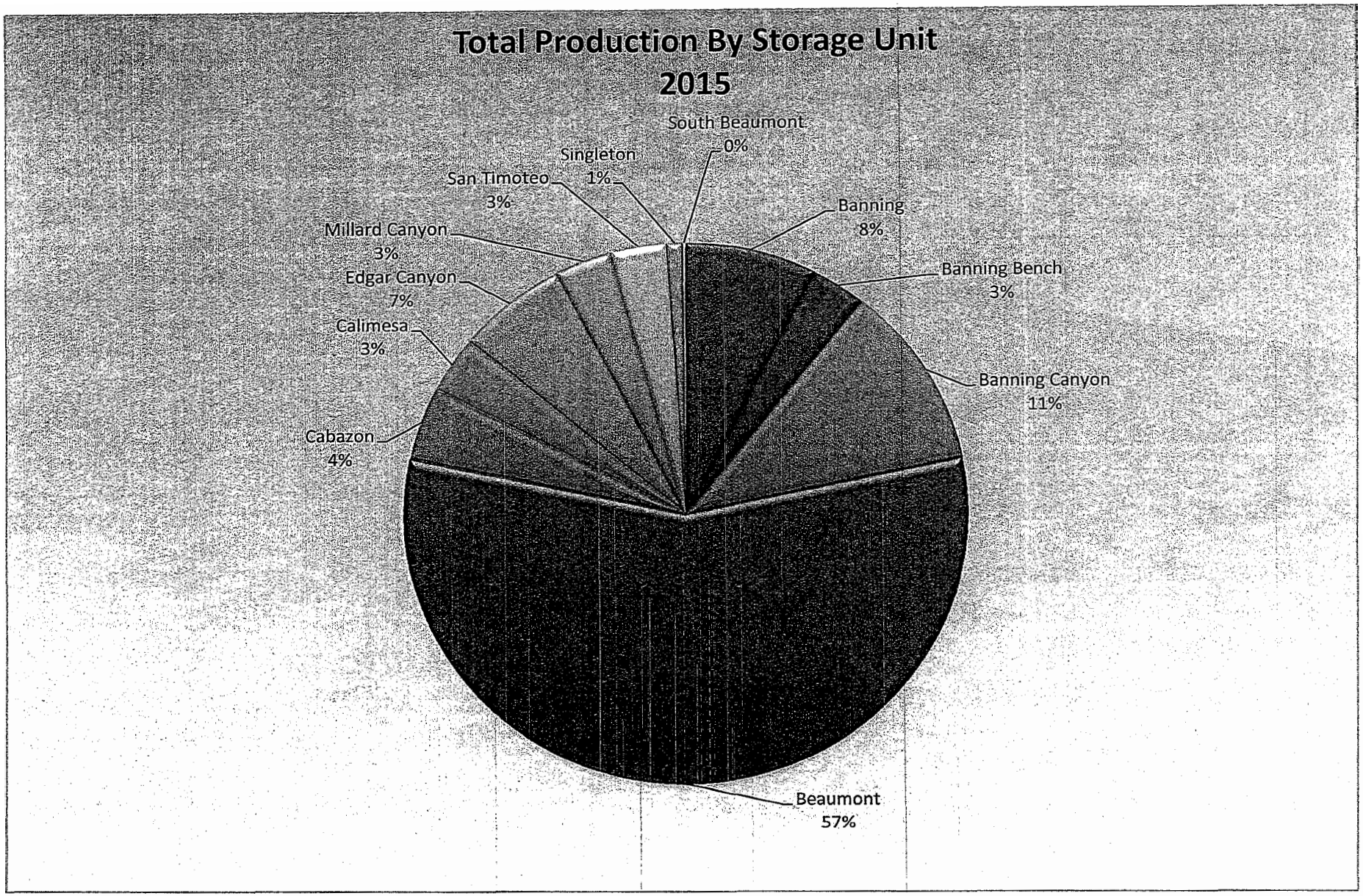


Figure 8: Total Production by Storage Unit in 2015 (as reported)

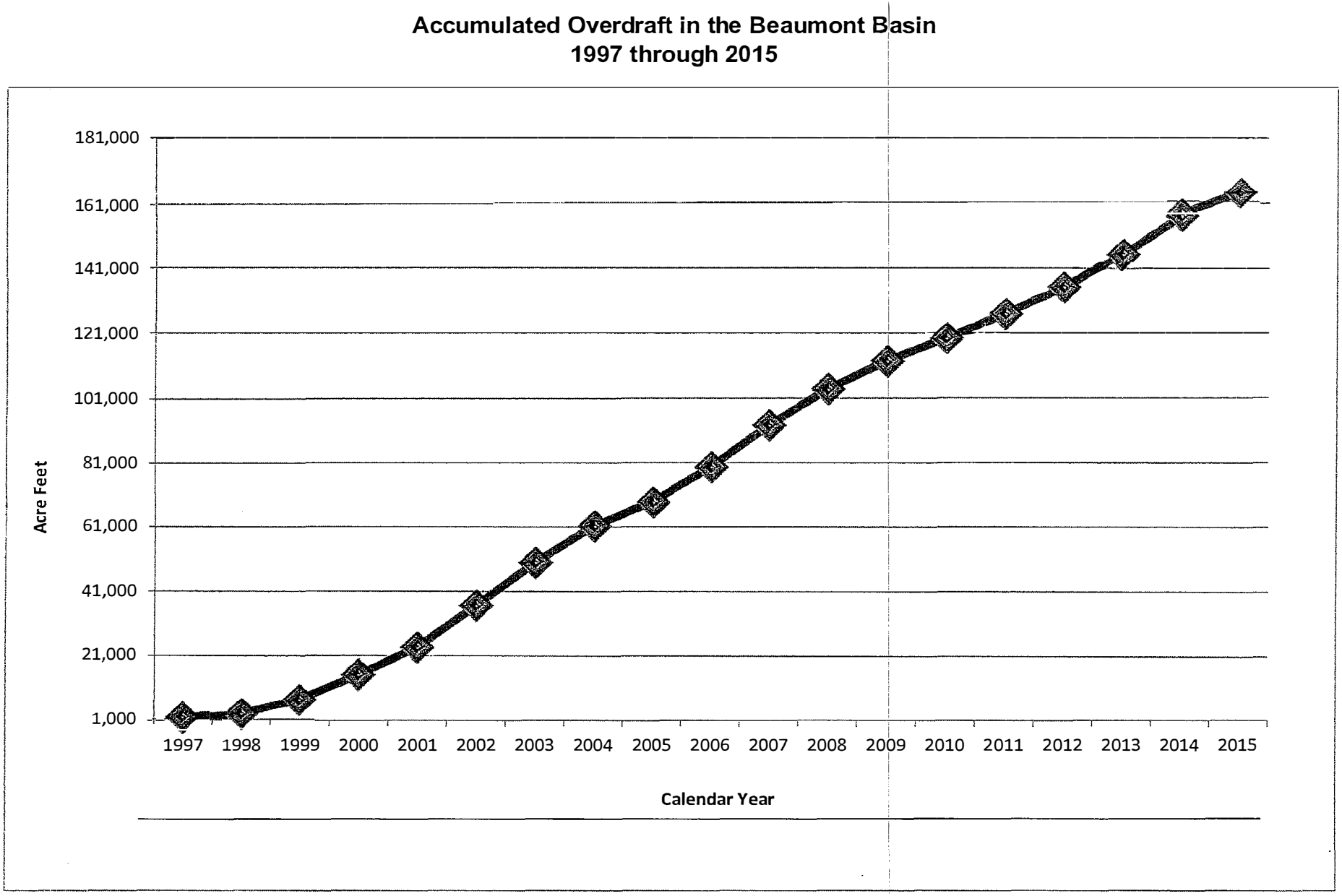


Figure 9a: Accumulated Overdraft in the Beaumont Basin 1997 through 2015

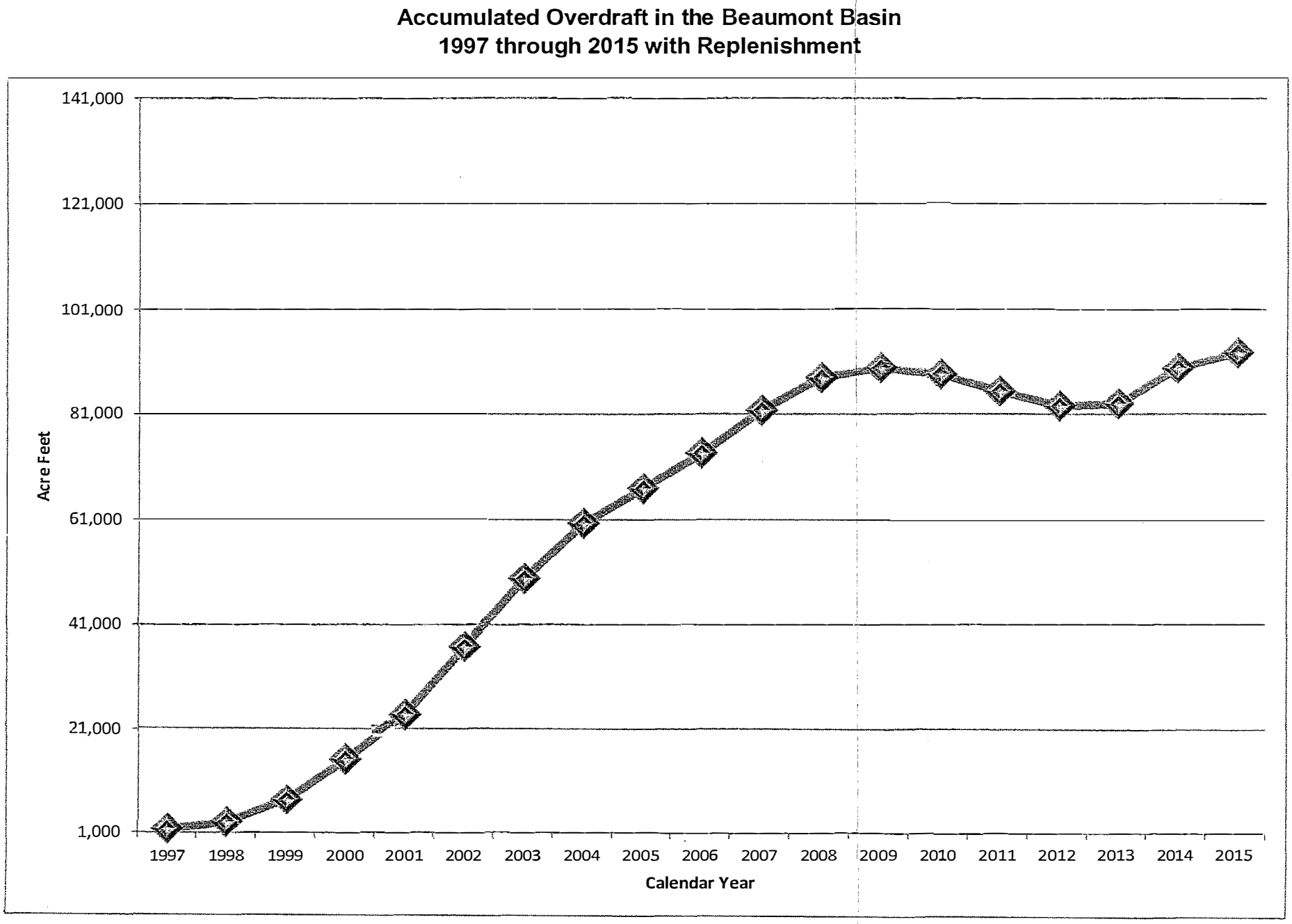


Figure 9b: Accumulated Overdraft in the Beaumont Basin 1997 through 2015 with Replenishment

