DRAFT
2013 Piru/Fillmore Basins
AB 3030 Groundwater Management Plan

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PIRU/FILLMORE BASINS AB3030 GROUNDWATER MANAGEMENT COUNCIL

PREPARED BY

UNITED WATER CONSERVATION DISTRICT

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1 INTRODUCTION

This Groundwater Management Plan ("GMP" or "Plan") is the cooperative effort of United Water Conservation District (UWCD), the City of Fillmore, and water companies/pumpers of the Piru and Fillmore Groundwater basins. The original 1996 GMP was formulated with input gained from public information meetings and hearings (Piru/Fillmore Groundwater Planning Council, 1996). This 2013 GMP is an update of the original 1996 Plan and has also gone through public information meetings and hearings.

The Plan uses the authority of the Groundwater Management Act of the California Water Code (Section 10750, et seq.), enacted in 1993 as Assembly Bill 3030 (AB 3030) and was formulated under California Water Code Section 10750.8 as the Piru/Fillmore basins are considered as part of the Ventura Central Basin which is subject to critical conditions of overdraft (California Department of Water Resources, 1980).

A Memorandum of Understanding between UWCD, the City of Fillmore, and the water companies/pumpers established the original Plan as a cooperative groundwater management plan for the basins, and outlines the roles of the various parties in implementing the Plan (AB 3030 Plan: M.O.U., 1995). A new M.O.U. (AB 3030 Plan: M.O.U., 2013) that modifies the original M.O.U. to be in agreement with the Plan update, has been agreed upon and signed into place by the Piru/Fillmore AB 3030 Groundwater Management Council (Council), UWCD, City of Fillmore, and overlying Piru/Fillmore basin water companies/ pumpers. UWCD, as the lead agency, formally adopted the original 1996 Plan and this 2013 Plan update.

This 2013 Plan update includes numeric Basin Management Objectives (BMO) for groundwater elevations, groundwater quality, and surface water quality. Senate Bill 1938, enacted in 2003 added section 10753.7 to the California Water Code which requires these basin management objectives for any local agency seeking state funds administered by the California Department of Water Resources for the construction of groundwater projects or groundwater quality projects (Legislative Counsel's Digest, 2002). In addition this Plan update includes a formal groundwater export policy and some changes in the make-up of the Council.

This Plan is formulated to ensure local control of groundwater management. It is the intent of the Plan to foster local control in as many aspects of the management of the Piru and Fillmore basins as possible.

1.1 AREA OF PLAN

The Piru and Fillmore groundwater basins are located along the Santa Clara River Valley in Ventura County, California (Figure 1). The area of the Plan includes the portions of the Piru and Fillmore basins that lie within the UWCD District boundary and the portion of the Piru basin that lies within the Castaic Lake Water Agency (CLWA) boundary. In 2013, a M.O.U. was signed between UWCD and CLWA to include in the Plan the portion of the Piru basin east of UWCD that lies within CLWA. The M.O.U. designates UWCD, for purposes of the Plan, to act as the overlying agency (AB 3030 Plan: M.O.U., 2013b).

The groundwater basin boundaries for the purposes of this Plan are those that are used by UWCD (Figure 2 and Figure 3). This is as opposed to the California Department of Water Resources Bulletin 118 groundwater basin boundaries (California Department of Water Resources, 1980).

The eastern boundary of the Piru basin as defined by UWCD is approximately 1.7 Santa Clara River stream miles down-gradient from the Ventura/Los Angeles County line and is located where the alluvium is thin and underlain by non-water bearing rocks. The UWCD District boundary is approximately 3.9 Santa Clara River stream miles down-gradient from the Ventura/-Los Angeles County line. Castaic Lake Water Agency (CLWA) overlies the portion of the Piru basin east of the UWCD boundary. The western boundary of the Piru basin is located approximately one mile upstream from the City of Fillmore at the topographic narrows near the Fillmore Fish Hatchery. The narrows are characterized by a reach of persistent discharging or rising groundwater. The Piru basin covers an area of approximately 7,025 acres.

The Fillmore basin is contiguous with and lies west of the Piru basin. The eastern boundary of the Fillmore basin is located approximately one mile upstream from the City of Fillmore at the topographic narrows as discussed in the previous paragraph. A portion of the basin extends to the north and upstream along Sespe Creek near the location of the USGS stream gauging station. The western boundary of the Fillmore basin extends to Willard Road, located just east of the City of Santa Paula. This area is also characterized by an area of persistent discharging or rising water. The area of the Fillmore Basin is approximately 18,580 acres.

1.2 PURPOSE OF THE GROUNDWATER MANAGEMENT PLAN

In the early 1990s, national efforts by the U.S. Environmental Protection Agency and efforts by the California State Legislature pushed for more comprehensive groundwater management plans. As an alternative to a Federal or State-mandated program, local agencies in California sponsored Assembly Bill 3030 (AB 3030), which is the basis for this Plan. AB 3030 provides a means of giving groundwater management responsibility and authority over local basins to local people. The purpose of this Plan is to establish local management, and to ensure that the Piru and Fillmore basins continue to be a reliable and uncontaminated source of groundwater in the future. The basin management objectives contained in this GMP update are now required for eligibility for state funds administered by the California Department of Water Resources for groundwater or groundwater quality projects. This is outlined in California Senate Bill 1938 which was enacted in 2003 (Legislative Counsels Digest, 2002).

Some aspects of groundwater management have a long history within the groundwater basins of the Santa Clara River in Ventura County. Santa Felicia Dam constructed by UWCD in 1955 on Piru Creek created Lake

Piru which has 85,000 acre-feet of storage capacity. Rainfall is captured in Lake Piru and later released into Piru Creek and subsequently into the Santa Clara River where some portion provides recharge to the Piru and Fillmore basins. UWCD also operates 44 acres of artificial recharge basins (Piru Spreading Grounds) near the town of Piru. Water spilling over the dam or released from Lake Piru can be diverted for groundwater recharge into these basins. Pumpers in the Piru and Fillmore basins presently pay a groundwater extraction fee to UWCD for water management and conservation activities within and adjacent to the Piru and Fillmore groundwater basins.

1.3 ~~ORIGINAL~~ AGREEMENT

The agreement for the governance of the Plan was first established in a Memorandum of Understanding ~~(Appendix C)~~ between UWCD, the City of Fillmore, and the Pumpers in the Piru and Fillmore basins (AB 3030 Plan: M.O.U., 1995). An updated agreement for the governance of the Plan has been established in a recent Memorandum of Understanding between UWCD, the City of Fillmore, and the Pumpers in the Piru and Fillmore basins (AB 3030 Plan: M.O.U., 2013). The updated Agreement consists of the following:

BELOW IS THE ORIGINAL AGREEMENT FROM THE 1995 MOU. THE AGREEMENT FROM THE 2013 MOU WILL BE INSERTED IN PLACE OF THE AGREEMENT FROM THE 1995 MOU WHEN IT BECOMES AVAILABLE.

Authority: UWCD shall, on behalf of the parties to this Agreement, coordinate the implementation and administration of the Plan pursuant to the Groundwater Management Act of 1993. This will be done in cooperation with the City of Fillmore and Pumpers within the portions of the basins that lie within UWCD's boundaries. The Piru and Fillmore Basin Groundwater Management Planning Council ("Council") shall manage the Plan. The Council consists of two City Council representatives from Fillmore, four Pumpers (of which two shall be private pumpers or corporate officers or directors of private pumpers, and two shall be officers or directors of mutual water companies, investor-owned utilities or other water companies), and one elected Board member from UWCD who represents the area (division) of the District overlying the basins.

Modification of the Adopted Plan: After the Plan has been adopted by UWCD, modifications to the Plan may be proposed by any member of the Council. Modifications approved by at least four of the Council members shall be submitted to UWCD for adoption using the following procedures.

UWCD shall hold a hearing to consider adoption of the modifications submitted by the Council. Notice of the hearing shall be given pursuant to Section 6066 of the Government Code. The notice shall include a summary of the Plan and shall state that copies of the modifications may be obtained for the cost of reproduction at the offices of UWCD.

If testimony provided during the hearing process indicates that adoption of the modifications is not warranted, then UWCD shall not adopt the modifications and shall return the proposed modifications to the Council for further review.

If testimony provided during the hearing process demonstrates, to the satisfaction of the UWCD Board, that the proposed modifications should be approved, UWCD may adopt the modifications within 35 days of the conclusion of the hearing.

UWCD shall not adopt modifications to the Plan proposed by the Council unless those modifications have been approved by at least four members of the Council, at least one of which is an overlying user.

Implementation of the Plan: In collaboration with and approval by the Council, UWCD shall adopt rules and regulations to implement and enforce the Plan. Nothing in the Plan, however, shall be construed as authorizing any party to make a binding determination of the water rights of any person or entity. In adopting rules and regulations pursuant to the Plan, UWCD shall consider the potential impact of those rules and regulations on business activities, including agricultural operations. To the extent practicable and consistent with the protection of the groundwater resources, UWCD will minimize any adverse impacts on those business activities.

Plan Administration: UWCD shall, within the financial limitations below, assist the Council in administering the adopted Plan. Such administration shall include assisting with the planning of meetings, preparing meeting documents, mailing notices and newsletters, monitoring key wells in the basins, analyzing trends in water quantity and quality, and preparing an annual report of groundwater conditions in the basins. UWCD will also assist in preparing any modifications to the adopted Plan.

Plan Management: The Council shall meet at least biannually to coordinate the groundwater management program and consider any changes to the Plan recommended by any member of the Council.

Finances: UWCD's costs for long-term administration of the Plan shall be financed through existing District-wide groundwater extraction fees of UWCD. To the extent that such long-term administration exceeds activities that are already performed by UWCD for other basins within the District, the costs for such administration shall be financed through existing District-wide groundwater extraction fees up to a total of $10,000 per year. Activities that are performed by UWCD in other basins within the District include, but are not limited to, maintaining monitoring wells, periodic measurement of groundwater levels, sampling for surface water and groundwater quality, compilation and analyses of monitoring results, collecting groundwater pumping information related to the District's groundwater extraction fees, and coordinating studies with other public agencies. Activities that UWCD will perform in administering the Plan that exceed those performed in others basins include, but are not limited to, assisting with the planning of Council meetings, preparing Council meeting documents, preparing and mailing newsletters, and preparing an annual report to the Council of groundwater conditions in the basins.

If in the future such administrative costs in excess of normal District activities are greater than $10,000 per year (1995 dollars), or if specific projects are undertaken to implement the Plan, including but not limited to the acquisition of replenishment water, construction of capital facilities or the mitigation of groundwater contamination necessary to implement the coordinated groundwater management plan, or if litigation results from implementation of the coordinated plan, the costs of such administration, projects, or litigation shall be financed through an annual fee or assessment as authorized in sections 10754 and 10754.2 of the California Water Code. Before UWCD may levy a water management assessment under these referenced sections of the California Water Code to fund a specific project undertaken to implement the Plan or to pay for ongoing litigation or otherwise fix and collect fees on behalf of the Council, UWCD, with prior approval by Council, shall hold a general election in the area of the plan on the proposition of whether the District shall be authorized to levy a groundwater management assessment or fee as required by section 10754.3 of the California Water Code. If the Council does not approve holding an election or if the election fails to approve a groundwater

management assessment or fee to finance ongoing litigation related to implementation of the Plan, UWCD may, at its option, establish a special zone or zones as appropriate under California Water Code sections 74000 et seq. and establish a groundwater extraction charge within such zone or zones to pay for the costs of said litigation. However, nothing contained in the Agreement to the contrary shall in any way restrict UWCD from exercising its statutory authority as a Water Conservation District under California Water Code sections 74000 et seq., including the establishment of zones and establishing groundwater extraction charges within such zones in furtherance of District activities in the production and augmentation of the water supplies for users within the District or such zones.

1.4 Overlying Public Agencies and Private Water Companies

The overlying public agencies within the area of the Plan are UWCD which overlies both the Piru and Fillmore basins, the County of Ventura which overlies both basins, Ventura County Water Works District No. 16 which is located in the Piru basin and operates the Piru Waste Water Reclamation Plant, the City of Fillmore, and the City of Santa Paula eastern portion of East Area 1 which is located in the Fillmore basin. CLWA has agreed to give Plan authority to UWCD for the portion of the Piru basin within its boundaries (AB3030: M.O.U, 2013b).

The Piru basin area of the Plan has two private water companies which are Piru Mutual Water Company which provides water to agriculture, and Warring Water Service which provides water primarily to domestic users (Figure 2). The service areas shown on the map were obtained from Ventura County Watershed Protection District, 2006.

The Fillmore basin area of the Plan has twelve private water companies which are Brownstone Mutual Water Company, Citrus Mutual Water Company, Hardscrabble Mutual Water Company, Community Mutual Water Company, San Cayetano Mutual Water Company, Sespe Agricultural Water Company, Storke Mutual Water Company, South Mountain Mutual Water Company, Southside Improvement Company, Timber Canyon Mutual Water Company, Goodenough Mutual Water Company and Fillmore Irrigation Company. These private water companies provide water primarily to agriculture (Figure 3). The service areas shown on the map were obtained from Ventura County Watershed Protection District, 2006.

2 GROUNDWATER BASINS

2.1 Piru Basin

2.1.1 Hydrogeologic Setting

The water-bearing sediments in the Piru basin consist of recent and older alluvium, which are for the most part, underlain by the Pleistocene San Pedro formation.

The recent alluvium exists almost basin-wide with that deposited by the Santa Clara River made up primarily of coarse sand and gravel while that deposited by Piru Creek, Hopper Creek and other tributaries is finer grained. The recent alluvium ranges in thickness from approximately 20 feet near Blue Cut at the east end of the basin to 60 - 80 feet in the remainder of the basin (Mann, 1959).

