

SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, CA
Board of Directors Meeting
Agenda
January 19, 2016 at 7:00 p.m.

1. Call to Order, Flag Salute and Roll Call

2. Adoption and Adjustment of Agenda

3. 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.

4. Consent Calendar:

If any board member requests that an item be removed from the Consent Calendar, It will be removed so that it may be acted upon separately.

- A. Approval of the Minutes of the Regular Board Meeting, January 4, 2016* (Page 2)
- B. Approval of the Minutes of the Engineering Workshop, January 11, 2016* (Page 5)

5. Reports (Discussion and Possible Action)

- A. General Manager's Report
 - 1. Operations Report
 - 2. Water Education Program Report
 - 3. General Agency Updates
- B. General Counsel Report
- C. Directors' Reports

6. New Business (Discussion and Possible Action)

- A. Discussion with Kathy Tiegs, President of Association of California Water Agencies
- B. Acceptance of 2014 Water Conditions Report * (Page 7)
- C. Discussion of Agreement for Tidal Habitat Restoration Project Development* (Page 59)
- D. Discussion of Possible Outreach Event* (Page 73)
- E. Appointment of Committees

7. Topics for Future Agendas

8. Announcements

- A. Finance and Budget Workshop, January, 25, 2016 at 4:00 p.m.
- B. Regular Board Meeting, February 1, 2016 at 7:00 p.m.
- C. Engineering Workshop, February 8, 2016 at 4:00 p.m.

9. 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: 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 accommodation.

SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, California 92223
Minutes of the
Board of Directors Meeting
January 4, 2016

Directors Present: John Jeter, President
Bill Dickson, Vice President
Mary Ann Melleby, Treasurer
Blair Ball, Director
Ron Duncan, Director
David Fenn, Director
Leonard Stephenson, Director

Staff Present: Jeff Davis, General Manager
Jeff Ferré, General Counsel
Cheryle Rasmussen, Executive Assistant

1. **Call to Order, Flag Salute and Roll Call:** The meeting of the San Gorgonio Pass Water Agency Board of Directors was called to order by Board President John Jeter at 7:00 p.m., January 4, 2016 in the Agency Boardroom at 1210 Beaumont Avenue, Beaumont, California. Director Dickson led the Pledge of Allegiance to the flag. A quorum was present.
2. **Adoption and Adjustment of the Agenda:** *President Jeter asked if there were any adjustments to the agenda. There being none the agenda was adopted as published.*
3. **Public Comment:** *President Jeter asked if there were any members of the public that wished to make a public comment on items that are within the jurisdiction of the Agency. No members of the public requested to speak at this time.*
4. **Consent Calendar:**
 - A. Approval of the Minutes of the Regular Board Meeting, December 21, 2015

Director Ball requested that the Minutes of the Regular Board Meeting for December 21, 2015 item 4A reflect his reporting statement as follows: "Director Ball attended the BCVWD meeting; he also reported on the meeting with Assemblyman Mayes requesting his support to reduce the board from seven to five members through required state legislative action. Assemblyman Mayes asked several questions and took the Agency's petition under advisement." Director Ball made a motion, seconded by Director Fenn, to approve the December 21, 2015 Minutes as revised. *The motion passed 6-0-1, with Director Dickson abstaining as he was absent from the December 21st meeting.*

5. Reports:

A. General Manager's Report:

(1) Operations Report: General Manager Davis reported on the following: **a) SWP Deliveries:** General Manager Davis reported that the Agency delivered 405 acre-feet to the Noble Creek connection for the month of December, for a total of 3467 acre-feet for the year (not including deliveries to YVWD). **b) DWR – Snowpack Measurement:** A snowpack measurement was taken by DWR on December 30th. The snowpack was 136% of normal at Phillips Station. Statewide electronic readings show about 105% of

normal for the date. Oroville is at 47% of normal for December 30; last year it was 62%. San Luis Reservoir is at 30% of normal for December 30. DWR is constantly performing data modeling on the snowpack and runoff; May of 2016 will be the most significant measurement. DWR Director Mark Cowin makes the final decision on allocation changes based on modeling results presented to him by his staff.

(2) SGMA Update: General Manager Davis reviewed three groundwater basin maps with the Board. He informed the Board that multiple agencies (SWC & water retailers) have been working together in meetings to discuss SGMA. The meetings have revolved around revising groundwater basin boundaries. Using the maps as visuals, General Manager Davis reviewed the proposed boundary revisions stating that local agencies are trying to carve a new Beaumont Basin out of the San Timoteo and San Geronio Pass basins. SGMA allows for the boundary revisions if there is just cause. A Basin Boundary Modification Request form would need to be submitted to DWR no later than March 31, 2016. General Manager Davis reviewed the issues involved in order to accomplish the boundary revisions.

(3) General Agency Updates: **1) Water Conservation Regulations:** General Manager Davis commented that the news media did not properly report the State Water Board proposed framework for modified emergency conservation regulation on December 21, as the changes do not make it significantly easier for retail water agencies to meet mandated goals. **2) Flume Report:** Operations and Maintenance Manager Ken Falls reported to General Manager Davis that the Flume had frozen resulting in no water flow for a week. **3) Kathy Tiegs:** General Manager Davis is in the process of inviting Ms. Tiegs to be present at a future board meeting. **4) ACWA's Groundwater Committee:** A formal notification from ACWA was received stating that General Manager Davis has been appointed to ACWA's Groundwater Committee. **5) General Announcements:** A sign-in sheet for all board meetings has been placed out in the lobby for guests; this is not a requirement.

B. General Counsel Report: General Counsel Jeff Ferré stated that comments are due to the State Water Board on the proposed new water restrictions this week. A draft will be available in early February and it is anticipated to be adopted in February.

C. Directors Reports: There were no directors who wished to report at this time.

6. New Business: (Discussion and Possible Action)

A. Consideration of Memorandum of Understanding (MOU) for Cooperative use of SWP water: A staff report and a draft copy of the MOU for the Cooperative Use of SWP Water were included in the agenda packet. General Manager Davis reviewed the purpose of the MOU, which will enhance water supply reliability of the SWP for Class 8 Contractors of the East Branch. After discussion, Director Dickson made a motion, seconded by Director Ball, authorizing General Manager Davis to sign the MOU in its current form, as long as no substantive revisions are made to the draft prior to being finalized, subject to the approval of the General Counsel. *Motion passed 7-0.*

B. Consideration of Eliminating the Finance and Budget Workshop: A staff report was included in the agenda package. General Manager Davis requested that Director Duncan provide insight on why he has proposed this action. After discussion, President Jeter requested that this item be tabled to the next Finance and Budget workshop.

7. Topics for Future Agendas: **1) Director Ball** requested a monthly report from the General Manager on monthly meetings that are to take place between the Agency and its retail managers. General Manager Davis informed the Board that monthly meetings took place in the past, but were unproductive and are no longer taking place. President Jeter's response was that this particular request is a form of micromanaging and that the Board will direct the General Manager if there needs to be a change. **2) Director Fenn** requested that President Jeter review committee assignments and to make additions or changes appropriately. General Manager Davis stated that this item will be on the agenda at the next board meeting.

8. Announcements

- A. Engineering Workshop, January 11, 2016 at **4:00 p.m.**
- B. The office will be closed January 18, 2016 in observance of Martin Luther King Day.
- C. Regular Board Meeting, **Tuesday**, January 19, 2016 at **7:00 p.m.**

9. Adjournment: *President Jeter adjourned the meeting at 8:04 p.m.*

Draft - Subject to Board Approval

Jeffrey W. Davis, Secretary of the Board

0000

SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, CA 92223
Minutes of the
Board of Directors Engineering Workshop
January 11, 2016

Directors Present: John Jeter, President
Blair Ball, Director
Bill Dickson, Vice President
Ron Duncan, Director (arrived at 4:02)
David Fenn, Director
Mary Ann Melleby, Director
Leonard Stephenson, Director (arrived at 4:05)

Staff Present: Jeff Davis, General Manager
Jeff Ferre, General Counsel
Cheryle Rasmussen, Executive Assistant

- 1. Call to Order, Flag Salute and Roll Call.** The Engineering workshop of the San Gorgonio Pass Water Agency Board of Directors was called to order by President John Jeter at 4:00 p.m., January 11, 2016 in the Agency Board room at 1210 Beaumont Avenue, Beaumont, California. Director Dickson led the Pledge of Allegiance to the flag. A quorum was present. President Jeter turned the meeting over to Vice President Dickson, Chair of the Engineering Committee.
- 2. Public Comment.** No member of the public wished to speak at this time.
- 3. Review of ACWA Letter to State Board on Proposed Regulatory Framework for Water Conservation Regulations.** A copy of the letter was included in the agenda package. General Manager Davis reviewed the letter with the Board, pointing out that ACWA has several concerns about the proposed regulatory framework and articulated them well in the letter. He noted that this framework does not provide good incentives for local water agencies to pursue new infrastructure or to develop new drought resilient water sources. General Counsel Ferre noted that the State Board still needs to adopt the framework as official state policy and that the purpose of the letter was to express the industry's concerns prior to the framework being adopted as final.
- 4. Further Discussion of Potential SWPCA Habitat Agreement.** General Manager Davis reviewed a Power Point presentation with the Board that he had shared at a recent Engineering workshop. He noted that even though he had presented this information previously, he wanted to review this with the Board again since a decision on participation in a funding agreement that would finance habitat creation will come soon. He indicated that the State Water Contractors

believe that approximately \$100 million can be saved in habitat creation costs if it is done by the Contractors and others besides the Department of Water Resources. An agreement will be available for consideration within one to two months that would provide the opportunity for the Agency to participate in such a funding mechanism; the agreement would include an oversight committee. The mechanism would require up front funding from Contractors that would eventually be reimbursed after it is used to establish a revolving fund that would finance the creation of several thousand acres of fish habitat in the Delta. This habitat is required by current permits.

5. Discussion of Principles of Potential CLAWA Exchange Agreement.

General Manager Davis reviewed the history of two previous exchanges with CLAWA (Crestline-Lake Arrowhead Water Agency) and noted that CLAWA is a good partner for the Agency for exchanges because it is close, small, and has complementary water supply needs. He related that he has been in discussion with CLAWA's General Counsel about another potential 1200 AF exchange this year that would be either a 3-for-2 or a 2-for-1 exchange. He noted that since the rules related to exchanges will likely loosen up in the future, the Agency may not be held to the current ten year payback time, which would benefit the Agency. He asked for direction from the Board on whether he should pursue this exchange or not. After discussion, it was the consensus of the Board that the General Manager should negotiate an exchange agreement with CLAWA this year that would be brought back to the Board for consideration.

6. Announcements:

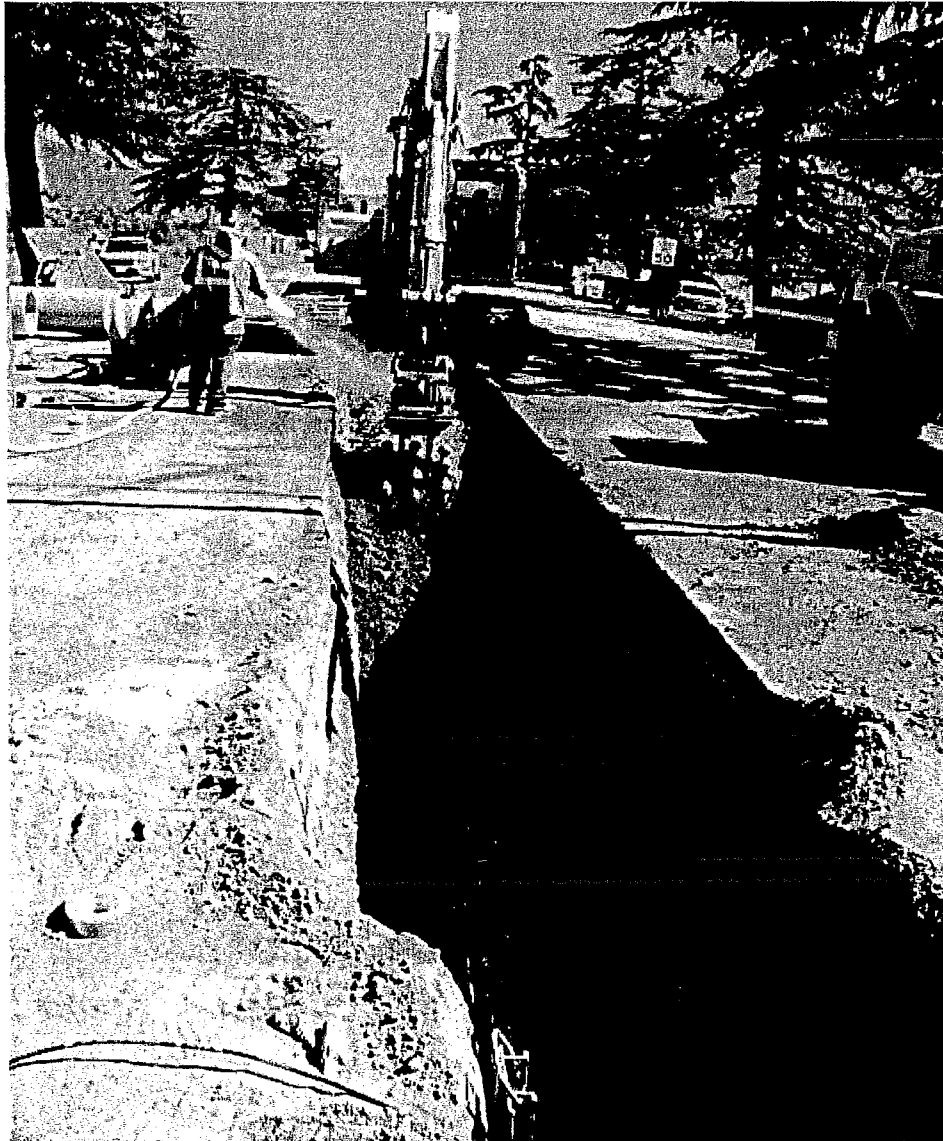
- A. Office closed January 18, 2016 in observance of Martin Luther King Day.
- B. Regular Board Meeting, Tuesday, January 19, 2016 at 7:00 pm.
- C. Finance and Budget Workshop, January 25, 2016 at 4:00 pm.
- D. San Gorgonio Pass Regional Water Alliance, January 27, 2016
 1. Technical Committee at 4:30 pm—Banning City Hall Conference Room
 2. Regular Board Meeting at 6:00 pm—Banning City Council Chambers

7. Adjournment: Chairman Dickson adjourned the meeting at 4:50 p.m.

DRAFT - SUBJECT TO BOARD APPROVAL

Jeffrey W. Davis, Secretary to the Board

SAN GORGONIO PASS WATER AGENCY REPORT ON WATER CONDITIONS



Reporting Period 2014

San Geronio Pass Water Agency
Annual Report on Water Conditions
Reporting Period 2014

Prepared by

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

November 2015

SAN GORGONIO PASS WATER AGENCY

Board of Directors

John Jeter	President
Bill Dickson	Vice President
Mary Ann Melleby	Treasurer
Blair Ball	Director
Ron Duncan	Director
David Fenn	Director
Leonard Stephenson	Director

On the cover:

Construction of the Beaumont Avenue Recharge Facility Pipeline, a facility that will help ensure regional water supply reliability for the next 50 years.

List of Tables

1. Groundwater Production in San Gorgonio Pass Water Agency by Basin (2002 to 2014 as reported)
2. Groundwater Production in San Gorgonio Pass Water Agency by Purveyor (2002 to 2014 as reported)
3. Groundwater Production in San Gorgonio Pass Water Agency by Purveyor by Basin (2002 to 2014 as reported)
4. State Water Project Deliveries to San Gorgonio Pass Water Agency Service Area
5. Water Quality Analysis at Devil Canyon Afterbay Near San Bernardino (Selected Constituents)

List of Figures

1. San Gorgonio Pass Water Agency
2. Drainage Basins and Principal Streams
3. Groundwater Storage Units
4. Long-Term Mean Annual Precipitation at Beaumont
5. Wastewater Discharge Totals by Discharger by Calendar Year
6. Historical Groundwater Production All Basins 1947 through 2014 (as reported)
7. Historical Groundwater Production All Basins 1997 through 2014 (as reported)
8. Total Production by Storage Unit in 2014 (as reported)
- 9a. Accumulated Overdraft in the Beaumont Basin 1997 Through 2014
- 9b. Accumulated Overdraft in the Beaumont Basin 1997 Through 2014 With Replenishment
10. SGPWA Monitoring Well Network
11. Map showing the water-level network and water-level change between fall 2013 and fall 2014 at selected wells
12. Groundwater Hydrographs – Banning Basin 3S/1E-18A01 and 3S/1E-18C01
13. Groundwater Hydrographs – Beaumont Basin 2S/1W-33L01 and 2S/1W-27L01
14. Groundwater Hydrograph – Beaumont Basin 2S/2W-25B01
15. Groundwater Hydrographs – Beaumont Basin 2002-2009 2S/2W-25B01 and 2S/1W-27L01
16. Groundwater Hydrographs – Cabazon Basin 3S/3E-07M01 and 3S/2E-09E01
17. Groundwater Hydrographs – Calimesa and Banning Canyon Basins 2S/2W-14R01 and 2S/1E-29P01
18. Monthly TDS at Devil Canyon Afterbay Near San Bernardino 2005-2014
19. Average TDS at Devil Canyon Afterbay Near San Bernardino 1990-2014



San Gorgonio Pass Water Agency

A California State Water Project Contractor
1210 Beaumont Avenue • Beaumont, CA 92223
Phone (951) 845-2577 • Fax (951) 845-0281

November 2015

President:
John Jeter

To the Reader:

Vice President:
Bill Dickson

The San Gorgonio Pass Water Agency is pleased to publish this annual Report on Water Conditions, which it has been doing for over two decades.

Treasurer:
Mary Ann Melleby

The primary purpose of the report is to convey the status of ground and surface water resources within the Pass area. The Agency uses the report as a tool to help us determine the extent of recharge needed in local basins each year.

Directors:
Blair Ball
Ron Duncan
David Fenn
Leonard Stephenson

The Agency maintains an extensive database on local water resources. This report affords the Agency the opportunity to make that database easily accessible to the public and other interested parties.