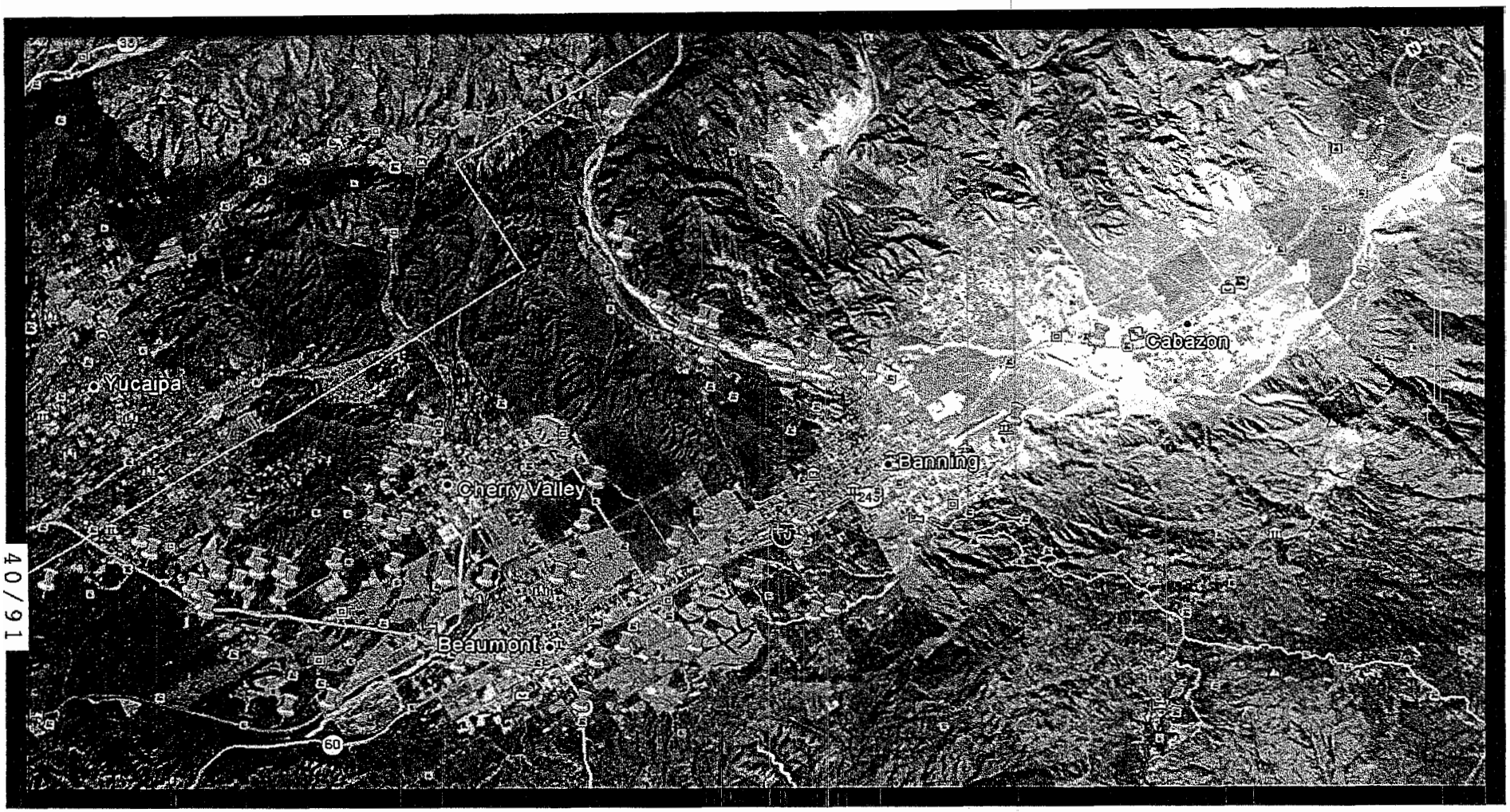


Figure 10: San Gorgonio Pass Water Agency Monitoring Wells

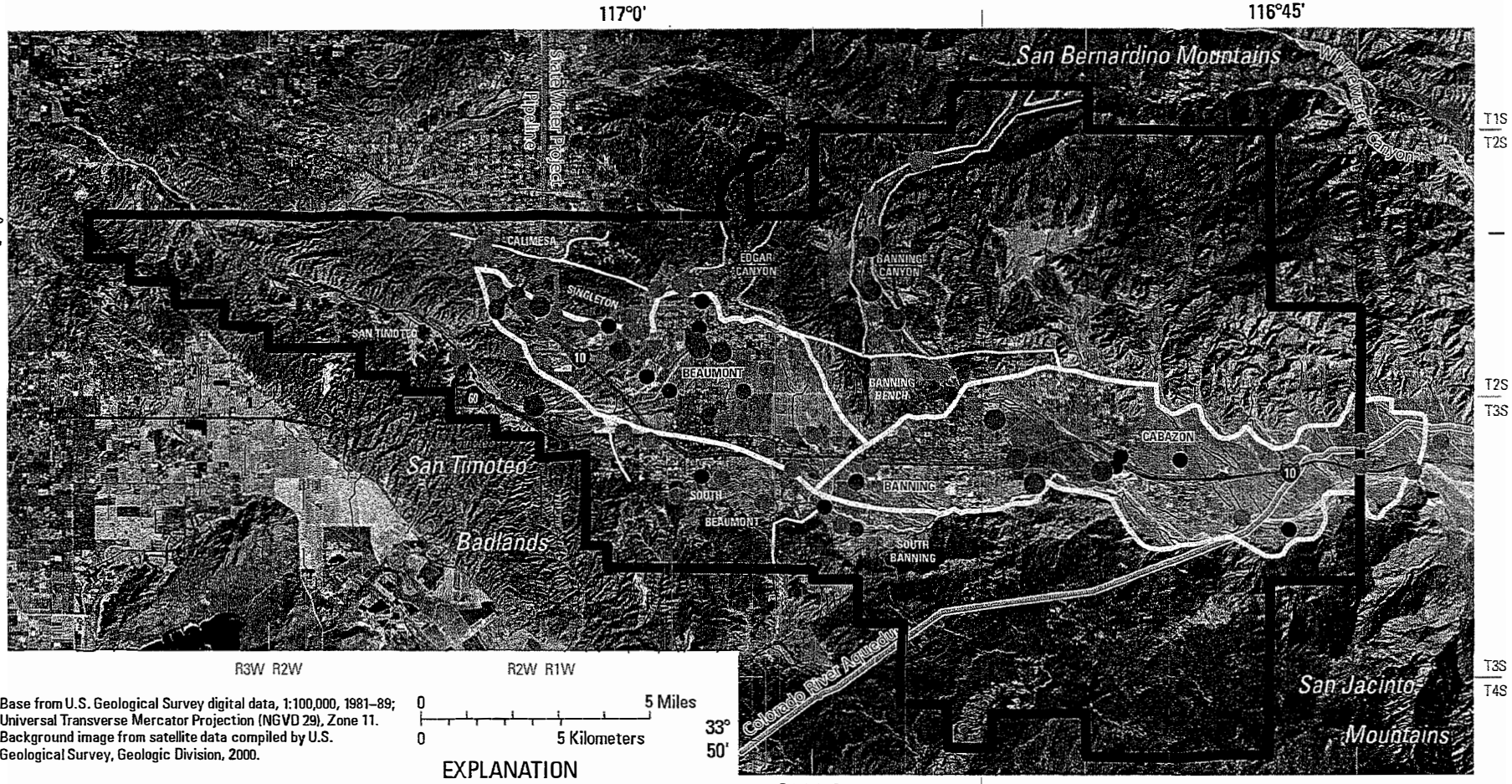
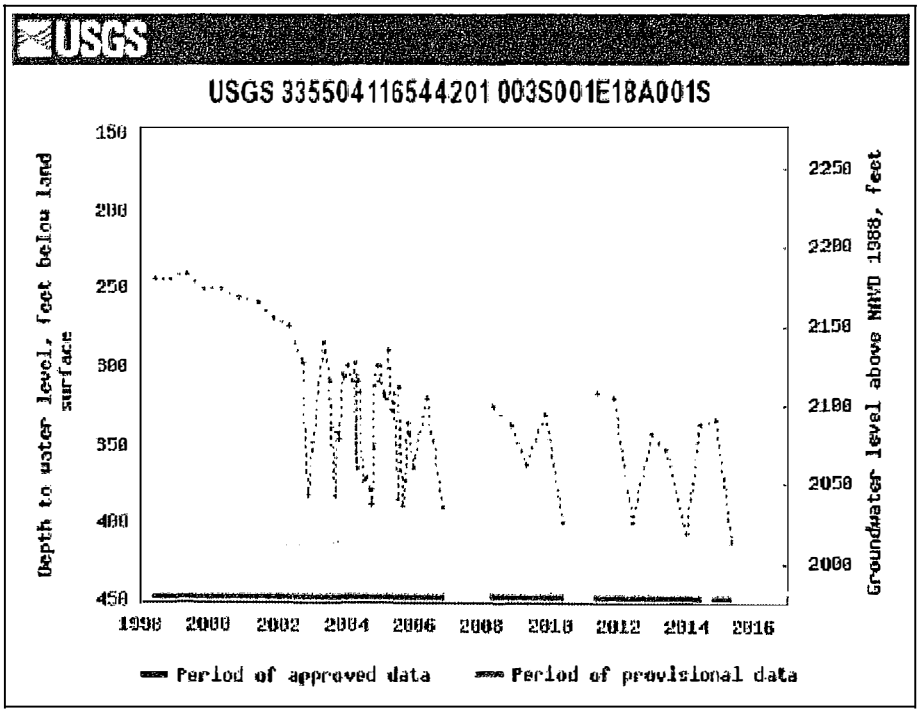


Figure 11. Map showing the water-level network and water-level change between fall 2014 and fall 2015 at selected wells.



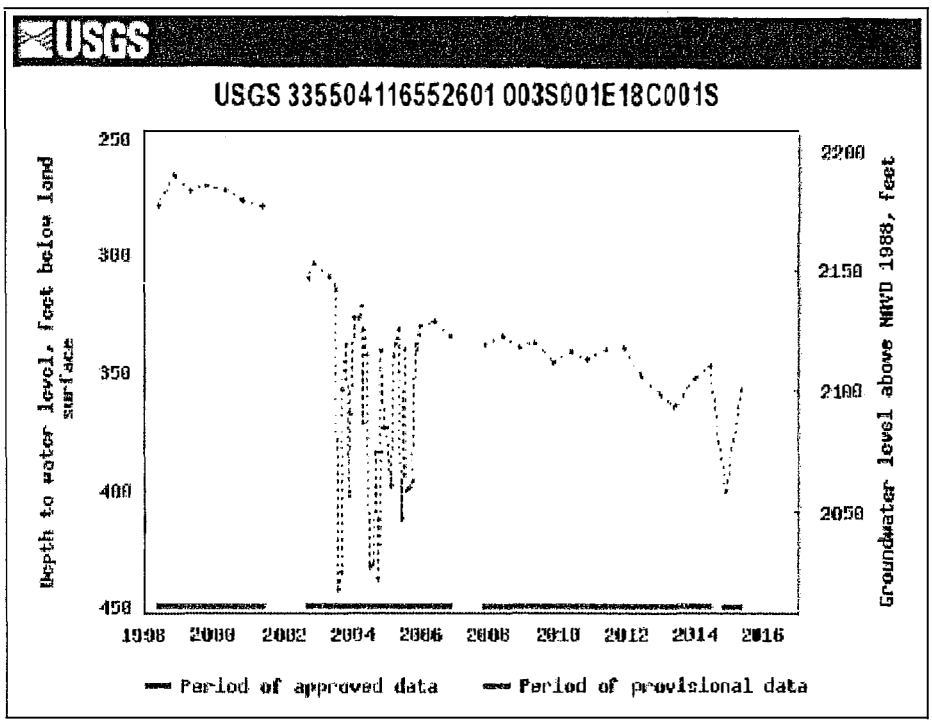
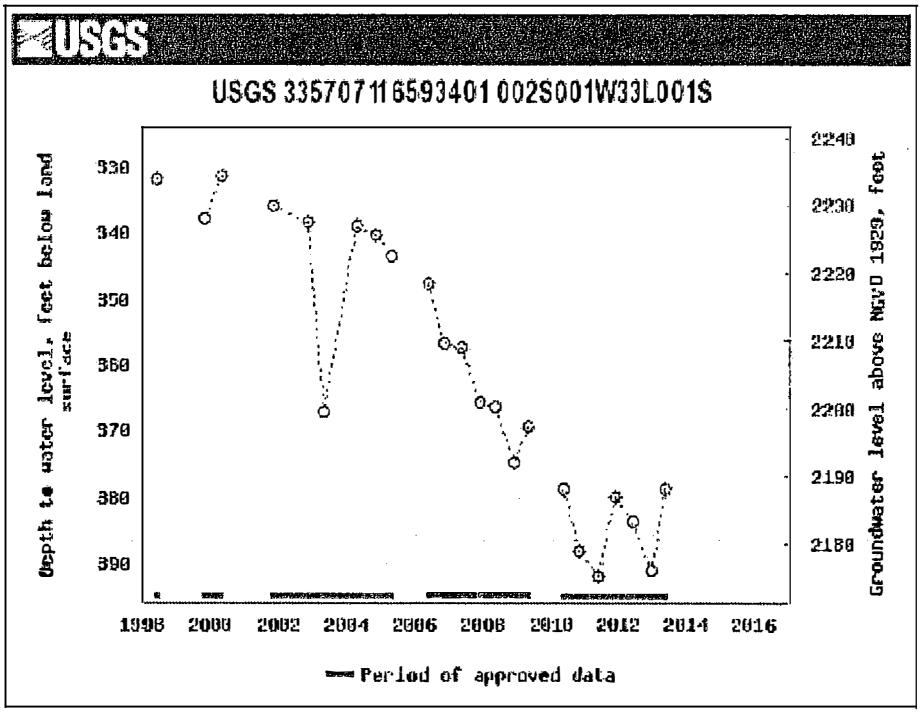


Figure 12: Groundwater Hydrographs – Banning Basin
3S/1E-18AC1 and 3S/1E-18C01



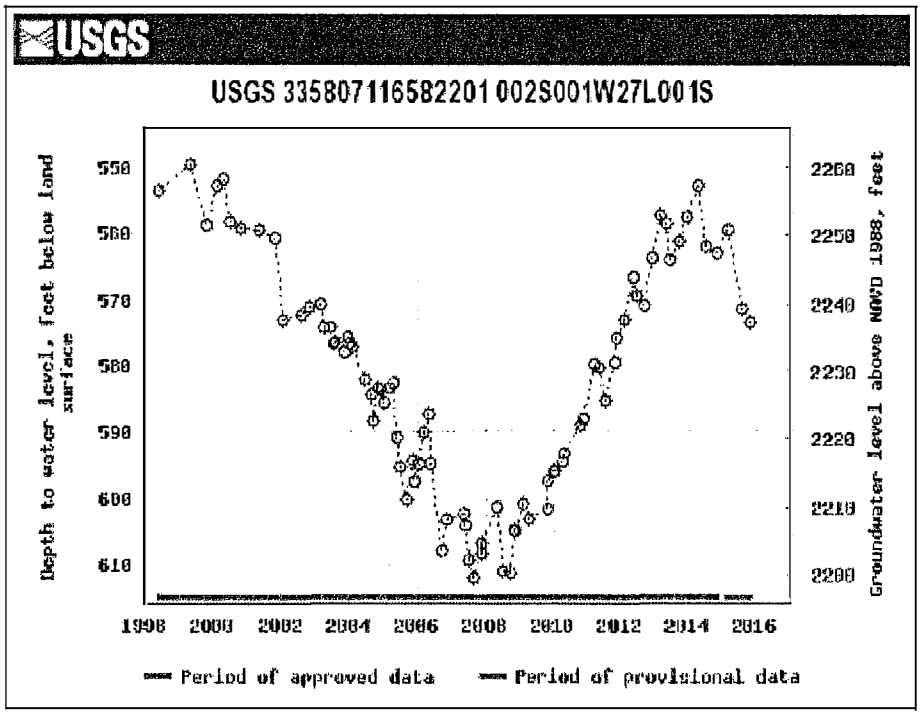


Figure 13: Groundwater Hydrographs – Beaumont Basin
2S/1W-33L01 and 2S/1W-27L01

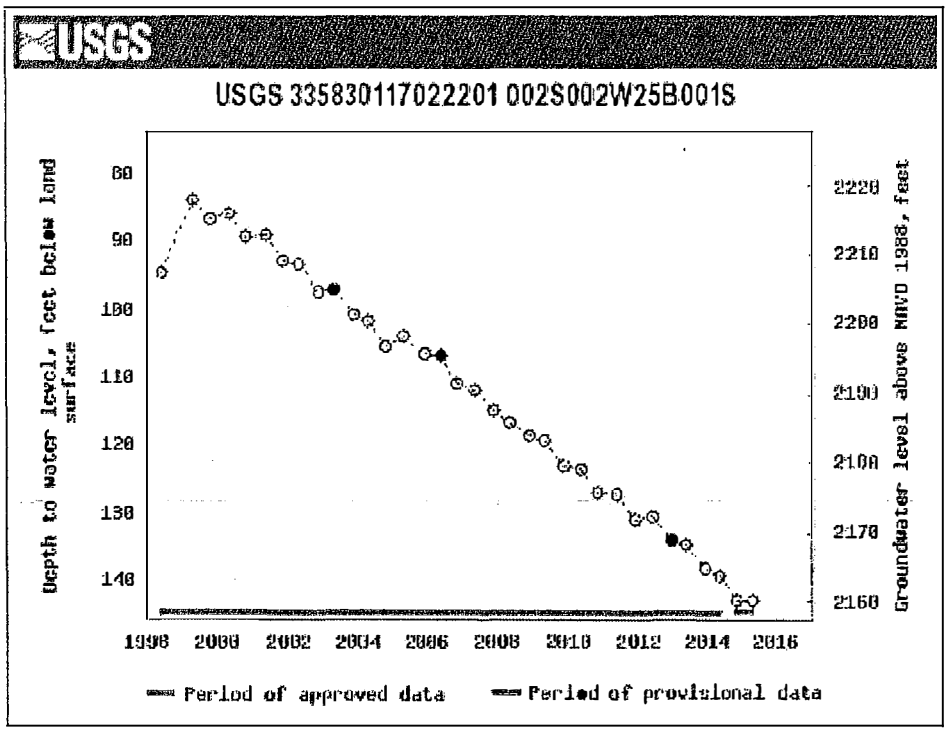
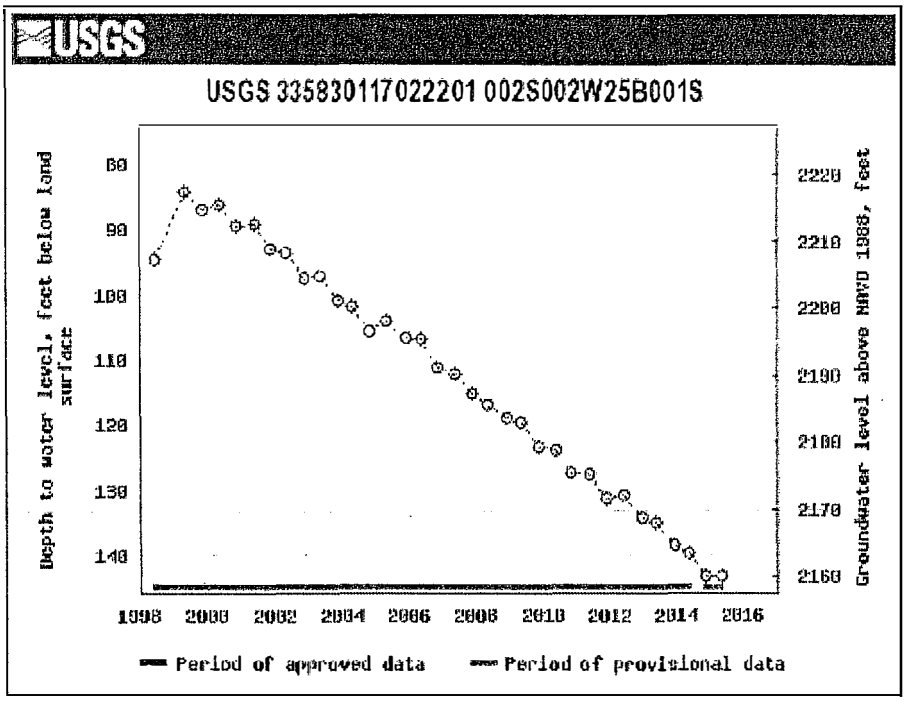


Figure 14: Groundwater Hydrographs – Beaumont Basin 2S/2W-25B01



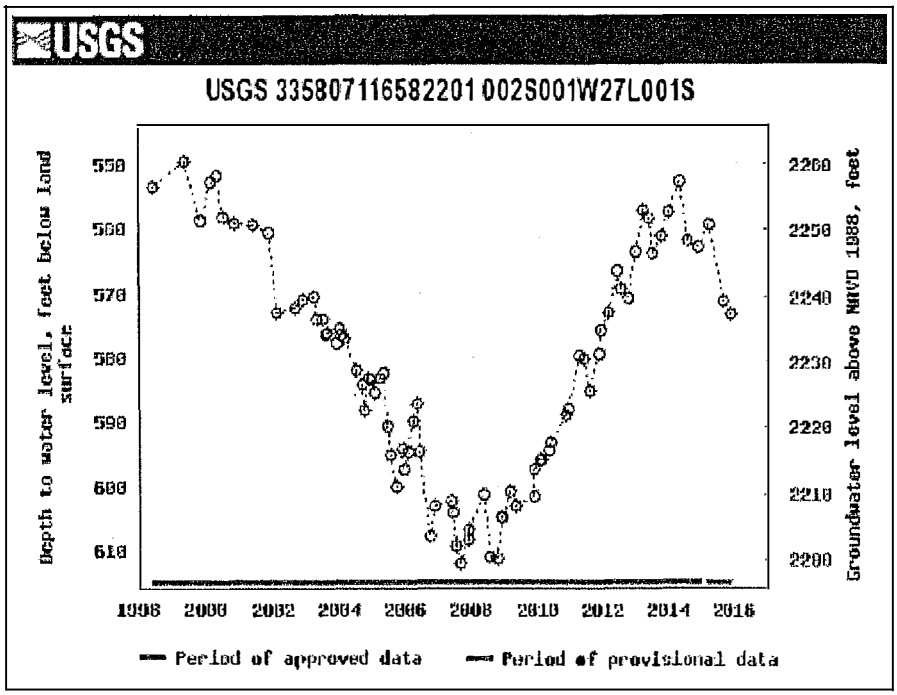
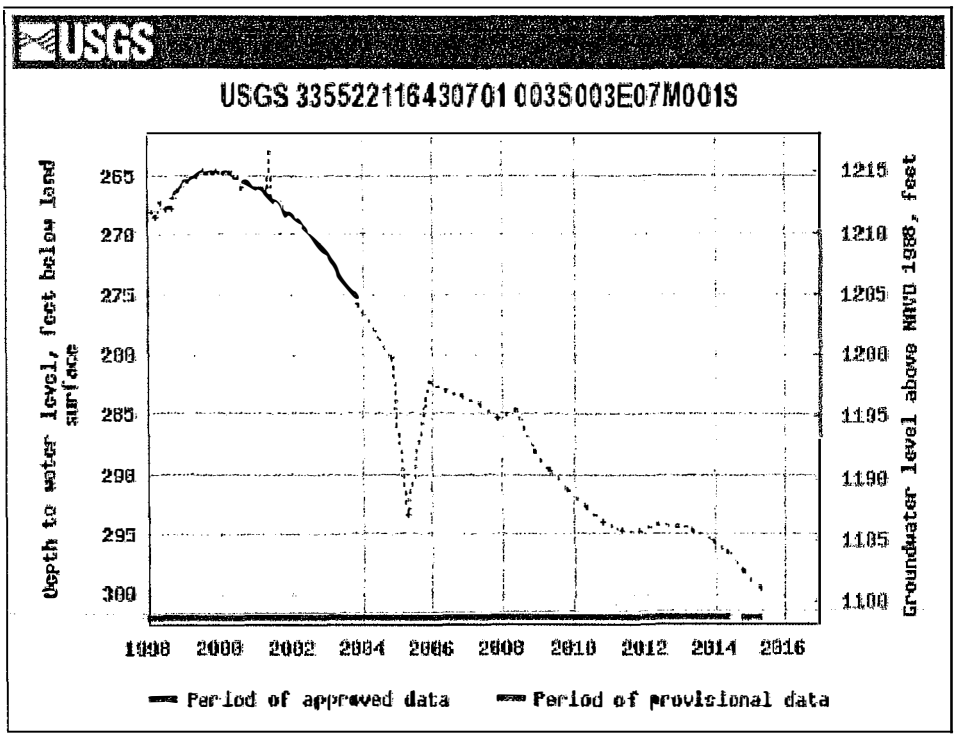