The older alluvium occurs as a layer of variable thickness and as terrace deposits above current stream channels. It has a thickness up to 80 feet under the recent alluvium at Camulos Ranch. ~~and is non-existent at the Fillmore Fish Hatchery.~~ It is characterized by more layers of clay than is the recent alluvium and overlies the San Pedro formation except for at the east end where it overlies the non water-bearing Pico formation (Mann, 1959)

The San Pedro Formation is folded into an east-west syncline and underlies the older alluvium except at the east end of the basin where the older alluvium is underlain by impermeable Pico formation. The San Pedro formation consists primarily of permeable sand and gravel with localized thin layers of clay. It can extend to a depth of approximately 8,800 feet which is evident in oil well electrical logs (Mann, 1959). The depth, however, to which groundwater is suitable for agricultural and urban use and to which groundwater can be reasonably extracted is considerably shallower than 8,800 feet.

Three principal faults bound the Piru basin, the Oakridge fault to the south and the San Cayetano and Camulos faults to the north. See surface geology map (Figure 4).

The Santa Clara River channel cuts through the Piru basin. At Newhall Bridge, near the east end of the basin, the channel begins to significantly widen. The Santa Clara River is the major source of recharge to the Piru basin. There are no known structural or stratigraphic barriers impeding recharge from the Santa Clara River.

The groundwater flow gradient in the alluvium of the Piru basin tends to be westerly, parallel to the river channel. Similarly, the groundwater flow gradient in the San Pedro formation is westerly with a small north to south component (Figure 5). Clay layers exist throughout the basin but are not continuous and the basin is considered to be an unconfined groundwater basin.

2.1.2 Land Use

Piru basin land use is mostly agricultural. The primary crops grown are citrus, avocados, nursery stock and row crops. In recent years many orange groves have been removed in favor of row crops and box tree nurseries (Figure 6). The town of Piru is located just west of Piru Creek.

2.1.3 Precipitation

A Piru basin precipitation graph with data from the Piru-Temescal gauge near Lake Piru is shown in Figure 7. The graph shows annual water year totals from 1950 to 2012 with an average precipitation of 20.5 inches and a median precipitation of 17.2 inches. The precipitation is quite variable with a high in 1998 of 51.9 inches and a low in 2007 of 6.4 inches. The data record is characterized by more dry years than wet years with 22 years above average precipitation and 41 years below average precipitation. The cumulative departure from average precipitation curve shows the wet and dry periods. A downward trend on the curve indicates a dry period and an upward trend on the curve indicates a wet period. The data show that the Piru basin has been in a relatively dry period since 2007.

2.1.4 Recharge and Discharge

The primary mechanism of recharge for the Piru basin is the Santa Clara River. The Santa Clara River percolates base flow and storm runoff from the Santa Clara River watershed, treated waste water effluent discharged into the river from Los Angeles County, and UWCD conservation releases from Lake Piru. Santa Clara River recharge

occurs from approximately the USGS stream gauging station at the Newhall Bridge, where the valley begins to widen, to approximately Cavin Road two miles from the west boundary, where the river begins to gain flow from rising groundwater (Figure 8). Other sources of recharge are storm runoff to minor tributaries, the UWCD conservation releases through Piru Creek alluvium and the Piru Spreading Grounds, direct rainfall infiltration through the San Pedro outcrops to the north of the basin and the main basin alluvium, and agricultural return flow. Recharge as underflow at the east end of the basin is limited as east of the USGS stream gauging station the river alluvium is underlain by the impermeable Pico Formation.

The flow in the Santa Clara River at the Ventura/Los Angeles County line has averaged approximately 56,700 acre-feet per year from 1972 to 2012. A large percentage of this flow is from treated waste water effluent from Los Angeles County, specifically the Valencia Waste Water Reclamation Plant. In 2012 water year the Valencia Waste Water Reclamation Plant discharged approximately 16,600 acre-feet into the Santa Clara River east of the Ventura/L.A. County line (County Sanitation Districts of Los Angeles County, 2013). This effluent made up approximately 50 % of the 31,700 acre-feet (USGS, 2013) of total annual flow in the Santa Clara River at the County line for water year 2012. An average daily flow of approximately 25 cfs or 18,000 acre-feet per year of the Santa Clara River surface flow measured at the County line is estimated to percolate into the Piru basin (UWCD, 2011).

The Piru basin also receives significant recharge from UWCD'S fall conservation releases. It is estimated that from 2007 to 2011 the Piru basin recharged an average of approximately 14,300 acre-feet per year from UWCD fall conservation releases (UWCD, 2013b). The Piru Spreading Grounds has recharged an average of approximately 5,000 acre-feet per year from 1955 to 2012, but have only averaged approximately 680 acre-feet per year from 2000 to 2012 as they have been little-used in recent years.

Groundwater discharge in the Piru basin occurs at the west end of the basin at the topographic narrows near the Fillmore Fish Hatchery. The narrows constricts groundwater flow and results in groundwater being discharged into the Santa Clara River as rising water. The eastern extent of the rising water varies with basin conditions, moving upstream when water levels in the basin are higher. The rising water subsequently recharges west of the basin boundary into the Fillmore basin. There is also some underflow from the Piru basin into the Fillmore basin at this location.

2.1.5 Groundwater Extractions

The average reported annual groundwater extractions for the Piru basin from 1980 to 2011 are 12,402 acre-feet. The highest reported annual extractions were in the dry year of 1990 at 17,244 acre-feet. The lowest reported annual extractions were in the wet year of 1983 at 7,251 acre-feet (Figure 9). These extractions do not include wells operated by the Fillmore Fish Hatchery which are located near the Piru/Fillmore basin boundary. Approximately 95% of the reported annual groundwater extractions are from agriculture pumping and approximately 5% of the reported annual groundwater extractions are from municipal, industrial or domestic pumping. There are three different methods in which pumpers can report their extractions to UWCD. In 2011, 17.7 % of the total extractions were reported using an electrical meter, 39.9% of the total extractions were reported using a water meter and 42.4 % of the total extractions were reported using a crop factor (UWCD, 2013). There were 99 active wells pumping groundwater from the Piru basin in 2011. The locations and ranges

of groundwater extraction amounts of these Piru basin wells for 2011 are shown in Figure 10. Beginning January 1, 2014 UWCD will no longer have the crop factor as method available for reporting groundwater extractions. Currently there are no restrictions on pumping groundwater from the Piru basin.

2.1.6 Groundwater Elevations

There is an extensive groundwater level monitoring network in the Piru basin which, in 2012, included 29 wells. Well 4N/18W-29M2 is UWCD'S key well which has a long historical record. This well is located just north-west of the confluence of Piru Creek and the Santa Clara River. A groundwater elevation hydrograph for this well along with a cumulative departure from the average precipitation graph is shown in Figure 11. The data show that groundwater elevations tend to correlate with precipitation. Storm runoff into the Santa Clara River recharges and fills the Piru basin rapidly. This can be seen in the upward spike in the groundwater elevations in the winter and spring. The basin fills to a maximum during wet years such as 1983, 1993, 1995, 1998 and 2005 which can be seen in the hydrograph. The benefit to the basin from UWCD fall conservation releases from Lake Piru can also be seen in the hydrograph as a stabilizing of groundwater elevations. The spring 2012 groundwater elevation contours for the Piru basin indicate that groundwater elevations range from approximately 680 feet above sea level at the USGS gauging station at the east end of the basin to approximately 480 feet above sea level at the west end of the basin (Figure 5). Groundwater elevations in the discharge area at the west end of the basin are far less variable than groundwater elevations in the recharge area.

2.1.7 Change in Groundwater Storage

UWCD calculates change in groundwater storage of the Piru basin based on the groundwater level highs that occurred in the spring of 1944 (Mann, 1959). When the basin groundwater levels reach the highs seen in the spring of 1944 the basin is considered to be full. During the wet years of 1983, 1993, 1995, 1998 and 2005 the Piru basin filled and had zero change in storage from the spring of 1944. In February 1991, near the end of the 1984 to 1991 drought, the basin had a change in storage of -69,000 acre-feet or an available storage of approximately 69,000 acre-feet (Figure 12). The change in groundwater storage for the Piru basin is currently calculated using groundwater elevations from well 4N/18W-29M2.

2.1.8 Land Subsidence

The Piru basin is considered an unconfined groundwater basin and there are currently no issues associated with land subsidence.

2.1.9 Water Quality

Water Chemistry

Stiff diagrams constructed from 2010 general mineral groundwater and surface water analyses are displayed in Figure 13. Stiff diagrams are useful for making visual comparisons of water chemistry from different sources and for determining the dominant cation and anion. Stiff patterns express concentrations in milli-equivalents per liter as opposed to milligrams per liter.

The Stiff diagrams show that twenty-one of twenty-seven wells plotted for the Piru basin have calcium as the dominant cation and sulfate as the dominant anion. This suggests that this is the natural groundwater type for the basin. Two wells east of Piru Creek and three wells west of Piru Creek, however, have sodium and calcium as equally dominant cations. These five wells have elevated chloride concentrations, and match the sodium/calcium-sulfate water type of the Santa Clara River at the Ventura/L.A. County line which has been impacted by elevated chloride concentrations since approximately 1999 (UWCD, 2006). The elevated sodium presence in these wells may be associated with the elevated chlorides that are sourcing from the wastewater effluent being discharged into the Santa Clara River by the Los Angeles County waste water reclamation plants. Figure 14 shows a chloride and sodium time series graph for the Santa Clara River at the Ventura/L.A. County line.

Piru Creek surface water, which is a combination of imported water from the California State Water Project and natural runoff, is calcium-sulfate dominant. Hopper Creek is magnesium/sodium - sulfate dominant with high concentrations of sulfate. Four wells located near Hopper Creek show high sulfate concentrations but have calcium as the dominant cation. The Santa Clara River at the Fillmore Fish Hatchery is calcium-sulfate dominant. Water quality at this location is relatively stable due to the influence of rising groundwater at this location.

The California Department of Water Resources (1989), using 1986 to 1988 data, evaluated basin water quality using Stiff diagrams. The evaluation included Stiff diagrams of the water quality of two wells east of Piru Creek and the water quality of the Santa Clara River at the County line. At this time calcium was the dominant cation with sodium a significant secondary cation in both Piru basin groundwater east of Piru Creek and the Santa Clara River east of Piru Creek.

Wastewater Effluent from Los Angeles County

The Saugus Waste Water Reclamation Plant and the Valencia Waste Water Reclamation Plant discharged approximately 5,700 acre-feet and 16,700 acre-feet of effluent into the Santa Clara River during the 2012 calendar year (County Sanitation Districts of Los Angeles County, 2013 and 2013b). It is estimated that approximately 18,000 acre-feet per year or a daily average flow of 25 cfs, which is a mix of this wastewater discharge and natural stream flow, flows across the County line into Ventura County and percolates into the Piru basin (UWCD, 2011). In recent years the Santa Clara River at the Ventura-Los Angeles County line has been impacted with elevated chloride concentrations from the effluent discharge.

Chloride in the wastewater discharge sources mainly from State Project Water imports and self-regenerating water softeners. Chloride concentrations in the Santa Clara River peaked in 2004 and have fallen somewhat in recent years due to successful efforts by the Los Angeles County Sanitation District to remove self-regenerating water softeners. Chloride concentrations in the Santa Clara River at the County line during calendar year 2012 ranged from 76 mg/L to 136 mg/L. These chlorides have entered the groundwater flow system and as a result the groundwater in the Piru basin both east and west of Piru Creek is now impacted with chlorides sourcing from the effluent. Maximum chloride concentrations in calendar year 2012 of sampled wells located east of Piru Creek ranged from 108 mg/L to 129 mg/L. Maximum chloride concentrations in calendar year 2012 of sampled wells located west of Piru Creek and east of Hopper Creek ranged from 37 mg/L to 124 mg/L (Figure

15). In the past the waste water treatment plants were discharging high nitrates. The construction of nitrogen removal facilities has greatly reduced the nitrates being discharged into the Santa Clara River.

Under the direction of the Los Angeles Regional Water Quality Control Board four technical chloride studies were undertaken from 2005 to 2007 as part of the upper Santa Clara River chloride TMDL (Total Maximum Daily Load). These were an agricultural threshold study, a chloride transport model, an endangered species study and a site-specific objective / anti degradation analysis study. Out of these studies a chloride TMDL was approved by the Los Angeles Regional Water Quality Control Board in December 2008 (Los Angeles Regional Water Quality Control Board, 2008). In addition, a Memorandum of Understanding (M.O.U.) was signed in 2008 among the Santa Clarita Valley Sanitation District of Los Angeles County, Upper Basin Purveyors, United Water Conservation District and Ventura County Agricultural Water Coalition agreeing to a basin wide management plan for chloride mitigation in east Piru basin (AWRM Plan: M.O.U, 2008). The resulting Alternative Water Resources Management (AWRM) plan and its current status are detailed in Section 3.6.1.

Wastewater Effluent from Piru Wastewater Reclamation Plant

The Piru Waste Water Treatment Plant is located near Highway 126 and Hopper Creek and is operated by Ventura County Water Works District No. 16. In 2010 a remodeled plant was completed with increased capacity from 0.25 mgd (0.77 acre-feet per day) of effluent to 0.5 mgd (1.54 acre-feet per day) of effluent (Ventura County Water Works District No, 16, 2010). The plant discharges to shallow percolation ponds located near the confluence of Hopper Creek and the Santa Clara River. The total treated effluent discharged from the plant in calendar year 2012 was 202 acre-feet. The maximum chloride concentration of the treatment plant effluent sampled in calendar year 2012 was 176 mg/L and the minimum chloride concentration of the treatment plant effluent sampled in calendar year 2012 was 143 mg/L (Ventura County Water Works District No. 16, 2013). These concentrations are above the Los Angeles Regional Water Quality Control Board's Piru basin chloride surface water and groundwater objectives west of Piru Creek of 100 mg/L (Los Angeles Regional Water Quality Control Board, 1994).