**General Manager
& Chief Engineer:**
Jeff Davis, PE

This report complies with and goes beyond the Stipulation for Entry of Judgment, Cherry Valley Environmental Planning Group vs. San Gorgonio Pass Water Agency, Case No. 249947 (Riverside Superior Court 1996). That judgment requires the Agency to produce such an annual report. According to the Judgment, “These annual reports shall evaluate, by utilizing such reliable information as may be available, the groundwater conditions within [the Agency’s] jurisdiction, and shall determine the annual overdraft, if any, of the groundwater basins and amount of water to be scheduled for following year or years replenishment. In preparing the annual reports on water conditions, [the Agency] shall collect, review, and make available to the public, water extraction data within [the Agency’s] boundaries from such drilling logs, recordation files, or other sources as may be available...”

Legal Counsel:
Jeffry Ferre
Best Best & Krieger

This report is available on the Agency’s website, www.sgpwa.com, or from the Agency’s office in hard copy for a nominal copying charge. It is also available as a CD, also for a nominal cost.

In reading the report, we hope that you learn more about the Pass’s most precious natural resource—water.



Jeff Davis

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 three 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 2014 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 the closest sampling station to the Agency and 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 been performing 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.

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 is not in use as of the end of 2014; however three retail water agencies, including the Beaumont Cherry Valley Water District, Yucaipa 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. The Yucaipa Valley Water District is close to obtaining a permit to serve desalted recycled wastewater for non-potable uses and is likely to have recycled water available before the other local water purveyors.

2.1 Precipitation

Annual precipitation in the Beaumont area since 1888 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 125 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—1897-1904, 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, 2014 is the third year of a drought, but as can be seen by the data, the fifteen 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, and just over 5,000 acre-feet in 2014. 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 the future is 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 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 2014, 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 2016, just before 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 is expected to begin implementing its recycled water system in 2015.

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 is constructing a desalination plant and brine disposal pipeline. Once this is complete, 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 plant, 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. In the near term, it is anticipated that recycled water would be pumped from the YVWD treatment plant to the Beaumont and Cherry Valley area.

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.

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.

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.

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 2006 (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 (a decrease of about 14%).

Figure 8 illustrates the percentage share for each basin's total extraction within the region in 2014. This is significantly different from the 2013 percentages, and reflects the relatively greater impact of drought on smaller basins. In 2012, the Beaumont Basin represented only 48% of all extractions, compared to 54% in 2013 and 59% in 2014. This increase was primarily at the expense of the Banning Canyon Basin (decreased from 14% to 9%), the Banning Bench Basin (decreased from 6% to 3%), and Edgar Canyon (reduced from 11% to 8%). The Beaumont Basin is the largest basin by far, with over half of all extractions. The Banning Canyon and Edgar Canyon basins are next. The two basins mentioned above are each canyon basins fed by local runoff, and are relatively shallow and small. In dry years, they yield less water, which is reflected in the extraction data. 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 two years.

Table 1 indicates that total production in the region increased about 1% from 2013 to 2014, from 30,292 to 30,671 acre-feet. Compared to the peak year of 2007, when total production totaled 35,474 acre-feet, this represents a 14% reduction in groundwater production over the past six years, and the fourth slight increase in the past four years (an increase from 28,313 AF in 2010 to 30,671 in 2014, or about 8.3% over those four years).

In the Beaumont Basin, the region's largest, production increased about 11%, from 16,236 to 17,970 acre-feet. This represents a two-year increase of 25%, confirming the dependence of local water agencies on larger basins as the drought progresses. As can be seen from Table 3, most of this increase can be attributed to higher extractions from three retail water purveyors, Beaumont Cherry Valley Water District (an increase of nearly 1000 acre-feet), the City of Banning (an increase of about 600 acre-feet), and the Yucaipa Valley Water District (an increase of nearly 200 acre-feet). Overall, this represents a 14% reduction in the Beaumont basin from 2007, but a 25% increase over 2012. Much of this seven-year decrease can be explained by the 2008-2011 recession and the ongoing slow recovery. From 2008 to 2010, some homes were vacant and therefore had no water demand, while other families and businesses presumably cut back on water use to help make ends meet. Very few new homes have been built over the past several years, meaning that use of construction water has also been reduced. The increase in extractions over the past four years is an indication that the recovery is ongoing and picking up steam.

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. 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 production from Robertson's Ready Mix and the Mission Springs

Water District increased in 2014, the Cabazon Water District reduced its production by about 25%, from 854 AF to 628 AF. The increase in production by Robertson's Ready Mix is likely due to the overall increase in construction from 2013 to 2014.

As noted above, the use of construction water for grading and to control dust, so prevalent in the 2000-2008 period, virtually disappeared for several years, accounting for some of the reduction in water demand. The increased extractions over the past three years are an indication that some of this has likely resumed.

Table 2 summarizes overall production by owner, regardless of basin. In reviewing the production by the major water agencies and overlayers, the data are relatively consistent, with no excessive increases or decreases. The largest increase in production, percentage wise, is from Robertson's Ready Mix, an increase from 224 to 293 AF, or about 30%. However this represents a small fraction of overall production. Beaumont Cherry Valley Water District increased its extractions by 455 acre-feet, an increase of 3.5% (smaller than last year's 5.5% increase). Banning decreased its extractions by 275 acre-feet, a decrease of about 3%. The Morongo Band of Mission Indians, which owns the Tukwet Canyon golf course, increased extractions by about 125 acre-feet, an increase of 6.5%. This is smaller than the 12% increase in 2013. The production is still well below the all-time high of 2593 acre-feet in 2002.

An examination of the groundwater production data demonstrates that 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 past four years 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 previous three years 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 points out a major issue within the water industry. As water demand falls, water sales revenues fall, making it difficult for public water agencies (and private ones, for that matter) to meet financial obligations. 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.

As noted above, while overall extractions increased only 1.2% in 2013, extractions from the Beaumont Basin increased nearly 11%. Three large retail water agencies have numerous wells in the Beaumont Basin, and their production increased significantly, as mentioned previously. This is likely explained by two factors. The first is the gradually improving economy. The second, as mentioned previously, is the fact that during droughts, smaller groundwater basins yield less water, thus placing more pressure on larger basins. This is particularly true of Banning Canyon and Edgar Canyon, which depend largely on local runoff. With these sources greatly

reduced in 2014, the City of Banning and the Beaumont Cherry Valley Water District pumped more from their wells in the Beaumont Basin, where they had been storing imported water for years. Thus, local hydrologic conditions, while not having a significant impact on overall extractions, did impact which basins were used to meet local water demands.

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 overlie water rights. Overlie 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.

As of December 2014, the Watermaster had hired a consultant to model the basin and determine a safe yield. The modeling was well underway, and it is anticipated that this will be completed in early 2015. Preliminary model results indicate that the redetermined safe yield may be less than the current 8,650 acre-feet per year; however, this is not confirmed at this time.

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 2014 from the basin, as reported, was 17,970 acre feet. Therefore, the Beaumont Basin experienced an apparent overdraft of about 11,870 acre feet, assuming an average safe yield of 6,100 acre feet. This was partially offset by importing 5,131 acre-feet of supplemental water. This is the first time in four 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 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 2013 and Fall 2014, 82 of the wells had water level changes. Of these, 19 wells recorded a water level increase of more than five feet, 4 recorded a decline of more than five feet, and 59 recorded little or no change. Of the 19 wells showing a large increase in water

levels, approximately 10 are in the Beaumont Basin, while two are in the Banning Canyon Basin, one in the Singleton Basin, and the rest in the Cabazon Basin. Several are relatively close downstream of the Beaumont Cherry Valley recharge facility, and are likely influenced by the imported water recharged at that facility. Of the four wells showing declines of more than five feet, two of them are in the Beaumont Basin, one in the South Beaumont, and one in the San Timoteo 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 over the past six years indicate that this is quite likely the case. 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. 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. They are both production wells—one for the Mission Springs Water District and the other for the Cabazon Water District. Both show severe drops in water surface elevation over the past 15 years. The well in **Figure 16a** shows a drop of nearly 30 feet over the past ten years. However there does appear to be some stabilizing of the water level recently. It remains to be seen if this will become a trend. 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 it is replaced with Well Number 2. This well shows a drop of approximately 15 feet over the past five years, though the most recent data might indicate some moderation of this drop, or perhaps even a stabilizing of the water level. These data, along with previous data from the Cabazon Water District Well Number 1, 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 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. 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 overlies' 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.

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 four years it can be seen that TDS has mostly been below 300 parts per million (ppm) or milligrams per liter (mg/l). In 2014, the third consecutive year of drought, a number of readings above 300 appear; this is to be expected in dry years. 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, 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 in 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 Geronio 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.

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 increased slightly for the fourth consecutive year after having decreased for three consecutive years. Total extractions in 2014 were still approximately 15% below levels for 2007, the peak historical year for extractions in the region. This is likely due to the lengthy downturn in the economy, some wetter winters, and a new surface water filtration plant in the region.

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 could begin as soon as 2015, when the Yucaipa Valley Water District is scheduled to permit a major facility that will treat and export salinity from the region. 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 that should lead to reduced withdrawals is the ten year anniversary of the Beaumont Basin Judgment in February 2014. This will end the ten year “temporary surplus” in the basin and require appropriators to replace any water withdrawn that exceeds their share of the basin safe yield as identified in the Judgment. The end of this ten year period will bring about a reduction of 16,000 acre-feet per year in water supply for the region. This will also trigger a re-evaluation of the basin safe yield, which the Watermaster is required to do under the terms of the Judgment.

Based on data in this report, there is evidence that groundwater levels have increased slightly in portions of the region over the past two to three 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 is also constructing 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 begun purchasing 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 four years, more water was put into the Beaumont Basin than withdrawn from it. A three-year string was broken in 2014 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, and 2014 (the latter two being dry years). Overall, the Agency has delivered approximately 67,000 acre feet of State Water Project water over the past eleven 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.

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.

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 four years, more water was put into the Beaumont Basin than withdrawn from it. A three-year string was broken in 2014 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, and 2014 (the latter two being dry years). Overall, the Agency has delivered approximately 67,000 acre feet of State Water Project water over the past eleven 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.

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	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Banning	1,103	2,381	1,180	1,485	1,787	2,512	1,999	2,787	1,782	1,845	1,715	1,759	2,180
Banning Bench	807	952	1,319	2,332	2,987	2,199	1,299	1,415	1,561	1,395	1,719	1,776	1,076
Banning Canyon	3,024	2,582	3,329	3,649	3,464	2,662	3,237	2,771	3,941	3,820	4,091	3,216	2,636
Beaumont	19,149	19,356	17,478	13,390	17,140	19,032	17,264	14,643	13,158	13,600	14,302	16,236	17,970
Cabazon	1,749	1,208	1,604	1,379	1,314	1,466	1,412	1,258	1,054	900	654	1,226	1,076
Calimesa (2)	1,557	1,725	1,535	1,575	1,445	1,532	1,133	1,315	1,114	993	1,169	950	853
Edgar Canyon (1)	3,039	2,549	2,759	2,766	3,872	3,085	3,140	2,784	3,100	3,467	3,313	2,813	2,502
Millard Canyon (3)	1,366	675	823	595	707	842	757	750	750	750	750	850	850
San Timoteo	1,465	1,392	1,469	2,132	1,904	1,384	1,533	1,367	1,329	1,297	1,312	1,062	982
Singleton	535	345	483	636	645	666	471	382	405	412	448	312	443
South Beaumont	92	95	92	85	83	94	79	97	119	115	102	92	103
Totals	33,886	33,260	32,071	30,024	35,348	35,474	32,324	29,569	28,313	28,594	29,575	30,292	30,671

32 / 74

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 (2002 through 2014 as reported)

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

Owner	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Albor Properties III, LP	164	163	163	165	170	175	200	193	174	177	4	51	7
Banning Heights Mutual Water Co.	275	207	32	73	21	22	31	4	17	13	45	69	78
Banning, City of (1)	9,526	10,053	8934	9082	10,162	10,223	9,583	8,996	8,415	8,454	8,576	8,743	8,468
Beaumont-Cherry Valley Water District (1)	8,762	9,205	8606	7070	11,748	13,031	12,744	10,849	10,975	11,698	12,153	12,829	13,284
Beckman, Dave					116	83	13						
Brinton, Barbara	10	10	10	10		10	10	10	10	10	10	10	10
Cabazon Water District	1,580	1,035	1,261	1,069	966	923	875	905	710	509	269	854	628
Dowling, Frances M. Jr.	92	95	92	85	83	94	79	72	96	92	79	69	80
El Casco LLC c/o Riv. Land Conserv(4)	160	160	160	160	165	165	165	165	165	160	165	10	10
Hudson, Merton Lonnie	465	430	430	430	435	445	435	430	430	410	485	521	540
Illy, Katharina	267	267	267	267	267	265	265	265	270	270	270	270	270
Lane, Christie		7	7	1									
Los Rios Inc .	242	226	194	343	343	470	435	386	493	528	505	409	504
Merlin Properties, LLC	530	520	500	500	100	100	150	175	100	150	200	5	5
Mission Spring Water District	165	169	157	171	190	206	164	162	144	150	146	148	155
Morongo Band of Mission Indians (3) (6)	2,593	2,057	2,191	1,822	2,530	2,326	1,890	1,908	1,541	1,634	1,736	1,949	2,076
Oak Valley Management	925	950	852	991	965	742	781	753	546	573	821	597	625
Oak Valley Partners	383	453	430	350	312	312	311	311	311	12	12		24
Perisic, Jack	40	40	40	40									
Plan on the Lake (2)	280	32	32	40	47	46	47	49	43	46	48	50	50
Ranch Calimesa Mobile Home Ranch	206	202	202	60	61	61	40	40	42	42	24	24	16
Riverside County Parks Department										50	50	50	50
Robertson's Ready Mix	4	4	186	139	158	337	373	191	200	241	239	224	293
Romano Catholic Bishop	140	140	140	70	70	70							
Sharondale Mesa Owners Association	185	182	158	181	189	183	196	154	131	133	145	147	130
Shiloh's Hill LLC	107	11	121	160	146	150	61	172	200	229	193		
South Mesa Water Co.	2,745	2,645	2,679	2,551	2,711	2,839	2,681	2,514	2,222	2,224	2,376	1,889	1,918
Summit Cemetery District	65	65	65	65	65	65	65	90	88	88	88	88	88
Sun Cal Companies	47	49	89	839	555								
Sunny-Cal Egg & Poultry, Inc.	1,475	1,475	1,477	1,153	50	50	50	50	25	28	28		1
Wildlands Conservancy, The	460	317	462	283	301	9	21	40	16	8	7	20	17
Yucaipa Valley Water District	1,993	2,091	2,134	1,854	2,422	2,072	659	685	949	665	901	1,266	1,344
Totals	33,886	33,260	32,071	30,024	35,348	35,474	32,324	29,569	28,313	28,594	29,575	30,292	30,671

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 - Preceding 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 (2002 through 2014 as reported)

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

Owner	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
BANNING BASIN													
Banning, City of	1,103	2,381	1,180	1,485	1,787	2,512	1,999	2,787	1,782	1,845	1,715	1,759	2,180
TOTALS FOR BANNING BASIN	1,103	2,381	1,180	1,485	1,787	2,512	1,999	2,787	1,782	1,845	1,715	1,759	2,180
BANNING BENCH BASIN													
Banning, City of	732	877	1,244	2,257	2,922	2,124	1,224	1,340	1,486	1,320	1,644	1,701	1,001
Brinton, Barbara	10	10	10	10	0	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	807	952	1,319	2,332	2,987	2,199	1,299	1,415	1,561	1,395	1,719	1,776	1,076
BANNING CANYON BASIN													
Banning Heights Mutual Water Co.	275	207	32	73	21	22	31	4	17	13	45	69	78
Banning, City of	2,749	2,368	3,290	3,575	3,443	2,640	3,206	2,767	3,924	3,807	4,046	3,147	2,558
Lane, Christie	0	7	7	1	0	0	0	0	0	0	0	0	0
TOTALS FOR BANNING CANYON BASIN	3,024	2,582	3,329	3,649	3,464	2,662	3,237	2,771	3,941	3,820	4,091	3,216	2,636
BEAUMONT BASIN													
Libor Properties III, LP	164	163	163	165	170	175	200	193	174	177	4	51	7
Banning, City of (1)	4,942	4,427	3,220	1,765	2,010	2,947	3,154	1,623	1,223	1,482	1,171	2,136	2,729
Beaumont-Cherry Valley Water District (1)	7,088	7,692	7,103	5,607	9,200	11,096	10,617	9,643	9,100	9,539	10,163	11,096	11,959
Beckman	116	83	13	0	0	0	0	0	0	0	0	0	0
Merlin Properties, LLC	530	520	500	500	100	100	150	175	100	150	200	5	5
San Geronimo Band of Mission Indians (2)	1,227	1,382	1,368	1,227	1,823	1,484	1,133	1,158	791	884	986	1,099	1,226
Oak Valley Management, LLC	925	950	852	991	965	742	781	753	546	573	821	597	625
Oak Valley Partners	383	453	430	350	312	312	311	311	311	12	12	0	24
Plantation on the Lake	280	32	32	40	47	46	47	49	43	46	48	50	50
Rancho Calimesa Mobile Home Ranch	206	202	202	60	61	61	40	40	42	42	24	24	16
Roman Catholic Bishop	140	140	140	70	70	70	0	0	0	0	0	0	0
Sharondale Mesa Owners Association	185	182	158	181	189	183	196	154	131	133	145	147	130
Sunny-Cal Egg & Poultry, Inc.	1,475	1,475	1,477	1,153	50	50	50	50	25	28	28	0	1
Yucaipa Valley Water District	1,604	1,738	1,833	1,281	2,027	1,683	572	494	672	534	700	1,031	1,198
TOTALS FOR BEAUMONT BASIN	19,149	19,356	17,478	13,390	17,140	19,032	17,264	14,643	13,158	13,600	14,302	16,236	17,970
CABAZON BASIN													
Cabazon Water District	1,580	1,035	1,261	1,069	966	923	875	905	710	509	269	854	628
Mission Springs Water District	165	169	157	171	190	206	164	162	144	150	146	148	155
Robertson's Ready Mix	4	4	186	139	158	337	373	191	200	241	239	224	293
TOTALS FOR CABAZON BASIN	1,749	1,208	1,604	1,379	1,314	1,466	1,412	1,258	1,054	900	654	1,226	1,076

Table 3: Groundwater Production in San Gorgonio Pass Water Agency by Purveyor by Basin (2002 through 2014 as reported)