Figure 15: Groundwater Graphs – Beaumont Basin
2S/2W-25B01 and 2S/1W-27L01



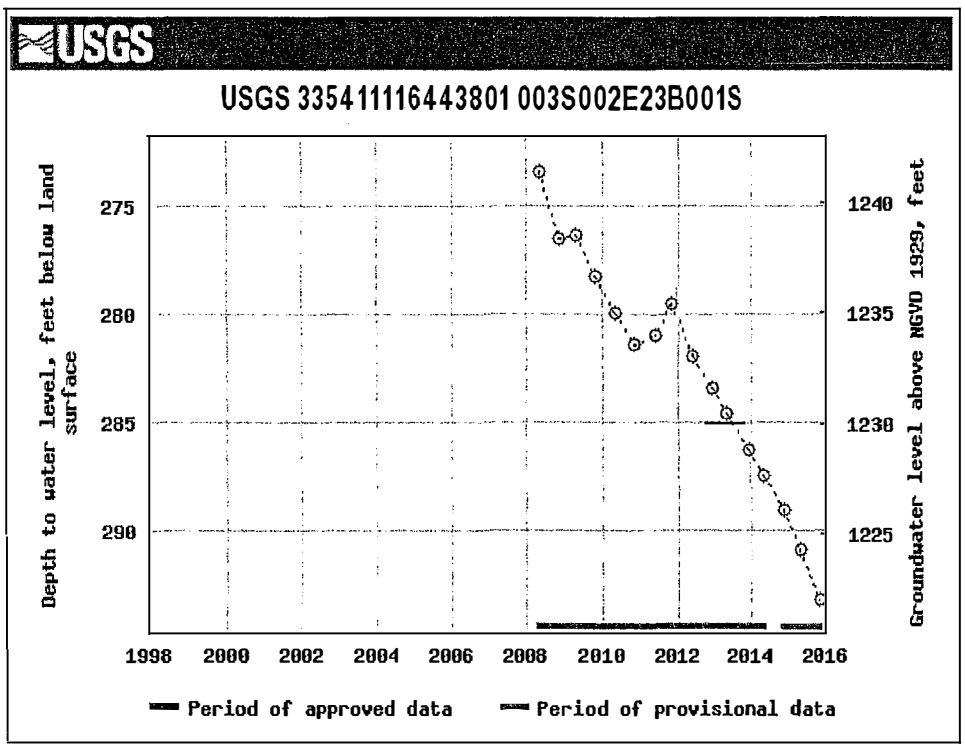
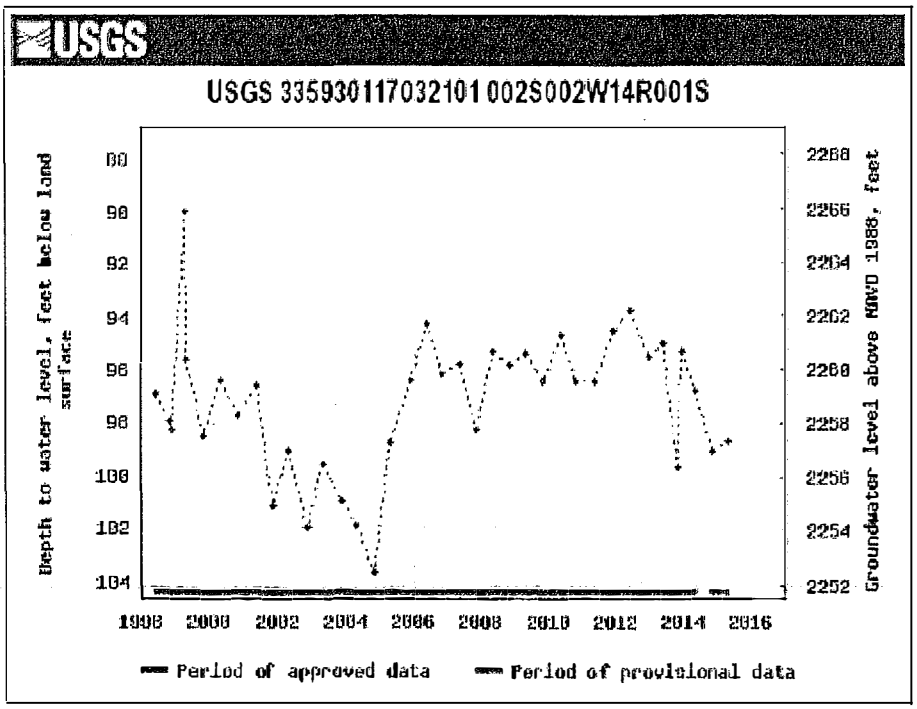


Figure 16: Groundwater Hydrographs – Cabazon Basin
3S/3E-07M0 4 6 / 9 1 2E-23B01



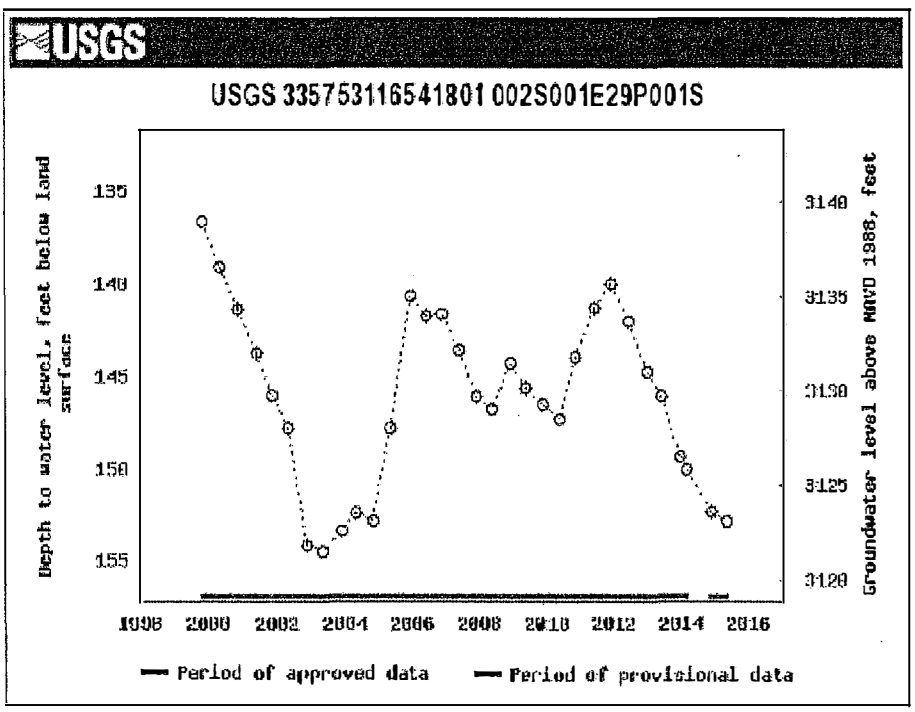


Figure 17: Groundwater Hydrographs – Calimesa and Banning Canyon Basins
2S/2W-14R(4 7 / 9 1 /1E-29P01

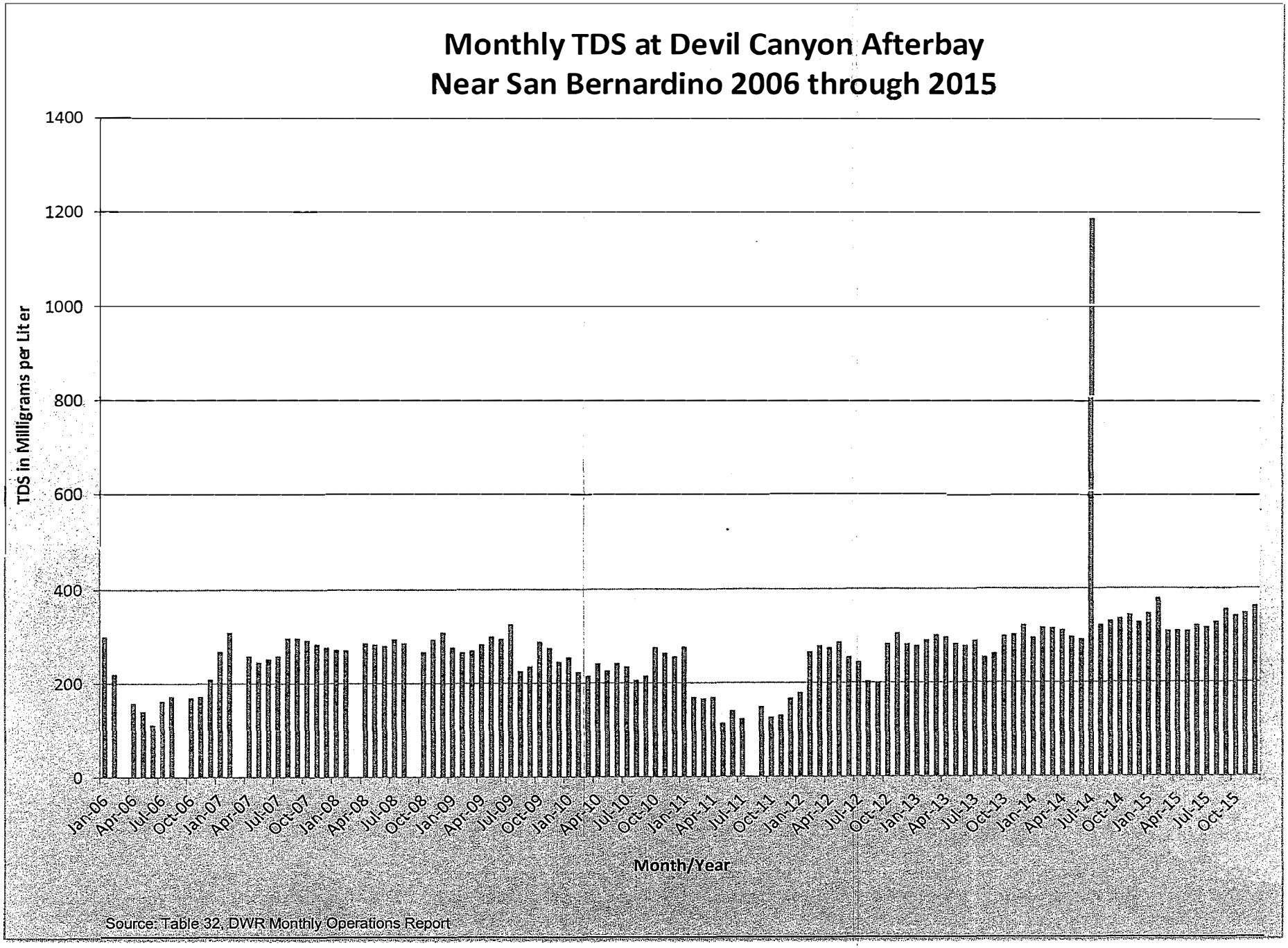


Figure 18: Monthly TDS at Devil Canyon Afterbay near San Bernardino 2006 through 2015

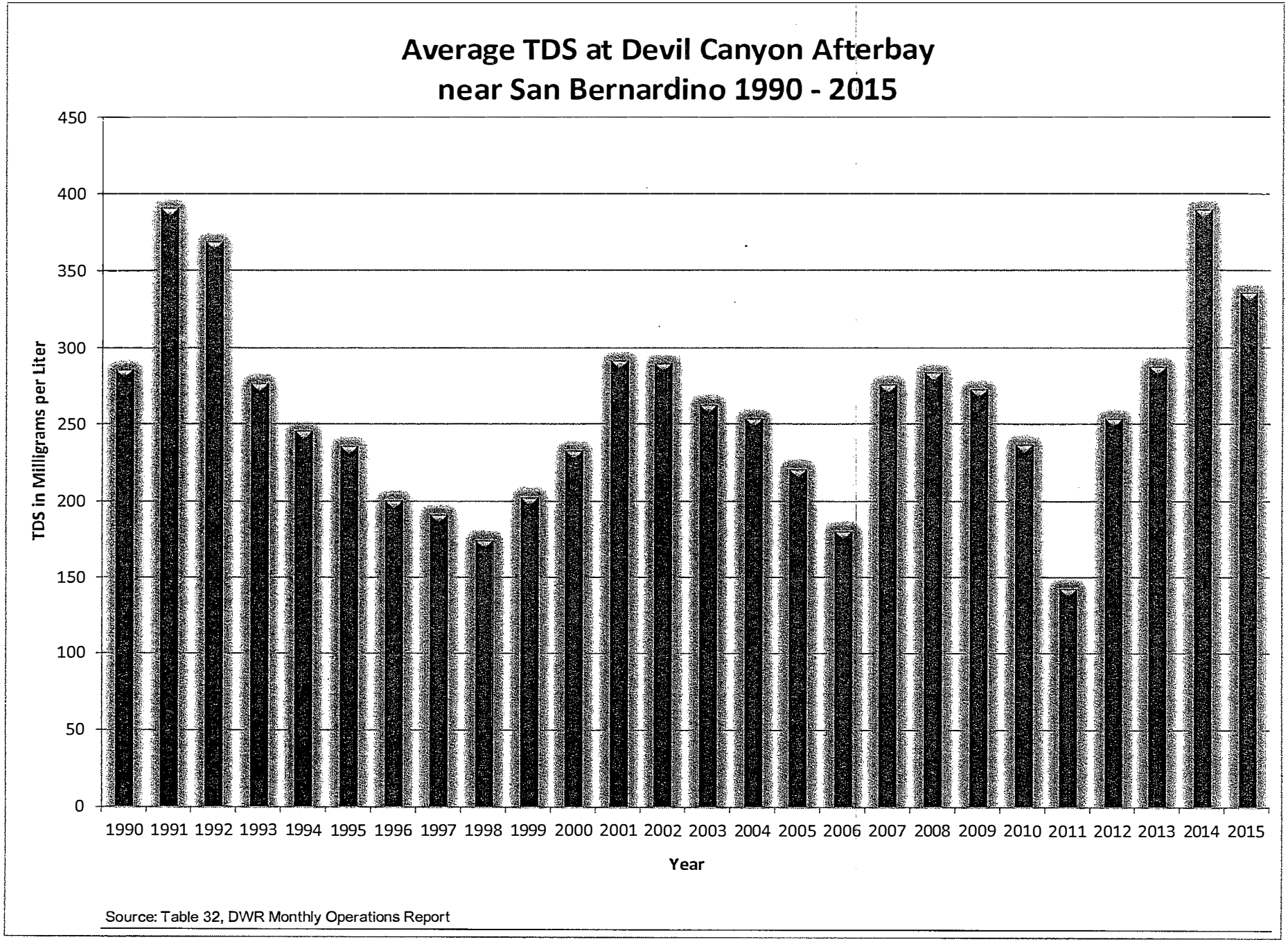


Figure 19: Average TDS at Devil Danyon Afterbay near San Bernardino 1990 through 2015

11/21/16 Draft

SITES PROJECT AUTHORITY'S
AMENDED AND RESTATED
PHASE 1 RESERVOIR PROJECT AGREEMENT

THIS AMENDED AND RESTATED PHASE 1 RESERVOIR PROJECT AGREEMENT (the **"Project Agreement"**) is made effective as of November 21, 2016, by and among (a) the Sites Project Authority (the **"Authority"**) and (b) certain Members and/or Non-Member Participating Parties, listed on the attached **Exhibit A1** (collectively the **"Project Agreement Members"**), and is made with reference to the following facts:

RECITALS

A. Various public agencies in the Sacramento River Watershed, including certain Project Agreement Members, entered into the Modified Third Amended and Restated Sites Project Authority Joint Exercise of Powers Agreement, dated December 21, 2015 (the **"Joint Powers Agreement"**), pursuant to which they formed the Authority to develop the Sites Reservoir Project, which is contained in the CalFed Bay-Delta program Programmatic Record of Decision, August 28, 2000. The Joint Powers Agreement provides a mechanism for "Project Agreements" (as defined in the Joint Powers Agreement) to undertake specific work activities for the development of the Sites Reservoir Project. On December 21, 2015, the Authority's Board of Directors ("Board") also adopted Bylaws for Phase 1 of the Sites Reservoir Project (**"Bylaws"**), which were amended on December 21, 2015, and which also address Project Agreements and their management through Reservoir Project Committees.