State Water

Water in Lake Piru water is a blend of natural runoff and California State Water Project water from Lake Pyramid releases into Piru Creek. State water is low in sulfate and total dissolved solids. Chloride concentrations, however, increase during dry periods because of less fresh water dilution of brackish water in the Sacramento River Delta. Chloride concentrations sampled in Piru Creek at the weir below Santa Felicia Dam in 2012 ranged from 44 mg/L to 53 mg/L. Chloride concentrations sampled in Piru Creek at the weir below Santa Felicia Dam during the drought year of 1990 ranged from 98 mg/L to 118 mg/L. The average chloride concentration at the weir below Santa Felicia Dam from 1980 to 2012 is approximately 55 mg/L. Castaic Lake also releases State water to UWCD. This water is released into the Santa Clara River where it flows into the Piru basin.

Agricultural Return Flow

A conditional agricultural waiver for irrigated lands was adopted in 2005 and revised and renewed in 2010. The agricultural waiver is administered by the Los Angeles Regional Water Quality Control Board and requires owners of irrigated farmland to control discharges from their property. Growers are required to adopt best management practices to prevent pollutants from entering water bodies (University of California, 2011). These include best management practices for irrigation and fertilization.

Agricultural return flow can leach salts, including nitrates and sulfates, concentrated in the soil into the groundwater. More efficient irrigation and fertilization practices can limit this from occurring. The filling and discharging of the Piru basin during wet years may act to flush the basin of some accumulated salts.

Natural Contamination

Natural contamination is elevated general mineral concentrations that are sourcing from rocks and sediment in the watershed as opposed to manmade activities. In the Piru basin these include sulfate and boron. The maximum sulfate concentrations for wells sampled in the Piru basin for calendar year 2012 ranged from 227 mg/L to 1230 mg/L (Figure 16). Concentrations above 600 mg/L are considered unsuitable for agriculture (California Department of Water Resources, 1989). The maximum boron concentrations for wells sampled in the Piru basin for calendar year 2012 ranged from 0.4 mg/L to 1.0 mg/L (Figure 17). For oranges and lemons the toxic concentration of boron is as low as 1 mg/L (Hem, 1989).

Urban Storm Water Runoff

Urban Storm water runoff is regulated in Ventura County by a MS-4 NPDES permit that was first established in 1994 and is administered by the Los Angeles Regional Water Quality Control Board. The Permitees include all ten Cities within the County, and the County of Ventura under one permit. The Ventura County Watershed Protection District runs the MS-4 program and oversees the non-incorporated areas such as Piru. The conditions of this permit mainly involve public and business outreach and prevention. Improved surfaces, filters and control of construction sediment are all part of the process. Illicit discharges are investigated when reported (Ventura County Watershed Protection District, 2011). An annual storm water report is put out each year and regular subcommittee meetings among the cities on various storm water runoff topics are held regularly. Individual point source dischargers are not covered by this program and need to obtain an individual NPDES permit. For more information on the Ventura County MS-4 program visit: http://www.vcstormwater.org/

Leaky Underground Storage Tanks (LUST)

Leaky underground storage tanks are under the jurisdiction of Ventura County Environmental Health. Leaky tanks can contaminate groundwater with petroleum products. As of April 2013 there were no open LUST sites located in the Piru basin. For more information visit: http://geotracker.waterboards.ca.gov/map/

Chiquita Canyon Landfill

Chiquita Canyon landfill is a Class 3 solid waste landfill located in Los Angele County, approximately 3 miles west of Castaic Junction. The landfill is located east of Piru basin outside of the Groundwater Management Plan but within the Santa Clara River Watershed. Chiquita Canyon landfill issues semi-annual reports which are received by UWCD. These reports contain both organic and inorganic water quality sampling results from landfill monitor wells (RTF&A, 2013).

2.2 FILLMORE BASIN

2.2.1 Hydrogeologic Setting

The San Pedro formation, folded into an east-west syncline, underlies most of the Fillmore basin. Along the main axis of the syncline near the center of the basin, the San Pedro formation reaches a depth of 8,430 feet (Mann, 1959). The depth, however, from which groundwater is suitable for agricultural and urban use and to which groundwater can be reasonably extracted is considerably shallower than 8,430 feet. At the western basin boundary, the San Pedro formation extends to a depth of 5,000 to 6,000 feet.

The area of the Fillmore basin north of Sespe Creek alluvium and the Santa Clara River alluvium is termed the Sespe Upland (Figure 4). The Sespe Upland is characterized by predominantly steep southward sloping alluvial fan material and is comprised of complex terrace deposits, older alluvial fan deposits, and recent alluvial fan deposits unconformably overlying the Pleistocene San Pedro formation (Mann, 1959). The older alluvial deposits contain large quantities of clay.

The Pole Creek Fan area lies between Sespe Creek and the Santa Clara River, and forms much of the northeast portion of the basin and underlies much of the City of Fillmore. This area is primarily composed of alluvial fan material.

The area of the Fillmore basin south of the Santa Clara River is covered by the latest sands and gravels of the Santa Clara River and Sespe Creek. The recent sand and gravel of the Santa Clara River near the Fillmore Fish Hatchery in the southeast part of the basin extend to a depth of about 60 feet and the older alluvial materials are found between depths of 60 feet and 100 feet. In the Bardsdale area, the combined thickness of alluvial fill is as much as 120 feet (Mann, 1959). At the downstream basin boundary, near Willard Road, the recent alluvium is in the range of 60-65 feet thick. West of the City of Fillmore, the recent alluvium of Sespe Creek is approximately 80 feet thick. The sands and gravels deposited by Sespe Creek and the Santa Clara River are extremely permeable.

The two principle faults that bound the Fillmore basin are the Oakridge fault to the south and the San Cayetano fault to the northeast. Several other faults bound the basin on the northwest side. See surface geology map (Figure 4).

The Santa Clara River and Sespe Creek cut through the Fillmore basin. These are the two major sources of recharge to the Fillmore basin. There are no structural or stratigraphic barriers impeding recharge from either the Santa Clara River or Sespe Creek.

The groundwater flow gradient in the Fillmore basin generally creates an east to west movement of groundwater through the alluvium. Groundwater that infiltrates from Sespe Creek generally flows towards the southwest (Figure 5). The basin is considered to be an unconfined groundwater basin.

2.2.2 Land Use

Fillmore basin land use is mostly agricultural. The primary crops grown are citrus, avocados, row crops and nursery stock. In recent years many orange groves have been removed in favor of row crops and box tree nurseries (Figure 18). The City of Fillmore is located primarily in the Pole Creek fan area. In recent years there have been residential developments located near the Santa Clara River.

2.2.3 Precipitation

A Fillmore basin precipitation hydrograph with data from the Fillmore Fish Hatchery precipitation gauge is shown in Figure 19. The hydrograph shows annual water year totals from 1957 to 2012 with an average precipitation of 18.9 inches and a median precipitation of 16.7 inches. The precipitation is quite variable with a high in 1998 of 43.7 inches and a low in 2007 of 5.3 inches. The data record is characterized by more dry years than wet years with 21 years above average precipitation and 35 years below average precipitation. The cumulative departure from average precipitation curve shows the wet and dry periods. A downward trend on the curve indicates a dry period and an upward trend on the curve indicates a wet period. The data show that the Fillmore basin has been in a relatively dry period since 2007.

2.2.4 Recharge and Discharge

The primary sources of recharge for the Fillmore basin are Sespe Creek and the Santa Clara River. Sespe Creek recharges storm runoff and base flow from the Sespe Creek watershed. The Santa Clara River recharges base flow and storm runoff from the Santa Clara River watershed which includes Sespe Creek, and UWCD conservation releases from Lake Piru. The recharge to the Fillmore basin from conservation releases are estimated to average 4,960 acre-feet per year from 2007 to 2011 (UWCD, 2013b).

Other sources of recharge are storm runoff to minor tributaries, direct rainfall infiltration through the San Pedro outcrops to the north and the main basin alluvium, and agricultural return flow. Santa Clara River recharge to the Fillmore basin occurs from approximately a mile west of the east boundary to the area of rising groundwater in the river which is approximately 2.5 miles east of the west boundary (Figure 8). The Fillmore basin also receives recharge as underflow from the Piru basin.

The Fillmore basin discharges to the Santa Clara River near the west end where the basin begins to narrow. The narrows constricts groundwater flow and results in groundwater being discharged into the Santa Clara River as rising water. The eastern extent of the rising water varies with basin conditions, moving upstream when water levels in the basin are higher. Some of this discharge subsequently infiltrates west of the basin boundary into the Santa Paula basin. There is also underflow from the Fillmore basin into the Santa Paula basin at this location.

2.2.5 Groundwater Extractions

The average annual reported groundwater extractions for the Fillmore basin from 1980 to 2012 are 44,191 acre-feet. The highest reported annual extractions were in the dry year of 1990 at 55,718 acre-feet. The lowest reported annual extractions were in the wet year of 1983 at 29,894 acre-feet (Figure 20). Approximately 93% of the groundwater extractions are from agriculture pumping and approximately 7% of the groundwater extractions are from municipal, industrial or domestic pumping. There are three different methods in which pumpers can report their extractions to UWCD. In 2011, 43.9% of the total extractions were reported using an electrical meter, 30.4% of the total extractions were reported using a water meter, and 25.7% of the total extractions were reported using a crop factor. There were 271 active wells pumping groundwater from the Fillmore basin in 2011. The locations and ranges of groundwater extraction amounts of these Fillmore basin wells for 2011 are shown in Figure 10. Beginning January 1, 2014 UWCD will no longer have the crop factor as method available for reporting groundwater extractions. Currently there are no restrictions on pumping groundwater from the Fillmore basin.

2.2.6 Groundwater Elevations

There is an extensive groundwater level monitoring network in the Fillmore basin which, in 2012, included 29 wells. UWCD's key well for the basin is 3N/20W-02A1 which has a long historical record. This well is located south of the Santa Clara River in the Bardsdale area of the basin. A groundwater elevation hydrograph for this well along with a cumulative departure from precipitation graph is shown in Figure 21. The magnitude of groundwater elevation fluctuations in the Fillmore basin is not as great as the magnitude of groundwater elevation fluctuations in the Piru basin. The trends in groundwater elevations, however, are similar. The data show that groundwater elevations tend to correlate with precipitation. Storm runoff into the Santa Clara River and Sespe Creek recharges and fills the basin rapidly. This can be seen in the spike up the hydrograph in the winter and spring. The basin fills to a maximum during wet years such as 1983, 1993, 1995, 1998 and 2005 which can be seen in the hydrograph. The benefit to the basin from UWCD's fall conservation releases from Lake Piru can also be seen in the hydrograph as a stabilizing of groundwater elevations. The 2012 groundwater elevation contours indicate that groundwater elevations range from approximately 470 feet above sea level at the east end of the basin, to approximately 250 feet above sea level at the west end of the basin (Figure 5). Groundwater elevations in the Sespe Upland and Pole Creek fan area have greater variability than groundwater elevations south of the Santa Clara River.

2.2.7 Change in Groundwater Storage

UWCD calculates change in groundwater storage of the Fillmore basin based on the groundwater level high that occurred in the spring of 1944 (Mann, 1959). When the basin reaches the groundwater level high seen in the spring of 1944 the basin is considered to be full. During the wet years of 1983, 1993, 1995, 1998 and 2005 the Fillmore basin filled and had a zero change in storage from the spring of 1944. In February 1991, near the end of the 1984 to 1991 drought, the basin had a change in storage of -53,000 acre-feet or an available storage of 53,000 acre-feet (Figure 22). The change in groundwater storage for the Fillmore basin is currently calculated using groundwater elevations from well 3N/20W-02A1.

2.2.8 Land Subsidence

The Fillmore basin is considered an unconfined groundwater basin and there are currently no issues associated with land subsidence.

2.2.9 Water Quality

Water Chemistry

Stiff diagrams have been constructed for 2010 general mineral groundwater analyses for the Fillmore basin (Figure 23). Stiff diagrams for the Fillmore basin show that eighteen of nineteen wells, for which data are available, are calcium-sulfate dominant. This indicates that this is the natural water type for the basin. This includes the Sespe Upland, Pole Creek fan and south of the Santa Clara River. Sespe Creek and the Santa Clara River at the Fillmore Fish Hatchery are both calcium-sulfate dominant. Pole Creek is magnesium-sulfate dominant with high sulfate concentrations. Four wells located in the Pole Creek fan area are calcium-sulfate dominant.

Wastewater Effluent from Fillmore Wastewater Reclamation Plant

The City of Fillmore completed a new waste water treatment plant in August 2009 that started operation in September 2009. The new plant is located at the location of the old plant, near the Santa Clara River east of Sespe Creek confluence. The plant is currently designed and permitted to treat 1.8 million gallons per day or 5.5 acre-feet per day of effluent. In 2012 the plant treated 0.88 million gallons per day or 2.7 acre-feet per day of effluent for a total annual effluent discharge of 993 acre-feet. 480 acre-feet were recycled to irrigation for the middle school, high school, Two Rivers Park and the railroad right of way. The remaining 513 acre-feet were sent to percolation ponds. The 2012 effluent chloride concentrations ranged from 97 mg/L in February to 103 mg/L in September (American Water, 2013). The Los Angeles Regional Water Quality Control Board chloride surface water objective for this reach of the Santa Clara River is 100 mg/L. The Regional Board's Basin Plan chloride groundwater objectives are 100 mg/L south of the river, 100 mg/L in the Pole Creek fan area and 50 mg/l in the remainder of the basin which includes the Sespe Upland (Los Angeles Regional Water Quality Control Board, 1994).