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

Owner	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
CALIMESA BASIN													
Illy, Katharina	267	267	267	267	267	265	265	265	270	270	270	270	270
Perisits, Jack	40	40	40	40	0	0	0	0	0	0	0	0	0
South Mesa Water Co.	952	1,117	976	782	882	954	842	930	653	675	781	525	503
Yucaipa Valley Water District	298	301	252	486	296	313	26	120	191	48	118	155	80
TOTALS FOR CALIMESA BASIN	1,557	1,725	1,535	1,575	1,445	1,532	1,133	1,315	1,114	993	1,169	950	853
EDGAR CANYON BASIN													
Beaumont-Cherry Valley Water District	1,674	1,513	1,503	1,463	2,548	1,935	2,127	1,685	1,875	2,159	1,990	1,733	1,325
Hudson, Merton Lonnie	465	430	430	430	435	445	435	430	430	410	485	521	540
Los Rios Inc	242	226	194	343	343	470	435	386	493	528	505	409	504
Riverside County Parks Department										50	50	50	50
Shiloh's Hill LLC	107	11	121	160	146	150	61	172	200	229	193	0	0
Wildlands Conservancy, The	460	317	462	283	301	9	21	40	16	8	7	20	17
Yucaipa Valley Water District	91	52	49	87	99	76	61	71	86	83	83	80	66
TOTALS FOR EDGAR CANYON BASIN	3,039	2,549	2,759	2,766	3,872	3,085	3,140	2,784	3,100	3,467	3,313	2,813	2,502
MILLARD CANYON BASIN													
Morongo Band of Mission Indians (3) (4)	1,366	675	823	595	707	842	757	750	750	750	750	850	850
TOTALS FOR MILLARD CANYON BASIN	1,366	675	823	595	707	842	757	750	750	750	750	850	850
SAN TIMOTEO BASIN													
El Casco LLC c/o Riv Land Conserv	160	160	160	160	165	165	165	165	165	160	165	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.	1,258	1,183	1,220	1,133	1,184	1,219	1,368	1,202	1,164	1,137	1,147	1,052	972
SunCal Companies	47	49	89	839	555	0	0	0	0	0	0	0	0
TOTALS FOR SAN TIMOTEO BASIN	1,305	1,232	1,309	1,972	1,739	1,219	1,368	1,202	1,164	1,137	1,147	1,062	982
SINGLETON BASIN													
South Mesa Water Co.	535	345	483	636	645	666	471	382	405	412	448	312	443
TOTALS FOR SINGLETON BASIN	535	345	483	636	645	666	471	382	405	412	448	312	443
SOUTH BEAUMONT BASIN													
Dowling, Frances M. Jr.	92	95	92	85	83	94	79	72	96	92	79	69	80
Summit Cemetery District								25	23	23	23	23	23
TOTALS FOR SOUTH BEAUMONT BASIN	92	95	92	85	83	94	79	97	119	115	102	92	103
TOTALS FOR ALL BASINS	33,726	33,100	31,911	29,864	35,183	35,309	32,159	29,404	28,148	28,434	29,410	30,292	30,671

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 (2002 through 2014 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%

TOTAL **67,299**

(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

WATER QUALITY ANALYSIS AT DEVIL CANYON AFTERBAY

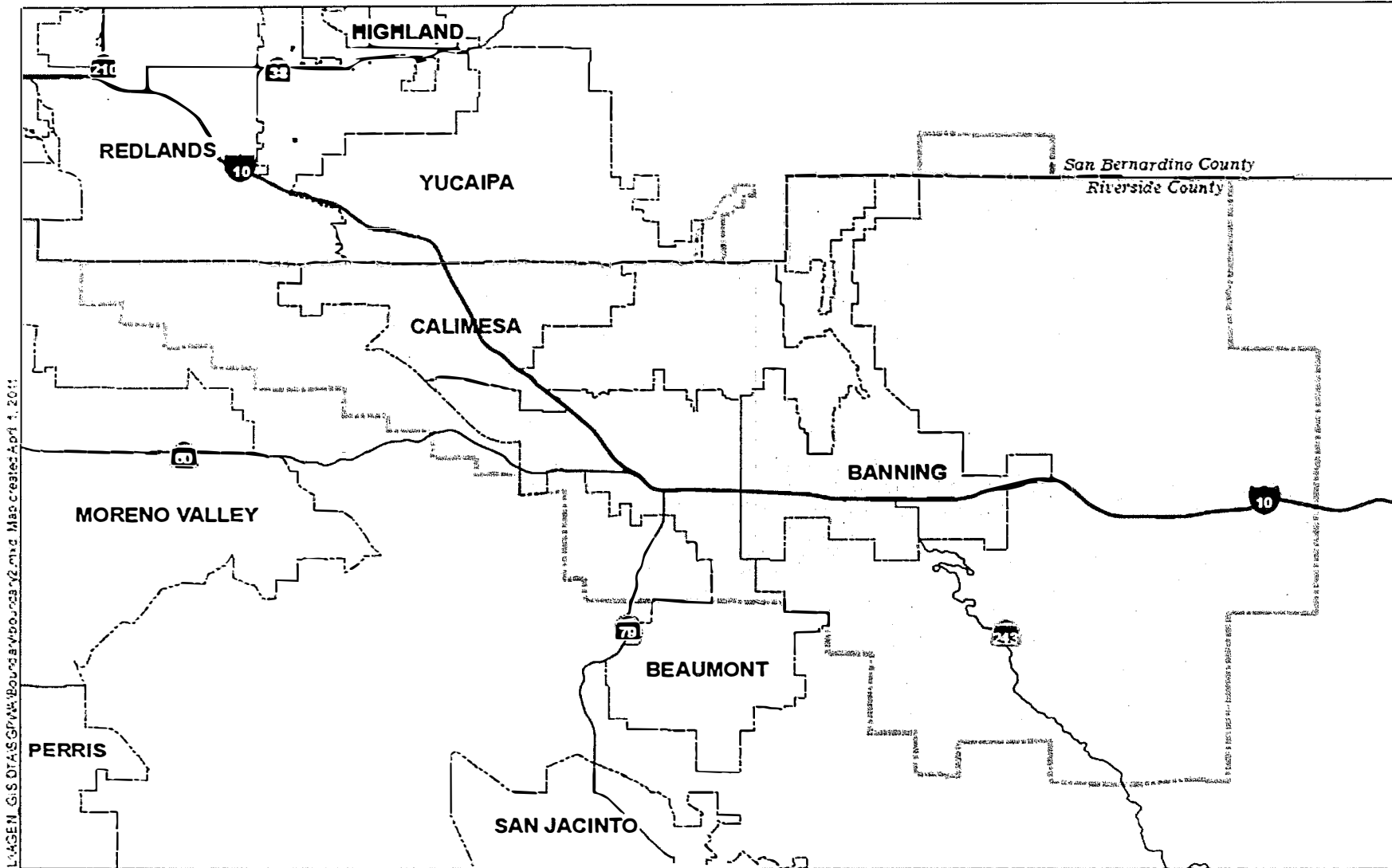
DATE	Chloride mg/L	Nitrate+Nitrite mg/L	Sodium mg/L	Sulfate mg/L	TDS mg/L	Nephelometric Turbidity Units
Jan-11	64	0.61	44	26	276	2
Feb-11	35	0.41	29	27	168	4
Mar-11	32	0.49	27	29	165	16
Apr-11	34	0.40	30	35	168	5
May-11	19	0.21	18	19	113	4
Jun-11	30	0.19	25	20	139	2
Jul-11	24	0.36	20	19	122	4
Aug-11	30	0.33	27	20	140	2
Sep-11	30	0.24	25	19	148	1
Oct-11	24	0.24	20	17	125	2
Nov-11	20	0.35	21	15	130	1
Dec-11	34	0.41	30	25	166	2
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

mg/L: milligrams per liter

Source: SWP/DWR Water Quality Data Reports

NR: Not Reported

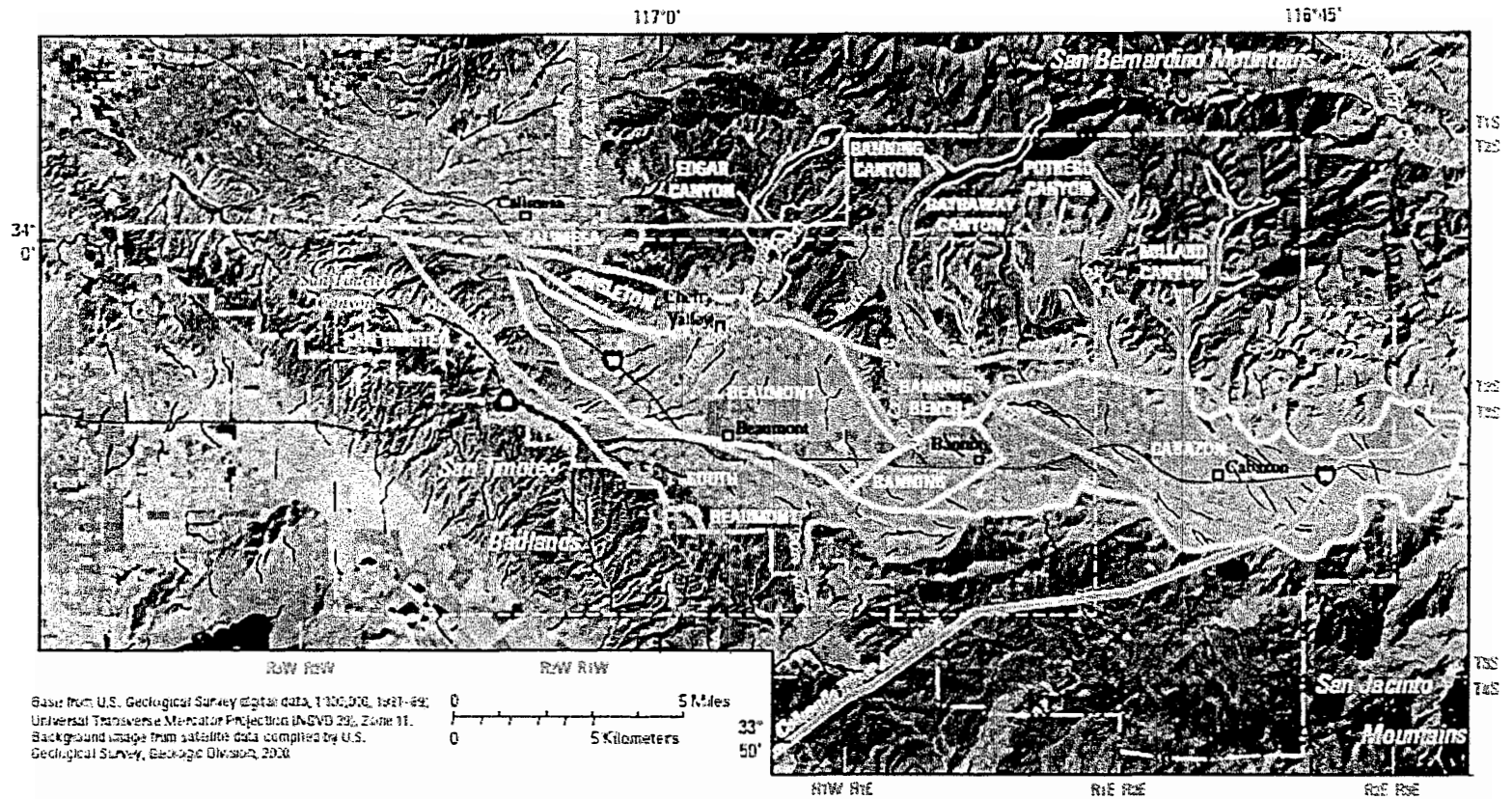
Table 5: Water Quality Analysis at Devil Canyon Afterbay near San Bernardino
(Select constituents)



Sources: Riverside Co. LAFCO, Jan. 2010;
 Riverside County GIS, 2008.

**San Gorgonio Pass Water Agency
 Service Area Boundary**

Figure 1: San Gorgonio Pass Water Agency



Base: from U.S. Geological Survey digital data, 1:50,000, 1981-89;
 Universal Transverse Mercator Projection (NAD 83), Zone 11.
 Background image from satellite data compiled by U.S.
 Geological Survey, Backgroun Division, 2000

EXPLANATION

- | | |
|--|--|
| <ul style="list-style-type: none"> Study area boundary San Geronio Pass Water Agency boundary San Geronio Pass ground-water basin Storage unit boundary—Dashed where uncertain. <i>Blayd, 1971.</i> Canyon storage unit boundary—<i>Blayd, 1971.</i> | <ul style="list-style-type: none"> Name of storage unit Town or community and name River or creek Recharge pond—Along Little San Geronio Creek |
|--|--|