B. On April 11, 2016, certain Authority Members of the Authority entered into the PHASE 1 RESERVOIR PROJECT AGREEMENT. Thereafter, the Authority undertook a process to allow for additional Members and Non-Members Participating Parties to become part of the Phase 1 Reservoir Project Agreement, and in certain instances, consistent with the Bylaws, to become Authority Members. The deadline for such additional participation in the Project was August 1, 2016. This AMENDED AND RESTATED PHASE 1 RESERVOIR PROJECT AGREEMENT, provides for the addition of certain Project Agreement Members who have asked to be a party to this Project Agreement and their addition to the PHASE 1 RESERVOIR PROJECT AGREEMENT has been approved pursuant to Section 9 of the original PHASE 1 RESERVOIR PROJECT AGREEMENT by the then Project Agreement Members and the affirmative vote of at least 75% of the total number of Directors of the Authority.

C. The Project Agreement Members wish to undertake the Project described on the attached **Exhibit B** (the **"Phase 1 Reservoir Project Agreement Requirements"**) in the name of the Authority and in accordance with the Authority's stated Mission as set forth in the fourth Recital of the Joint Powers Agreement. The Project Agreement Members are entering into this Agreement to satisfy the requirements of Article VI of the Joint Powers Agreement. **Exhibit B** defines the Project (herein called the "Project"), including principles to aid in decision-making, the scope of work, budget targets, Phase 1 milestone schedule, approved consultant scopes of work and estimated fees, and related items necessary to complete Phase 1.

D. All members of the Authority have also been given the opportunity to enter into this Project Agreement. The form of this Project Agreement was determined to be consistent with the Joint Powers Agreement and the Bylaws and approved by the Authority's Board of Directors on November 21, 2016.

E. The Authority and the Project Agreement Members acknowledge that one of the Authority's goals, in additional to providing environmental benefits, is to develop and make both a water supply and storage capacity available to water purveyors and landowners within the Sacramento River watershed, and in other areas of California, who are willing to purchase either or both a water supply and storage capacity from the Sites Reservoir Project, and that the Project Agreement Members should have a preference to the water supply or storage capacity.

AGREEMENT

THEREFORE, in consideration of the facts recited above and of the covenants, terms and conditions set forth herein, the parties agree as follows:

Section 1 Purpose:

The purpose of this Project Agreement is to permit the Project Agreement Members to undertake the Project in the name of the Authority consistent with the Joint Powers Agreement. The activities undertaken to carry out the purposes of this Project Agreement shall be those, and only those, authorized by the Reservoir Project Committee (the **"Committee",** defined in Section 2 of this Project Agreement) in accordance with this Project Agreement, the Joint Powers Agreement and its Bylaws. Without limiting in any way the scope of the activities that may be undertaken under this Project Agreement, such activities shall include funding Authority actions and obligations undertaken to carry out the directions of the Committee. Notwithstanding any other

provision of this Project Agreement, no activity undertaken pursuant to this Project Agreement shall conflict with the terms of the Joint Powers Agreement or the Bylaws, nor shall this Project Agreement be construed in any way as creating an entity that is separate and apart from the Authority.

Section 2 Reservoir Project Committee:

(a) Committee Membership. The business of the Project Agreement Members under this Project Agreement shall be conducted by a Committee consisting of one member appointed by each Project Agreement Member. Appointment of each member of the Committee shall be by action of the governing body of the Project Agreement Member appointing such member, and shall be effective upon the appointment date as communicated in writing to the Authority. Project Agreement Members may also appoint one or more alternate Committee members, which alternate(s) shall assume the duties of the Committee member in case of absence or unavailability of such member. Project Agreement Members may also appoint an alternate Committee member from a different Project Agreement Member for convenience in attending Committee meetings, who may cast votes for such Project Committee Members, provided that no person shall represent more than five other Project Committee Members and more than 20% of the weighted vote as provided in Subsection 2(g) at any given meeting. In order to serve as an alternate Committee member, a written evidence of such designation shall be filed with the Committee Secretary. Each member and alternate member shall serve on the Committee from the date of appointment by the governing body of the Project Agreement Member he/she represents and at the pleasure of such governing body.

(b) Officers. The Committee shall select from among its members a Chairperson, who shall annually act as presiding officer, and a Vice Chairperson, to serve in the absence of the Chairperson. There also shall be selected a Secretary, who may, but need not be, a member of the Committee and a Treasurer. All elected officers shall be elected and remain in office at the pleasure of the Committee, upon the affirmative vote of at least a majority of the total weighted vote as provided at Subsection 2(g);

(c) Treasurer. The Authority Treasurer shall serve as the Committee's Treasurer and shall act as the Committee's liaison to the Authority's General Manager and Authority Board on financial matters affecting the Committee. The Treasurer shall prepare and provide regular financial reports to the Committee as determined by the Committee.

(d) General Manager. The Authority's General Manager shall (1)

serve as the Project Director responsible for advancing the Sites Reservoir Project, (2) be a non-voting member of the Committee, (3) ensure coordination of outreach and engagement activities between the Authority and Committee, , and (4) convene, on an as needed basis, legal representatives from the Project Agreement Members and Authority Members to advise the General Manager on legal matters that will be reported to the Committee and Authority on a timely basis.

(e) Meetings. The Chairperson of the Committee or a majority of a quorum of the members of the Committee are authorized to call meetings of the Committee as necessary and appropriate to conduct its business under this Project Agreement. All such meetings shall be open to the public and subject to the requirements set forth in the Ralph M. Brown Act (Government Code Sections 54950 et seq.).

(f) Quorum. A majority of the Reservoir Project Committee members based on the weighted vote provided in Subsection 2(g) shall constitute a quorum of the Committee.

(g) Voting. Notwithstanding any provisions of the Bylaws that might be construed otherwise, for purposes of this Project Agreement, the voting rights of each Project Agreement Member shall be determined as follows:

(i) an equal number of voting shares for each Project Agreement Member participating in Class 1 and/or Class 2 as defined at **Exhibit A1**, that being for each Project Agreement Member, 1 divided by the total number of Project Agreement Members, multiplied by 50%; plus

(ii) an additional number of voting shares for each Project Agreement Member participating in Class 1 and/or Class 2, equal to its respective participating percentage described at Section 4 and defined at **Exhibit A1**, multiplied by 50%, using the version of Exhibit A in effect at the time the Committee votes.

The resulting weighted total of all voting shares shall equal 100. An Example of this weighted voting incorporating the formulas for determining participating percentages is attached at **Exhibit A2**.

(h) Decision-making Thresholds. In accordance with Section 5.7 of the Bylaws, for purposes of this Project Agreement, approval by the Committee for material and non-material changes shall be as follows: for actions other than Material Change Items, action of the Committee shall be taken upon the

affirmative vote of at least a majority of the total weighted vote as provided in Subsection 2(g); for Material Change Items, action shall be taken upon the affirmative vote of at least 75% of the total weighted vote as provided at Subsection 2(g).

(i) Delegation of Authority/Powers and Limitations Thereon. Subject to the direction of the governing bodies of the Project Agreement Members, the Committee shall undertake all actions necessary for carrying out this Project Agreement, including but not limited to setting policy for the Project Agreement Members acting under this Project Agreement with respect to the Project; recommending actions to be undertaken in the name of the Authority under this Project Agreement; determining the basis for calculation of the participation percentages for each fiscal year, and the timing required for payments of obligations hereunder; authorizing expenditure of funds collected under this Project Agreement within the parameters of the approved work plan and budget; and such other actions as shall be reasonably necessary or convenient to carry out the purposes of this Project Agreement. This Section 2(i) is subject to any and all limitations set forth in the Joint Powers Agreement and Bylaws, including but not limited to, any action that constitutes a material change as defined at Section 12.3 of the Bylaws requiring the approval of both the Committee and the Authority Board, and actions specified in Section 10 of the Bylaws which remain exclusively with the Authority Board.

Section 3 Funding:

(a) Budget. The Committee shall, in cooperation with the Authority's Board, provide and approve both a fiscal year operating budget and reestablish the Phase 1 budget target, annually or more frequently as needed. On September 21, 2015, the Board approved both a fiscal year 2015 operating budget and Phase 1 budget target. Then, on November 11, 2015 the Board approved the fiscal year 2016 operating budget and reaffirmed the Phase 1 budget target for planned work by both the Authority and being delegated to the Committee under the original PHASE 1 RESERVOIR PROJECT AGREEMENT. An amended Phase 1 Work Plan, including annuals budgets, dated November 14, 2016, is attached at **Exhibit B**, along with the budget approval process and requirements. The Project Agreement Members shall contribute their respective pro-rata share of the budgeted sums in accordance with Section 4 of this Project Agreement.

(b) Fiscal Responsibilities. **Exhibit B** specifies the Authority's requirements regarding the fiscal responsibilities of the Committee.

(c) Allocation of Obligations. Should the Project Agreement Members acting collectively under this Project Agreement enter into any contract or other voluntary obligation, such contract or obligation shall be in the name of the Authority; provided, that all financial obligations thereunder shall be satisfied solely with funds provided under this Project Agreement and in accordance with Section 6.

(d) Allocation of Project Agreement Expenses. The Project Agreement Members agree that all Agreement expenses incurred by them and/or by the Authority under this Project Agreement are the costs of the Project Agreement Members and not of the Authority or the Members of the Authority that do not execute this Project Agreement, and shall be paid by the Project Agreement Members; provided, however, that this Section shall not preclude the Project Agreement Members from accepting voluntary contributions and/or Authority Board's pre-approval of in-kind services from other Authority Members, or Project Agreement Members, and applying such contributions to the purposes hereof. The Project Agreement Members further agree to pay that share of any Authority costs reasonably determined by the Authority's Board to have been incurred by the Authority to administer this Project Agreement. Before the Authority's costs of administering this Project Agreement become payable, the Authority will provide its calculation of such costs to the Committee, which will have the right to audit those costs and provide comments on the calculation to the Authority Board. The Authority Board shall consider the Committee's comments, if any, including the results of any such audit, in a public meeting before the Authority Board approves a final invoice for such costs.

Section 4 Participation Percentages:

Each Project Agreement Member shall pay that share of costs for activities undertaken pursuant to this Project Agreement, whether undertaken in the name of the Authority or otherwise, equal to such Project Agreement Member participation percentage as established in this Section 4. The initial participation percentages of the Project Agreement Member are set forth at the attached **Exhibit A1**. These initial participation percentages are for the purpose of establishing the Reservoir Project Agreement Members respective responsibilities for start-up costs and other amounts contained in the approved Fiscal year budget and Phase 1 budget target, which is defined as the "Reservoir Total" on **Exhibit B**. The participation percentages of each Project Agreement Member will be modified by the Committee from time to time as the result of the admission of a new Project Agreement Member to this Project Agreement or the withdrawal of a Project Agreement Member, and **Exhibit A1** shall be amended to reflect all such changes. Such amended **Exhibit A1** shall, upon approval by the Committee,

be attached hereto and upon attachment, shall supersede all prior versions of **Exhibit A1** without the requirement of further amendment of this Project Agreement.

Section 5. Future Development of the Sites Reservoir Project:

(a) The Project Agreement Members acknowledge that the Sites Reservoir Project is still in the conceptual stage and there are no assurances that the Reservoir will be constructed or that any water supplies will be developed as a result of this Project Agreement. Exhibit B includes a partial list of some of the risks and uncertainties that underlie the lack of assurances. The Project Agreement Members therefore recognize that they are not acquiring any interest in the Sites Reservoir Project other than their interest in the specific materials that will be produced by the Project defined on Exhibit B, and that they are not acquiring under this Project Agreement any interest in any future water supply or access to any other services from the Sites Reservoir Project except as provided hereunder.

(b) Without limiting the foregoing, any Project Agreement Member that elects to continue participating in the development, financing, and construction of the Sites Reservoir Project to the time when the Authority offers contracts for a water supply or other services, will be afforded a first right, commensurate with that Member's participation and financial contribution to the Sites Reservoir Project, to contract for a share of any water supply that is developed, and for storage capacity that may be available from the Sites Reservoir Project. In any successor Phase agreements, Project Agreement Members who are parties to this Project Agreement that submitted a proposal to participate before August 1, 2016, shall be granted rights to such share of water supply and storage capacity prior to those becoming parties after that date. The Authority and the Project Agreement Members will cooperate on the drafting of provisions in the water supply contract that will allow a Project Agreement Member or other eligible entity that commits to purchase a Sites Reservoir Project water supply to transfer water that the entity may not need from time to time on terms and conditions acceptable to the entity.

Section 6 Indemnity and Contribution:

(a) Each Project Agreement Member, including Authority Members acting in their capacity as Project Agreement Members and notwithstanding Section 5.9 of the Agreement, shall indemnify, defend and hold the Authority and other Project Agreement Members harmless from and against any liability, cause of action or damage (a **"Cost"**) arising out of the performance of this Project

Agreement in excess of the amount of such Cost multiplied by each Project Agreement Member's participation percentage (defined in Section 4). Notwithstanding the foregoing, to the extent any such liability is caused by the negligent or intentional act or omission of a Project Agreement Member, such Project Agreement Member shall bear such liability.

(b) The Project Agreement Members shall indemnify, defend and hold the Authority and the members of the Authority that do not execute this Project Agreement harmless from and against any liabilities, costs or expenses of any kind arising as a result of the activities described in or undertaken pursuant to this Project Agreement. All assets, rights, benefits, debts, liabilities and obligations attributable to activities undertaken under this Project Agreement shall be assets, rights, benefits, debts, liabilities and obligations solely of the Project Agreement Members in accordance with the terms hereof, and shall not be the assets, rights, benefits, debts, liabilities and obligations of the Authority or of those members of the Authority that have not executed this Project Agreement. Members of the Authority not electing to participate in the Project Agreement shall have no rights, benefits, debts, liabilities or obligations attributable to the Project Agreement.

Section 7 Term:

This Project Agreement shall take effect on the date it is executed by at least two members of the Authority and shall remain in full force and effect until this Project Agreement is amended, rescinded or terminated by the Reservoir Project Committee, or completion of Phase 1 as defined at **Exhibit B**. Notwithstanding the foregoing, upon the expiration of the Joint Powers Agreement, this Project Agreement shall terminate and all uncommitted funds contributed by each Project Agreement Member shall be returned in proportion to the contributions made by each.

Section 8 Withdrawal From Further Participation:

To withdraw from this Project Agreement, a Project Agreement Member shall give the Authority and other Project Agreement Members written notice of such withdrawal not less than 30 days prior to the withdrawal date. As of the withdrawal date, all rights of participation in this Project Agreement shall cease for the withdrawing Project Agreement Member. The financial obligation as prescribed in the Bylaws' Section 5.10 in effect on the withdrawal date, shall consist of the withdrawing Member's share of the following costs: (a) payment of its share of all non-contract costs incurred prior to the date of the written notice of withdrawal, and (b) those contract costs associated with funds approved

in either contract amendments or task orders that were approved prior to the date of the written notice of withdrawal for which the contractor's work extends beyond the withdrawal date. However, a withdrawing member shall have no liability for any change order or extensions of any contractor's work that the remaining Members agree to after the withdrawing Member provides written notice of withdrawal. Withdrawal from this Project Agreement shall not to be considered a Material Change and shall not be subject to the Dispute Resolution process provided for in Section 12.3.5 of the Bylaws.

Section 9 **Admission of New Project Agreement Members:**

Additional Members of the Authority and Non-Member Participating Parties may become Project Agreement Members upon the affirmative vote of at least 75% of the total weighted vote as provided at Subsection 2(g) of the then-current Project Agreement Members and the affirmative vote of at least 75% of the total number of Directors of the Authority, and upon such conditions as are fixed by such Project Agreement Members.

Section 10 **Amendments:**

This Project Agreement may be amended only by a writing executed by at least 75% of the total weighted vote as provided in Subsection 2(g) of the then-current Reservoir Project Committee members.

Section 11 **Assignment; Binding on Successors:**

Except as otherwise provided in this Project Agreement, the rights and duties of the Project Agreement Members may not be assigned or delegated without the written consent of the other Project Agreement Members and the Authority. Any attempt to assign or delegate such rights or duties in contravention of this Project Agreement shall be null and void. Project Agreement Members may assign and delegate their rights and duties under this Project Agreement to other Project Agreement Members, and they may assign, sell, trade, or exchange all or a fraction of the potential benefits (e.g. acre-feet of water supply., megawatt-hours of power) they expect to receive through their participation in this Project Agreement consistent with the Re-balancing process and provisions set forth in Section 14.3.2 of the Bylaws. Any approved assignment or delegation shall be consistent with the terms of any contracts, resolutions, indemnities and other obligations of the Authority then in effect. This Project Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Authority and the Project Agreement Members.