State Water

A percentage of the California State Water Project water that flows into UWCD either from Pyramid Lake into Piru Creek or Castaic Lake into the Santa Clara River reaches the Fillmore basin by surface flow or underflow. State water has low sulfates and TDS, but during droughts chloride concentrations may reach 100 mg/L due to brackish water uptake in the Sacramento River Delta at pump inlets near Tracy.

Agricultural Return Flow

A conditional agricultural waiver for irrigated lands was adopted in 2005 and revised and renewed in 2010. The agricultural waiver is administered by the Los Angeles Regional Water Quality Control Board and requires owners of irrigated farmland to control discharges from their property. Growers are required to adopt best management practices to prevent pollutants from entering water bodies (University of California, 2011). These include best management practices for irrigation and fertilization.

Agricultural return flow can leach salts, including nitrates and sulfates, concentrated in the soil into the groundwater. More efficient irrigation and fertilization practices can limit this from occurring. The filling and discharging of the Fillmore basin during wet years may act to flush the basin of some accumulated salts.

Natural Contamination

Natural contamination is elevated general mineral concentrations that are sourcing from rocks and sediment in the watershed as opposed to manmade activities. In the Fillmore basin these include sulfate and boron. The maximum sulfate concentrations for wells sampled in the Fillmore basin for calendar year 2012 ranged from 193 mg/L to 1,080 mg/L (Figure 16). Concentrations above 600 mg/L are considered unsuitable for agriculture (California Department of Water Resources, 1989). The high sulfate concentrations in groundwater near Pole Creek may be from natural sulfate contamination. The maximum boron concentrations for wells sampled in the Fillmore basin for calendar year 2012 ranged from 0.1 mg/L to 1.4 mg/L (Figure 17). Sespe Creek had calendar year 2012 boron concentrations ranging from 0.87 mg/L to 3.2 mg/L. For oranges and lemons the toxic concentration of boron is as low as 1 mg/L (Hem, 1989).

Urban Storm Water Runoff

Urban Storm water runoff is regulated in Ventura County by a MS-4 NPDES permit that was first established in 1994 and is administered by the Los Angeles Regional Water Quality Control Board. The Permitees include the City of Fillmore and the nine other cities within the County, and the County of Ventura under one permit. The County of Ventura Watershed Protection District runs the MS-4 program and oversees the non-incorporated areas such as Piru. The conditions of this permit mainly involve public and business outreach and prevention. Improved surfaces, filters and control of construction sediment are all part of the process. Illicit discharges are investigated when reported (Ventura County Watershed Protection District, 2011). An annual storm water report is published and regular subcommittee meeting among the cities and various topics are held. Individual point source dischargers are not covered by the program need to obtain an individual NPDES permit. For more information visit: http://www.vcstormwater.org/publications.html.

Leaky Underground Storage Tanks (LUST)

Leaky underground storage tanks are under the jurisdiction of Ventura County Environmental Health. Leaky storage tanks can contaminate groundwater with petroleum products. As of April 2013 there were two open LUST sites and three additional open sites classified as "other cleanup" sites located in the Fillmore basin. For more information visit: http://geotracker.waterboards.ca.gov/map/

Historic Texaco Oil Refinery

On the eastern edge of the City of Fillmore there are two dissolved benzene plumes. The benzene plumes originated from an historic Texaco oil refinery that operated just east Pole Creek from 1915 to 1950. Monitoring of the plumes over the past 25 years shows that they are stationary, stable and shrinking. Dedicated monitor wells show that only shallow groundwater at 50-100 feet bgs has been affected by the benzene plumes. Monitoring results from a nearby production well show that groundwater deeper than approximately 100 feet bgs has not been affected. The U.S. Environmental Protection Agency is the lead agency for groundwater remediation at the site. Chevron Environmental Management Company has provided this information (Klinchuch, 2013).

Toland Landfill

Toland landfill is a solid waste landfill located in the Fillmore basin. The facility is located approximately 2 miles north of Highway 126 on Toland Road and approximately four miles west of the City of Fillmore. The landfill is operated by Ventura Regional Sanitation District.

Semi-annual reports prepared for Ventura Regional Sanitation are received by UWCD (Ventura Regional Sanitation District, 2011). These reports contain both organic and inorganic groundwater quality sampling results from landfill monitor wells.

3 BASIN MANAGEMENT

3.1 GOALS FOR THE BASINS

Three basic goals for the Piru and Fillmore basins were established during a public meeting in Fillmore that was part of the original AB 3030 planning process. These goals are: 1) Maintain or improve the quantity and quality of groundwater in the basins; 2) Maintain control of local resources; and 3) Establish cooperative relationships within the Piru and Fillmore basins and with adjacent basins.

To achieve these goals, a series of objectives are defined which are as follows:

- Facilitate or encourage efficient water use
- Encourage groundwater recharge in the Santa Clara River valley

- Set baselines for water quality and water quantity which includes: a) determining past and current conditions; b) determining reasonable standards; and c) considerations of contingencies for exceeding standards during drought or overdraft for both in basin uses and exports out of basins
- Encourage broad-based participation of all pumpers in basin planning (AB 3030 Council quarterly meeting, regularly scheduled public forums and biennial report)
- Keep pumpers regularly informed on state of basin (Biennial Groundwater Conditions Report)
- Encourage regular dialog with the County of Ventura with a close coordination with the local Supervisor by the designation of an AB 3030 Council member as contact person
- Investigate the formation of a formal pumpers association

The list above includes both short and long term objectives. Some of these are addressed in this Plan, some will be addressed in the future, and some are contingent on future events. The numeric Basin Management Objective (BMO) limits for both groundwater and surface water quality, and groundwater levels; and the groundwater export policy in this updated Plan will address some of the ~~goals~~ objectives of the original Plan.

3.2 Current Basin Issues and Concerns

The important issues and concerns currently being discussed at the Piru-Fillmore AB 3030 Council meetings include the following:

- The elevated chloride concentrations in east Piru basin groundwater resulting from discharge of treated waste water effluent from Los Angeles County into the Santa Clara River remains the primary issue and concern.
- The exportation of groundwater out of the Piru and Fillmore basins. This is addressed in this updated Plan with the addition of an export policy attached as Appendix A.
- The replacement of many orange orchards with box tree nurseries and row crops is a concern because of the more intense groundwater demand associated with these crops. The Piru and Fillmore basins currently have no restrictions on groundwater extractions.

3.3 Piru Basin Management Objectives (BMOs)

3.3.1 Groundwater Elevations

The AB 3030 groundwater elevation BMO for the Piru basin is to maintain groundwater elevations above the low elevations recorded near the end of the 1984 to 1991 drought. Well 4N/18W-29M2, located just northwest of the confluence of Piru Creek and the Santa Clara River, and well 4N/19W-25M1, located immediately west of Hopper Creek, north of the Santa Clara River and south of Highway 126, will be used as BMO groundwater elevation indicator wells for the Piru basin (Figure 24). Well 4N/18W-29M2, United Water's Piru basin groundwater elevation key well, is relatively shallow, and has groundwater elevation records from 1968 to present. Well 4N/19W-25M1, with an unknown depth, has groundwater elevation records from 1979 to present.

There will be two groundwater elevation benchmarks associated with the BMO for each well, which are discussed below. The benchmarks established here will give the AB 3030 Council warnings that groundwater elevations are declining and approaching the lows of the 1984 to 1991 drought.

Well 4N/18W-29M2 had a groundwater elevation of 509 feet msl in February 1991 near the end of the 1994-1991 drought. Benchmark #1 for well 4N/18W-29M2 is defined by groundwater elevations declining to the October 2004 low groundwater elevation of 542 feet msl. Benchmark #2 for well 4N/18W-29M2 is defined by groundwater elevations declining to 526 feet msl which is equidistant from the 2004 low groundwater elevation and the 1991 low groundwater elevation. In May 1998 the basin was full with a groundwater elevation at well 4N/18W-29M2 of 620 feet msl.

Well 4N/19W-25M1 had a low groundwater elevation of 492 feet msl in February 1991 near the end of the 1984 to 1991 drought. Benchmark #1 for well 4N/19W-25M1 is defined by groundwater elevations declining to the August 2004 low groundwater elevation of 525 feet msl. Benchmark #2 for well 4N/19W-25M1 is defined by groundwater elevations declining to 508 feet msl which is equidistant from the 2004 low groundwater elevation and the 1991 low groundwater elevation. In April 1998 the basin was full with a groundwater elevation at well 4N/19W-25M1 of 565 feet msl.

Groundwater elevations declining to Benchmark #1 will require a notification by UWCD of the AB 3030 Groundwater Management Council within one month of the groundwater elevation measurement. Groundwater elevations declining to Benchmark #2 will also require notification of the Council within one month of the groundwater elevation measurement. At this time UWCD staff will evaluate groundwater elevations basin wide to see if the trend applies to the entire basin. In addition UWCD staff will analyze basin precipitation and extractions to determine if the low groundwater elevations are related to hydrology, over-pumping or a combination of both. A Council meeting will be held to discuss possible mitigation measures. See Mitigation of Conditions of Overdraft under Section 3.5.~~1~~5.

The groundwater elevation at well 4N/18W-29M2 in March 2013 was 557 feet msl or 48 feet above the low groundwater elevation of 1991. The groundwater elevation at well 4N/19W-25M1 in March 2013 was 532 feet msl or 40 feet above the low groundwater elevation of 1991 (Table 1).

Table 1. Piru Basin Groundwater Elevation BMO Benchmarks at Indicator Wells

State Well Number	Groundwater Elevation Low 1991 (feet, msl)	Benchmark #1 (feet, msl)	Benchmark #2 (feet, msl)
4N/18W-29M2	509 feet	542 feet	526 feet
4N/19W-25M1	492 feet	525 feet	508 feet

3.3.2 Groundwater Quality

UWCD receives groundwater quality analyses from various sources. UWCD has arrangements with basin pumpers to collect groundwater samples from their private wells. Analyses from public supply wells are received by UWCD from the California Department of Public Health (CA DPH). Additional analyses are received from Ventura County Water Resources and others. In addition UWCD samples its nested monitor well site located near the Santa Clara River at the end of Powell Road in the Piru basin.

AB 3030 groundwater quality BMO limits for nitrate and boron east of Piru Creek, and chloride, sulfate, nitrate, boron and TDS west of Piru Creek will be set the same as the Los Angeles Regional Water Quality Control Board's (1994) current groundwater basin objectives. The AB 3030 groundwater quality BMO limits for chloride, sulfate and TDS for the area east of Piru Creek will be based on the Regional Board's current basin objectives for the area west of Piru Creek. This adjustment will be made because the Regional Board's basin objectives east of Piru Creek are based on degraded conditions from oil field brine discharges in the 1950's and 1960's. The Regional Board has historically set objectives to preserve and enhance water quality and to protect the beneficial uses of all regional waters (Los Angeles Regional Water Quality Control Board, 1994). Table 2 shows the AB 3030 groundwater quality BMO limits.

In 2008, the Regional Board revised the groundwater quality objective for chloride east of Piru Creek from 200 mg/L to 150 mg/L conditional on the Alternative Water Resources Management Plan (AWRM) (Section 3.6.1) (Los Angeles Regional Water Quality Control Board, 2008). If and when the AWRM Plan and the new objective come into existence, the AB 3030 Council can, at its discretion, revise the AB 3030 chloride BMO limit to be in line with the Regional Board objective.

The AB 3030 groundwater BMO limit for nitrate both east and west of Piru Creek of 45 mg/L is also a primary maximum contaminant level (MCL) for drinking water established by the California Department of Public Health (CA DPH). The California Department of Public Health has established secondary drinking water maximum contaminant levels for chloride, sulfate and TDS. Primary MCLs are health based standards and secondary MCLs are aesthetically based standards.

Table 3 shows, that in calendar year 2012, twenty--two wells sampled had various constituents that were 80% or greater of the AB 3030 BMO groundwater quality concentration limits. The values shown in black text are concentrations from 80% to 100% of BMO limits. The values shown in bold red text are concentrations above BMO limits. If a well has a constituent with more than one analysis the maximum concentration is shown. Also see Figures 15-17 and Figures 25-26 for maps of maximum concentrations for calendar year 2012.

The groundwater quality data in Table 3 and Figure 15 show wells in the Piru basin located east of Piru Creek and wells located between Piru Creek and Hopper Creek with chlorides above BMO limits. These elevated chloride concentrations are the result of chloride loading in the Santa Clara River from waste water reclamation plants in Los Angeles County. There are elevated concentrations of sulfate and TDS above BMO limits in groundwater near Hopper Creek (Table 3 and Figure 16, 25). These high concentrations may be sourcing from Hopper Creek.