Figure 3: Groundwater Storage Units

**Long Term Mean Annual Precipitation
Beaumont Station 3S/1W-10P, Elevation 2613'
Mean Annual Precipitation = 17.4"**

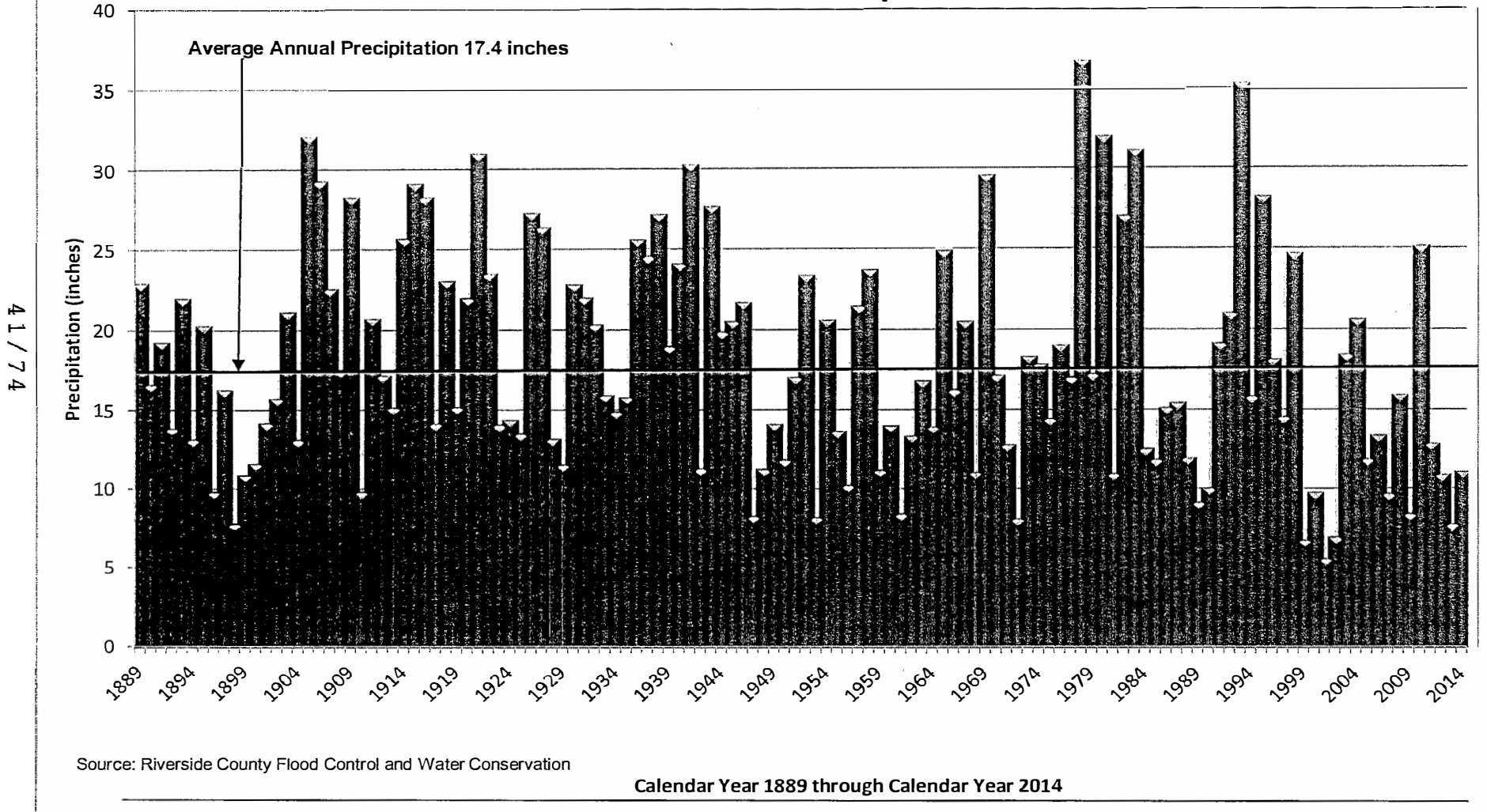


Figure 4: Long Term Mean Annual Precipitation at Beaumont

Wastewater Discharge Totals by Discharger by Calendar Year

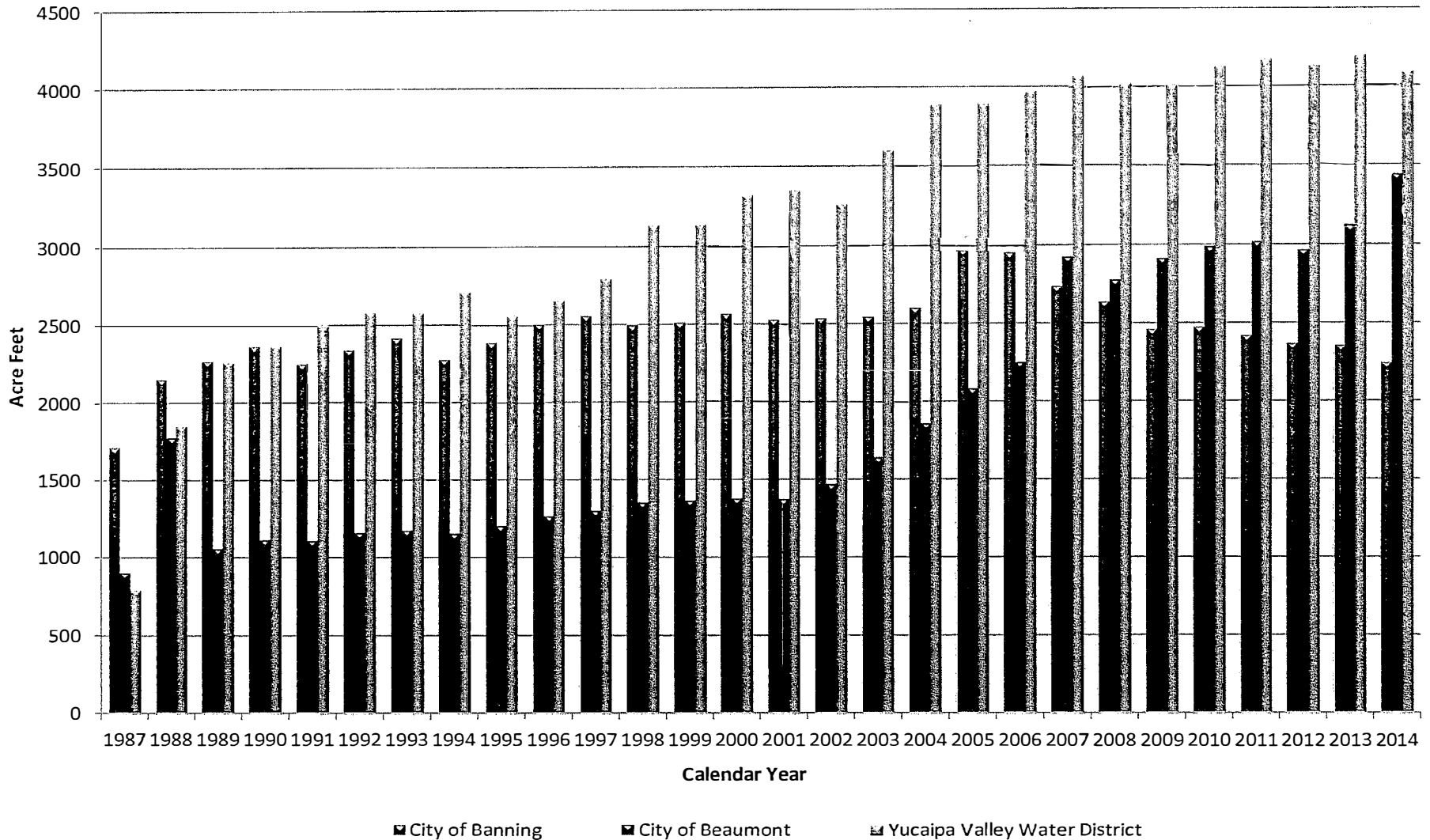


Figure 5: Wastewater Discharge Totals by Discharger by Calendar Year

San Geronio Pass Water Agency
Production All Basins
1947 through 2014

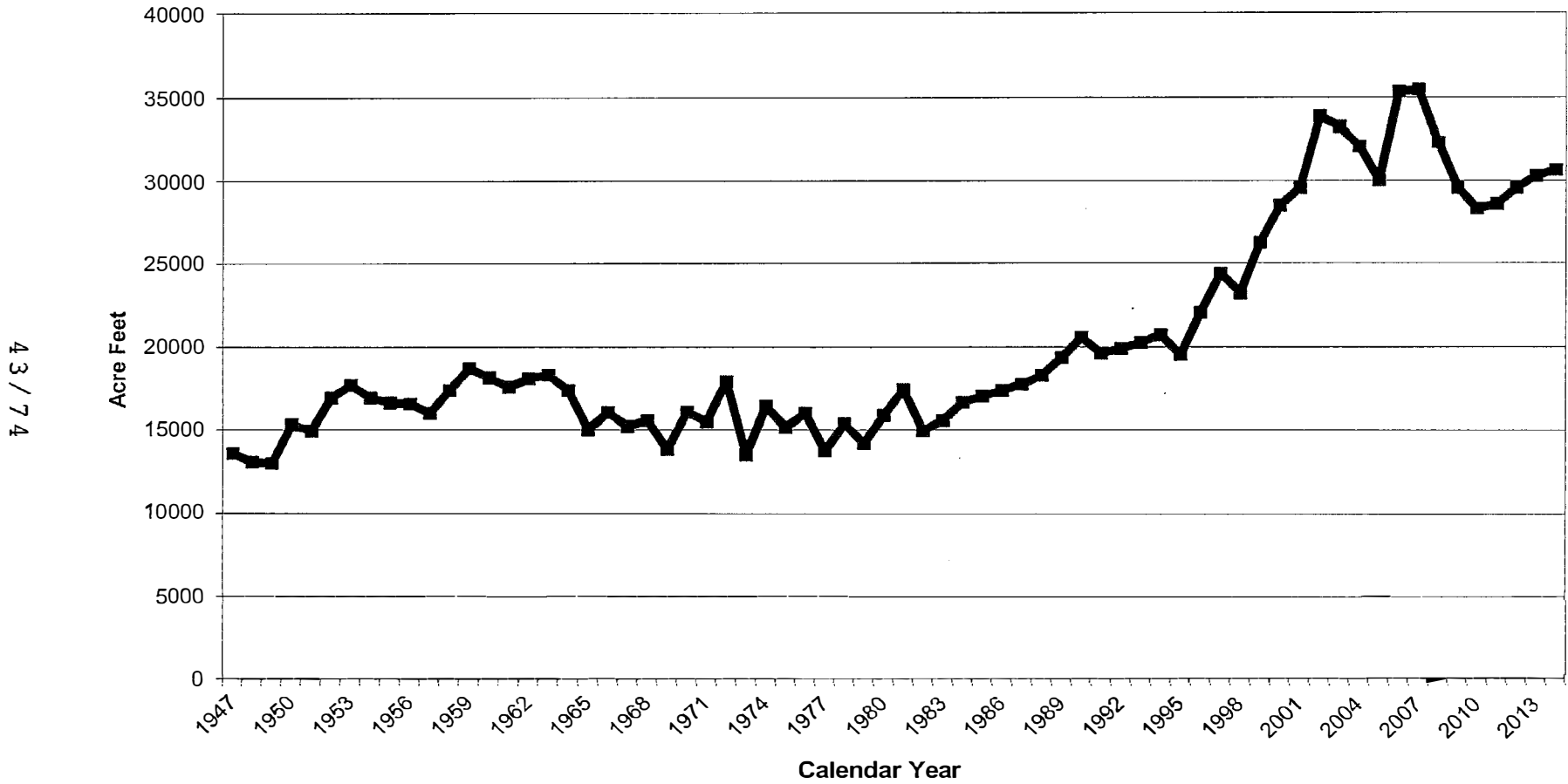


Figure 6: Historical Groundwater Production All Basins 1947 through 2014
(as reported)

San Geronio Pass Water Agency
Production All Basins
1997 through 2014

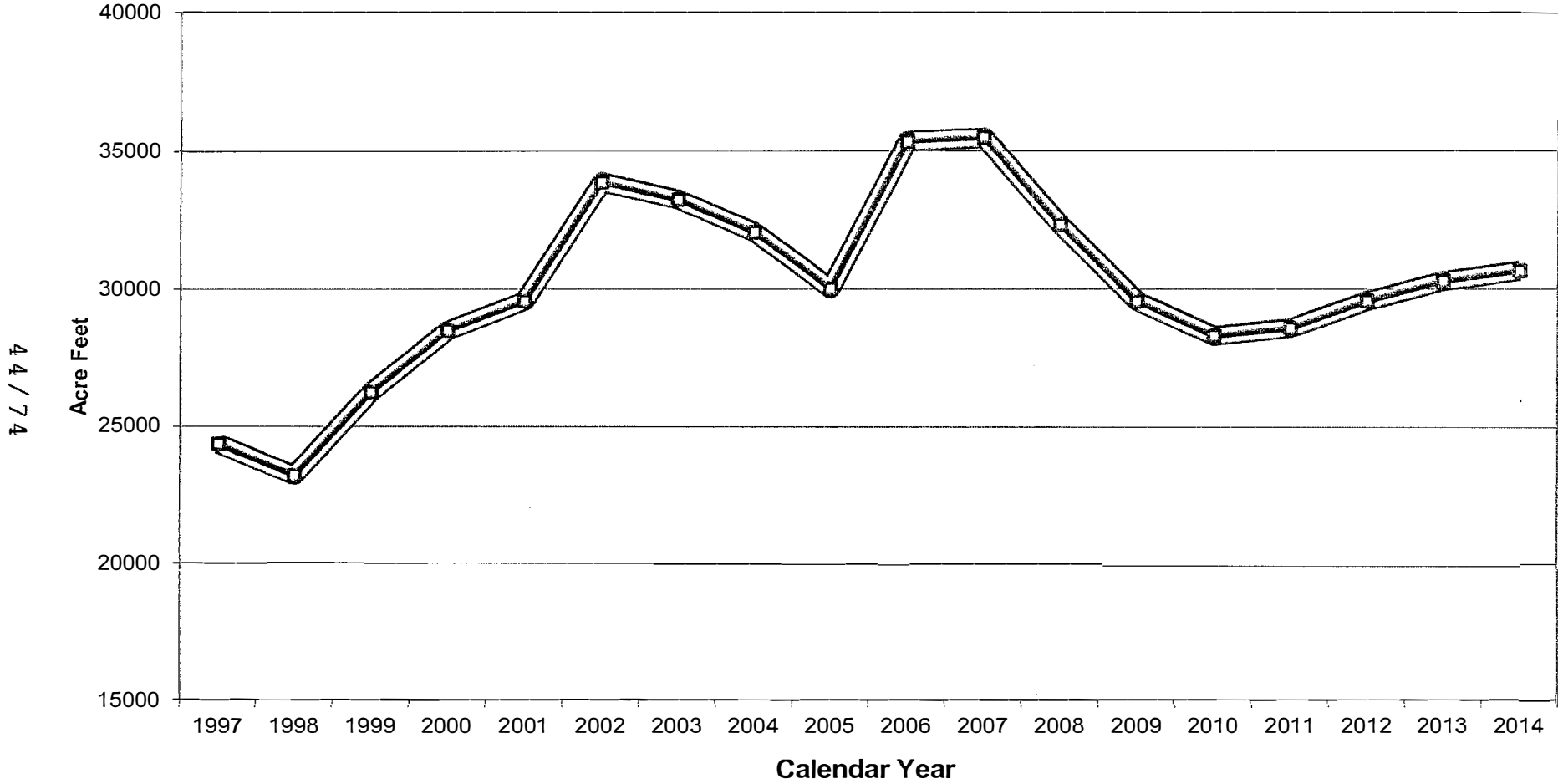
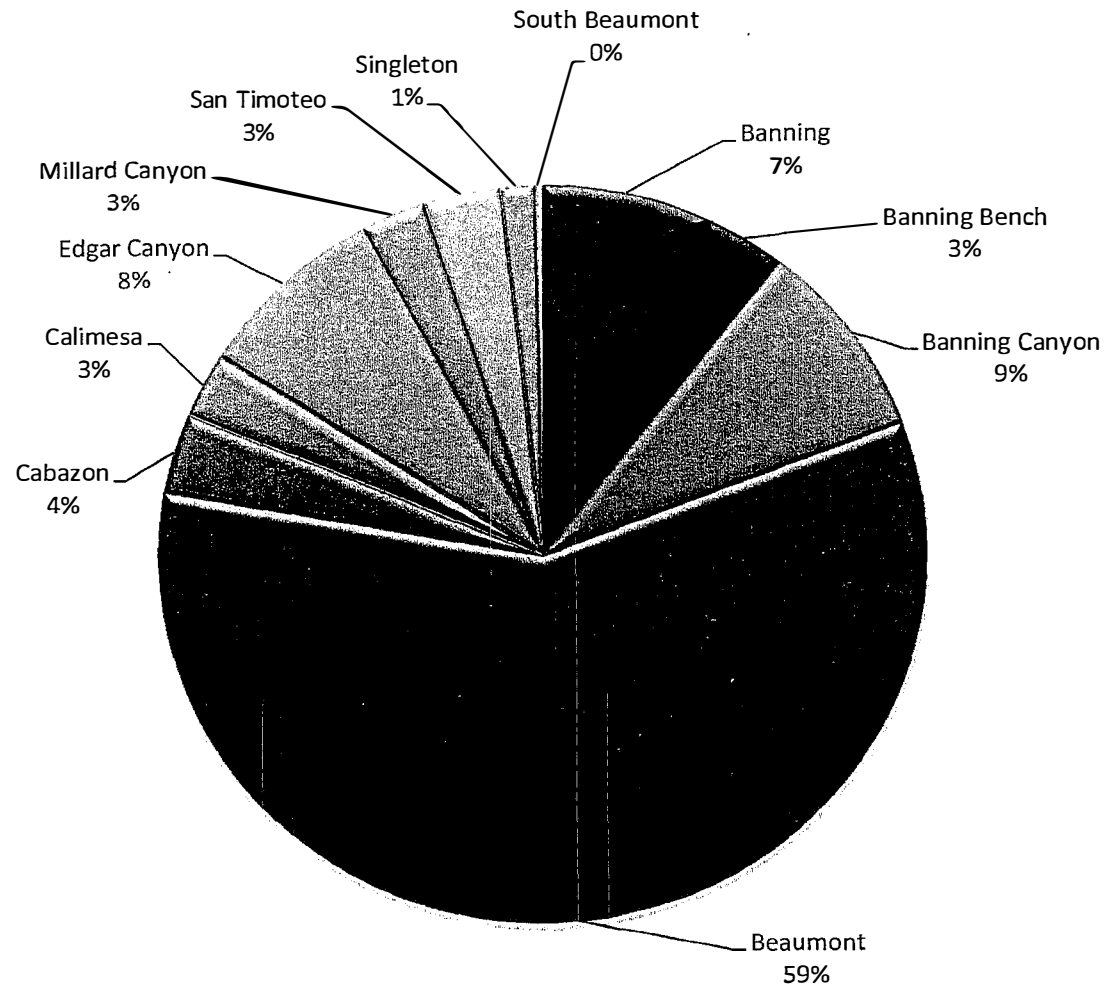


Figure 7: Historical Groundwater Production All Basins 1997 through 2014 (as reported)

Total Production By Storage Unit 2014



45 / 74

Figure 8: Total Production by Storage Unit in 2014 (as reported)