Section 12 Counterparts:

This Project Agreement may be executed by the Authority and the Project Agreement Members in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument. Facsimile and electronic signatures shall be binding for all purposes.

Section 13 Severability:

If one or more clauses, sentences, paragraphs or provisions of this Project Agreement shall be held to be unlawful, invalid or unenforceable, the remainder of the Project Agreement shall not be affected thereby.

Section 14 Notices:

Notices authorized or required to be given under this Project Agreement shall be in writing and shall be deemed to have been given when mailed, postage prepaid, or delivered during working hours, to the addresses set forth **Exhibit C ("Notifications")**, or to such other address as a Project Agreement Member may provide to the Authority and other Project Agreement Members from time to time.

IN WITNESS WHEREOF, the Authority and Project Agreement Members hereto, pursuant to resolutions duly and regularly adopted by their respective governing bodies, have caused their names to be affixed by their proper and respective officers on the date shown below:

Dated: _____ SITES PROJECT AUTHORITY BOARD REPRESENTATIVE

_____

By: _____

Dated: _____ _____

(Authority & Project Agreement Member)

_____

By: _____

EXHIBIT A1:

PHASE 1 RESERVOIR PROJECT AGREEMENT - PARTICIPATION AMOUNTS AND PERCENTAGES

Revision	Effective Date	Status or Authorizing Action
2	2016 Nov 21	Approved by Authority to expand participation based on the this Exhibit A1.

Reservoir Project Agreement Participant	Class 1 (acre-ft.)	Class 2 (acre-ft.)	Participation Percentage[1]	Participant's Actual Weighted Vote[2]
American Canyon, City of	2,000.0		0.58%	0.64%
Antelope Valley-East Kern WA	1,138.0	862.0	0.58%	0.55%
Castaic Lake WA	2,844.9	2,155.1	1.46%	1.38%
Coachella Valley WD	15,078.0	11,422.0	7.74%	7.30%
Colusa County	10,000.0		2.92%	3.20%
Colusa County WD	32,111.0		9.38%	10.28%
Carter MWC		1,000.0	0.29%	0.22%
Desert WA	3,698.4	2,801.6	1.90%	1.79%
Garden Highway MWC		4,000.0	1.17%	0.87%
Glenn-Colusa ID	20,000.0		5.84%	6.40%
Orland-Artois WD	20,000.0		5.84%	6.40%
Pacific Resources MWC		10,000.0	2.92%	2.16%
Reclamation District 108	20,000.0		5.84%	6.40%
Reclamation District 2035	10,000.0	5,000.0	4.38%	4.28%
San Bernardino Municipal WD	17,069.4	12,930.6	8.76%	8.26%
San Gorgonio Pass WA	7,965.7	6,034.3	4.09%	3.85%
Santa Clara Valley WD	13,655.5	10,344.5	7.01%	6.61%
TC6: 4M WD	500.0		0.15%	0.16%

1 Percentage is based on the total amount of Class 1 + Class 2 water.

2 Percentage is based on the different participation factors applied to Class 1 and Class 2 water, respectively.

EXHIBIT A1:

Reservoir Project Agreement Participant	Class 1 (acre-ft.)	Class 2 (acre-ft.)	Participation Percentage[1]	Participant's Actual Weighted Vote[2]
TC6: Cortina WD	300.0		0.09%	0.10%
TC6: Davis WD	2,000.0		0.58%	0.64%
TC6: Dunnigan WD	5,000.0		1.46%	1.60%
TC6: LaGrande WD	1,000.0		0.29%	0.32%
TC6: Proberta WD	3,000.0		0.88%	0.96%
Western Canal Water District	3,500.0		1.02%	1.12%
Westlands WD	11,379.6	8,620.4	5.84%	5.51%
Westside WD	25,000.0		7.30%	8.00%
Wheeler Ridge-Maricopa WSD	11,379.6	8,620.4	5.84%	5.51%
Zone 7 WA	11,379.6	8,620.4	5.84%	5.51%
Total	**250,000.**	**92,411**	**100%**	**100%**
Maximum Available[3]	**250,000.**	**170,000**		

3 Amount is based on (a) operating assumptions from prior DWR studies for their Alternative C (i.e. the large reservoir with 3 Sacramento River points of diversion and operated to maximize SWP benefits while not adversely affecting current CVP operations). The Authority's recommended assumptions (e.g. include a 130,000 acre-ft. of water demand in the west side of the Sacramento Valley) will produce new results which, when combined with the decision related to the application for Prop 1 Chapter 8 (i.e. State can fund up to 50% of Project's development costs) will likely affect the Maximum Available.

EXHIBIT A1:

Method Used to Define Participation Percentages:

Participation Factors: (Refer to Figures 1 and 2)

The Participating Percentages reflect the decision-making contribution of each Project Agreement Member and Non-Member Participating Party via the use of weighting factors, the sum of which totals 100%, exactly.

A. Each Project Agreement Member and Non-Member Participating Party has a membership weighting factor equal to 50%.

B. The remaining 50% is allocated between the Class 1 and Class 2 water benefits, which are described as follows:

Class 1: 50% of the expected annualized yield that would be allocated to the Project Agreement Members represents Class 1 water benefits ("Class 1"). Class 1 water represents the amount of water that would not be made available for Proposition 1, Chapter 8-eligible public benefits assuming the CA Water Commission elects to participate in the Project up to the maximum amount allowed by Proposition 1, Chapter 8, which is 50% of the total Project's development costs.

Class 2: Depending upon decisions by the CA Water Commission (and/or jointly by the Authority and Reservoir Project Agreement Committee) and potentially the federal government, some of the remaining 50% could become available for non-Proposition 1, Chapter 8 uses. For Phase 1, the maximum amount of this additional water, which is referred to as "Class 2" water benefit, is approximately 35% of the total. The remaining 15% is currently not available for potential non-Proposition 1, Chapter 8 uses and it represents the differential amount of long-term annualized water produced should Sites Reservoir be downsized from 1.8 MAF to 1.3 MAF.

Weighting Factors: The combined total of all weighting factors totals 50, exactly. The Class 1 water benefit is the most certain relative to the Class 2 water benefit. To participate in Class 2 water benefits, the Member also needs to be participating in Class 1 water benefits. The weighing factors, totaling 50%, are allocated as follows:

Class 1: 40%, applied to the amount of Class 1 water Members are using as their Phase 1 level of participation.

Class 2: 10% applied to the amount of Class 2 water Project Agrement Members and Non-Member Participating Parties are using as their Phase 1 level of participation.

EXHIBIT A1:

Figure 1: Illustration of the two types of water produced from the Project with its operations integrated with the CVP and SWP.

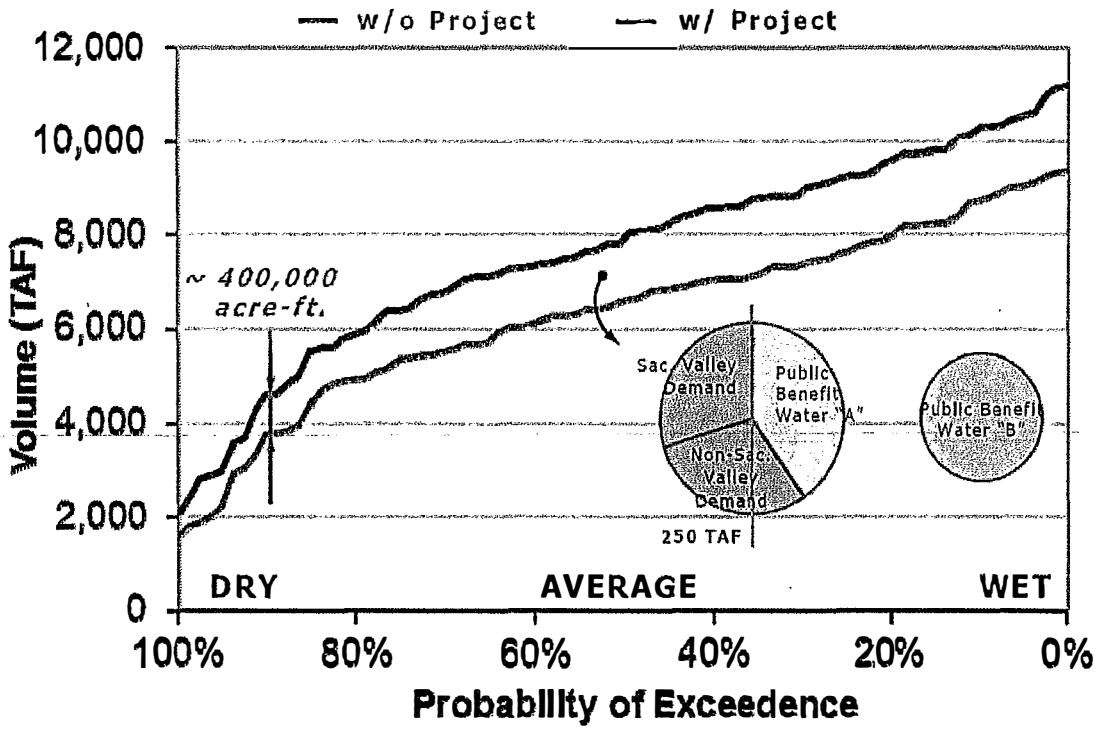
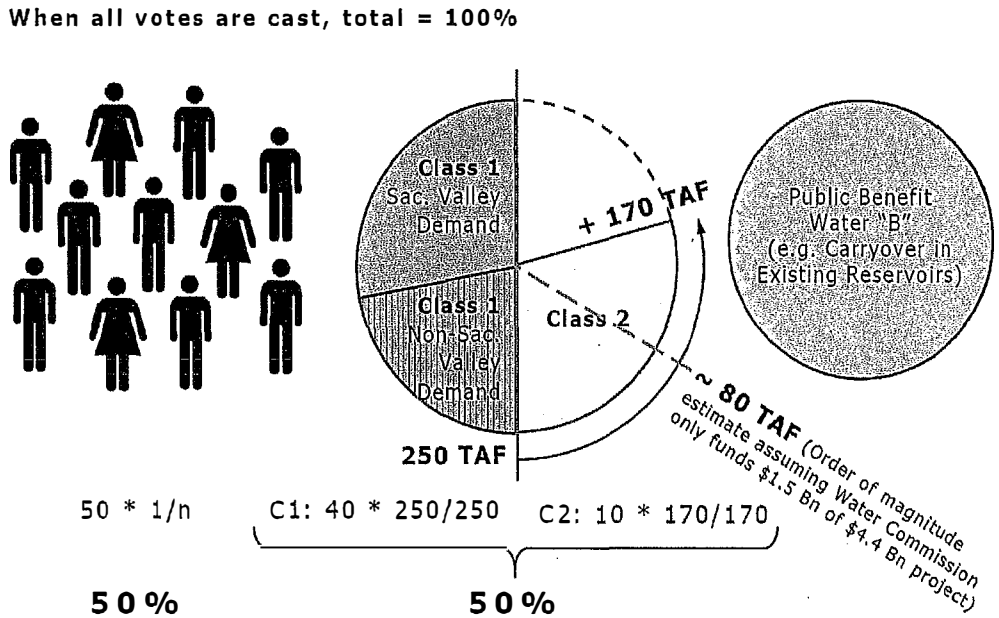


Figure 2: Weighted voting based on Classes of water produced



Assumptions: 28 Project Agreement Members participating in a combination of both Class 1 and/or Class 2 water benefits, such that 100% of the Class 1 water has been allocated (i.e. 250,000 acre-ft) and for Class 2 water benefits, only 92,411 acre-ft. out of 170,000 acre-ft. available has been allocated.

Member A: Participation consists solely of "X" =3,000 acre-ft./year of Class 1 water.

Member B: Participation consists solely of "X" = 20,000 acre-ft./year of Class 1 water.

Member C: Participation consists of "X" =10,000 acre/ft/year of Class 1 and "Y" =6,000 acre-ft/year of Class 2 water benefits.

Member D: Participation consists of "Y" = 2,000 acre-ft/year of Class 2 water benefits.

The **Class 1** weighting factor (WF_1) is **40** & the **Class 2** weighting factor (WF_2) is **10**.

[NOTE: The following table is a complete revision, so redline-strikethrough formatting has not been applied]

Formula	Member:	A	B	C	D
1/28 * **50**		1.79	1.79	1.79	1.79
Class 1 = (X/250,000)*WF_1		0.48	3.20	1.60	0.0
Class 2 = (Y/92,411)* WF_2				0.65	0.21
Weight of Member's Vote		2.27	4.99	4.03	2.00

Total needed for approval:

- Simple Majority = 50
- Material Change = 75

EXHIBIT B: PHASE 1

RESERVOIR PROJECT AGREEMENT

REQUIREMENTS

General Requirements:

The Sites Project Authority (the **"Authority"**) intends to implement the Sites Reservoir Project in accordance with the Agreement and Bylaws, which, in part, include the creation of one of more Project Agreement Committees (a **"Committee"**) to perform project-specific activities. These documents also include the Authority's Mission with project-specific powers and/or authorities set forth in the Bylaws, Section 10.

As stated in the Phase 1 Reservoir Project Agreement, the Reservoir Committee is comprised of certain Members and/or Non-Member Participating Parties, listed on the attached Exhibit A1 (collectively the "Project Agreement Members").

Restatement of Mission: "to be a proponent and facilitator to design and potentially acquire, construct, manage, govern, and operate Sites Reservoir and related facilities; to increase and develop water supplies; to improve the operation of the state's water system; and to provide a net improvement in ecosystem and water quality conditions in the Sacramento River system and the Delta".

The Authority's Bylaws augment its Mission statement through the establishment of its vision statement and values the Authority expects all Project Agreement Members to subscribe to in pursuing the Project Goals.

Primary Project Goal: Maximize both water supply and water supply reliability for (1) the Project Agreement Members and (2) the public benefits – specifically ecosystem and water quality – as defined in Proposition 1, Chapter 8 (2014) in a manner that:

a. Is both technically and environmentally permitable (e.g. DSOD, FERC, CEQA/NEPA, CESA/ESA, Clean Water Act);

b. Is economically and financially viable; having a high return on investment for both the Members and public benefits when measured on both an up-front capital cost (i.e. today) and on a long-term life cycle analysis (i.e. a future set of conditions);

c. Is in accordance with existing (and likely new) water rights and area of origin statutes while acknowledging the leadership value provided by the Authority on behalf of the Sacramento Valley to develop the Project;

d. Continues to pursue a strategy to minimize existing land uses, and post-construction maximizes the amount of land that can be returned or sold for non-Project uses;

e. Can be integrated into the operations of the CVP and SWP while allowing (1) the Project Agreement Members and Non-Member Participating Parties and (2) both the California Water Commission (the **"CWC"**) and public agencies contracting for the public benefits (i.e. DFW, DWR, and SWRCB) to have sufficient control to ensure the investment goals are achieved;

f. Can adapt its operations in response to an uncertain future; affecting both water supply reliability for agricultural and urban uses as well as for the ecosystem in the Sacramento Valley watershed and in the Delta for the benefit of native species;

g. Can provide flexible hydroelectric power generation that supports the integration of renewable energy sources being developed in response to the State's renewable energy and greenhouse gas reduction goals;

h. Prudently manages risk by allocating risk to the entity in the best position to effectively manage the risk;

i. If deemed economically viable without causing a delay to completion of the Project, can contribute to the State meeting its renewable energy goals; and

j. Includes as a contingency plan or last ditch effort, the ability to pursue the Project solely by the Authority and Project Agreement Members should the Authority determine that the Project is still economically and financially viable, yet contracts for public benefits and/or public funding are not viable or in the best interest of the Authority or Project Agreement Members.

Secondary Project Goals include:

a. Providing incremental flood damage reduction opportunities;

b. Developing additional recreation opportunities;

To accomplish this goal, the Authority believes that those working at all levels of this Project should conduct themselves in accordance with the Authority's values, which are restated as follows:

a. Transact all business in an open and honest manner;

b. Communicate effectively;

c. Build trust and confidence – both internally and externally;

d. Be a respectful community partner;

e. Make decisions that are fiscally prudent with a focus on creating value, in part, by evaluating the potential impact to the target cost/acre-ft.; and

f. Utilize best-in-class processes and procedures - especially in the development of project controls and in both the management of risk and ensuring appropriate levels of quality.

Finally, the Authority anticipates that with the development of any subsequent Phase-level Project Agreements the delegations and responsibilities to the Committee will be revisited to reflect the decision-making requirements needed to further advance the Sites Reservoir Project.

Specific Requirements:

1. Governance:

1.1. The Project has been organized to comply with the requirements of Proposition 1, Chapter 8, with the cost centers consolidated such that the Reservoir Project Agreement includes the Storage, Power and Operations cost centers and the Authority also includes the Regional cost center.