A table similar to Table 3 and maps similar to Figures 15-17 and Figures 25-26 will be presented to the AB3030 Council on an annual basis. Upon direction from the Council, UWCD staff will investigate the reason for any elevated concentrations in relation to AB3030 BMO limits, as to whether they are naturally occurring and/or

related to hydrology, or a result of man-made activities. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, contact the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

Table 2. Piru Basin Groundwater Quality AB 3030 BMO Limits

Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS sum (mg/L)
East of Piru Creek	100	600	45	1.5	1200	1200
West of Piru Creek	100	600	45	1.5	1200	1200

Table 3. Piru Basin Groundwater Quality Concentrations for 2012 which are 80% or greater of AB 3030 BMO Limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80% to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO (east of Piru Creek): Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 45 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1200 mg/L
BMO (west of Piru Creek) Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 45 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1200 mg/L

Well	Well Location	Number of Samples in 2012	Chloride maximum (mg/L)	Sulfate maximum (mg/L)	Nitrate maximum (mg/L)	Boron maximum (mg/L)	TDS residue maximum (mg/L)	TDS sum maximum (mg/L)
A	East of Piru Creek	3	**108**				1110	
B	East of Piru Creek	4	**129**	495			**1280**	
C	East of Piru Creek	5	**127**	487			**1260**	
D	West of Piru Creek	1	99					
E	West of Piru Creek	4	94	498			**1243**	
F	West of Piru Creek	3					1090	
G	West of Piru Creek	1	85				980	
H	West of Piru Creek	4	**101**				1030	
I	West of Piru Creek	1	**124**		**55.3**			**1230**

BMO (east of Piru Creek): Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 45 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1200 mg/L BMO (west of Piru Creek) Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 45 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1200 mg/L								
Well	**Well Location**	**Number of Samples in 2012**	**Chloride maximum (mg/L)**	**Sulfate maximum (mg/L)**	**Nitrate maximum (mg/L)**	**Boron maximum (mg/L)**	**TDS residue maximum (mg/L)**	**TDS sum maximum (mg/L)**
31D3	West of Piru Creek (USGS monitor nest, Powell Rd)	2		586			1160	
J	West of Piru Creek (Hopper Creek area)	1	**106**					1130
K	West of Piru Creek (Hopper Creek area)	1	**103**					1030
L	West of Piru Creek (Hopper Creek area)	1	**101**	480				**1270**
M	West of Piru Creek (Hopper Creek area)	1		**1230**				**2330**
N	West of Piru Creek (Hopper Creek area)	1		**1140**				**2430**
O	West of Piru Creek (Hopper Creek area)	1						979
P	West of Piru Creek (Hopper Creek area)	1		**1100**				**2190**
Q	West of Piru Creek (Hopper Creek area)	1		**830**				**1820**
R	West of Piru Creek (Hopper Creek area)	1		550				**1280**
S	West of Piru Creek (near Piru/Fillmore Boundary)	1		520				**1250**
T	West of Piru Creek (near Piru/Fillmore Boundary)	1						1070
U	West of Piru Creek (near Piru/Fillmore Boundary)	2					1160	

3.3.3 Surface Water Quality

UWCD conducts surface water sampling which includes the Santa Clara River at Newhall Crossing (County Line) once a month, Piru Creek below the weir at Santa Felecia Dam quarterly and in the Santa Clara River at the Fillmore Fish Hatchery quarterly.

AB 3030 Surface water quality BMO limits for chloride, sulfate, nitrate, boron and TDS, for streams overlying the Piru basin will be based on the Regional Water Quality Board's current surface water objectives (Los Angeles Regional Water Quality Control Board, 1994). Table 4 shows the AB 3030 surface water quality BMO limits.

The Regional Board nitrate surface water quality objective for streams overlying the Piru basin is 5 mg/L nitrate-nitrogen which is equivalent to 22 mg/L nitrate. The AB 3030 BMO limit will be set at 22 mg/L nitrate to agree with the Regional Board objective. The California Department of Health (CA DPH) maximum contaminant level is 45 mg/L nitrate.

In 2008, the Regional Board revised the surface water quality objective for chloride east of Piru Creek from 100 mg/L to 117 mg/L (130 mg/L during drought periods) conditional on the Alternative Water Resources

Management Plan (AWRM) (Section 3.6.1) (Los Angeles Regional Water Quality Control Board, 2008). The AB 3030 surface water chloride BMO limit for the Santa Clara River east of Piru Creek, however, will be set at the current Regional Board objective of 100 mg/L. If and when the AWRM Plan and the new objective come into existence, the AB 3030 Council can, at its discretion, revise its chloride BMO limit to be in line with the revised Regional Board objective.

Table 5 shows 2012 concentrations 80% or greater of the BMO limits. The values shown in black text are concentrations from 80% to 100% of BMO limits. The values shown in bold red text are concentrations ~~from~~ that are greater than the ~~80% to 100% of~~ BMO limits. As there is more than one sample taken per year at these sites the maximum concentration is shown. Also see Figures 15 -17 and Figures 25 -26 for maps of maximum concentrations for calendar year 2012.

The surface water quality data in Table 5 show chloride concentrations in the Santa Clara River at the Ventura County/Angeles County line to be above the BMO limit. These elevated chlorides are sourcing from waste water reclamation plants in Los Angeles County.

A table similar to Table 5 and maps similar to Figures 15-17 and Figures 25-26 will be presented to the AB3030 Council on an annual basis. Upon direction from the Council, UWCD staff will investigate the reason for any elevated concentrations in relation to AB3030 BMO limits, as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, contact the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

Table 4. Piru Basin Surface Water Quality AB 3030 BMO Limits

Reach	Sample Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1) S.C. River: Blue Cut to confluence of Piru Creek and S.C. River	S.C. River at Newhall Crossing (County Line)	100	600	22	1.5	1300	1300
2) S.C. River: Confluence of Piru Creek and S.C. River to A Street Fillmore	S.C. River near Fillmore Fish Hatchery	100	600	22	1.5	1300	1300
3) Piru Creek above gauging station below Santa Felicia Dam	Piru Creek at weir below Santa Felicia Dam	60	400	22	1	800	800

Table 5. Piru Basin Surface Water Quality Concentrations for 2012 which are 80% or Greater of BMO Limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80 to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO Reach 1: Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l) BMO Reach 2: Chloride 100 mg/L, Sulfate 600 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l) BMO Reach 3: Chloride 60mg/L, Sulfate 400 mg/L, Nitrate 22 mg/L, Boron 1 mg/L, TDS (residue and sum) 800 mg/l)								
Reach	Sample Location	Number of Samples in 2012	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1) S.C. River: Blue Cut to confluence of Piru Creek and S.C. River	S.C. River at Newhall Bridge (County Line)	14	**136**				1060	
2) S.C. River: Confluence of Piru Creek and S.C. River to A Street Fillmore	S.C. River near Fillmore Fish Hatchery	4						
3) Piru Creek above gauging station below Santa Felicia Dam	Piru Creek at weir below Santa Felicia Dam	4	53					

3.4 Fillmore Basin Management Objectives (BMOs)

3.4.1 Groundwater Elevations

The AB 3030 groundwater elevation BMO for the Fillmore basin is to maintain groundwater elevations above the low elevations recorded near the end of the 1984 to 1991 drought. Well 3N/~~21W~~20W-02A1, located south of the Santa Clara River in the Bardsdale area, and well 4N/20W-23Q2, located just west of Sespe Creek in the Sespe Upland, will be used as BMO groundwater elevation indicator wells for the Fillmore basin (Figure 27). Well 3N/~~21W~~20W-02A1 is a shallow well and is also United Water's groundwater elevation key well. This well

has groundwater elevation records from 1950 to present. Well 4N/20W-23Q2 is a relatively deep well and has groundwater elevation records from 1978 to present.

There will be two groundwater elevation benchmarks for each well associated with the BMO which are discussed below. The benchmarks established here will give the AB 3030 Council a warning that groundwater elevations are declining to the lows of the 1984 to 1991 drought.

Well 3N/20W-02A1 had a groundwater elevation of 333 feet msl in February 1991 near the end of the 1984-1991 drought. Benchmark #1 for well 3N/20W-02A1 is defined by groundwater elevations declining to the October 2004 low groundwater elevation of 349 feet msl. Benchmark #2 for well 3N/20W-02A1 is defined by groundwater levels declining to 341 feet msl which is equidistant the 2004 low groundwater elevation and the 1991 low groundwater elevation. In May 1998 the basin was full with a groundwater elevation at well 3N/20W-02A1 of 363 feet msl.

Well 4N/20W-23Q2 had a groundwater elevation of 360 feet msl in October 1991 near the end of the drought 1984-1991 drought. Benchmark #1 for well 4N/20W-23Q2 is defined by groundwater elevations declining to the October 2004 low groundwater elevation of 378 feet msl. Benchmark #2 for well 04N20W-23Q2 is defined by groundwater levels declining to 369 feet msl which is equidistant from the 2004 low groundwater elevation and the 1991 low groundwater elevation. In April 1998 the basin was full with a groundwater elevation at well 4N/20W-23Q2 of 414 feet msl.

Groundwater elevations declining to Benchmark #1 will require a notification by UWCD of the AB 3030 Groundwater Management Council within one month of the groundwater level measurement. Groundwater elevations declining to Benchmark #2 will also require notification of the Council within one month of the groundwater level measurement. At this time UWCD staff will evaluate groundwater elevations basin wide to see if the trend applies to the entire basin. In addition UWCD staff will analyze basin precipitation and extractions to determine if the low groundwater elevations are related to hydrology, over-pumping or a combination of both. A Council meeting will be held to discuss possible mitigation measures. See Mitigation of Conditions of Overdraft under Section 3.5.~~1~~5.

The feet above the 1991 low groundwater elevation established for the Fillmore basin groundwater elevation benchmarks are considerably less than those established for the Piru basin. This is because the groundwater level variability for the Fillmore basin is much less than the groundwater level variability for the Piru basin.

The groundwater elevation for well 3N/20W-02A1 in March 2013 was 356 feet msl, or 23 feet above the low groundwater elevation of 1991. The groundwater elevation for well 4N20W-23Q2 in April 2013 was 376 feet msl which is below Benchmark #1 and 16 feet above the low groundwater elevation of 1991.

Table 6. Fillmore Basin Groundwater Level BMO Benchmarks at Indicator Wells

State Well Number	Groundwater Elevation Low 1991 (feet, msl)	Benchmark #1 (feet, msl)	Benchmark #2 (feet, msl)
3N/20W-02A1	333 feet	349 feet	341 feet
4N/20W-23Q2	360 feet	378 feet	369 feet

3.4.2 Groundwater Quality

UWCD receives groundwater quality analyses from various sources. UWCD has arrangements with basin pumpers to collect groundwater samples from their private wells. Analyses from public supply wells are received by UWCD from the California Department of Public Health (CA DPH). Additional analyses are received from Ventura County Water Resources, Limoneira Company, Farmers Irrigation Company and others.

The AB 3030 BMO limits for chloride, sulfate, nitrate boron and TDS for the Pole Creek fan area, the area south of the Santa Clara River, and the remainder of the Fillmore Basin which includes the Sespe Upland area will be the same as the Los Angeles Regional Water Quality Board current groundwater basin objectives for these areas of the Fillmore basin (Los Angeles Regional Water Quality Control Board, 1994). Table 7 shows the AB 3030 BMO limits for areas of the Fillmore basin.

The AB 3030 BMO limit for nitrate for the Pole Creek Fan, south of the Santa Clara River and the Sespe Upland of 45 mg/L is also a primary maximum contaminant level (MCL) for drinking water established by the California Department of Public Health (CA DPH). The California Department of Public Health has established secondary drinking water maximum contaminant levels for chloride, sulfate and TDS. Primary MCLs are health based standards and secondary MCLs are aesthetically based standards.

Table 8 shows, that in calendar year 2012, seventeen wells sampled had various constituents that were 80% or greater of the AB 3030 BMO groundwater quality concentration limits. If a well has a constituent with more than one analysis the maximum concentration is shown. The values shown in black text are concentrations from 80% to 100% of the BMO limits. The values shown in bold red text are concentrations above the BMO limits. Also see Figures 15-17 and Figures 25-26 for maps of maximum concentrations for calendar year 2012.

A table similar to Table 8 and maps similar to Figures 15-17 and Figures 25-26 will be presented to the AB3030 Council on at least an annual basis. Upon direction from the Council, UWCD staff will investigate the reason for any elevated concentrations in relation to AB3030 BMO limits, as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, contact the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

Table 7. Fillmore Basin Groundwater Quality AB 3030 BMO Limits

Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS sum (mg/L)
Pole Creek Fan area	100	800	45	1	2000	2000
South of Santa Clara River	100	800	45	1.1	1500	1500
Remainder of Basin which includes the Sespe Upland	50	400	45	0.7	1000	1000

Table 8. Fillmore Basin Groundwater Quality Concentrations for 2012 which are 80% or Greater of AB 3030 BMO limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80% to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO Pole Creek Fan: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1 mg/L, TDS (residue and sum) 2000 mg/L
BMO South of Santa Clara River: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1.1 mg/L, TDS (residue and summation) 1500 mg/L
BMO remainder of basin which includes Sespe Upland: Chloride 50 mg/L, Sulfate 400 mg/L, Nitrate 45 mg/L, Boron 0.7 mg/L TDS (residue and summation) 1000 mg/L

Well	Location	Number of samples in 2012	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS Sum (mg/L)
V	Pole Creek Fan	2	81	**980**			**2020**	
W	South SC River	1	97	**900**	**135**	**1.2**		**1680**
X	South SC River	1	**180**	**1080**	**47.8**	**1.4**		**2430**
Y	Sespe Upland	1	**52**	360		**1**		937
Z	Sespe Upland	1	40			**0.9**		
AA	Sespe Upland	3	49			**1.2**	830	
BB	Sespe Upland	1	45	**430**		0.7		**1050**
CC	Sespe Upland	1	**54**		**46.7**			936

BMO Pole Creek Fan: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1 mg/L, TDS (residue and sum) 2000 mg/L
BMO South of Santa Clara River: Chloride 100 mg/L, Sulfate 800 mg/L, Nitrate 45 mg/L, Boron 1.1 mg/L, TDS (residue and summation) 1500 mg/L
BMO remainder of basin which includes Sespe Upland: Chloride 50 mg/L, Sulfate 400 mg/L, Nitrate 45 mg/L, Boron 0.7 mg/L TDS (residue and summation) 1000 mg/L

Well	Location	Number of samples in 2012	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS Sum (mg/L)
DD	Remainder of Basin North of SC River	1	**51**	400	39.2	0.6		**1060**
EE	Remainder of Basin North of SC River	1	48	**420**		0.7	910	
FF	Sespe Upland	2			**50.1**		807	
GG	Sespe Upland	1		**420**	**76.7**			
HH	Reminder of Basin near west boundary	1	47	**457**			**1030**	
II	Reminder of Basin near west boundary	3	**68**	**594**		**0.73**	**1030**	
JJ	Reminder of Basin near west boundary	1	42	**450**			940	**1050**
KK	Reminder of Basin near west boundary	1	**52**	**610**	**53.6**			**1480**
LL	Reminder of Basin near west boundary	1		360				952

3.4.3 Surface Water Quality

UWCD conducts surface water quality which includes sampling in the Santa Clara River at Willard Road and in Sespe Creek on a quarterly basis.