Accumulated Overdraft in the Beaumont Basin 1997 through 2014

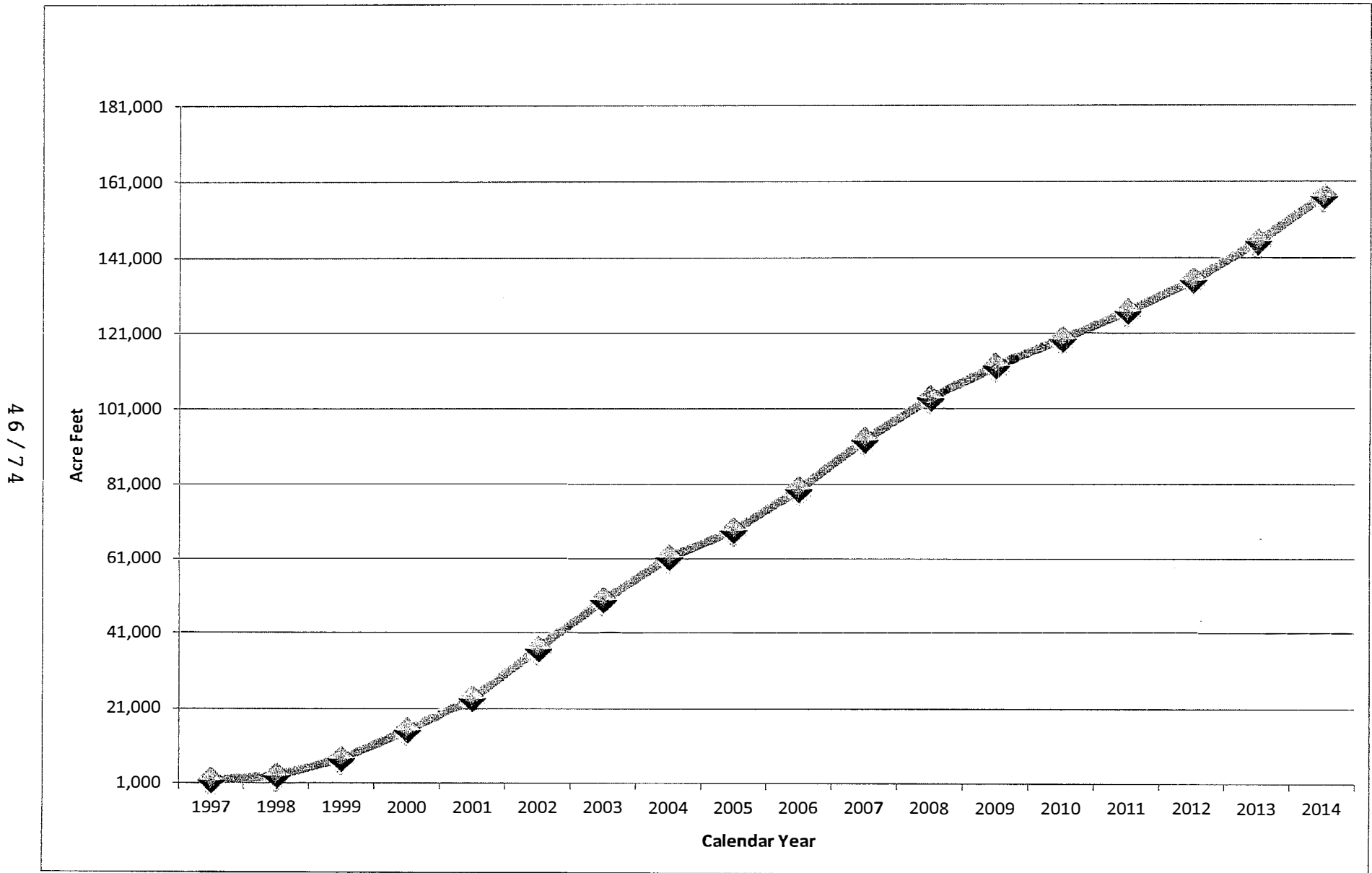


Figure 9a: Accumulated Overdraft in the Beaumont Basin 1997 through 2014

Accumulated Overdraft in the Beaumont Basin
1997 through 2014 with Replenishment

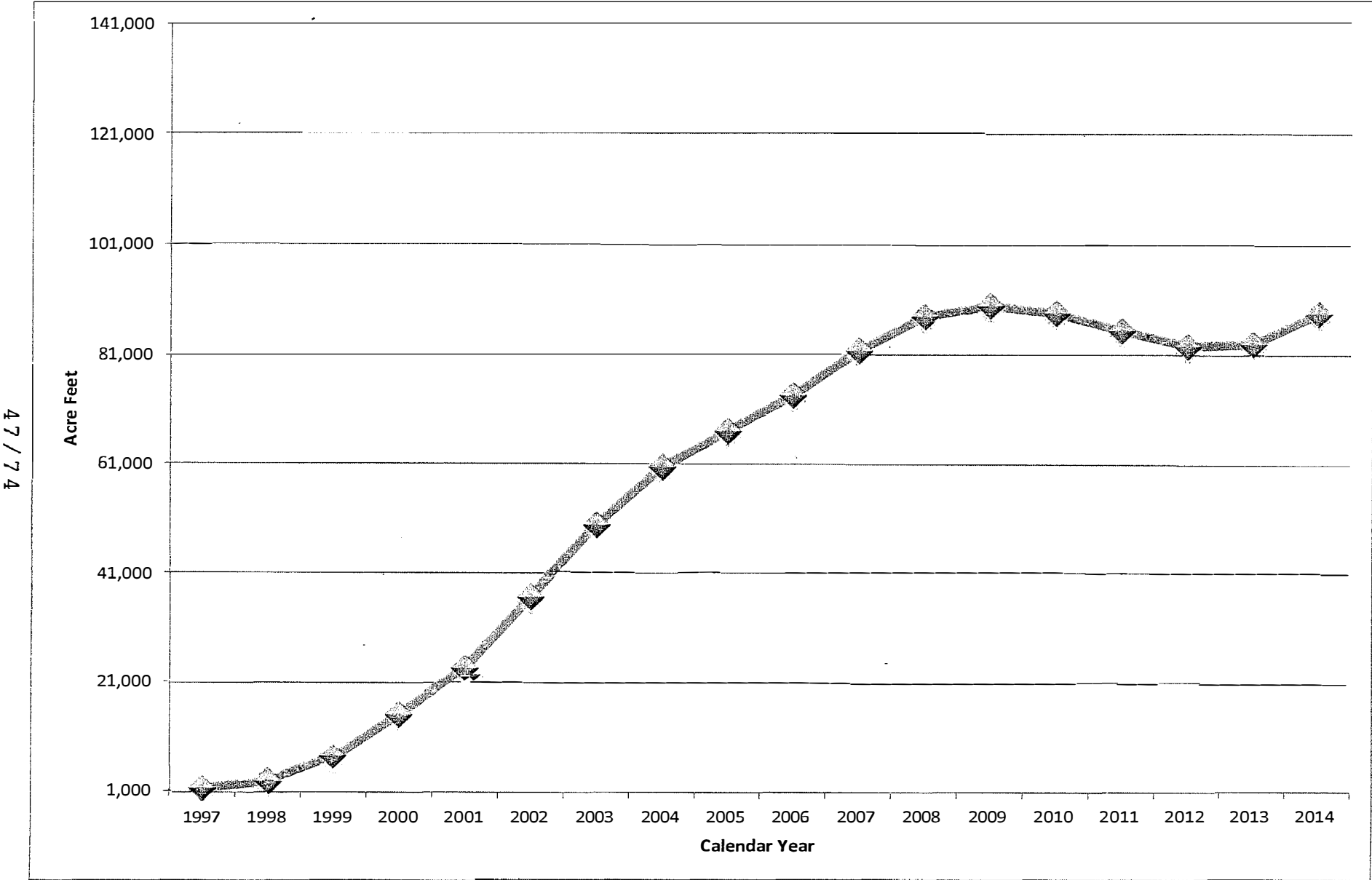
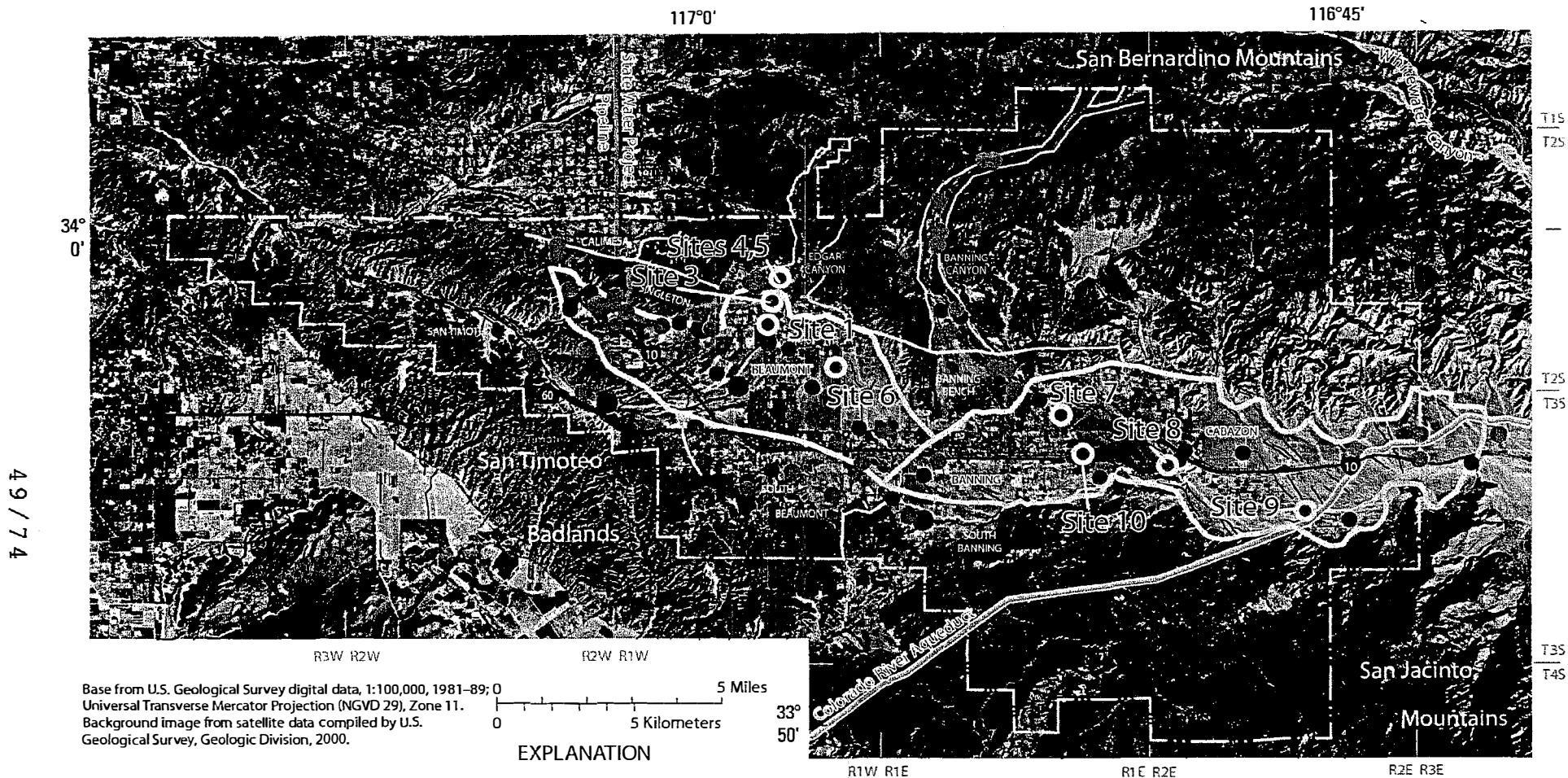


Figure 9b: Accumulated Overdraft in the Beaumont Basin 1997 through 2014 with Replenishment



SGPWA Monitoring Wells

Figure 10: San Geronio Pass Water Agency Monitoring Wells



San Gorgonio Pass Water Agency boundary

San Gorgonio Pass ground-water basin

Name of storage unit in ground-water flow model

Storage unit boundary—

Outside ground-water flow model

Name of storage unit outside ground-water flow model

Canyon storage unit boundary

Name of canyon storage unit

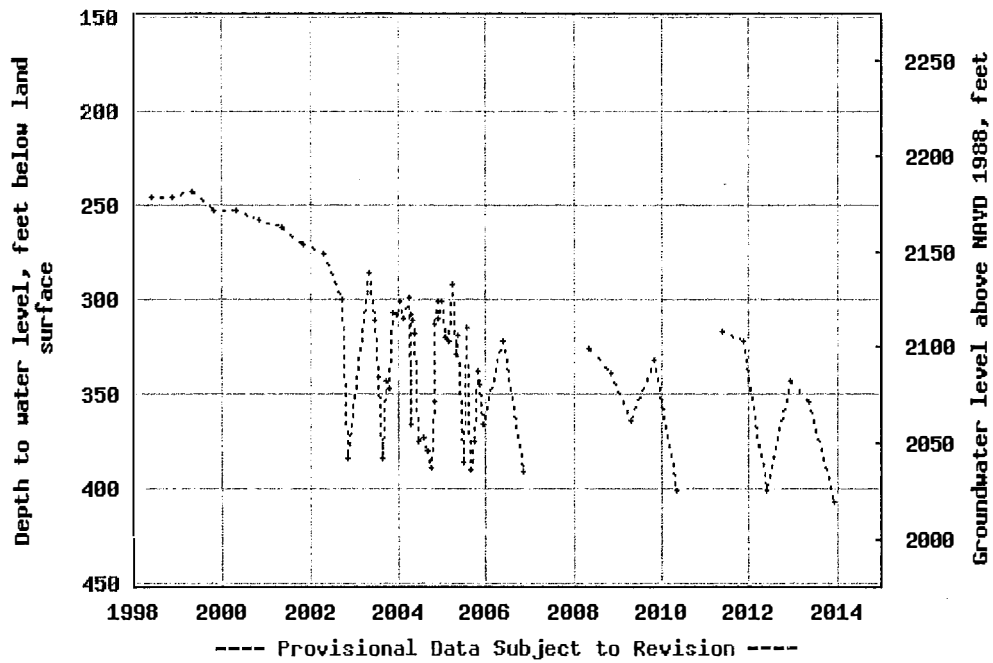
Water level change between fall 2013 and fall 2014

- Network well with water level rise greater than 5 feet
- Network well with water level change less than 5 feet
- Network well with water level drop greater than 5 feet
- FFY13 Network well, data not available for comparison

Figure 11. Map showing the water-level network and water-level change between fall 2013 and fall 2014 at selected wells.



USGS 335504116544201 003S001E18A001S



USGS 335504116552601 003S001E18C001S

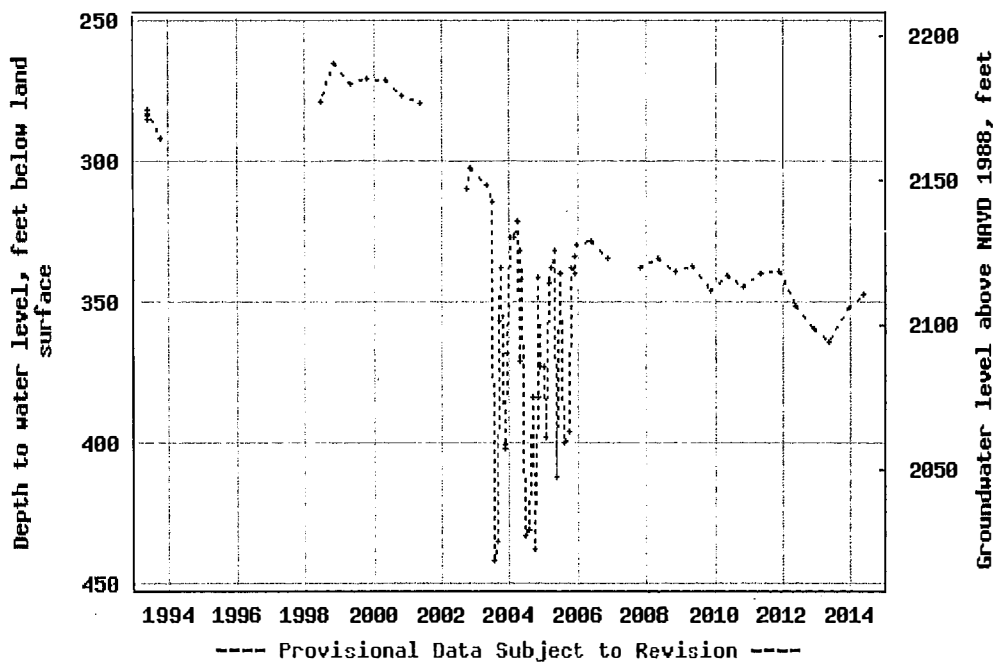


Figure 12: Groundwater Hydrographs – Banning Basin
3S/1E-18AC 50 / 74 / 1E-18C01

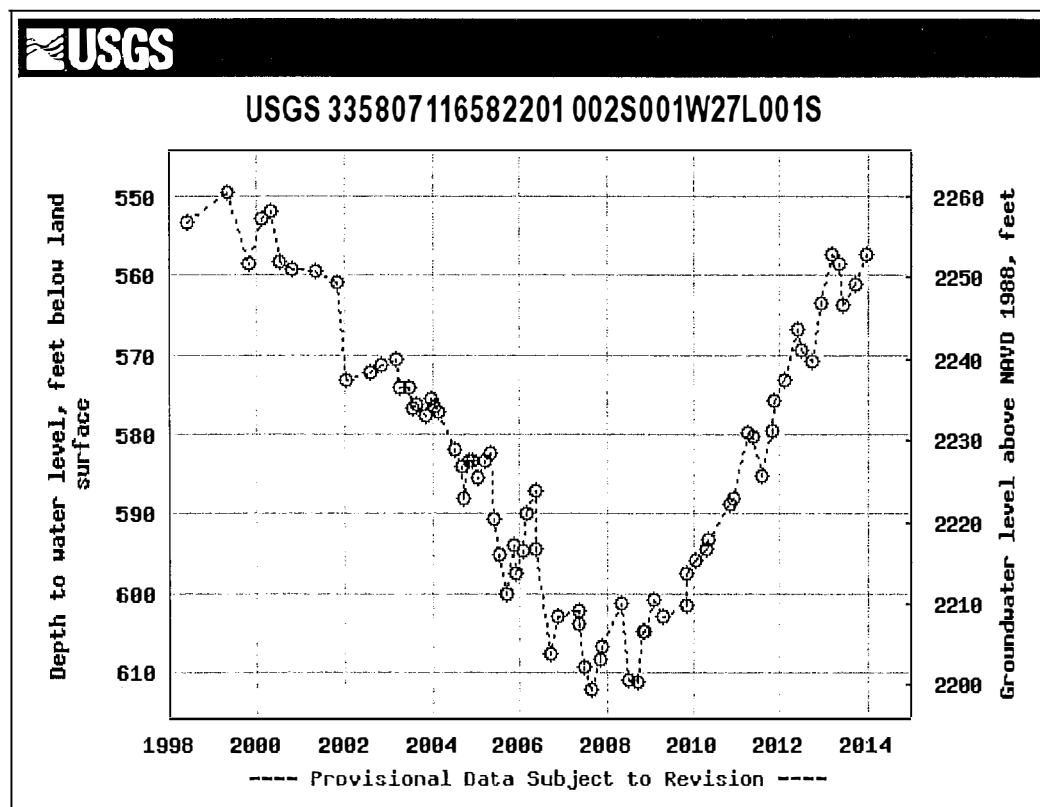
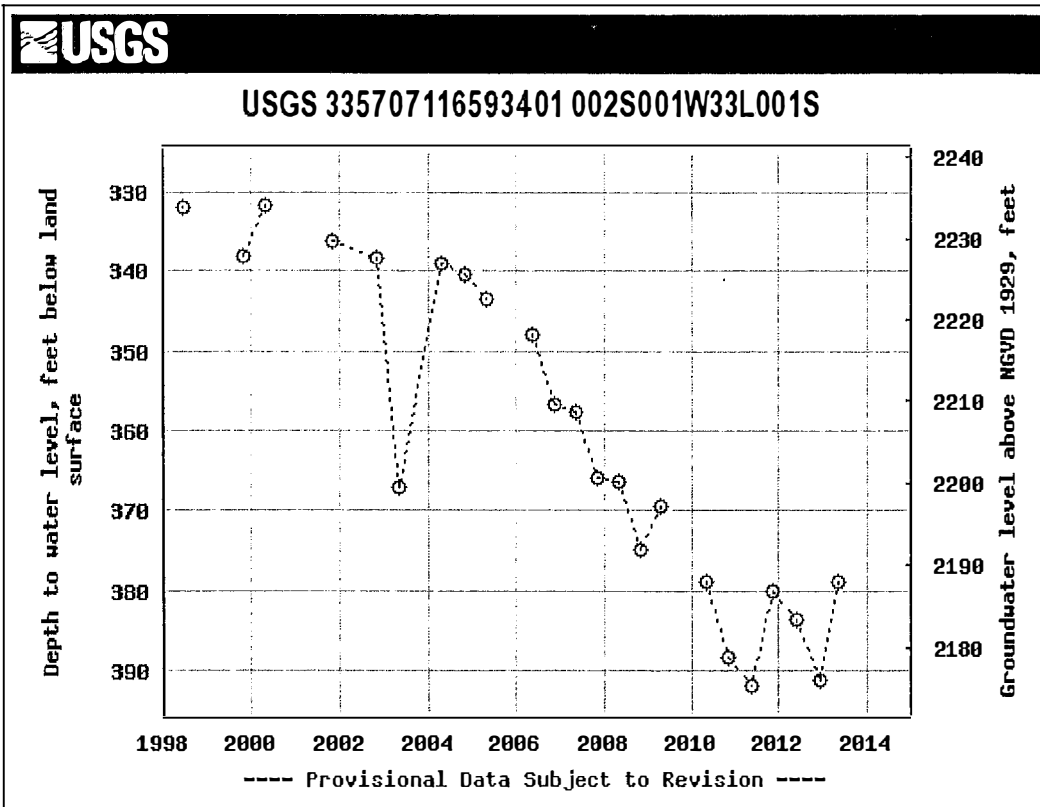