Figure 1: Project-level Organization

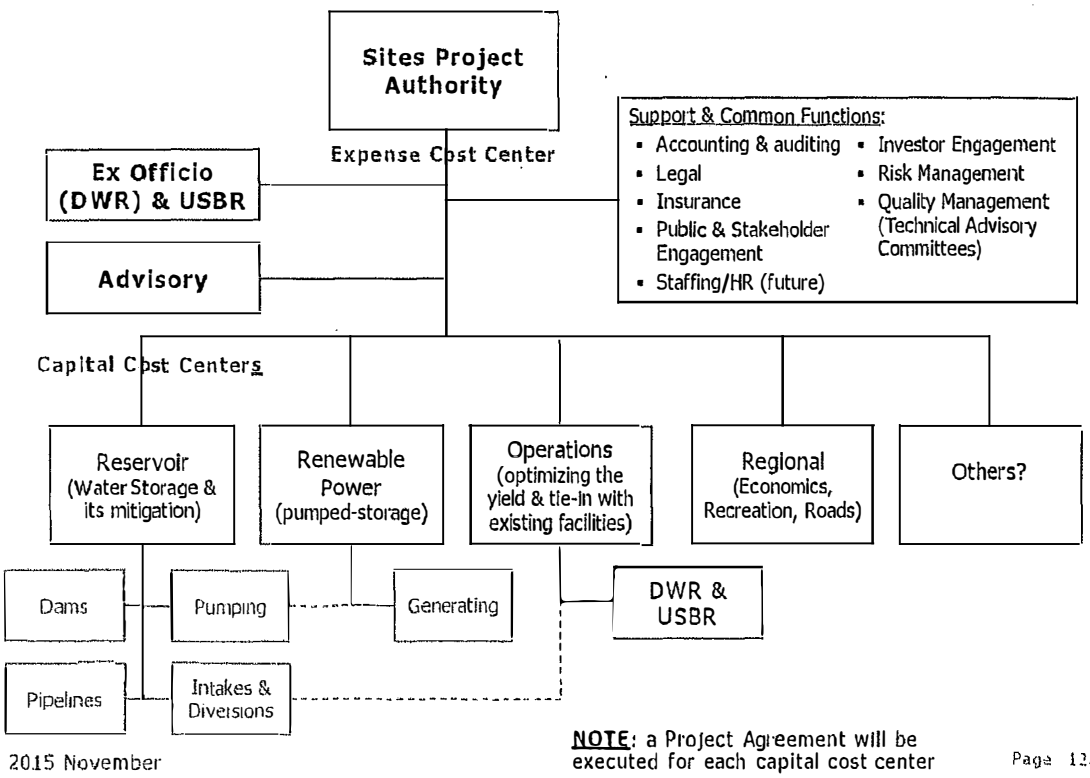
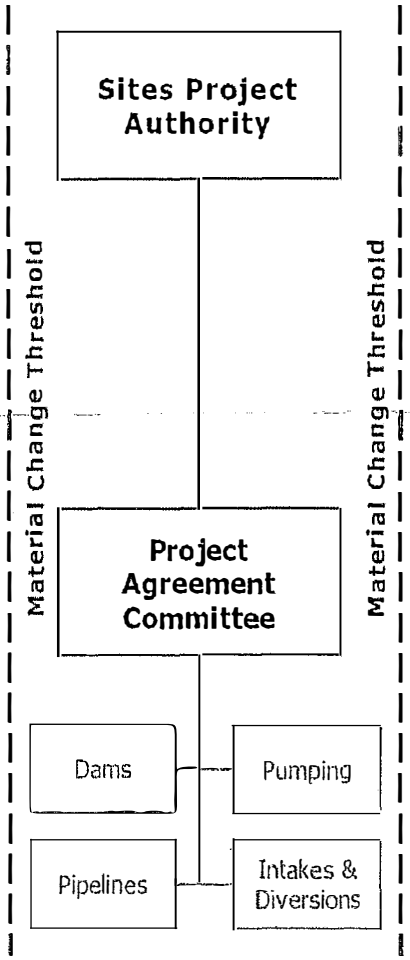


Figure 2: Phase 1 Organization Chart



1.2. For Phase 1 only those authorities specified in this Exhibit B are hereby delegated to the Project Agreement Members. Additional delegations (or rescissions) require execution of an amendment to this Exhibit.

1.3. Material Change Thresholds: Unless otherwise specified below, the thresholds established in the Bylaws, Section 12 apply.

1.4. Each Project Agreement Member shall ensure that its representative to the Committee has been delegated the responsibility by its governing board to make policy-level decisions.

1.5. The Committee can form its own subcommittees including ad-hoc committees with the resulting recommendations and/or work products reported up through the Committee and then to the Authority.

2. Communications Management:

2.1. Communications, both internal and external, should be viewed as a joint responsibility involving all Project Agreement Members. Furthermore, the Authority encourages the dissemination of accurate project data and information to anyone expressing an interest in the Project, regardless of their opinion towards the Project.

2.2. External Communications: The Authority retains the lead responsibility for developing the overall strategy, messaging, brand development and related functions with the Project Agreement Committee providing input and support.

2.2.1. Elected Officials, Public Agencies & Utilities: The Authority shall decide how best to engage external interests, including elected officials, interested federal, state and local entities, the public, and non-governmental organizations. The Authority has the final determination regarding representation from the Project, which may include any Project Agreement Member. Should an activity, such as a meeting, occur where the Project is not on the agenda, yet the Project becomes a discussion topic, the Project Agreement Member in attendance shall, in a timely manner, provide a summary of the Project-related discussions to the Authority.

2.2.2. New Members: The Authority has the sole responsibility to negotiate Project participation requirements and will use the templates developed and used to contract with prior Members as the basis for negotiating. However, members of the Committee are encouraged to identify prospective members and to work with the Authority to expand membership. A Project Agreement Member who has communications with a prospective member shall, in a timely manner, provide a summary of the communication to the Authority.

2.2.3. Landowners: For property owners or tenants whose property may be within the lands identified for construction and/or long term Project operations, a Project Agreement Member contacted shall, in a timely manner, provide a summary of the Project-related contact to the Authority.

2.2.4. All Other: Requests for information regarding the Project will come from across the spectrum. A Project Agreement Member contacted or providing project data and information should use its judgement regarding notifying either the Committee and/or Authority.

2.2.5. Nothing in this Section 2 shall constrain a public agency Member's authority to communicate with its customers and landowners on matters concerning the Project or this Agreement.

3. Personnel (Staffing) Management:

3.1. Only the Authority is authorized to hire personnel. If it believes there is a need, the Project Agreement Committee may recommend the hiring of additional staff to the Authority Board. The recommendation will be in writing with justification of the need and a proposal for funding the additional position. The Authority Board will consider the Committee's recommendation at its next regular meeting or at a special meeting called for the purpose of considering the recommendation.

3.2. Project Agreement Members can, with Authority's approval, provide in-kind services, especially in areas where specialized expertise is needed. Where such assignments are approved, the personnel shall be considered to serve as project staff reporting directly to the General Manager. Any work products developed under such an assignment are deemed to be the intellectual property of the Authority and shall not be distributed without the General Manager's or the Authority's delegated representative's consent.

4. Procurement (Contracting) Management:

4.1. Only the Authority is authorized to enter into contracts or agreements. If it believes there is a need, the Project Agreement Committee may recommend the procurement of additional services or equipment to the Authority Board. The recommendation will be in writing with justification of the need and a proposal for funding the additional services or equipment. The Authority Board will consider the Project Agreement Committee's recommendation at its next regular meeting or at a special meeting called for the purpose of considering the recommendation.

4.2. Direction to consultants and contractors shall be provided through the Authority's General Manager, unless the General Manager has delegated such responsibility to staff or in writing to a management representative from either a Project Agreement Member.

4.3. The Phase 1 work plan anticipates that at least the following services will need to be obtained: Financial advisor, Public Engagement (aka outreach), CEQA legal expertise, water rights expertise, project controls, document management.

4.4. For Proposition 1, Chapter 8, agreements are also required with the CWC for funding and with state agencies (i.e., DFW, DWR, SWRCB) for public benefits. The work plan is predicated on the prerequisite work being performed under the management of the Project Agreement Committee for the Authority's use in negotiating and potential execution of such agreements. For these processes, the Authority intends to convene an ad-hoc committee - for each such agreement that is comprised of both Authority and Project Agreement Committee Members.

4.5. Should the Project Agreement Committee or Authority decide to pursue other agreements either under Proposition 1, or another state or federally-sponsored program, the Authority intends to convene an ad-hoc committee for each agreement that is comprised of both Authority and Project Agreement Committee Members.

4.6. Task Orders and Invoices: For work managed by the Project Agreement Committee, the Project Agreement Committee shall approve each task order and associated invoices for work performed before the Authority will approve any Payment of Claims.

4.7. Change Orders: Proposed change orders that are within the material change thresholds only require Project Agreement Committee approval. However, the Authority retains the authority to execute any contract amendments. Proposed change orders that are deemed to exceed the material change thresholds require approval of both the Project Agreement Committee and the Authority before the Authority can proceed with executing such change orders. For either situation, the Authority or the Project Agreement Committee may invoke the dispute resolution process.

5. Scope Management:

5.1. Phase 1 Work Plan: The scope of work for the Project Agreement is summarized in Attachment 1 to this Exhibit B. The Authority approved the phase-level plan on 2015 September 21, which occurred well in advance of the CWC having defined both the application and selection requirements. On ____, with the Project Agreement Committee's concurrence, the Authority approved an amended Phase 1 Work Plan, which is summarized in an amended Exhibit B. Most of the effort is to (1) advance the studies needed to submit an application to the CWC for potential State of California cost-share in exchange for providing qualifying public benefits and (2) negotiate the funding agreement and contracts for public the benefits. The 3 primary activities include:

Operations: Planning level studies related to the operation of the reservoir and ancillary facilities to provide both direct and indirect water supply and water supply reliability for both water users and Proposition 1, Chapter 8-defined public benefits. These results will (a) be included in updated environmental document, (b) aid in bringing in additional Members and/or Non-Member Participating Parties, and (c) aid in negotiating contracts for the Proposition 1, Chapter 8-defined public benefits. The scope and cost-certainty of the elements in the work plan are highly dependent upon the CWC's process, which is being developed as regulations.

Storage: Planning level studies related to the design and construction of the reservoir and ancillary facilities. Activities include incorporation of changes to minimize land use impacts, update the environmental analysis associated with the changes, advance grid interconnection studies and key facility siting studies for inclusion into the environmental document, preparation of a publicly available draft environmental document meeting CWC requirements, and preparation of a feasibility study also meeting the CWC's requirements. The scope and cost-certainty of the elements in the work plan are fairly well known with the exception of USBR's congressional mandate to produce a Feasibility Report.

Power: The potential inclusion of pumped-storage to provide renewable energy and to integrate with other renewable energy sources such as solar and wind to aid the State in achieving the renewable energy goals. The scope and cost-certainty of the elements in the work plan are highly dependent upon the future electricity market conditions and process to obtain hydropower licenses.

5.2. Consultant Scopes of Work: The Authority has executed professional services contracts to support the preparation of an application to the CWC by advancing details related to the Project's scope and feasibility, ability to provide Proposition 1, Chapter 8-defined public benefits, and advance the environmental document. The respective documents are referred to as:

- Ch2m: Proposition 1 EIR/EIS and Feasibility Study Assistance to Support Sites Project Authority (SPA) Application to California Water Commission Scope of Work, which was executed on Nov 2, 2015.
- AECOM: Scope of Work and Fee Estimate, Sites Reservoir Feasibility Report, which was executed on Nov 2, 2015.
- LWA: Scope of Work and Fee Estimate to prepare a Project Funding Policy and preparation of the Cost Development Model, which was executed on Oct 16, 2016.

5.3. Project Development Plans: The development of Project-level management plans is currently not included in the approved Phase 1 work plan. The timing to prepare these plans is dependent upon the priorities of the Project Agreement Committee Members. It is anticipated that the budget and priority to prepare these plans will, in part, be dependent upon the addition of new members. At any time, the Project Agreement Committee or the Authority can decide to amend both the annual operating and Phase-level budget to seek approval to proceed. The development of the following plans shall be a joint effort between the Authority and the Committee:

5.3.1. Project Management & Integration Plan: The initial plan should be the development of a project-level work breakdown structure and to document processes being developed to manage the Project to identify areas for improvement.

5.3.2. Communications Management Plan: Elements of this plan should include, but are not limited to, how best to conduct outreach to Members, stakeholders and the public, compile the various communications, especially those related to advancing the Project (e.g. obtain permits and negotiate with landowners).

5.3.3. Staffing Management Plan: The initial plan should focus on how to account for and encourage the use of in-kind services provided by Project Agreement Members.

5.3.4. Procurement Management Plan: The initial plan should focus on (a) construction packaging and delivery methods to aid in developing the Prospectus Model and (b) contracts to provide public benefits.

5.3.5. Scope Management Plan: The initial plan should develop a process to manage potential changes in scope.

5.3.6. Schedule Management Plan: The initial plan should document processes being developed to manage the Project to identify areas for improvement.

5.3.7. Cost Management Plan: The initial plan should document processes being developed to manage the Project to identify areas for improvement.

5.3.8. Quality Management Plan: Absent a plan, the fundamental requirement is to ensure that services are being provided and work products provided meet the applicable standard of care for the industry or function (e.g. engineering, planning).

5.3.9. Risk Management Plan: The initial plan should focus on the more-strategic risks and to develop actions to mitigate the risk. Subsequent versions need to include the development of a risk register with assignment of risk to the applicable stakeholders.

5.3.10. Document Management Plan: The initial plan should focus on retention and retrieval of documents and processes to respond to requests for information as required by statute.

6. Schedule Management: An executive, project-level schedule plan that outlines the major tasks to be completed in each phase is included as Attachment 2 to this Exhibit B.

7. Cost Management:

7.1. The cost management requirements defined in Bylaw Section 14 shall also apply to the Project Agreement Committee.

7.2. Work Plan and Budget delegation to the Committee: **Table 1** defines the portion of the Phase 1 work plan that is associated with the work the Project Agreement Committee will manage going forward and will work with the Authority to maintain an updated Phase 1 budget target. The budget is based on the estimated time that costs would become committed (e.g.

by approval of consultant task orders). This budget is being converted into an incurred cash flow to manage the work to maintain a positive monthly cash flow projection. For this Project, any funds unspent at the end of the fiscal year are added to the subsequent fiscal year's approved budget. At the end of Phase 1, any unspent funds will either be redistributed to the Project Agreement Members in accordance with their participation percentage and/or applied towards the work plan for the next Phase with the Member's approval.

Table 1: Phase 1 Budget Transfer to the Committee:

Cost Center	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Total**
Status:	Adjusted	Forecast	Forecast	Forecast	Forecast
Operations	$ -	$ 241,520	$ 326,300	$ 44,280	$ 612,100
Power	$ 906	$ -	$ 595,133	$ $390,140	$ 986,179
Water	$ 116,475	$ 2,664,686	$ 8,139,969	$ 2,603,441	$ 13,524,571
Budget Total	**$ 117,381**	**$ 2,906,206**	**$ 9,061,402**	**$3,037,861**	**$ 15,122,850**

7.3. Budget Approval Process: As the Project Agreement Committee's work plan is adjusted, the Project Agreement Committee will forecast both an estimated cost at the end of each fiscal year and at the end of Phase 1. The work plan shall be maintained to serve as the basis for preparing a fiscal year's operating budget and revised Phase 1 budget target. The Project Agreement Committee and Authority shall cooperate on the development of each fiscal year budget to ensure the scope and effort of shared activities (e.g. engagement) align and to ensure adequate reserves are maintained and resource plans are in place to ensure adequate staffing levels can be committed to perform the work. At least 2 months prior to the end of each fiscal year, the Project Agreement Committee shall adopt a fiscal year operating budget and revised Phase 1 budget target and present them to the Authority. The Authority shall incorporate them along with budgets developed by other Project Agreement Committees (as appropriate) to approve at the project-level (1) a fiscal year operating budget and (2) a Phase 1 budget target. Should this process result in changes in the total funding amount listed in Table 1 above or Attachment 1 of Exhibit B, Attachment 1 of Exhibit B will be amended by written acknowledgement of each of the Project Agreement Members, which will supersede the amounts shown in Table 1 and Attachment 1 of Exhibit B to calculate each Members funding contribution, which is based on both the Participant's Percentage and Actual Weighted Vote (refer to Agreement, Exhibit A1).

7.4. Budget or Funding Transfers:

7.4.1. Transfers or reprioritizations within approved work plan and budget: Either Project Agreement Committee or Authority may unilaterally move work and/or budget amounts between line-items, add, or subtract budget amounts relative to its approved fiscal year budget, provided that the changes do not create a material change or do not require the other party (Authority or Project Agreement Committee) to have to revise its respective work plan and budget. When changes require both parties to adjust their work plans and/or budgets, no changes can be implemented until it has been approved by both the Project Agreement Committee and Authority.

7.4.2. Transfers or reprioritizations between Project Agreement Committees and/or Authority: Transfers between the Project Agreement Committee's and Authority's budgets are permitted so long as the associated funding obligations are also adjusted to reflect the transfer of funds from one party to other party, which shall require the approval of both parties before any changes can be implemented.

7.5. Reporting: The Project Agreement Committee and Authority shall endeavor to maintain a transparent approach to managing costs through the services of a shared Treasurer and project accountant. Both parties agree to provide timely cost data to the Treasurer and to work diligently to resolve any discrepancies in an expeditious manner. The Treasurer shall provide timely reporting to both the Authority and Project Agreement Committee.

7.6. Auditing: The Authority shall ensure that the Project costs are audited annually and the results are shared with the Project Agreement Committee.