Surface water quality AB 3030 BMO limits for chloride, sulfate, nitrate, boron and TDS, for streams overlying the Fillmore basin will be based on the Regional Water Quality Board surface water objectives (Los Angeles Regional Water Quality Control Board, 1994). Table 9 shows the AB 3030 surface water quality BMO limits.

The Regional Board nitrogen surface water quality objective for streams overlying the Fillmore basin is 5 mg/L nitrate-nitrogen which is equivalent to 22 mg/L nitrate. The AB 3030 BMO limit will be set at 22 mg/L nitrate to agree with the Regional Board objective. The California Department of Health (CA DPH) maximum contaminant level for drinking water is 45 mg/L.

Table 10 shows 2012 concentrations that are 80% or greater of the BMO limits. Concentrations shown in black text are from 80% to 100 % of the AB 3030 BMO limit. Concentrations shown in bold red text are above the AB 3030 BMO limit. As there is more than one sample taken per year at these sites the maximum concentrations

are shown. Also see Figures 15-17 and Figures 25 -26 for maps of maximum concentrations for calendar year 2012.

Table 10 shows elevated concentrations in Sespe Creek and the Santa Clara River at Willard Road that are above BMO limits. These elevated concentrations may be associated with the relatively low precipitation and stream flow that has occurred in 2012.

A table similar to Table 10 and maps similar to Figures 15-17 and Figures 25-26 will be presented to the AB3030 Council on an annual basis. Upon direction from the Council, UWCD staff will investigate the reason for any elevated concentrations in relation to AB3030 BMO limits, as to whether they are naturally occurring and/or related to hydrology, or a result of man-made activities. If it is determined that the elevated concentrations are from man-made activities the Council will, at its discretion, contact the Los Angeles Regional Water Quality Control Board explaining the issues and concerns.

Table 9. Fillmore Basin Surface Water Quality AB 3030 BMO Limits

Reach	Location	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1)S.C. River: Between A Street Fillmore and Freeman Diversion	S.C. River at Willard Road	80	650	22	1.5	1300	1300
2) Sespe Creek above Gauging Station, 500 feet downstream from Little Sespe Creek	Sespe Creek at USGS Gauge	60	320	22	1.5	800	800

Table 10. Fillmore Basin Surface Water Quality Concentrations for 2012 which are 80% or Greater of AB 3030 BMO Limits

(concentrations less than 80% of BMO limit or no data are blank cells, concentrations from 80% to 100% of BMO limit are in black text, concentrations greater than BMO limit are in bold red text)

BMO Reach 1: Chloride 80 mg/L, Sulfate 650 mg/L, Nitrate 22mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l) BMO Reach 2: Chloride 60 mg/L, Sulfate 320 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 800 mg/l)								
Reach	Location	Number of Samples in 2012	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)

BMO Reach 1: Chloride 80 mg/L, Sulfate 650 mg/L, Nitrate 22mg/L, Boron 1.5 mg/L, TDS (residue and sum) 1300 mg/l) BMO Reach 2: Chloride 60 mg/L, Sulfate 320 mg/L, Nitrate 22 mg/L, Boron 1.5 mg/L, TDS (residue and sum) 800 mg/l)								
Reach	Location	Number of Samples in 2012	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Boron (mg/L)	TDS residue (mg/L)	TDS summation (mg/L)
1)S.C. River: Between A Street Fillmore and Freeman Diversion	S.C. River at Willard Road	4	69	577			**1310**	
2) Sespe Creek above Gauging Station, 500' downstream from Little Sespe Creek	Sespe Creek at USGS Gauge	4	**127**	280		**3.2**	726	

3.5 CURRENT MANAGEMENT STRATEGIES (COMPONENTS OF THE PLAN)

The Groundwater Management Act allows a groundwater management plan to include a number of components (California Water Code, Section 10753.8). For the Piru and Fillmore basins, the following sections discuss these components, how they apply to the basins, and what specific issues are addressed in this ~~plan~~Plan.

3.5.1 Control of Saline Intrusion

There is minimal threat of saline intrusion in the Piru and Fillmore basins because of: 1) the discharge that occurs at the west end of each basin that flushes the groundwater of salts; and 2) the basins are significantly inland from the coast.

The Piru and Fillmore basins are recharged rapidly by the Santa Clara River ~~and Sespe Creek~~ during periods of above average rainfall and streamflow. This recharge causes high groundwater levels at the lower (western) ends of each basin and maximizes surface and subsurface discharge into the next lower basin. This recharge-discharge process acts to promote flushing of the basins of salts.

The surface flows of the Santa Clara River, in addition to recharging the Piru and Fillmore basins, have a significant effect on the recharge of the Oxnard Forebay basin and Oxnard Plain basin. This is primarily through the utilization of the Freeman Diversion on the Santa Clara River and UWCD's artificial recharge facilities.

There is a relationship between fluctuating groundwater levels in the Piru and Fillmore basins and the amount of water that infiltrates into river alluvium overlying these groundwater basins. When groundwater levels are high, near the bed of the river, infiltration is reduced. This in turn increases the amount of river water available

to divert at the Freeman Diversion for artificial recharge in the Oxnard Forebay basin. During average and above average rainfall seasons Santa Clara River flows are in excess of downstream infiltration and diversion capacities, and result in flows to the Pacific Ocean.

3.5.2 Identification and Management of Wellhead Protection Areas and Recharge Areas

The U.S. Environmental Protection Agency (EPA) has promoted a "Wellhead Protection" program that seeks the protection of public water supplies through the identification of the area surrounding a well that contributes water to the well's production. By identifying the capture zone around a well, the route and travel time of possible contaminants (such as surface spills) that may reach the well can be predicted. As part of this Piru and Fillmore Basin Groundwater Management Plan, the AB 3030 Council will encourage the suppliers of public water services to identify wellhead protection areas surrounding their wells. If requested UWCD may be able to provide technical assistance to the suppliers of public water services in the identification of wellhead protection areas.

In order to preserve the long-term viability of the groundwater resources in the Piru and Fillmore basins, it is necessary to ensure that the basins receive regular recharge of good quality water. The recharge in the basins occurs primarily from infiltration along the Santa Clara River, Piru Creek, Sespe Creek, and UWCD's Piru spreading grounds (which diverts water from Piru Creek). It is the intent of this Plan to protect these areas so that recharge will continue in the basins. In addition, it is the intent to protect these areas from sources of contamination that may adversely affect the groundwater quality of the basins. This protection will be provided by the designation of these areas as "Aquifer Recharge Areas". This designation will be coordinated with County of Ventura Planning Division, as discussed in a later section.

3.5.3 Regulation of the Migration of Contaminated Groundwater

For point sources of contamination (e.g., leaking fuel tanks, seeping landfills), a variety of agencies, including Ventura County Environmental Health Department and the Regional Water Quality Control Board, have the responsibility to identify and supervise the cleanup of contaminated groundwater. It is the intention of this Plan to encourage such responsibility and to allow the AB 3030 Council to recommend necessary and appropriate action if these regulatory agencies do not take adequate steps to prevent migration of contaminated groundwater.

There are two landfills located in the watershed of the Piru and Fillmore basins, Chiquita Canyon and Toland Landfill. Both landfills issue a semi-annual report that reports on monitoring. UWCD reviews the landfill reports to ensure that there is adequate monitoring of groundwater in the vicinity of the landfills. If the reports contain evidence of leachate reaching the groundwater or waterways within the watershed, UWCD will notify the AB 3030 Council. In addition UWCD will actively encourage the Regional Board to require appropriate mitigation to prevent further contamination and to clean up any contamination.

The point source chloride contamination emanating from reclamation plants in Los Angeles County, as discussed in Section 2.1.~~8~~9, is of primary concern to the AB 3030 Council. UWCD has worked closely with the Regional

Water Quality Board on this problem and provides the Council with updates in the AB 3030 Piru and Fillmore Basins Biennial Groundwater Conditions Report and at AB 3030 Groundwater Council meetings.

UWCD as the local agency that adopted this Plan- for the purposes of groundwater management, ~~It is the intent of this Management Plan to~~has the authority to use the full powers of a water replenishment district, if necessary, to control such point source contamination (California Water Code, Section 10754 pursuant to section 60224). If the contamination source is outside the area of the Management Plan, action to control such contamination may also be taken if: 1) the action is reasonably necessary to protect groundwater supplies within the Plan area; and 2) there is a direct, material relationship between the groundwater supply where the action is to be taken and the groundwater supply within the Plan area (Section 60225). Both injunctive relief and recovery of expenses from the person or persons responsible for the contaminants are available (Section 60226).

The Regional Water Quality Control Board sets basin goals for a variety of inorganic general mineral contaminants and often uses drinking water standards for the regulation of organic contaminants. It is the intent of this Plan to encourage the Council to work with the Regional Board in setting and meeting these goals, and to take appropriate action if there is a contamination threat that is not adequately addressed by a regulatory agency. This updated Management Plan establishes AB 3030 BMO limits based on the Regional Water Quality Control Board's groundwater quality and surface water quality basin objectives which are discussed in Sections 3.3 and 3.4 of this Plan.

UWCD does a watershed sanitary survey every five years (United Water Conservation District, 2011b). This watershed sanitary survey is useful in identifying present or future sources of groundwater contamination.

3.5.4 Administration of a Well Abandonment and Well Destruction Program

Well abandonment and well destruction are regulated by the Ventura County Watershed Protection District Water -Resources ~~Division~~Section. All well owners in the Piru and Fillmore basins are required to report their water use semi-annually to UWCD. Wells that cease reporting extractions for a calendar year are identified. After a well is identified an annual usage letter is sent to the well owner by the ~~Ventura County Water Resources~~VCWPD Groundwater Resources Section requesting the status of the well. Once it is determined that the well is abandoned or has pumped for less than 8 hours for the calendar year the well owner has 45 days to destroy the well, put it back in use after a well inspection or obtain a certificate of exemption after a well inspection. All well destructions are assigned a well destruction permit number by the ~~Ventura County Water~~ VCWPD Groundwater Resources Section ~~Resources~~. There are currently 7 wells classified as abandoned in the Piru basin and 31 wells classified as abandoned in the Fillmore basin (~~Ventura County~~VCWPD Groundwater ~~Water~~ Resources Section, 2013)

3.5.5 Mitigation of Conditions of Overdraft

Overdraft occurs in a basin when pumping exceeds recharge over a long period of time, resulting in harmful conditions in the basin. The period of time used in such determination may vary, but should take into account both wet and dry cycles.

Groundwater basins have to be actively monitored for signs of overdraft. Such signs might include: 1) continuing lowering of water levels, even following wet cycles; 2) inadequate recovery of water levels following a drought; 3) lowered water levels over a long period of time that cause a widespread increase in pumping costs which create conditions for uneconomic use of the overlying lands; 4) degradation of water quality that is induced by lowered water levels in the basins; or 5) land subsidence and the irreversible compaction of sediments. The Biennial Report of Groundwater Conditions prepared for the Council will identify if any of these conditions exist or are likely to exist in the future.

If it is determined by the Council in the future that over-pumping has occurred in the basins, the Council will take steps to mitigate potential problems in the basins. Such steps might focus on supplementing recharge to the basins, thus increasing the basin yield. These steps might include increasing artificial recharge or buying supplemental water. The Groundwater Management Act (AB 3030) states that:

"Nothing in this part shall be construed as authorizing the local agency to limit or suspend extractions unless the local agency has determined through study and investigation that groundwater replenishment programs or other alternative sources of water supply have proved insufficient or infeasible to lessen the demand for groundwater." (California Water Code, Section 10753.9c)

Thus, it is the intent of this Plan to take all practical steps to maintain the yield of the basins using resources from UWCD or other entities. This will be done before there will be any consideration of limiting extractions.

Any projects that pump groundwater from the basins for export outside of the basins could lead to over-pumping of the basins, and related problems. Thus, to minimize the potential of over-pumping related to groundwater exports, an export plan has been formulated that requires written application to the Council for any new groundwater pumping in excess of 5 ac-ft/yr that will extract water for export outside of the basins. If the pumping and export of the groundwater would not create conditions that could lead to over-pumping or degraded conditions in the basins, then the approval of the application would not be unreasonably withheld. If the pumping and export of the groundwater would reasonably create conditions that could lead to over-pumping in the basins, then the application would be denied.