Figure 13: Groundwater Hydrographs – Beaumont Basin
2S/1W-33L01 and 2S/1W-27L01

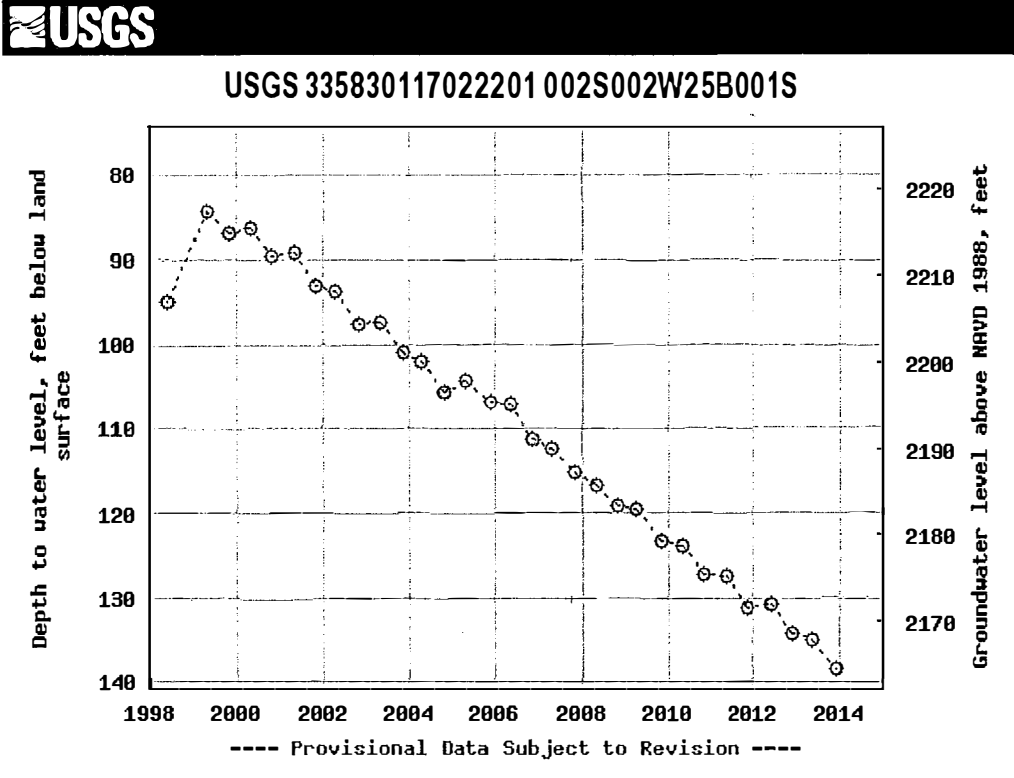


Figure 14: Groundwater 5 2 / 7 4 mphs – Beaumont Basin
2S/2W-25B01

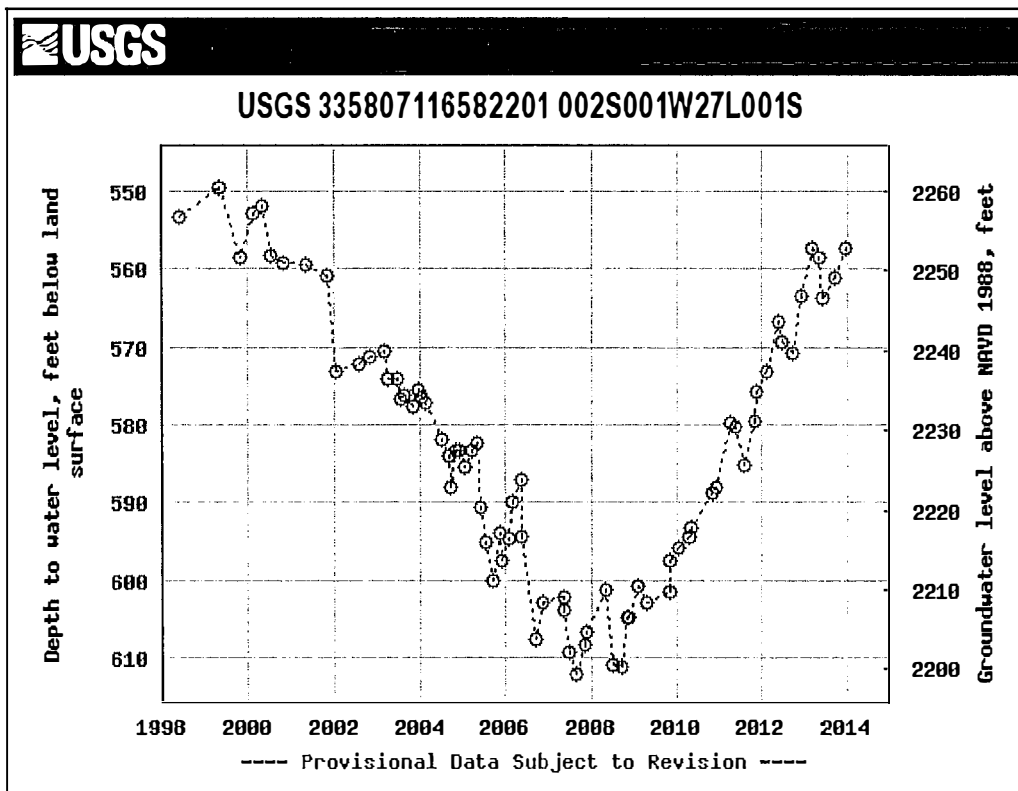
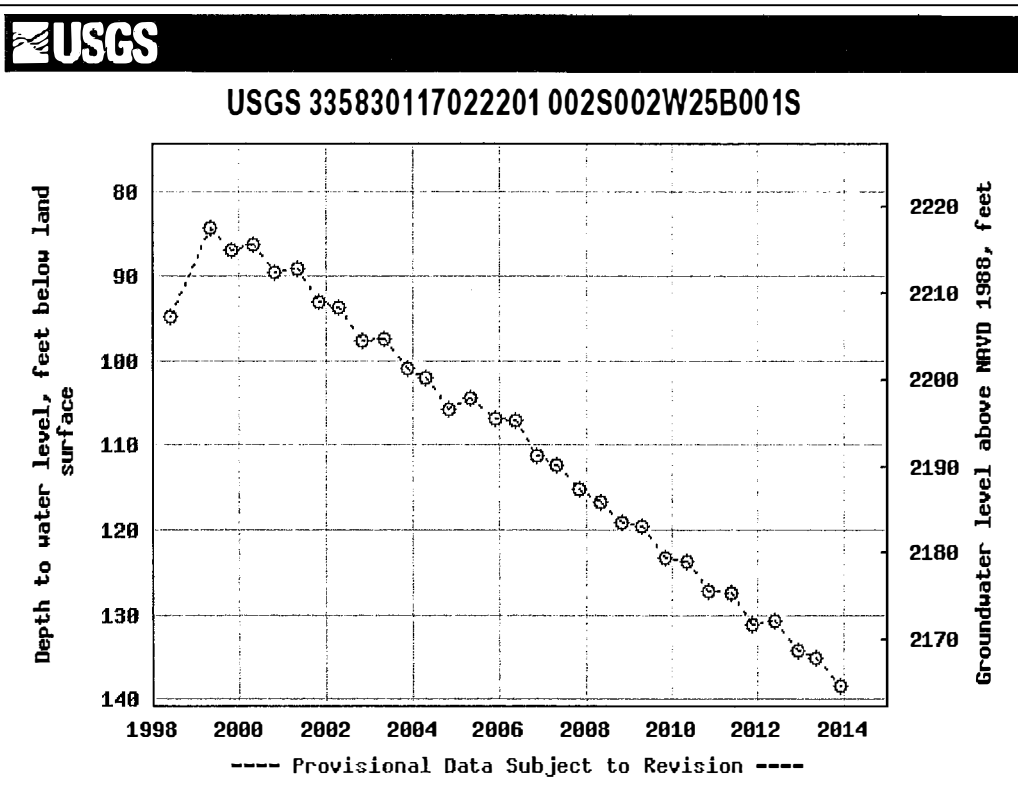


Figure 15: Groundwater 53 / 74 apts – Beaumont Basin
2S/2W-25B01 and 2S/1W-27L01

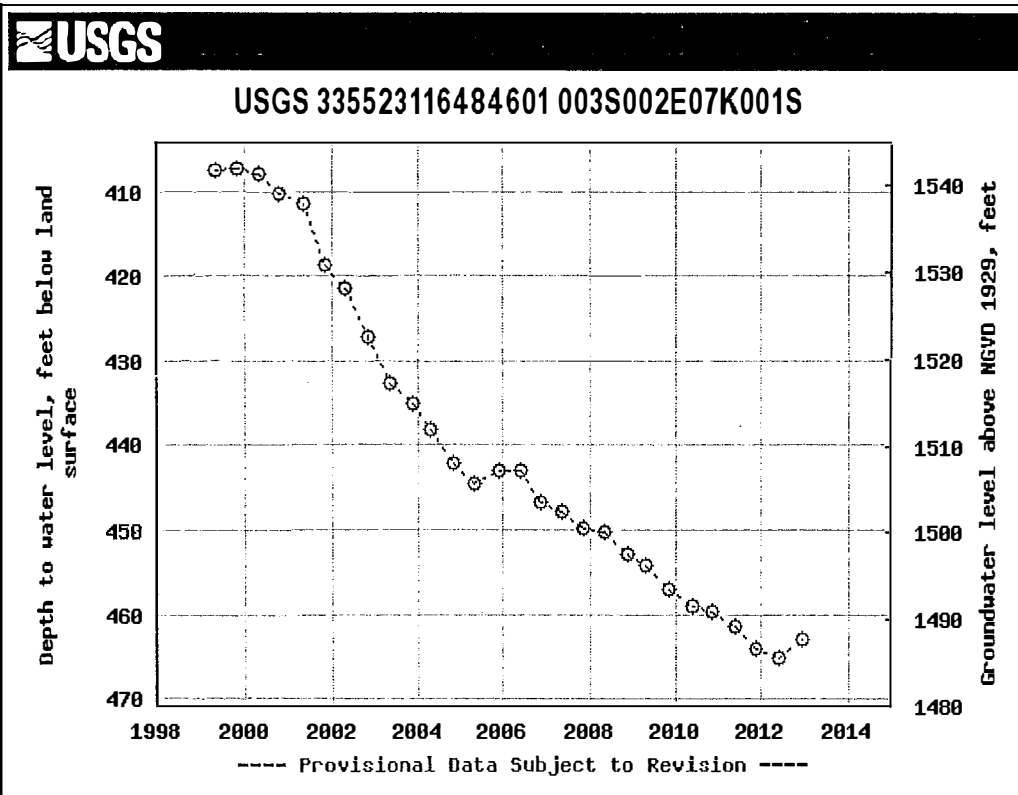
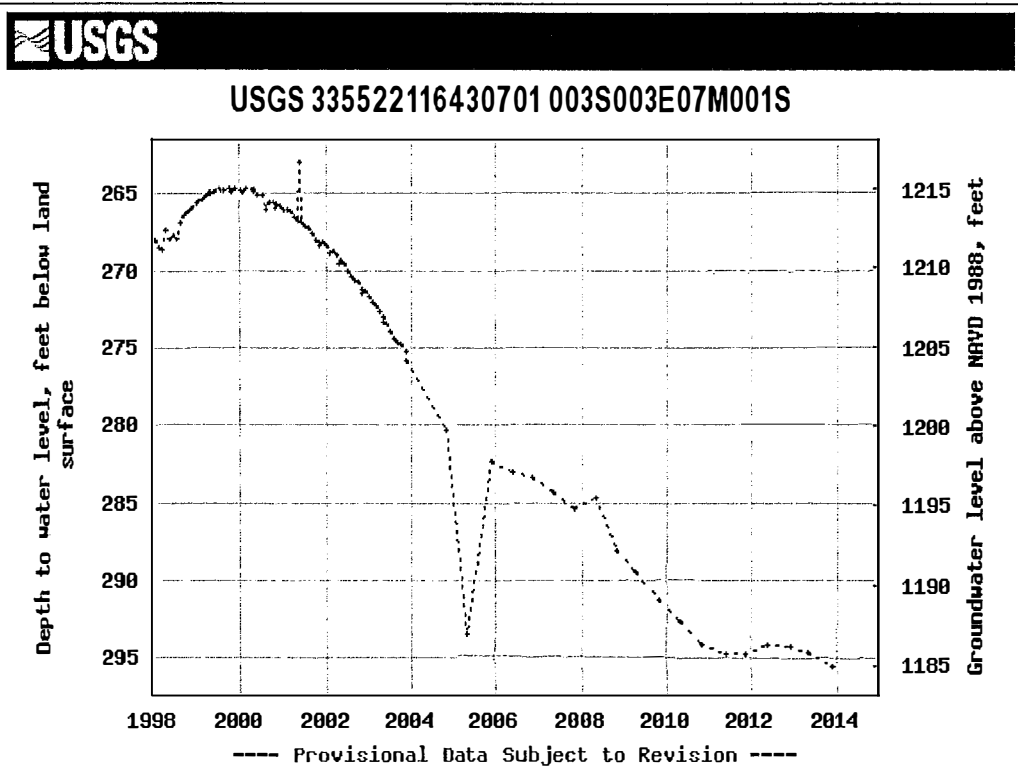


Figure 16: Groundwater Hydrographs – Cabazon Basin
 3S/3E-07M⁵⁴ / 7⁴ / 2E-07K01

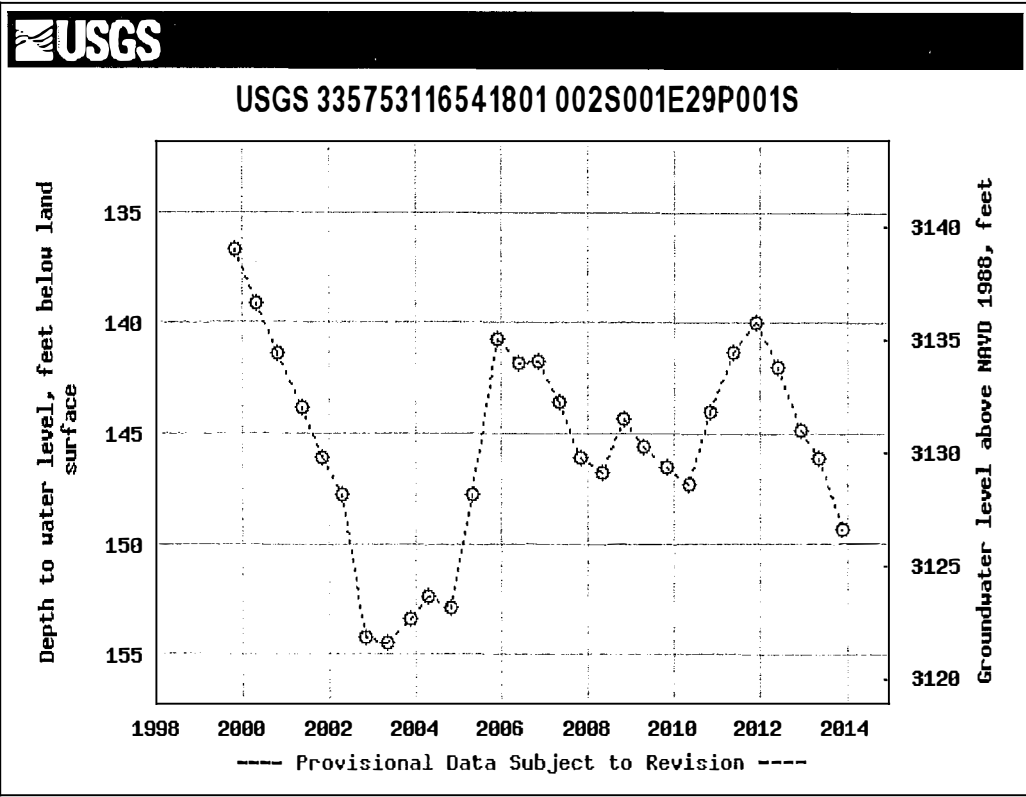
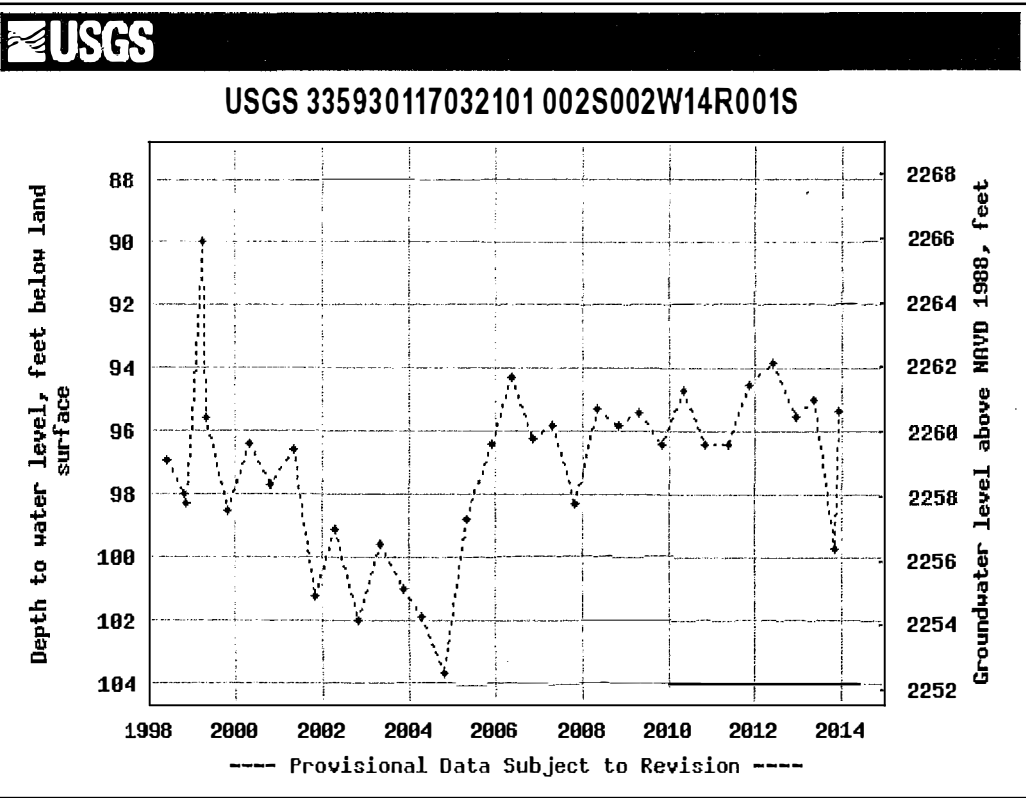
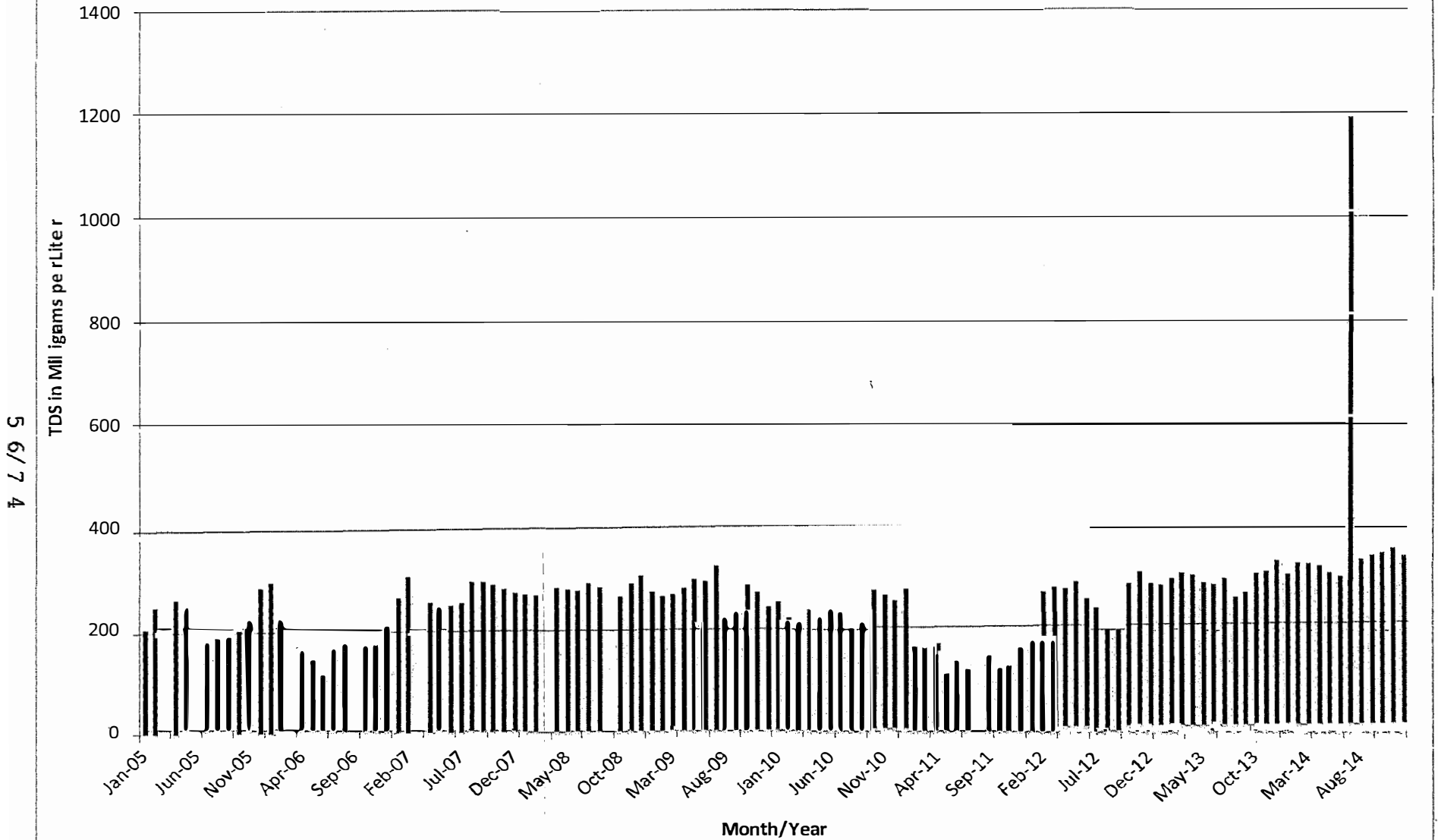