7.7. Accounts Receivable and Payable: The Project Agreement Committee and Authority agree to utilize a common software platform and processes (e.g. common fiscal year) to ensure timely collection and payment. Should the Authority's auditor determine that corrections are required to comply with the Agreement, bylaws and/or Generally Accepted Accounting Principles, both parties shall work diligently to correct the deficiency to the auditor's satisfaction.

8. Reserved for Quality Management: (Future amendment)

9. Risk Management:

9.1. Key Risks affecting Phase 1 include and are not limited to the following:

9.1.1. Project Development: Prior to passage of Proposition 1, the Sites Reservoir Project was being advanced by DWR in coordination with USBR with the inherent project development risks essentially being 'backstopped' financially by the creditworthiness of the State and the United States. To be eligible for cost-share under Proposition 1, Chapter 8, the project applicant has to be local and is required to secure participation, primarily from other public water agencies and potentially private investment. While it is possible for the State to provide non-public benefit funding (i.e. participate on behalf of the State Water Contractors) and for the United States to provide funding (i.e. participate on behalf of the CVP contractors or implementation of portions of CVPIA), to date, neither agency has expressed interest in participating in the Project other than support the Project's operations for both water supply and public benefits.

9.1.2. CEQA Lead Agency: Currently, DWR has this role. The Authority has met with DWR regarding the transfer of this responsibility, which the Authority believes is needed for the Authority to be the applicant for any Proposition 1, Chapter 8 process.

9.1.3. Water Rights: On 1977 September 30, the SWRCB accepted DWR's water rights application for 3,164,000 acre-ft. from a combination of sources: Stone Corral Creek, Funks Creek, two locations on the Sacramento River, and Willow Creek. To finance construction of this Project, the water rights will be needed as the principal asset. It is expected that DWR will assign this water right to the Authority, which in turn would assign it to the entity that will secure the financing.

9.1.4. Many Potential Sources for Schedule Delay: There are a number of Project activities that are not within the Authority's control and therefore could become sources of delay, especially given the complexity of the Project and complexity of some of the statutory requirements. The primary activities focus on:

- Demonstrating CEQA/NEPA & CESA/ESA compliance, which will

require successful completion of the NEPA process by USBR, acceptance of the CEQA process by responsible and trustee agencies, issuance of incidental take authorizations from federal resource agencies, issuance of other permits by CDFW, USACE, SWRCB, RWQCBs and other permits.

- Land and right-of-way acquisition, and
- CWC's Selection & Evaluation Process, which is of most concern for Phase 1. Preparation of an application for Proposition 1, Chapter 8 funding has to occur in a parallel 'track' with the CWC's process to develop regulations. Once the regulations are adopted, there is a three-month period for applicants to submit the mandatory pre-application. Then, based on CA Water Commission staff's assessment, the applicant has up to six-months to submit a full application. This schedule has already slipped and is prone to additional slippage. Additional sources of delay could occur should the approved regulations be legally challenged. In addition to the uncertainty of the scope of work needed to prepare the application, the cost of delay is the biggest risk.
- Issuance of a water right permit by the SWRCB.

9.1.5. Contracting for Public Benefits: State funding under Proposition 1, Chapter 8 contains a provision that the applicant contract with DFW, DWR, and SWRCB for the public benefits. This is a new process and given the uncertainty in annual hydrology and a potential future with climate change, contract guarantees become challenging. In addition, these same agencies will be required to issue permits before the start of any construction.

9.1.6. USBR Feasibility Report: Congress authorized USBR to study the feasibility of the CalFed Storage Projects, including Sites Reservoir, and provide its findings by 2016 Nov 30. Prior to submitting a final report, USBR's typical process includes (1) public review and (2) a finding related to the Project being in the public interest. A finding of support is needed before any congressional appropriations could occur.

Revision	Effective Date	Status or Authorizing Action
2	2016 Nov 21	Approved by Authority & Reservoir Committee for use.

Working Draft: 11/14/2016

Expense (-) Expense
Category (Multiple Items)
Function (All)
Name (All)

Grouping	Cost Center	File Number	WIP	Description	Values Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Operations	13	Existing	Water Rights Legal Counsel	$ -	$ -	$ (80,000)	$ (15,000)	$ (95,000)
		25	Existing	Feasibility Report, TO #2 (X % of Task 9)	$ -	$ -	$ -	$ -	$ -
		25	Existing	TO#1-Env & Ops NTP#1 (Task #3: WSIP CalSim Support)	$ -	$ (162,000)	$ -	$ -	$ (162,000)
		25.1	Existing	TO#1-Env & Ops NTP#2 (Task #5.2) USBR+	$ -	$ (55,000)	$ -	$ -	$ (55,000)
				TO#1-Env & Ops NTP#2 (Task #6.2) DWR	$ -	$ (10,000)	$ (45,000)	$ -	$ (55,000)
		30	NEW	H2O Manager, Services	$ -	$ -	$ -	$ -	$ -
				H2O Manager, Expenses	$ -	$ -	$ -	$ -	$ -
		42	NEW	Water Rights Strategy Development	$ -	$ (9,520)	$ (47,600)	$ -	$ (57,120)
				Water Rights Technical Assessment	$ -	$ (5,000)	$ (33,000)	$ -	$ (38,000)
				Water Rights Supporting Documentation	$ -	$ -	$ (40,000)	$ -	$ (40,000)
				Water Rights Strategy for Colusa Basin Drain (Divert Flood Flows & Release for Yolo Bypass)	$ -	$ -	$ (80,700)	$ -	$ (80,700)
				Water Rights Next Steps	$ -	$ -	$ -	$ (29,280)	$ (29,280)
				Water Rights for Colusa Basin Drain Technical Assessment (Phase 2)	$ -	$ -	$ -	$ -	$ -
				Colusa Basin Drain Feasibility Study (Phase 2)	$ -	$ -	$ -	$ -	$ -
	Operations Total				$ -	$ (241,520)	$ (326,300)	$ (44,280)	$ (612,100)
	Power	13	Existing	Legal Services, Holland (Federal/Power)	$ (906)	$ -	$ -	$ -	$ (906)
			NEW	Legal Services, Hyropower	$ -	$ -	$ (40,000)	$ -	$ (40,000)
		14	NEW	FERC Permit & License Strategy	$ -	$ -	$ (30,000)	$ -	$ (30,000)
		30	Existing	Understanding of Regulatory Changes	$ -	$ -	$ (10,000)	$ -	$ (10,000)
				Market Research/Interest	$ -	$ -	$ (10,000)	$ -	$ (10,000)
				Estimate Potential	$ -	$ -	$ -	$ -	$ -

Grouping	Cost Center	File Number	WIP	Description	Values Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Power	30	Existing	Owner-Controlled Contingency: Hydropower	$ -	$ -	$ (132,000)	$ (63,380)	$ (195,380)
				Prepare Power Developer Solicitation (Defer to Phase 2)	$ -	$ -	$ -	$ -	$ -
				Prepare & File Permit Applications (FERC)	$ -	$ -	$ (60,000)	$ -	$ (60,000)
			NEW	(blank)	$ -	$ -	$ -	$ -	$ -
				Initial Grid Interconnection Study (Holthouse) - WAPA	$ -	$ -	$ (50,000)	$ (50,000)	$ (100,000)
				Initial Grid Interconnection Study (Holthouse) - PG&E	$ -	$ -	$ (50,000)	$ (50,000)	$ (100,000)
				Initial Grid Interconnection Study (Delevann) - WAPA	$ -	$ -	$ (50,000)	$ (50,000)	$ (100,000)
				Initial Grid Interconnection Study (Delevann) - PG&E	$ -	$ -	$ (50,000)	$ (50,000)	$ (100,000)
				PWR Manager, Services	$ -	$ -	$ (103,133)	$ (123,760)	$ (226,893)
				PWR Manager, Expenses	$ -	$ -	$ (10,000)	$ (3,000)	$ (13,000)
	Power Total				**$ (906)**	**$ -**	**$ (595,133)**	**$ (390,140)**	**$ (986,179)**
	Water	10	Existing	General Manager, Expenses	$ (7,796)	$ (31,380)	$ (35,840)	$ (15,360)	$ (90,375)
				General Manager, Services	$ (108,679)	$ (308,948)	$ (311,683)	$ (155,842)	$ (885,153)
				Owner-Controlled Contingency: Non-Ch2m or AECOM Work	$ -	$ -	$ (165,000)	$ (30,000)	$ (195,000)
			NEW	Administrative Support to GM (part-time)	$ -	$ (6,076)	$ (9,600)	$ (4,800)	$ (20,476)
				Administrative Support to GM (Full-time)	$ -	$ -	$ (40,960)	$ (30,720)	$ (71,680)
				Ops Manager, Services	$ -	$ -	$ (185,640)	$ (123,760)	$ (309,400)
				Ops Manager, Expenses	$ -	$ -	$ (21,600)	$ (10,800)	$ (32,400)
				Ops Project Administrator	$ -	$ -	$ (271,320)	$ (180,880)	$ (452,200)
				Ops Mgr Support Staff	$ -	$ -	$ (124,950)	$ (142,800)	$ (267,750)
				PMO Support Services (AECOM Task 15)	$ -	$ -	$ (164,368)	$ (82,184)	$ (246,552)
		10.4	Existing	Update Terrestrial & Plant Studies for BA	$ -	$ -	$ (75,000)	$ -	$ (75,000)
				Advance EIR/S Beyond Pre-Admin Draft	$ -	$ -	$ (160,000)	$ -	$ (160,000)

Grouping	Cost Center	File Number	WIP	Description	Values Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Water	10.4	Existing	Operations (Annualized Yield) Support During CWC Negotiations	$ -	$ -	$ (100,000)	$ -	$ (100,000)
				Land & ROW (Temporary Access) MOVED TO PHASE 2	$ -	$ -	$ -	$ -	$ -
		10.6	Mod	Project Scheduler	$ -	$ -	$ (117,810)	$ (80,325)	$ (198,135)
		10.7	Existing	Bond Counsel	$ -	$ -	$ -	$ -	$ -
				Cost Development Model (Grant Management & Administration Services)	$ -	$ (30,000)	$ (120,000)	$ (60,000)	$ (210,000)
				Financial Advisory Services (Bond Strategy Development)	$ -	$ -	$ (71,400)	$ (35,700)	$ (107,100)
			Mod	Cost Accountant & Bookkeeper (Formerly Controls Manager)	$ -	$ -	$ (101,745)	$ (74,970)	$ (176,715)
		10.8	NEW	Quality Program Manager (w/ Support staff)	$ -	$ -	$ (81,317)	$ (35,700)	$ (117,017)
				Technical Advisory Committee	$ -	$ -	$ (40,000)	$ -	$ (40,000)
		10.9	Existing	Insurance (Commercial & General L & Professional L)	$ -	$ (7,500)	$ (7,500)	$ -	$ (15,000)
			NEW	Risk Program Manager (w/ Support staff)	$ -	$ -	$ (83,300)	$ (221,380)	$ (304,680)
		11	Existing	Document Controls Manager	$ -	$ -	$ (160,650)	$ (64,260)	$ (224,910)
		13	Existing	CEQA Legal Counsel	$ -	$ (34,810)	$ (140,000)	$ -	$ (174,810)
				NEPA Legal Counsel	$ -	$ (8,278)	$ (50,000)	$ -	$ (58,278)
				Administrative Record - Assessment	$ -	$ -	$ -	$ -	$ -
				Administrative Record Support/Compile	$ -	$ -	$ (100,000)	$ -	$ (100,000)
		20	NEW	EPP Manager, Services	$ -	$ (76,160)	$ (456,960)	$ (228,480)	$ (761,600)
				EPP Manager, Expenses	$ -	$ (12,000)	$ (72,000)	$ (36,000)	$ (120,000)
				EPP Manager (Staff Support)	$ -	$ (4,760)	$ (28,560)	$ -	$ (33,320)
		22	Existing	Prepare Prop 1, Chapter 8 Solicitation	$ -	$ -	$ (50,000)	$ -	$ (50,000)
				Retain Former DWR PM for EIR/S (Retired Annuitant)	$ -	$ -	$ (30,000)	$ -	$ (30,000)
			NEW	Independent Review EIR/S (in-lieu of Members' Staff)	$ -	$ -	$ (200,000)	$ -	$ (200,000)
		24	Existing	Update Aquatic Studies for BA	$ -	$ -	$ (25,000)	$ -	$ (25,000)
				Update Cultural Resource & Tribal Studies	$ -	$ -	$ (10,000)	$ -	$ (10,000)

Grouping	Cost Center	File Number	WIP	Description	Values Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Water	24	Existing	Develop Mitigation Plan & Locations for inclusion into EIR/S	$ -	$ -	$ (30,000)	$ -	$ (30,000)
		25	Existing	Incorporate Grid Interconnection into	$ -	$ -	$ -	$ -	$ -
				Owner-Controlled Contingency: Env & Ops	$ -	$ -	$ (294,000)	$ (60,000)	$ (354,000)
			NEW	Public Engagement & Outreach During Public Review of EIR/S	$ -	$ -	$ (60,000)	$ -	$ (60,000)
				Owner-Controlled Contingnecy: Ops & CalSim	$ -	$ -	$ (100,000)	$ (150,000)	$ (250,000)
		25	Existing	TO#1-Env & Ops (Task #1: WSIP Feasibility Study Support)	$ -	$ (288,455)	$ -	$ -	$ (288,455)
			NEW	TO#3-Subtask 1.5.1 – WSIP Operations Assumptions Refinement	$ -	$ (70,000)	$ (65,000)	$ -	$ (135,000)
				TO#3-Subtask 1.5.2 – WSIP Analytical Framework	$ -	$ (60,000)	$ (95,000)	$ -	$ (155,000)
				TO#3-Subtask 1.5.3 – WSIP Modeling of Alternative D	$ -	$ (75,000)	$ (150,000)	$ -	$ (225,000)
				TO#3-Subtask 1.5.4 – WSIP Application Metrics Development	$ -	$ -	$ (70,000)	$ -	$ (70,000)
				TO#3-Subtask 1.5.5 – WSIP Technical Documentation	$ -	$ -	$ (120,000)	$ -	$ (120,000)
				TO#3-Subtask 1.5.6 – WSIP Meetings, Coordination and Support	$ -	$ (30,000)	$ (50,000)	$ -	$ (80,000)
				TO#3-Subtask 1.5.7 - CWC Response and Technical Support	$ -	$ -	$ (35,000)	$ -	$ (35,000)
				TO#3-Subtask 1.5.8 - Sites Reservoir Sensitivity Scenarios	$ -	$ -	$ (140,000)	$ -	$ (140,000)
		25	NEW	TO#2-Task 1.6 - USBR Review Federal Feasibility Study	$ -	$ -	$ (40,000)	$ -	$ (40,000)
		25	Existing	TO#1-Env & Ops (Task #2: Confirm Analysis Approach/Base Case Assumptions)	$ -	$ (50,541)	$ (22,917)	$ -	$ (73,458)
				TO#1-Env & Ops (Task #4: Permit Risk Evaluation)	$ -	$ (5,000)	$ -	$ -	$ (5,000)
		25.1	Existing	TO#1-Env & Ops (Task #5.1) USBR+	$ -	$ (20,000)	$ -	$ -	$ (20,000)

Grouping	Cost Center	File Number	WIP	Description	Values Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Water	25.1	Existing	TO#1-Env & Ops (Task #6.1) DWR	$ -	$ (5,000)	$ (15,000)	$ -	$ (20,000)
		25.1	NEW	TO#2-Task 6.3 - CEQA Lead Agency Coordination Support (including AB52 Compliance)	$ -	$ (50,000)	$ (270,000)	$ -	$ (320,000)
				TO#2-Task 6.4 - CEQA Lead Agency Coordination Support (including AB52 Compliance)	$ -	$ -	$ (120,000)	$ (130,000)	$ (250,000)
		25.1	Mod	TO#1-Env & Ops TO #2 (Task #7) 1st Draft	$ -	$ (256,000)	$ -	$ -	$ (256,000)
				TO#2-Subtask 7.5.1 Public Draft Revisions to Introductory/Project Desc Chapters	$ -	$ (60,000)	$ (89,000)	$ -	$ (149,000)
				TO#2-Subtask 7.5.2 - Public Draft Impact Analysis and Required Revisions to Resource Chapters	$ -	$ (167,000)	$ (400,000)	$ -	$ (567,000)
			NEW	TO#2-Subtask 7.5.3 CALSIM (2015 version) Modeling of NODOS Alternatives A, B, and C	$ -	$ -	$ (150,000)	$ -	$ (150,000)
				TO#2-Subtask 7.5.4 - Public Draft Revisions to Appendices	$ -	$ (25,000)	$ (125,000)	$ -	$ (150,000)
				TO#2-Subtask 7.5.5 - Public Draft Revisions Based on Reclamation Comments on Preliminary EIR/EIS	$ -	$ (10,000)	$ (40,000)	$ -	$ (50,000)
				TO#2-Subtask 7.5.6 - Public Draft Reclamation/Federal Agency Coordination to Produce Public Draft	$ -	$ (15,000)	$ (60,000)	$ -	$ (75,000)
		25.1	Existing	TO#1-Env & Ops NTP#2 (Task #8: Calsim for EIR/S)	$ -	$ (162,000)	$ -	$ -	$ (162,000)
		25.1	Existing	TO#1-Env & Ops NTP#3 (Task #9) 2nd Draft	$ -	$ -	$ -	$ -	$ -
			Mod	TO#2-Subtask 9.1.1 - Revision of Administrarive Public Draft EIR/EIS	$ -	$ -	$ (172,000)	$ -	$ (172,000)
				TO#2-Subtask 9.1.2 - Preparation of Public Draft EIR/EIS	$ -	$ -	$ (138,000)	$ -	$ (138,000)