3.5.6 Replenishment of Groundwater Extracted by Water Producers

Replenishment of groundwater in the Piru and Fillmore basins occurs by both natural and artificial means (Section 2.1.4 and Section 2.2.4). This regular recharge is fundamental to the long-term health of the basins. It is not presently necessary to increase the use of the Piru Spreading Grounds for artificial recharge because the Piru and Fillmore basins historically recharge readily during average and above average rainfall conditions**.** Waste water recharge into the Santa Clara River from Los Angeles Sanitation District waste water reclamation plants, however, may not always be available. In the future, if necessary, the Piru Spreading grounds could possibly be used to capture and recharge storm flood flows.

3.5.7 Monitoring of Groundwater Levels and Storage

Both UWCD and the County of Ventura monitor groundwater levels in the Piru and Fillmore basins. UWCD analyzes these data and produces hydrographs of groundwater levels and changes in storage. In addition it

uses groundwater elevation data to draw groundwater surface elevation contours, allowing for interpretation of groundwater flow directions in the basins. The groundwater elevation hydrographs and groundwater surface contours will be included in the Piru and Fillmore Basins Biennial Groundwater Conditions Report that is submitted to the AB 3030 Council. In the Biennial Report, the current status of the basins will be analyzed and any potential problems will be identified. Figure 28 shows a map of the wells currently used to monitor groundwater levels in the basins.

3.5.8 Facilitating Conjunctive Use Operations

UWCD presently uses surface water and groundwater conjunctively through storage of winter runoff in Lake Piru with subsequent release of this water for recharge during the dry season. This regular recharge is fundamental to the long-term groundwater health of the basins. It is the intent of this Plan to encourage such operations. See Section 3.6.5 .

3.5.9 Identification of Well Construction Policies

The County of Ventura well ordinance requires a permit prior to drilling a well. The ordinance also has requirements on well construction which include sanitary seals and sealing zones. In the present circumstances, these requirements appear to be adequate for the Piru and Fillmore basins. However, this Plan has the right to address potential well construction policies in the Piru and Fillmore basins in the future under UWCD's groundwater management plan authority as a water replenishment district to protect and preserve groundwater supplies for beneficial uses (California Water Code , Section 10754, pursuant to section 60224 – 60226). ~~.~~ UWCD and the AB3030 Council will work closely with Ventura County Watershed Protection Groundwater Resources Section on any pertinent issues involving well construction and destruction.

3.5.10 Construction and Operation of Groundwater Contamination Cleanup, Recharge, Storage, Conservation, Recycling and Extraction Projects

As part of its authorization under the California Water Code, UWCD operates a variety of water conservation projects in and adjacent to the Piru and Fillmore basins. Facilities include Lake Piru and the Piru Spreading Grounds. It is the intent of this Plan to encourage the continuation of such operations, and any expansions that may be necessary.

3.5.11 Development of Relationships with State and Federal Regulatory Agencies

It is the intent of this Plan to operate under the requirements set forth by the variety of County, State and Federal agencies that have jurisdiction over various aspects of surface water and groundwater. Further development of relationships with some of these agencies through UWCD could be of benefit to basin management efforts.

~~This could be accomplished~~The development of these relationships can be ~~through~~accomplished through ~~assistance with~~cooperative studies, data sharing and ~~and~~ by grants ~~from from~~ the various agencies. The groundwater basins within UWCD have benefitted in the past from grants by the California Department of Water Resources. In addition UWCD works closely with the Los Angeles Regional Water Quality Control Board

on the issue of elevated chlorides in the Santa Clara River and east Piru basin groundwater that are emanating from Los Angeles County waste water treatment plant effluent.

It should be stressed, however, that this Plan was formulated to ensure local control of groundwater management and it is the intent of this Plan to foster this local control in as many aspects of the management of the basins as possible.

3.5.12 Review of Land Use Plans and Coordination with Land Use Planning Agencies

The Groundwater Management Act allows review of land use plans and coordination with land use planning agencies to assess activities which create a reasonable risk of groundwater contamination. In the Piru and Fillmore basins, land use planning is coordinated by the City of Fillmore (within City limits) and the County of Ventura. It is the intent of this Plan for the Council to play an active role in land use planning related to aquifer contamination and aquifer recharge. As an action item in this Plan, the Council will encourage the land use planning agencies to formally recognize the primary recharge areas for the basins as "Aquifer Recharge Areas". In addition the Council will encourage the land use planning agencies to establish provisions for the protection of recharge areas from elimination or from future potential threats of contamination.

In addition, the Council will encourage local planning departments to inform the Council of proposed projects that could impact the recharge areas. This may best be accomplished by having the Council on the mailing lists for all projects requiring environmental review in the Plan area.

To encourage coordination between this Management Plan, the AB 3030 Council and County government, the chairman of the Council will be appointed as the designated contact person. This contact person will meet with the local County Supervisor to discuss groundwater issues and help coordinate land use planning.

3.6 Recommended Future Strategies

3.6.1 Alternative Water Resources Management Plan (AWRM)

In 2008 A Memorandum of Understanding (AWRM M.O.U, 2008) was signed among the Santa Clarita Valley Sanitation District of Los Angeles County, Upper Basin Purveyors, United Water Conservation District and Ventura County Agricultural Water Quality Coalition. The M.O.U. agrees on a basin wide management approach for chloride mitigation which is referred to as the Alternative Water Resources Management (AWRM) Plan. The AWRM Plan involves lowering chlorides in the Santa Clara River upstream of the Ventura/Los Angeles County line and exporting high chloride groundwater from the east Piru basin. The AWRM plan was an integral part of the upper Santa Clara River TMDL approved by the Los Angeles Regional Water Quality Control Board to achieve compliance (Los Angeles Regional Water Quality Control Board, 2008).

The AWRM plan proposes the construction of a small reverse osmosis plant at the Valencia Water Reclamation Plant, allowing the use of approximately 3 mgd of reverse osmosis permeate as a source of dilution water. The reverse osmosis permeate will either be discharged for blending in the Santa Clara River near the County line, or

used for blending with high chloride groundwater pumped from the east Piru basin. The brine from the reverse osmosis plant will be injected into old oil field wells located in Los Angeles County.

A well field of approximately ten wells would be constructed in the east Piru basin. High chloride groundwater will be pumped and blended with the reverse osmosis permeate. A pipeline would be constructed to convey this blended water to near the Fillmore Fish Hatchery at the west end of the Piru basin, where it will be discharged to the Santa Clara River. The intent is to have the water flow to the Freeman Diversion, and not recharge the Fillmore Basin. The pipeline is necessary to get the blended water around the "dry gap" in the central portion of the Piru basin. The chloride concentration of the blended water cannot exceed 95 mg/L.

This project will require adjustments to a number of surface water and groundwater water quality objectives. The current Santa Clara River surface water quality objective of 100 mg/L chloride will be maintained west of Piru Creek. The AWRM plan proposes the chloride surface water quality objective east of the County line be revised from 100 mg/L to 150 mg/L chloride, and the surface water quality objective in the east Piru basin be revised from 100 mg/ L to 117 mg/L. During drought periods, when chloride in Castaic Lake exceeds 80 mg/L, surface water quality concentrations of up to 130 mg/L would be allowed in east Piru. The goal, however, is to maintain a 117 mg/L chloride concentration in the Santa Clara River at the County line. Groundwater affected by the higher chloride concentrations allowed during drought periods would later be exported from the basin.

During droughts, growers of salt-sensitive crops in eastern Piru basin, including Rancho Camulos, will be protected by the delivery of supplemental water pumped from the Saugus formation in the Eastern groundwater basin. Water pumped from the Saugus formation may also be used to dilute chlorides to achieve compliance in the Santa Clara River in the lower reaches west of the County line. Water will be imported from CLWA to replace supplemental water pumped from the Saugus formation (Sanitation Districts of Los Angeles County, 2013).

Pumping from the well field can occur during dry years but most of the pumping will occur in average and wet years. During wet years the Piru basin will fill back up with low chloride water from precipitation runoff. Much of the blended water discharged near the Fish Hatchery is expected to reach the Freeman Diversion and be routed to irrigation pipelines to help mitigate the salt load associated with seawater intrusion associated with the persistent pumping in coastal areas. The well field and pipeline would be financed by the Los Angeles County Sanitation District and operated by UWCD. When reverse osmosis permeate is used as dilution water in the Santa Clara River it will be not available for blending with water from the Piru well field.

Additional elements of the AWRM plan program include the reduction of chloride in waste water effluent with the use of UV disinfection and the elimination of self regenerating water softeners (the City of Santa Clarita voted in November 2008 to prohibit self regenerating water softeners).

To insure protection of downstream water quality an NPDES permit will be needed for discharge near the west end of the Piru basin. In addition, increased monitoring in the Fillmore and Santa Paula Basins, and an extension of the Groundwater/Surface Water Interaction chloride transport model to the Freeman Diversion will be needed.

On December 11, 2008 the Los Angeles Regional Water Quality Control Board approved the proposed changes in the surface water quality objectives outlined in the AWRM M.O.U. provided that all aspects of the AWRM plan are in place. Resolution No. R4-2008-012 (Los Angeles Regional Water Quality Control Board, 2008) established a May 4, 2015 deadline for the County Sanitation Districts of Los Angeles County to meet the 117 mg/L chloride objective in Santa Clara River in the east Piru basin with the AWRM plan in place, or the 100 mg/L chloride objective in Santa Clara River in the east Piru basin without the AWRM plan in place.

As of 2011, the Santa Clarita Valley Sanitation District had not approved a rate increase to finance the initial steps of the AWRM plan project. The lack of progress is primarily due to the objection by constituents to the proposed increases in sewer rates.

In April 2013 the Santa Clarita Valley Sanitation District released a public review draft of their "Chloride Compliance Facilities Plan and Environmental Impact Report (EIR)" (Sanitation Districts of Los Angeles County, 2013). The draft EIR includes discussion of the "Ooriginal AWRM" Plan" as described above but also a less costly "Ppphased AWRM" Plan".

The "Ppphased AWRM Plan" is similar to the "Ooriginal AWRM Plan" but consists of two phases and is thought to be feasible due to the chloride reduction resulting from the City of Santa Clarita elimination of self-regenerating water softeners and the benefit that will be received from the Bay Delta Conveyance Facility proposed for completion in 2025. Phase I involves meeting water quality objectives in Santa Clara River reach 4B in the east Piru basin without a costly reverse osmosis plant and reverse osmosis product pipeline. It would involve the construction of UV disinfection facilities at both the Saugus and Valencia waste water treatment plants, two well fields in the Piru basin, supplemental water pumped from Saugus formation wells in the Eastern groundwater basin which would be added to the Valencia WRP discharge to meet chloride limits in reach 4B during peak conditions, water imported by Castaic Lake Water Agency (CLWA) on behalf of Santa Clarita Valley Sanitation District, and progress on the Bay Delta Conveyance Facility (Sanitation Districts of Los Angeles County, 2013).

High chloride groundwater from a well field in the east Piru basin would be pumped and mixed with low chloride groundwater pumped from a well field in the west Piru basin. The blended water would then be released downstream via pipeline into the Santa Clara River near the Fillmore Fish Hatchery (Sanitation Districts of Los Angeles County 2013). During wet years the Piru basin will fill back up with low chloride water from precipitation runoff.

If chloride objectives are not being met and progress is not being made on the Bay Delta Conveyance Facility then Phase II would be implemented. This would involve the construction of a reverse osmosis facility, a brine disposal system and a reverse osmosis product delivery pipeline (Sanitation Districts of Los Angeles County 2013).

-The Santa Clarita Valley Sanitation District wants to have the Final EIR before the Los Angeles Regional Water Quality Control Board by September 2013. If ~~either the~~ the "Ooriginal AWRM Plan" ,the ~~or~~ "Phased~~regular~~ AWRM Plan" or other plan is adopted, UWCD is confident that it has sufficient groundwater level, groundwater quality, surface water flow and surface water quality historical data, and current monitoring in place to be able to evaluate the impacts of the project to the Piru and Fillmore basins.

On October 28, 2013 the Sanitation District plans on selecting a chloride reduction plan for future implementation.

3.6.2 Salt and Nutrient Management

In November 2008 the State Water Resources Control Board adopted a statewide recycled water policy that encourages the increase in use of recycled water. The policy calls for the increase in the use of recycled water over 2002 levels by one million acre-feet by 2020 and 2 million acre-feet by 2030 (California State Water Resources Control Board, 2008). The policy also calls for the adoption of salt/nutrient management plans for all groundwater basins in California by 2014. This would require that local water agencies, waste water agencies and other stake holders prepare a salt/nutrient management plan for each basin/subbasin in California. This would include compliance with CEQA and participation by the Regional Water Quality Control Board. The purpose of these plans is to insure that recharging of recycled water or increase of direct use will not adversely impact the groundwater quality of California groundwater basins.

The salt/nutrient management plan will be a formal report that will include each groundwater basin within Ventura County. The ~~current intention is that the~~ Ventura County Watershed Protection District ~~will serve~~is serving as the lead agency for the plan for the groundwater basins of the lower Santa Clara River. In the Piru and Fillmore basins all recycled wastewater is currently used as irrigation water or percolated to groundwater and it is unlikely that future salt loading from the facilities will change in the near future from current conditions. To view the State Boards recycled water policy visit: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/

3.6.3 Storm Floodwater Management for Groundwater Replenishment

In addition to the increased use of recycled waste water use, the State's recycled water policy sets a goal to increase the use of storm water for groundwater replenishment. The goal is to increase storm water use over 2007 use by at least 500,000 acre-feet by 2020 and one million acre-feet by 2030 (California State Water Resources Control Board, 2008).