Figure 17: Groundwater Hydrographs – Calimesa and Banning Canyon Basins
 2S/2W-14R 55 / 74 3/1E-29P01

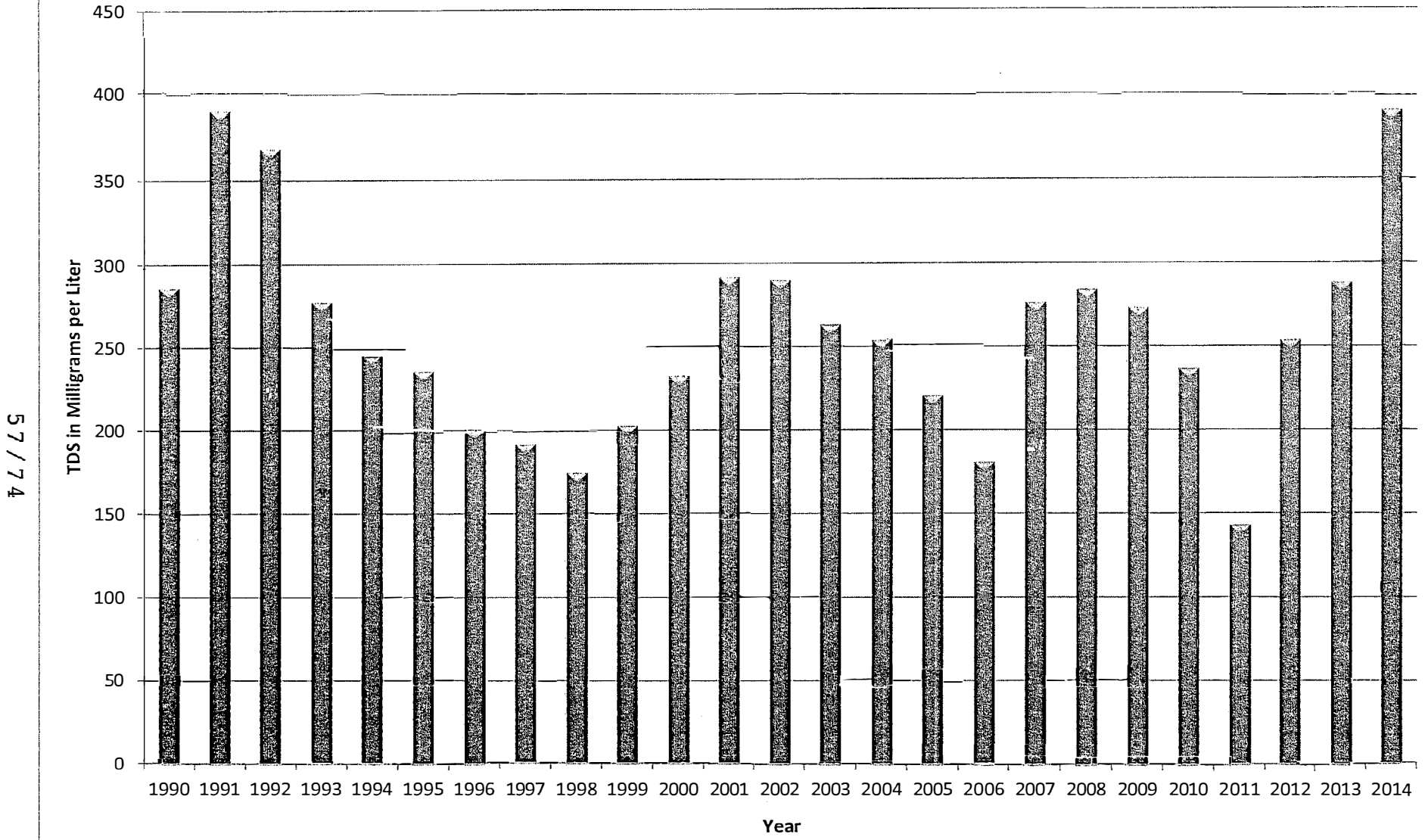
Monthly TDS at Devil Canyon Afterbay Near San Bernardino 2005 through 2014



Source: Table 32, DWR Monthly Operations Report

Figure 18: Monthly TDS at Devil Canyon Afterbay near San Bernardino 2005 through 2014

Average TDS at Devil Canyon Afterbay near San Bernardino 1990 - 2014



Source: Table 32, DWR Monthly Operations Report

Figure 19: Average TDS at Devil Danyon Afterbay near San Bernardino 1990 through 2014



San Geronio Pass Water Agency
1210 Beaumont Avenue
Beaumont, California 92223
(951) 845-2577
www.sgpwa.com

MEMORANDUM

TO: Board of Directors

FROM: General Manager

RE: Draft Agreement on Habitat Restoration

DATE: January 19, 2016

Summary:

At last week's Engineering Workshop, staff discussed a potential agreement to create habitat in the Delta at a fraction of the cost that the Department of Water Resources (DWR) can create it for. The purpose of this agenda item is to present the draft agreement between the State Water Project Contractors Authority (SWPCA), of which the Agency is a member, and the State and Federal Contractors Water Agency (SFCWA).

Background:

As noted at the Engineering workshop, the Department of Water Resources is responsible for creating aquatic habitat under a number of existing permits and agreements. SFCWA is currently creating habitat at half of DWR's cost. Collectively, the Contractors could save up to \$100 million on habitat costs were SFCWA to perform the work instead of DWR.

Detailed Report:

The presentation at the Engineering workshop mentioned an agreement, but no agreement was included in the agenda package. A draft agreement has now been received by the Agency and the purpose of this agenda item is to review this draft agreement with the Board. There is no proposed action at this time.

This draft agreement is not for the Agency to approve—it is between SWPCA and SFCWA. There will be a separate agreement for the Agency to consider in the near future when it considers whether to participate in this proposed program or not.

Fiscal Impact:

There is no fiscal impact to discussing this particular draft agreement. Were the Board to authorize participation in the proposed program, there would likely be cost savings to the Agency over time—a projected \$500,000 over a period of years, as indicated at the Engineering workshop.

Relationship to Strategic Plan:

Discussion of this draft agreement does not directly relate to the strategic plan.

Recommendation:

Staff has no recommendation for action at this time. This item is for discussion only.

STATE AND FEDERAL CONTRACTORS WATER AGENCY AND STATE WATER PROJECT CONTRACTORS AUTHORITY

AGREEMENT for

TIDAL HABITAT RESTORATION PROJECT DEVELOPMENT

This Agreement is made effective as of this ____ day of _____, 2015, by and between the State and Federal Contractors Water Agency, a joint powers agency of the State of California (“SFCWA”), and the State Water Project Contractors Authority, a joint powers agency of the State of California (“SWPCA”), (individually “Party” and collectively the “Parties”).

RECITALS

WHEREAS, several public agencies (collectively “SFCWA Members”) formed SFCWA by entering into a Joint Powers Agreement dated August 19, 2009 for the purpose of exercising the common powers of the SFCWA Members, including those powers described in this Agreement; and

WHEREAS, several public agencies throughout California (collectively “SWPCA Members”) formed SWPCA by entering into a Joint Powers Agreement dated April 3, 2003 for the purpose of providing services to the California State Water Project, and certain members of SWPCA are represented at SFCWA; and

WHEREAS, the United States Fish and Wildlife Service (“USFWS”) 2008 Delta Smelt Biological Opinion (“USFWS BiOp”), Reasonable and Prudent Alternative (“RPA”) 4 requires the California Department of Water Resources (“DWR”) to create or restore a minimum of 8,000 acres of intertidal and associated subtidal wetland habitat within the Sacramento-San Joaquin River Delta (“Delta”) and Suisun Marsh; and

WHEREAS, the National Marine Fisheries Service (“NMFS”) 2009 Biological Opinion and Conference Opinion on the Long-term Operation of the CVP and SWP (“NMFS BiOp”) RPA Action I.6.1 includes actions to create, restore and improve access to floodplain rearing habitat and reduce migratory delays through fish passage improvements for juvenile winter-run and spring-run Chinook salmon, Central Valley steelhead and Southern Distinct Population of North American Green Sturgeon; and

WHEREAS, the Central Valley Project Improvement Act of 1992 (“CVPIA”) requires the Secretary of the Interior, through the United States Department of Interior, Bureau of Reclamation (“Reclamation”), to implement a variety of habitat restoration actions; and

WHEREAS, the California Department of Fish and Game's (now, Department of Fish and Wildlife) ("DFW") February 23, 2009 Longfin Smelt incidental take permit ("ITP") requires DWR to restore 800 acres of intertidal wetland habitat; and

WHEREAS, DWR has entered into an agreement with DFW titled "Regarding Implementation of a Fish Restoration Program in Satisfaction of Federal Biological Opinions for State Water Project Delta Operations" ("FRPA"), which is designed to facilitate satisfying fish habitat restoration requirements and related actions of the BiOps and the ITP in the Delta, Suisun Marsh, and Yolo Bypass, and obtaining smelt and/or salmon for restoration objectives; and

WHEREAS, USFWS, NMFS, DFW ("Fish Agencies"), and DWR, Reclamation, and SFCWA ("Water Agencies") have entered into a Memorandum of Agreement "Regarding the Early Implementation of Habitat Projects for the Central Valley Project and State Water Project Coordinated Operations and Bay Delta Conservation Plan" ("Crediting MOA") to establish a process through which the Fish Agencies can provide initial review, restoration estimates, and issue habitat restoration objectives which will provide assurances and otherwise facilitate the development of restoration projects; and

WHEREAS, the Fishery Agency Strategy Team ("FAST") was established by the Crediting MOA, for the purpose of providing review and guidance to the Water Agencies in the planning, development, and implementation of specific habitat restoration projects; and

WHEREAS, DWR and SFCWA entered into a Memorandum of Agreement "Regarding Coordination of Habitat Restoration Projects" ("Coordination MOA") to provide a structure for joint and collaborative habitat restoration projects between DWR and SFCWA, and by which SFCWA and its Members may provide projects to the DWR to satisfy habitat restoration requirements set forth in the BiOps; and

WHEREAS, it is anticipated that DWR and Reclamation will enter into a Memorandum of Understanding in the near future "Regarding Cooperation in Implementing Certain Biological Opinion Requirements Upon the State Water Project and the Central Valley Project" ("RFP Process MOU") outlining the Request for Proposal ("RFP") process for solicitation of proposals to create, restore and improve tidal habitat lands and provide fish passage to satisfy federal and state habitat restoration objectives; and

WHEREAS, the Parties will identify potential tidal habitat restoration projects to protect Delta Smelt and Longfin Smelt in the Delta and Suisun Marsh, consistent with state and federal restoration requirements, the Coordination MOA, and the RFP Process MOU; and

WHEREAS, after identification of proposed projects, the Parties may either submit a proposal to DWR according to the RFP Process MOU and any related agreements, or submit a "Crediting Project" to DWR for consideration under the terms of the Coordination MOA, depending on what the Parties deem appropriate at the time of funding; and

WHEREAS, this Agreement is consistent with both the RFP Process MOU and the Coordination MOA; and

WHEREAS, SFCWA is empowered by Article 1.4 of its Joint Powers Agreement to carry out actions to protect species dependent upon the Delta (“Conservation Measures”), and the activities to be performed under this Agreement constitute Conservation Measures under SFCWA’s Joint Powers Agreement; and

WHEREAS, this Agreement provides the terms and conditions by which SFCWA will develop and execute a program to expand its efforts to develop habitat restoration projects to address BiOp requirements; and

WHEREAS, DWR will conduct the RFP process, SFCWA will locate specific habitat restoration projects that will be responsive to the RFP or the Coordination MOU and prepare scopes of work and budgets for review by SWPCA, and SWPCA will prepare a Specific Project Agreement pursuant to Section 4.3 of SWPCA’s Joint Powers Agreement to be executed by those SWPCA Members that wish to participate and fund Projects pursuant to this Agreement; and

WHEREAS, the habitat restoration program undertaken pursuant to this Agreement will be coordinated with SFCWA’s current restoration efforts, currently involving two projects, the Lower Yolo Ranch Project and the Tule Red Restoration Project, that are at advanced stages of development;

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

TERMS OF AGREEMENT

1. DEFINITIONS

When used in this Agreement, the following definitions will apply:

“Agreement” shall mean this agreement governing the identification of fish habitat restoration projects in the Delta and Suisun Marsh and submittal of proposals to DWR to perform such projects.

“Agreement Expenses” shall mean all expenses directly incurred by the Parties in order to implement this Agreement, together with a share of SFCWA’s operating costs allocable to projects pursued under this Agreement.

“Agreement Fund” shall mean the depository for all funds contributed by participating SFCWA and SWPCA Members for implementation of habitat restoration projects contemplated by this Agreement, and funds that SFCWA receives from DWR for the performance of habitat restoration projects by contract with DWR.

“Crediting Project” shall mean a habitat restoration project developed by SFCWA that results in the issuance of habitat mitigation credits which DWR will receive upon completion of a habitat restoration project.

“JPA” or “JPA Agreement” shall mean the SFCWA Joint Powers Agreement dated August 19, 2009, and any subsequent amendments or restatements to the Joint Powers Agreement.

“Project” shall mean a habitat restoration project developed under this Agreement.

“Program” shall mean the total of all Projects necessary to complete the habitat restoration requirements set forth in RPA 4 of the USFWA BiOp.

“Restoration Project Committee” or “RPC” shall mean a committee created to review Project scopes of work and budgets pursuant to this Agreement, and whose members will include, but not necessarily be limited to, Members of SWPCA’s Specific Project Committee formed pursuant to a Specific Project Agreement executed by those SWPCA Members that elect to participate in the Program.

“SFCWA Operating Costs” shall mean SFCWA’s ongoing administrative costs, a share of which will be assigned to this Project Agreement.

“SWPCA Specific Project Agreement” shall mean an agreement prepared according to Section 4.3 of SWPCA’s Joint Powers Agreement and executed by those SWPCA Members that elect to participate in the Program.

“SWPCA Specific Project Committee” shall mean a committee appointed by those SWPCA Members that execute a SWPCA Specific Project Agreement to participate in the Program.

2. PARTIES

Parties to this Agreement shall be SFCWA and SWPCA on behalf of SWPCA Members that execute a Specific Project Agreement to participate in the Program.

The Program may involve all or less than all of the SFCWA Members, and no SFCWA Member shall be required to be involved in the Program. Similarly, the Program will involve only those SWPCA Members that execute a SWPCA Specific Project Agreement to participate in the Program. The SFCWA Members intending to participate in the Program shall each appoint a representative to the RPC. Similarly, the Members of SWPCA’s Specific Project Committee selected by the SWPCA Members that execute a SWPCA Specific Project Agreement to participate in the Program shall also be members of the RPC.

All assets, rights, benefits and obligations attributable to the Program shall be assets, rights, benefits and obligations of the SFCWA and SWPCA Members that elect to participate in the Program. Any debts, liabilities, obligations or indebtedness incurred by SFCWA in regard to a particular Project shall be the debts, liabilities, obligations or indebtedness of the SFCWA and SWPCA Members who have agreed to fund and implement the Program, and shall not be the debts, liabilities, obligations and indebtedness of those SFCWA and SWPCA Members that have not elected to participate in the Program.

3. TERM

This Agreement shall remain in effect until terminated by the Parties. Either Party may elect to terminate this Agreement for any reason and at any time, documented in a writing signed by the Party so electing. Upon termination, the participating SFCWA and SWPCA Members shall be responsible for all obligations then in effect, including financial and performance obligations, until completed.

4. PURPOSE

The purpose of this Agreement is to provide the structure and funding for SFCWA to develop proposals and conduct Projects in response to DWR RFPs.

The Parties acknowledge and agree that SFCWA's role in this Project Agreement is to oversee and administer the proposal process, including, but not limited to, coordination between SFCWA Members and SWPCA Members that elect to participate in the Program, staffing and funding for identification of Projects, calculating costs, preparing project designs, Project implementation, construction planning, construction bidding and supervision services, and collection of funds from DWR for the performance of Projects under this Agreement, reinvestment into future Project proposals, and ultimate reimbursement of contributions by participating SFCWA and SWPCA Members to the Program upon conclusion of the Program.