Grouping	Cost Center	File Number	WIP	Description	Values Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Water	25.1	Mod	TO#2-Subtask 9.1.3 - Rehabilitation Act Section 508 Compliance	$ -	$ -	$ (40,000)	$ -	$ (40,000)
		25.1	Existing	TO#1-Env & Ops NTP#3 (Task #10) Final Draft	$ -	$ -	$ (49,456)	$ -	$ (49,456)
		25.1	Existing	TO#1-Env & Ops NTP#3 (Task #11) Public Meeting Assistance	$ -	$ -	$ (50,000)	$ -	$ (50,000)
		25.1	NEW	TO#2-Task 12 - Review of Public Comments/Proposed Response Approach	$ -	$ -	$ (100,000)	$ (50,000)	$ (150,000)
		25.1	NEW	TO#2-Task 13 - Permits and Environmental Compliance Plan	$ -	$ -	$ (230,000)	$ (70,000)	$ (300,000)
		30	Existing	Optimize Design of the Proposed Project	$ -	$ -	$ -	$ (20,535)	$ (20,535)
				ACWA Storage Integration Work Group Technical Study Participation	$ -	$ (30,000)	$ -	$ -	$ (30,000)
			NEW	EPC Manager, Services	$ -	$ -	$ -	$ (285,600)	$ (285,600)
				EPC Manager, Expenses	$ -	$ -	$ -	$ (18,000)	$ (18,000)
		32	Existing	Engineering Support During CWC Negotiations	$ -	$ (6,000)	$ (50,000)	$ -	$ (56,000)
				Owner-Controlled Contingency: Engineering	$ -	$ -	$ (231,479)	$ (68,449)	$ (299,927)
			NEW	Owner-Controlled Contingnecy: WSIP	$ -	$ -	$ (60,000)	$ (40,000)	$ (100,000)
		32	Existing	WSIP Feasibility Report TO #1 (Task 1, 2, 3)	$ -	$ (17,750)	$ -	$ -	$ (17,750)
		32	Existing	WSIP Feasibility Report, TO #2 (Task 4, 5 & 9)	$ -	$ (260,484)	$ -	$ -	$ (260,484)
				WSIP Feasibility Report, TO #2 (Task 10) Grid Interconnection Studies	$ -	$ (35,000)	$ -	$ -	$ (35,000)
		32	Existing	WSIP Feasibility Report TO#3 (Task 6)	$ -	$ (150,000)	$ (228,570)	$ -	$ (378,570)
				WSIP Feasibility Report TO #3 (Task 7)	$ -	$ (30,000)	$ (151,183)	$ -	$ (181,183)
				WSIP Feasibility Report TO #3 (Task 8)	$ -	$ (170,000)	$ (140,950)	$ -	$ (310,950)
			NEW	Task 14: EIR/S Support (geotechnical)	$ -	$ (10,000)	$ (46,676)	$ -	$ (56,676)
				Task 8.1 WSIP Feasibility Rpt: Economics	$ -	$ -	$ (38,536)	$ -	$ (38,536)
				Task 8.2 WSIP Ecosystem Priorities & Relative Values	$ -	$ -	$ (102,939)	$ -	$ (102,939)

				Values				
Grouping	Cost Center	File Number	WIP	Description	Sum of Total 2015	Sum of Total 2016	Sum of Total 2017	Sum of Total 2018	Sum of Phase 1 Total
Reservoi	Water	32	NEW	Task 8.3 Water Quality Priorities & Relative Values	$ -	$ -	$ (49,147)	$ -	$ (49,147)
				Task 8.4 WSIP RFI Comment Response	$ -	$ -	$ (85,000)	$ (96,897)	$ (181,897)
				Tak 8.5 WSIP: CWC Coordination	$ -	$ (7,000)	$ (22,914)	$ -	$ (29,914)
		32	Existing	Feasibility Report, TO #4 (Task 11 & 12)	$ -	$ (61,539)	$ -	$ -	$ (61,539)
				Feasibility Report, TO #4 (Task 13) Colusa Basin Drain Study	$ -	$ (18,005)	$ -	$ -	$ (18,005)
		42		Assess GIS datasets for use in preparing draft EIR/S	$ -	$ -	$ -	$ -	$ -
			Existing	Update GIS for use in draft EIR/S	$ -	$ -	$ -	$ -	$ -
	Water Total				**$ (116,475)**	**$ (2,664,686)**	**$ (8,139,969)**	**$ (2,603,441)**	**$ (13,524,571)**
Reservoir Total					**$ (117,381)**	**$ (2,906,206)**	**$ (9,061,402)**	**$ (3,037,861)**	**$ (15,122,850)**
Grand Total					**$ (117,381)**	**$ (2,906,206)**	**$ (9,061,402)**	**$ (3,037,861)**	**$ (15,122,850)**

Exhibit B, Attachment 2: AMENDED Phase-level Schedule Plan

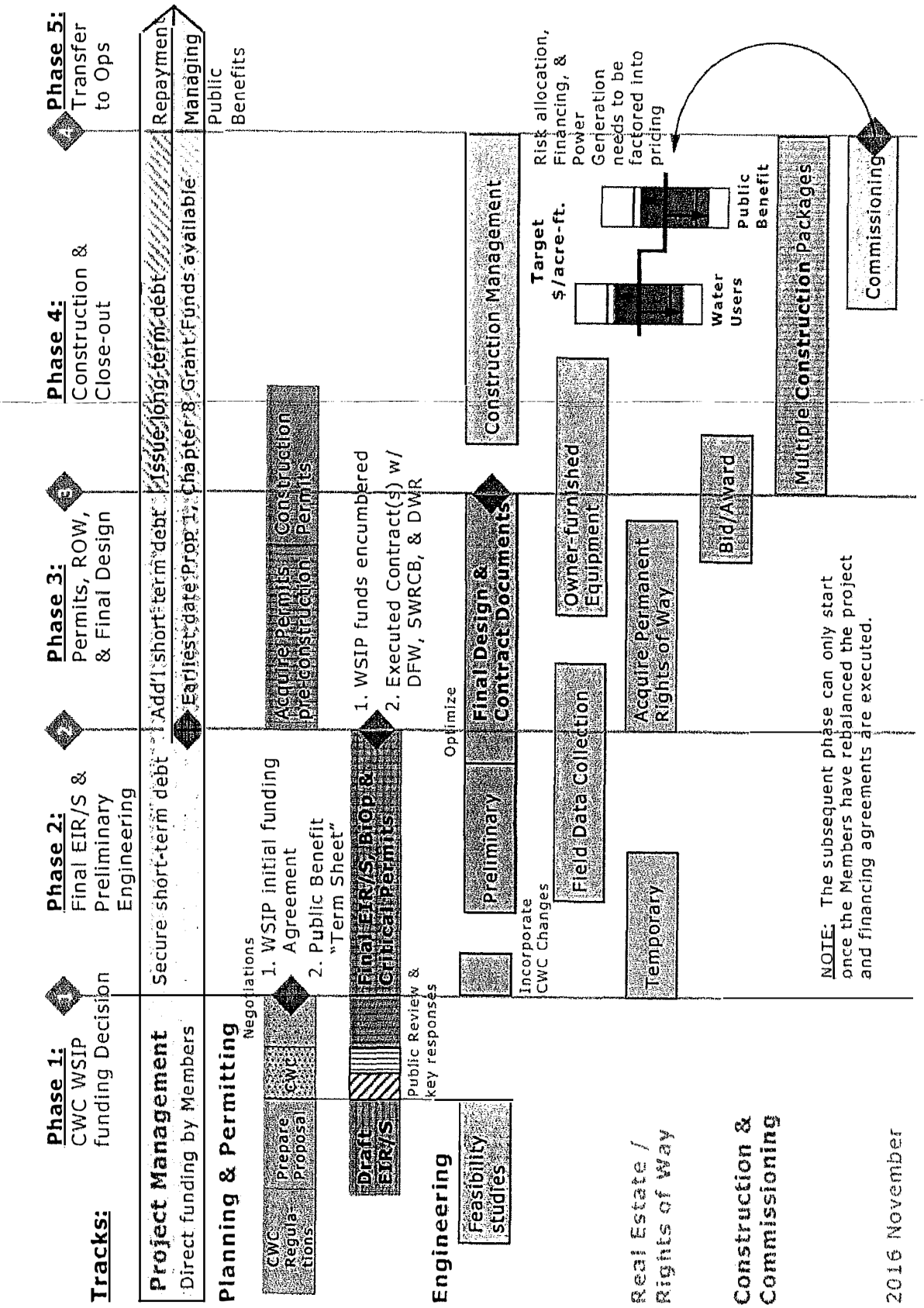


EXHIBIT C:

NOTIFICATIONS

Project Agreement Member Addresses in accordance with Section 14 of the Agreement:

Effective Date: Nov 21, 2016

4M Water District
P.O. Box 338
Maxwell, CA 95955

City of American Canyon
4381 Broadway, Suite 201
American Canyon, CA 94503

Antelope Valley-East Kern WA
6500 West Avenue N
Palmdale, CA 93551

Carter MWC
4245 River Road
Colusa, CA 95932

Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350

Colusa County
547 Market St., Suite 102
Colusa, CA 95932

Colusa County Water District
P.O. Box 337
Arbuckle, CA 95912

Cortina Water District
P.O. Box 489,
Williams, CA 95987

Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Davis Water District
P.O. Box 83
Arbuckle, CA 95912

Desert Water Agency
1200 South Gene Autry Trail
Palm Springs, CA 92264

Dunnigan Water District
P.O. Box 84
Dunnigan, CA 95937

Glenn-Colusa Irrigation District
P.O. Box 150
Willows, CA 95988

Garden Highway MWC
12755 Garden Highway
Yuba City, CA 95991

LaGrande Water District
P.O. Box 370
Williams, CA 95987

Orland-Artois Water District
P.O. Box 218
Orland, CA 95963

Pacific Resources MWC
4831 Calloway Drive, Ste. 102
Bakersfield, CA 93312

Proberta Water District
P.O. Box 134
Proberta, CA 96078

Reclamation District 108
P.O. Box 50
Grimes, CA 95950

Reclamation District 2035
45332 County Road 25
Woodland, CA 95776

San Bernardino Valley Municipal
Water District
380 East Vanderbilt Way
San Bernardino, CA 92408-3593

San Gorgonio Pass Water Agency
1210 Beaumont Ave,
Beaumont, CA 92223

Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Western Canal Water District
PO Box 190
Richvale, CA 95974

Westside Water District
5005 State Hwy 20
Williams, CA 95987

Westlands Water District
P.O. Box 6056
Fresno, CA 93703-6056

Wheeler Ridge-Maricopa Water
Storage District
12109 Highway 166
Bakersfield, CA 93313

Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

RESOLUTION NO. 2014-02

A RESOLUTION OF THE SAN GORGONIO PASS WATER AGENCY ESTABLISHING A POLICY FOR MEETING FUTURE WATER DEMANDS

WHEREAS, the San Gorgonio Pass Water Agency ("Agency") is a state water contractor that was formed with the purpose of importing water from the State Water Project ("SWP") into the San Gorgonio Pass area in 1961. The Agency's service area encompasses approximately 228 square miles and includes the Cities of Beaumont, Calimesa, and Banning, as well as the unincorporated areas of Cherry Valley, Cabazon, Poppet Flat, Banning Bench, and San Timoteo and Live Oak Canyons; and

WHEREAS, the mission of the Agency is to import water and to protect and enhance local water supplies for use by present and future water users and to sell imported water to local water agencies within the Agency's service area. The Agency is able to import water from sources that provide the highest quality and the most cost effective price, including the SWP and other potential sources. The Agency also works with local retail agencies to manage local and regional water resources in a sustainable manner designed to manage overdraft within the Agency's service area; and

WHEREAS, the Agency has a contract with the California Department of Water Resources for 17,300 acre-feet of SWP water which is used to supplement local demands including eliminating groundwater overdraft. Information and reports obtained by the Agency, including but not limited to, the Agency's 2010 Urban Water Management Plan, indicate that said amount of SWP water will likely not be sufficient to meet all future supplemental water demands within the Agency's service area. The Agency has the responsibility to manage the present and future water supply needs for all users within its jurisdiction. Increased demand from new growth and decreasing reliability will continue to present challenges to the Agency's ability to deliver wholesale water on a reliable basis. In addition, the Agency has made substantial investments in facilities and infrastructure to bring said supplies to the region and to store and deliver said supplies. Said facilities include pipelines, pump stations, turnouts, reservoirs and spreading grounds; and

WHEREAS, the Board of Directors of the Agency desires to adopt this Resolution in order to establish a policy which will work toward the goal of meeting future water demands in the region.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SAN GORGONIO PASS WATER AGENCY AS FOLLOWS:

1. Incorporation of Recitals All of the foregoing Recitals are true and correct and the Board so finds and determines. The Recitals set forth above are incorporated herein and made an operative part of this Resolution.

2, Definitions The types of water rights, supplies and resources which are subject to this Resolution and the policy set forth herein include, but are not limited to, the following:

(a) Carryover Water - Water belonging to a State Water Contractor that is not used in a given calendar year and thus is carried over to the next year for use in that year or in a future year.

(b) Dry Year Yield Water - Water made available in a dry year for that year only, typically from a farming interest, irrigation district or other type of agency providing service to farming interests.

(c) Exchange Water - Water obtained from another water agency in exchange for a promise of water at a subsequent time such as in a future month or future year. An exchange may be a one-to-one exchange or an exchange with a different ratio.

(d) Long-Term Water Rights - Water rights owned by another entity which is willing to sell the rights to the water and not just a water supply. Long-Term Water Rights are frequently defined as

lasting as long as the State Water Project.

(e) Short-Term Water - Water available under certain conditions in any given year or for a limited number of years for a defined period only.

(f) Spot Water - Water available in any given year for that year only.

(g) Transfer Water - Water transferred from one area of the state to another through the actions of public agencies.

3. Regional Water Management

(a) Meeting The Water Supply Needs Of The Region - The Agency is prepared to take the necessary actions to provide its service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. As additional water resources are required to meet increasing needs, the Agency will be prepared to take the necessary actions to deliver such supplies.

(b) Funding And Construction Of Facilities - Taxpayers and water users residing within the Agency's service area already have obligated themselves for the construction of a supply and distribution system. This system has been designed and constructed, and future facilities will be designed and constructed, in a manner to deliver the Agency's full share of SWP water, as well as water from other sources as may be required in the years ahead.

(c) Acquiring Supplemental Water Supplies – The Agency is prepared to take the necessary actions to meet the water supply needs of the region. For example, and not by way of limitation, the Agency is authorized to pursue the acquisition of Short-Term Water, Spot Water, Dry Year Yield Water, and Long-Term Water Rights. The Board of Directors of the Agency has the discretion to reasonably determine the timing and other details of acquiring such supplies, and will also manage the Agency's current supplies to maximum effect, as determined in the Board's direction. In order to meet this commitment, the Agency has the discretion to reasonably determine which type of water source to pursue including, but not limited to, Carryover Water, one-year or multi-year Exchange Water, Transfers, or other purchases of water or water rights.

4. Consideration Of A Wheeling Request The Agency will consider "wheeling" water to the region subject to the terms of this Resolution, Agency wheeling policies, applicable law, and upon payment of the applicable charge. In the event of any such wheeling, the Agency's facilities, including its rights to use SWP facilities, may be used to transport water not owned or controlled by the Agency to a retail agency or other public or private entity within the Agency's service area.

5. Potential For Future Policies Regarding Water Supplies Nothing in this Resolution shall limit or otherwise impact the authority of the Board to adopt future policies regarding water supplies including, but not limited to, any potential water shortage plans that the Board may deem to be necessary in order to establish how the Agency will allocate deliveries of water to local retail agencies during single and multiple dry years where the total amount of annual orders from local retail agencies exceeds the amount of SWP water available in that calendar year or years.

6. Controlling Effect All ordinances, resolutions, minute orders, or administrative actions by the Board of Directors, or parts thereof, that are inconsistent with any provision of this Resolution are hereby superseded only to the extent of such inconsistency.

7. CEQA Compliance - The Board finds that the establishment of a policy for meeting future water demands constitutes general policy and procedure making and also constitutes organizational or administrative activities that will not result in direct or indirect physical changes in the environment. Based on this finding, the Board determines that the establishment of a policy for meeting future water demands, by way of adoption of this Resolution, is exempt from the requirements of the California Environmental Quality Act pursuant to section 15378(b)(2) and (5) of the State CEQA Guidelines.

8. Effective Date - The President of the Board shall sign this Resolution and the Secretary of the Board shall attest thereto, and this Resolution shall be in full force and effect immediately upon adoption.

9. Severability - If any section, subsection, clause or phrase in this Resolution is for any reason held invalid, the validity of the remainder of this Resolution shall not be affected thereby. The Board hereby declares that it would have passed this Resolution and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses or phrases or the application thereof be held invalid.

ADOPTED AND APPROVED this 18th day of February, 2014.

_____
President, Board of Directors
San Gorgonio Pass Water Agency

ATTEST:

_____
Secretary, Board of Directors
San Gorgonio Pass Water Agency