5. OVERVIEW

SFCWA will identify potential Projects that will address Program objectives and present them to the RPC for approval. Projects will be proposed in response to the DWR's RFP or in accordance with the Coordination MOA. In general, participating SFCWA and SWPCA Members will provide funding and SFCWA will perform the work under this Agreement. It is anticipated that, in the first year of the Agreement, SFCWA will work with the RPC to develop a Project proposal to submit to DWR in anticipation of the habitat RFP. The proposed Projects will be identified and developed by SFCWA according to the requirements of the RFP Process MOU or Coordination MOA, and will involve the following general sequence of events:

- (1) Identification of Sites – SFCWA will identify potential habitat restoration sites, evaluating factors such as landscape context, location, cost, size, ease of construction, and synergy with existing projects. In identifying sites, SFCWA will also conduct baseline assessments, identify project objectives, and evaluate proposed actions. Further, SFCWA will assess the appropriate project design from a scientific perspective and evaluate potential mitigation measures.
- (2) Establishment of Budget – SFCWA, in consultation with the RPC, will establish a proposed annual budget to govern development of Projects proposed under this Agreement. The budget must be approved by both SFCWA and SWPCA.
- (3) Property Ownership – SFCWA will acquire sufficient rights to real property for habitat restoration projects through fee title, easement, or any other method that enables restoration and allows for receipt of habitat mitigation credits.

- (4) Environmental Compliance – SFCWA will satisfy the requirements of the California Environmental Quality Act (“CEQA”), and comply with applicable restoration principles or guidelines established by DWR or the FRPA, including evaluating potential impacts on neighbors and negotiating mitigation measures.
- (5) Permit Acquisition – SFCWA will obtain all necessary state, federal and local permits for the proposed habitat restoration site.
- (6) Construction – SFCWA will enter into agreements with independent contracting firms for construction of any proposed restoration sites, in accordance with SFCWA’s contracting procedure.
- (7) Long-Term Maintenance Plan – SFCWA will provide short-term maintenance for the proposed projects, but it is anticipated that long-term maintenance will not be provided by SFCWA and will be provided for under a separate long-term maintenance plan, in accordance with Section 7 of this Agreement.
- (8) Habitat Mitigation Crediting – The Projects will produce habitat mitigation credits by following the crediting process identified in the Coordination MOA and the Crediting MOA, as summarized in Section 12 of this Project Agreement. Participating SFCWA and SWPCA Members will advance Project costs with the expectation that the participating Members will be reimbursed when the Program has been completed.

6. PROJECT SCOPES OF WORK

Scopes of work shall be developed by SFCWA, in consultation with the RPC, for each specific proposed Project. The scopes of work must be approved by both Parties before work on a Project shall begin. The scopes of work shall contain information such as the following: the tasks to be performed in completing the Project, the timeline for completion, a breakdown of expected Project costs, expected personnel or entities who will complete the Project, and an anticipated allocation of work between the various entities involved. In developing the Projects, the Parties must comply with the requirements of the RFP Process MOU or the Coordination MOA, depending on whether the proposed Project is submitted in response to the RFP or in accordance with the Coordination MOA.

7. MAINTENANCE OF HABITAT PROJECTS

SFCWA will provide for short-term maintenance for the proposed Projects, but it is anticipated that long-term maintenance will not be provided by SFCWA.

In accordance with the RFP Process MOU, all Projects proposed in response to the DWR RFP must provide an approved form of long-term land ownership, a conservation easement held by a qualified third party, and a mechanism for long-term management and funding of ongoing maintenance and monitoring. For any proposed Project that is physically completed, it is anticipated that SFCWA will provide land management and maintenance for a brief initial period, but that neither SFCWA nor SWPCA will assume any long-term management of a Project. The RFP response will state the

process for transfer of long-term management to a qualified entity as soon as possible after Project completion. It is expected that DWR will provide and pay for maintenance of any Project under separate agreement with the long-term habitat management entity for each Project.

For Projects proposed to be submitted to DWR under the terms of the Coordination MOA, it is anticipated that, upon submittal of the Project to DWR, SFCWA and DWR will enter into a long-term management agreement which identifies a plan for long-term management and maintenance of the Project by DWR, DFW, or another qualified entity.

8. ORGANIZATION

SFCWA shall be the party responsible for performance of this Agreement. SFCWA staff will execute the Program with direction and oversight from the RPC. SFCWA will manage the Projects under its contracting rules and authorities.

SFCWA staff will provide regular updates to the RPC on Program progress and SFCWA will submit proposed contracts and other Program costs to the RPC for review and approval, consistent with the approved budget.

9. BUDGETARY RESPONSIBILITIES

SFCWA staff members and the RPC shall prepare budgets, schedules, and allocation of responsibilities for the Program. Budget items and scopes of work will then be brought to the SWPCA Board of Directors for approval, and then to the SFCWA Board of Directors. SFCWA agrees to consult with the RPC in the development of any such budgets, schedules or responsibilities for the activities authorized by this Agreement, annually, for presentation to the SFCWA Board of Directors in accordance with Article 10 of the JPA Agreement.

Budgeted amounts for this Agreement will be collected through the invoicing process described in Section 11 of this Agreement. Formal amendment of such budgets through SFCWA Board of Directors approval is not required for adjustments that are fully collected as described in Section 11 of this Agreement. Contributions from participating SFCWA and SWPCA Members to support the Program shall be maintained by SFCWA in an Agreement Fund, separate and apart from other SFCWA funds. SFCWA will track project costs consistent with general accounting practices and principles.

Participating SFCWA and SWPCA Members will commit that they will, at all times, have authority and sufficient money to meet their financial obligations for participation in the Program. The Parties hereby confirm that participating SFCWA and SWPCA Members are third party beneficiaries of this Agreement and may take such actions in law or in equity as may be desirable to enforce payments hereunder.

10. FUNDING AND COSTS

To facilitate the first year of work under this Agreement, the SWPCA Members participating in this Project Agreement have committed funding in the amount of \$750,000, based upon the budget attached hereto and incorporated herein as Exhibit _____. [NOTE: WE NEED TO DEFINE WHICH

MEMBERS ARE PARTICIPATING. THE PRESUMPTION IS THAT THERE MAY BE A DUES ASSESSMENT ON ALL MEMBERS FOR THEIR PROPORTIONAL SHARE OF COSTS.] For the first year, work under this Agreement will largely consist of identifying potential Projects and proposing Projects to DWR. For subsequent years, annual budgets will be developed and approved by SFCWA and SWPCA. Annual budgets for Agreement activities will be submitted to the RPC for review and approval prior to approval by the SFCWA and SWPCA Boards of Directors.

Each of the participating Members in this Program will participate in the benefits and must be willing to incur its fair share of costs in identifying Projects and submitting proposals pursuant to this Agreement. Participating Members shall be bound to accept and pay for the actual costs of the Member's allocated share of a Project budget. Each participating Member will contribute an allocated share of costs and benefits of any authorized activity under this Agreement, as shown in Exhibit ____.

SFCWA will maintain a Contribution Account that reflects the amount and date of each contribution by a participating Member, through conclusion of the Program. The amount of each such contribution in that Member's Contribution Account shall be increased by 2% on each anniversary date of each such contribution, until the date that the amount is reimbursed to the Member upon conclusion of the Program, or sooner if approved by SFCWA and SWPCA. Each proposal submitted to DWR in response to a RFP shall be calculated so as to produce payment projected to produce revenue sufficient to cover that Project's expenses and to fully reimburse to each contributing Member the amount reflected in that Member's Contribution Account, including the 2% annual rate of return. If any Project completed by SWPCA pursuant to the Program fails to produce revenue sufficient to fully reimburse each participating Member the entire amount reflected in that Member's Contribution Account, the proposal submitted by SFCWA to DWR for the next subsequent Project shall be calculated in an amount projected to recover the shortfall in revenue derived from the previous Project.

SFCWA and SWPCA agree that all Agreement Expenses, within approved budgeted amounts, incurred by SFCWA are the costs of the participating Members, and not of SFCWA. Such Agreement Expenses shall be paid by SFCWA from funds in the Agreement Fund. [NOTE: EXPENSES WOULD BE WITHIN THE ANNUAL BUDGETED AMOUNTS.]

SFCWA and SWPCA further agree that the SFCWA Board of Directors is authorized to allocate a share of SFCWA's Operating Costs as Agreement Expenses to cover the cost to SFCWA of administering this Project Agreement, subject to review and approval by SWPCA.

11. INVOICING AND PAYMENT

SFCWA will invoice SWPCA for anticipated budget expenses in advance on a quarterly basis. SWPCA will apportion these costs among the SWPCA Members participating in the Program and then pay the invoiced amount to SFCWA. All invoices must be paid within 30 days after receipt of the invoice, and must be paid to [NAME], [TITLE], SFCWA, 1121 "L" Street, Suite 806, Sacramento, CA, 95814. [NOTE: WE WILL WORK WITH YOU ON THIS LANGUAGE.]

12. HABITAT MITIGATION CREDITING

As Projects are selected by DWR for execution and then performed by SFCWA, it is anticipated that DWR will make progress payments to SFCWA for work as it is performed, thereby reimbursing SFCWA for its funds expended in developing the Project. These funds will initially go into the Agreement Fund to support other Projects. Ultimately, when all of the necessary habitat has been developed, and DWR has paid for all the Projects in the Program, funds will be returned to the participating SWPCA Members in proportion to their contributions.

The Crediting MOA and Coordination MOA outline the phased process by which habitat mitigation credits are issued to Project proponents. This Agreement incorporates by reference the habitat crediting process identified in both the Crediting MOA and the Coordination MOA. The following is a summary of the crediting process as outlined in the Crediting MOA and Coordination MOA:

- (1) Initial Crediting Review – Project proponents request an initial concept review by FAST of a Project as soon as practicable. The initial concept review identifies the amount of habitat credits the Project is likely to yield.
- (2) Site Specific Crediting Recommendation – The Project proponent then submits a Prospectus of the restoration project to FAST so that FAST can develop a crediting recommendation. The Prospectus includes: site information; the conservation strategy; a proposed site specific agreement; a perpetual conservation mechanism; a conservation, restoration and long-term management plan; and funding information.
- (3) Conditional Habitat Credit Certification – FAST submits its crediting recommendation to the Fish Agencies for their consideration. The Fish Agency responsible for issuing the final habitat mitigation credits then issues a Conditional Habitat Credit Certification, stating the quantity and type of credits that will be issued, the conditions that must be met for issuance of the credits, and to the extent applicable, a provision authorizing issuance of pro-rata or less than the full quantity of credits if not all conditions are met.
- (4) Issuance of Habitat Mitigation Credits – After identifiable phases of Project have been completed, the Fish Agency will review the individual phase of the Project to certify that the conditions in the conditional certification have been met. If these conditions have been met, the Fish Agency will issue the habitat mitigation credits to the Project proponent, according to the terms of the conditional certification. [NOTE: THIS IS PLACEHOLDER LANGUAGE, SUBJECT TO FURTHER REVIEW AND DRAFTING. WE COULD TAKE THE CREDITS AND TRANSFER THEM TO DWR, AND DWR HAS AGREED TO PURCHASE CREDITS.]

For proposed projects submitted pursuant to either the RFP Process MOU or the Coordination MOA, it is anticipated that upon issuance of habitat mitigation credits, SFCWA and DWR will enter into an agreement, whereby DWR shall provide SFCWA payment for title to and full ownership of habitat mitigation credits issued by the Fish Agencies to SFCWA. For Projects submitted to DWR in response to its RFP, DWR and Reclamation will co-fund the purchase of any habitat restoration credits, pursuant to the terms of the RFP Process MOU. [NOTE: THIS IS PLACEHOLDER LANGUAGE SUBJECT TO REVIEW AND FURTHER DRAFTING.]

13. INDEMNIFICATION

SWPCA shall hold SFCWA free and harmless from any and all costs, losses, damages, claims and liabilities arising from its performance of Projects under this Agreement. This indemnification obligation includes the obligation of SWPCA to defend SFCWA or any of its Members not participating in the Program undertaken pursuant to this Agreement to recover any such costs, losses, damages, claims or liabilities arising from this Agreement. [NOTE: THIS IS PLACEHOLDER LANGUAGE SUBJECT TO REVIEW AND FURTHER DRAFTING.]

14. INSURANCE

SFCWA and SWPCA will provide appropriate insurance to cover the risks associated with this Agreement. Liabilities associated with execution of the Agreement are those of the participating SFCWA and SWPCA Members. [NOTE: WE WILL WORK WITH SWPCA ON APPROPRIATE LANGUAGE AND DESIGNATION OF INSURANCE POLICIES NEEDED. WE WILL PROBABLY NEED ANNUAL REVIEW OF THE AMOUNTS AND TYPES OF INSURANCE.]

15. WITHDRAWAL FROM FURTHER PARTICIPATION

Any participating Member may withdraw from the Program upon written approval from SFCWA and SWPCA. If the participating Member has remaining obligations under this Agreement, the Member will not be entitled to withdraw from participation in the Program unless it enters into an agreement with one or more of the remaining participating Members to accept assignment of the withdrawing Member's duties for the balance of the Program.

The date SFCWA receives a copy of such fully executed written agreement shall be the withdrawal date. As of the withdrawal date, all rights of participation in this Agreement shall cease for the withdrawing Member, and the withdrawing Member shall, within 30 days, pay all of the Member's financial obligations incurred prior to such withdrawal date pursuant to the terms of this Agreement. Unless assumed by the express agreement of the Member accepting assignment of the withdrawing Member's obligations under the Agreement, such withdrawal shall not relieve the withdrawing Member from: 1) its payment obligations incurred pursuant to this Agreement prior to the date of withdrawal; or, 2) its obligations to hold SFCWA harmless pursuant to Section 11 of this Agreement that were incurred prior to the date of withdrawal. Such obligations shall survive the withdrawal of such Member.

16. ADMISSION OF NEW MEMBERS

Additional Members of SFCWA or SWPCA may become participating Members under this Agreement upon the consent of SFCWA and SWPCA.

17. DISPUTE RESOLUTION

In the event of a dispute regarding interpretation or implementation of this Agreement, either Party shall provide written notice of the dispute to the other Party. The Parties shall endeavor to resolve the dispute by meeting within 30 days of the written notice, or at a later date by mutual written

agreement. The representative for each Party to this meeting shall be an individual authorized by that Party to resolve the Agreement interpretation or implementation issues. If the dispute still remains unresolved, the Parties may elect to terminate this Agreement pursuant to Section 3. Except as specifically provided, nothing herein is intended to waive or abridge any right or remedy that either Party may have.

18. AMENDMENTS

No alteration or variation of the terms of this Agreement shall be valid unless made in writing and signed by the Parties to this Agreement, and no oral understanding or agreement not incorporated herein, shall be binding on either Party hereto.

19. ASSIGNMENT

Except as otherwise provided in this Agreement, the rights and duties of a Party may not be assigned or delegated without the written consent of the other Party. Any attempt to assign or delegate such rights or duties in contravention of this Agreement shall be null and void. Any approved assignment or delegation shall be consistent with the terms of any contracts, resolutions, indemnities and other obligations of either Party then in effect.

20. BINDING AGREEMENT

This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Parties.

21. COUNTERPARTS

This Agreement may be executed by the Parties 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.

22. STATE AND FEDERAL REQUIREMENTS

The Parties to this Agreement will comply with all federal and state requirements required by the source of funding for this Project Agreement.

23. AUDIT, RETENTION, AND INSPECTION OF RECORDS

SFCWA will retain all books, records, computer records, accounts, documentation, and all other materials pertaining to the performance of this Agreement (collectively, "Records"), and all Records will be available to SWPCA and to any participating Member.

24. CHOICE OF LAW

This Agreement shall be governed by the laws of the State of California.

25. SEVERABILITY

If one or more clauses, sentences, paragraphs or provisions of this Agreement shall be held to be unlawful, invalid or unenforceable, it is hereby agreed by the Parties that the remainder of the Agreement shall not be affected thereby.

26. HEADINGS

The titles of sections of this Agreement are for convenience only and no presumption or implication of the intent of the parties as to the construction of this Agreement shall be drawn therefrom.

27. REASONABLE COOPERATION

The Parties will reasonably cooperate with each other to perform the obligations under this Agreement, and assist SFCWA in carrying out its obligations under the RFP Process Memo to carry out the purpose and intent of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the day and year first above written:

STATE AND FEDERAL CONTRACTORS WATER AGENCY:

By: _____ Date: _____

STATE WATER PROJECT CONTRACTORS AUTHORITY:

By: _____ Date: _____

MEMORANDUM

TO: Board of Directors

FROM: General Manager

RE: Possible Educational/Outreach Event

DATE: January 19, 2016

Summary:

The purpose of this discussion item is to determine if the Board wishes to sponsor an event with an outside speaker that would be meaningful to local water industry officials and other community leaders. This event would be similar to last year's State of the Water Supply event, which was a well-attended breakfast hosted by the Agency.

Background:

The Agency has discussed hosting such events in the past. Two years ago, the Agency decided to bring Jeanine Jones from the Department of Water Resources to the region to discuss the ongoing drought. In that case, the Agency yielded sponsorship of that event to the Water Alliance, and the well-received presentation was made at one of their meetings.

The idea behind the event (or it could become a periodic series of events) would be to bring items of current interest to local leaders and retail water agencies. The event would have a water theme but could include issues other than supply, such as flood control, emergency management, etc.

The Agency has the ability to bring in speakers from outside the region with expertise in many areas, and by hosting such an event could raise the consciousness and education level of local elected officials and others on issues important to the region.

Detailed Report:

Some possible speakers (and subjects) for such an event are listed below. Staff has not yet contacted any of these speakers.

- Kathy Tiegs, President of ACWA, on ACWA's priorities for the next two years
- Peter Lent, Deputy Director of Riverside County Office of Emergency Services, on the County's preparation for and repair of damage from potential El Nino storms
- Paeter Garcia from Best Best & Krieger on the Sustainable Groundwater Management Act
- Joe Byrne, Chair of the California Water Commission, on Prop 1 and the importance of Storage to the state
- Rich Atwater, Executive Director of the Southern California Water Committee, on the California Water Fix
- A member of the State Water Resources Control Board on the emergency water conservation regulations

There are many other potential speakers and subjects. This just represents a small fraction of the possibilities for such an event.

Fiscal Impact:

There would be a minor but insignificant impact on the Agency to host such an event, especially if it includes a breakfast. The Agency has budgeted funds for outreach and education, so the expenditure would be budgeted.

Relationship to Strategic Plan:

The strategic plan calls for a communication plan to reach out to elected officials, retail water agencies, and community leaders to educate them on water issues and the Agency's role in the region. This event would be consistent with the strategic plan.

Recommendation:

Staff recommends that the Board authorize staff to plan such an event in the first quarter of 2016.