Storm f~~F~~lood water management falls under the jurisdiction of the Ventura County Watershed Protection District. In the future the Piru Spreading grounds could possibly be used to capture and recharge storm flood flows.

3.6.4 Waste Water Recycling

As mentioned previously in this Plan, both the Piru Waste Water Reclamation Plant and the Fillmore Waste Water Reclamation Plant have been recently modified and expanded. The Fillmore Waste Water Reclamation Plant is currently recycling approximately 480 acre-feet per year or 49% of their total effluent to two schools, a park and a railroad right of way (American Water, 2013).

The Piru Waste Water Reclamation Plant is an advanced secondary treatment plant and currently does not recycle any effluent. However there are future plans to recycle 100% of the effluent to adjacent citrus groves.

Ventura County Water Works District has received a Proposition 84 grant from the state for initial funding for the construction of a tertiary treatment plant which will enable the recycling of waste water effluent (Ventura County Water Works District No. 16, 2013b).

3.6.5 Conjunctive Use Projects

The Piru and Fillmore basins have historically filled in the wet years 1983, 1993 1995, 1998 2005 as the sediments in these basins are highly permeable and easily recharged by the Santa Clara River. This is evidenced by the hydrographs in Figure 11 and Figure 21 which show the basins filling rapidly in these years. During these years recharge of surface water from the Santa Clara River may be rejected. Some of this excess surface water could be captured if additional groundwater is pumped to create available aquifer storage. This pumped groundwater could be utilized in basins that do not recharge as easily as the Piru and Fillmore basins, such as the Santa Paula basin. The location and timing of this additional pumping would have to be carefully evaluated.

3.6.6 Drought Plan for Groundwater Pumping

There is currently no pumping restrictions or drought plan established for agricultural pumping within the Piru and Fillmore basins. There is, however, a water shortage contingency plan for the City of Fillmore, which is contained in the City of Fillmore 2005 Urban Water Management Plan (City of Fillmore, 2005). The City which obtains 100% of its water from groundwater pumping has four stages of action which are shown in Table 11 below.

Table 11. City of Fillmore Water Shortage Contingency Plan Customer Reduction Goals

Water Supply Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	15%	Voluntary
15-25%	II	25%	Mandatory
25-35%	III	35%	Mandatory
35-50%	IV	50% or >	Mandatory

The priority use during a shortage is ranked as follows:

1) Minimum health and safety allocations for interior residential needs (includes single family, multifamily, hospitals and convalescent facilities, retirement and mobile home communities, and student housing, and fire fighting and public safety)
2) Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors) to maintain jobs and economic base and community (not for landscape uses)
3) Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production)

4) Annual agriculture (floriculture, strawberries, other truck crops)
5) Existing Landscaping
6) New customers, proposed projects without permits when shortage declared

3.6.7 Groundwater Storage

UWCD has plans to evaluate oil well and water well electrical logs in both the Piru and Fillmore basins. This work will assist in the calculation of groundwater basin storage based on the depth of fresh water, specific yield values and well depths. Currently only changes in groundwater storage are calculated, but not total basin storage.

3.6.8 Groundwater Modeling

UWCD's Groundwater Department has plans to rebuild and recalibrate the Ventura Regional Groundwater Model. Once the model is rebuilt and recalibrated it will be tool to assist in evaluating water supply projects within the Piru and Fillmore basins. It can also potentially be used as a tool to assist in calculating the safe yield of the basins.

3.6.9 Groundwater Management Plan Updates

The AB 3030 Groundwater Management Plan will be updated every 5 years with input from the AB 3030 management council, UWCD and the Public.

3.7 Implementation of the Groundwater Management Plan (Action Items)

3.7.1 Monitoring

Monitoring of groundwater and surface water conditions in the Piru and Fillmore basins is currently conducted by UWCD, Ventura County water Resources, and the US Geological Survey (under contract to UWCD). This monitoring includes maintaining monitoring wells, stream gauges, measurement of groundwater levels, surface water flows, sampling for surface water and groundwater quality, compilation and analyses of monitoring results, and collecting groundwater pumping information related to the District's groundwater extraction fees. UWCD will evaluate the present monitoring network, and add any monitoring as needed. Figure 28 shows a map of wells used to monitor groundwater elevations. Figures 15-17 and Figures 25-26 show wells and surface water sites monitored for water quality.

A Biennial Report on groundwater conditions in the Piru and Fillmore basins will be prepared by UWCD and presented to the Groundwater Council for review. This Biennial Report will include a summary of groundwater elevations during the year from key wells, groundwater quality, surface water quality, new wells constructed and abandoned in the basins, and annual extractions. Changes in groundwater conditions will be noted, and critical trends will be identified. If indications of overdraft are noted, the report will include an analysis of these conditions and a recommendation on how to address the cause(s) of the overdraft.

3.7.2 Groundwater Exports

A groundwater export policy has been written that requires a written application for any new groundwater pumping that will extract water for export, in excess of 5 ac-ft/yr, outside of the Piru basin or Fillmore basin. This policy will minimize the potential of over-pumping related to groundwater exports. The export policy is included as Appendix A of the GMP.

3.7.3 Appointment of Contact to County

The chairman of the AB 3030 Council will be appointed as the designated contact person to the County. This will encourage coordination between this management plan, the AB 3030 Council, and Ventura County government. Contact with the County supervisor, County planning and County Watershed Protection District will be necessary. The chairman will report to the Council the results of the meetings.

3.7.4 Protection of Recharge Areas

The AB 3030 Council will ensure that its name is on the list of appropriate organizations to be notified during environmental review of projects in the Plan area. The Chairman of the Council will work with Ventura County Planning to establish protection areas for prime recharge areas of the basins with the designation of "Aquifer Recharge Areas". Likewise, the Council representatives from the City of Fillmore will work with City of Fillmore planners for the same purpose.

The United Water Conservation District Groundwater staff and the Ventura County Watershed Protection District Groundwater Resources Section staff will serve as a technical resource to the various planning agencies.

3.7.5 Groundwater Council Meetings

The Piru and Fillmore Basin AB 3030 Groundwater Management Council shall meet at least biannually to coordinate the groundwater management program. The Council will receive a presentation by UWCD on the annual groundwater conditions, and review the Biennial Report. The Council may consider any changes to the Plan recommended by any member of the Council, using the procedures formulated in the Agreement section of this Plan.

3.7.6 Implementation Schedule

The following schedule will be used in implementing the Groundwater Management Plan:

Table 12. Groundwater Management Plan Implementation Schedule

Plan Item	Description	Implementation Timeline	Status
Monitoring - GW Levels , Surface Water Flow, GW and SW Quality	Collection of groundwater levels, surface water flows and water quality data	Ongoing activity	Currently performed by UWCD, County and USGS; data compiled by UWCD
Biennial Report	Prepare a summary report of the groundwater and surface water conditions	Biennial	Prepared by UWCD for review by Council
Groundwater Exports	A written plan to review project applications to extract water for export or use outside of the basin	A plan for written application for groundwater export wells has been adopted as part of this GMP	Water Export Plan/Application included as Appendix to this GMP
Appointment of Contact to County	Council member to be liaison with County government	Chairman of Groundwater Management Council will assume the responsibility of being the liaison with County Supervisor upon appointment	Chairman of Groundwater Management Council automatically assumes the liaison role
Protection of Recharge Areas	Council member to work with County agencies to protect prime recharge areas.	Chairman of Groundwater Management Council will assume the responsibility of being the liaison with County agencies upon appointment	Chairman of Groundwater Management Council automatically assumes the liaison role
Groundwater Council Meetings	Minimum of biannual meetings (2X/year) to discuss: Biennial Report, groundwater conditions (in relation to BMOs), changes to GMP, other issues pertinent to groundwater management	Implement annual and mid-year meetings; more frequent meetings may be requested by the Groundwater Management Council or UWCD if needed	Quarterly meetings are currently being held

Plan Item	Description	Implementation Timeline	Status
Safe Yield Analysis	Regional groundwater model will be used for safe-yield estimate for the basins.	Time line is based on the availability of the rebuilt regional groundwater model.	The availability of the rebuilt regional groundwater model is at least one year away.
Basin-Wide Drought Contingency Plan	Safe yield estimate from the regional groundwater model will be used to formulate a drought plan for all Agricultural and MI&D pumpers..	Time line is based on the availability of the rebuilt regional groundwater model.	The availability of the rebuilt regional groundwater model is at least one year away.

4 REFERENCES

AB 3030 Plan: M.O.U., 2013, Memorandum of Understanding among United Water Conservation District, City of Fillmore , and Piru and Fillmore Basin Pumpers regarding Groundwater Basin Management in the Fillmore/Piru Groundwater Basins, xxxxx 2013 ,xx pp. (THIS M.O.U. IS NOT PRESENTLY AVAILABLE)

AB 3030 Plan: M.O.U., 2013b, Memorandum of Understanding between United Water Conservation District and Castaic Lake Water Agency regarding Groundwater Basin Management in the Portion of the Piru Groundwater Basin Located within CLWA, xxxxx 2013 ,xx pp. (THIS M.O.U. IS NOT PRESENTLY AVAILABLE)

AB 3030 Plan: M.O.U., 1995, Memorandum of Understanding regarding Groundwater Basin Management in the Fillmore/Piru Groundwater Basins, September 1995, 10 pp.

American Water, 2013, City of Fillmore Water Recycling Plant, Non-NPDES Permit No. CI-1076, File No. 54-105, Annual 2012.

AWRM Plan: M.O.U., 2008, Memorandum of Understanding for Implementation of an Alternative Water Resources Management Program among the Santa Clarita Valley Sanitation District of Los Angeles County, Upper Basin Water Purveyors, United Water Conservation District, and Ventra County Agricultural Water Coalition, 16pp.

California Department of Water Resources, 1989, Update of Basin Plan for Piru, Sespe and Santa Paula Hydrologic Areas, June 1989, 189 pp.

California Department of Water Resources, 1980, Groundwater Basins in California, A Report to the Legislature in Response to Water Code Section 12924, Bulletin 118-80, 85 pp.

California State Water Resources Control Board, 2008, Recycled Water Policy, 14 pp.

City of Fillmore, 2005, 2005 Urban Water Management Plan, 53 pp.

County Sanitation Districts of Los Angeles County, 2013, Valencia Water Reclamation Plant, NPDES Annual Monitoring Report, 2012, www.waterboards.ca.gov/ciwqs.

County Sanitation Districts of Los Angeles County, 2013b, Saugus Water Reclamation Plant, NPDES Annual Monitoring Report, 2012, www.waterboards.ca.gov/ciwqs.

Hem, 1989, Study and Interpretation of the Chemical Characteristics of Natural Water, 263 pp.

Legislative Counsel's Digest, 2002, Senate Bill 1938, Machado, CHAPTER 603, 6pp.

Los Angeles Regional Water Quality Control Board, 2008, Resolution No. R4-2008-012.

Los Angeles Regional Water Quality Control Board, 1994, Water Quality Control Plan, Los Angeles Region; Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.

Klinchuch, Leslie, 2013, Chevron Environmental Management Company, Personal Communication.

Mann, J.F., Jr., 1959, A Plan for Groundwater Management, United Water Conservation District: Report to United Water Conservation District, 120p.

Piru/Fillmore Groundwater Planning Council, 1996, AB 3030 Groundwater Management Plan for Piru/Fillmore Basins, 30 pp.

RTF&A, 2013, 2012 Annual Groundwater Monitoring Report, Chiquita Canyon Landfill, Compliance File No. CI-6231, Castaic California *for* Chiquita Canyon Landfill, February 15, 2015.

Sanitation Districts of Los Angeles County, 2013, Draft Santa Clarita valley Sanitation District Chloide Compliance Facilities Plan and Environmental Impact Report, April 2013, SCH# 2012011010.

United Water Conservation District, 2013, 2010 and 2011 Piru and Fillmore Basins AB3030 Biennial Groundwater Conditions Report.

United Water Conservation District, 2013b, Personal Communication with Murray McEachron, UWCD hydrologist.

United Water Conservation District, 2011, Personal Communication with Murray McEachron, UWCD hydrologist.

United Water Conservation District, 2011b, Santa Clara River Watershed Sanitary Survey Update prepared by Linda Purpus and Craig Morgan; System Numbers: 5610046 & 5601706; Reporting Period: January 1, 2006 through December 31, 2010.

United Water Conservation District, 2006, Chloride in the Piru Basin, Steven Bachman and Daniel Detmer, April 2006.

University of California, 2011, New Ag Waivers from Two Regional Water quality Control Boards, UCFNA News, Winter 2011 Edition, Volume 5. Issue 1.

USGS, 2013, USGS Surface-Water Daily Data for California, http waterdata.usgs.gov.

Ventura County Watershed Protection District, 2006, GIS Shape Files of Public and Private Water Purveyors.

Ventura County Waterworks District No. 16, 2013, Piru Wastewater Treatment Plant 2012 Annual Summary Report.

Ventura County Water Works District No. 16, 2013b, Personal Communication with Al Sexton.

Ventura County Water Works District No. 16, 2011, Personal Communication with Al Sexton.

Ventura County Water Works District No. 16, 2010, Personal Communication with Al Sexton.

Ventura County Watershed Protection District, 2011, Personal Communication with Arnie Anselm.

Ventura County Watershed protection District Water Resources Section, 2013, Personal Communication with Jeff Dorrington.

Ventura Regional Sanitation District, 2011, 2010 Annual Summary Report & Spring/Summer 2011 Semi-Annual Monitoring Report Toland Landfill, April 28, 2011.

5 FIGURES

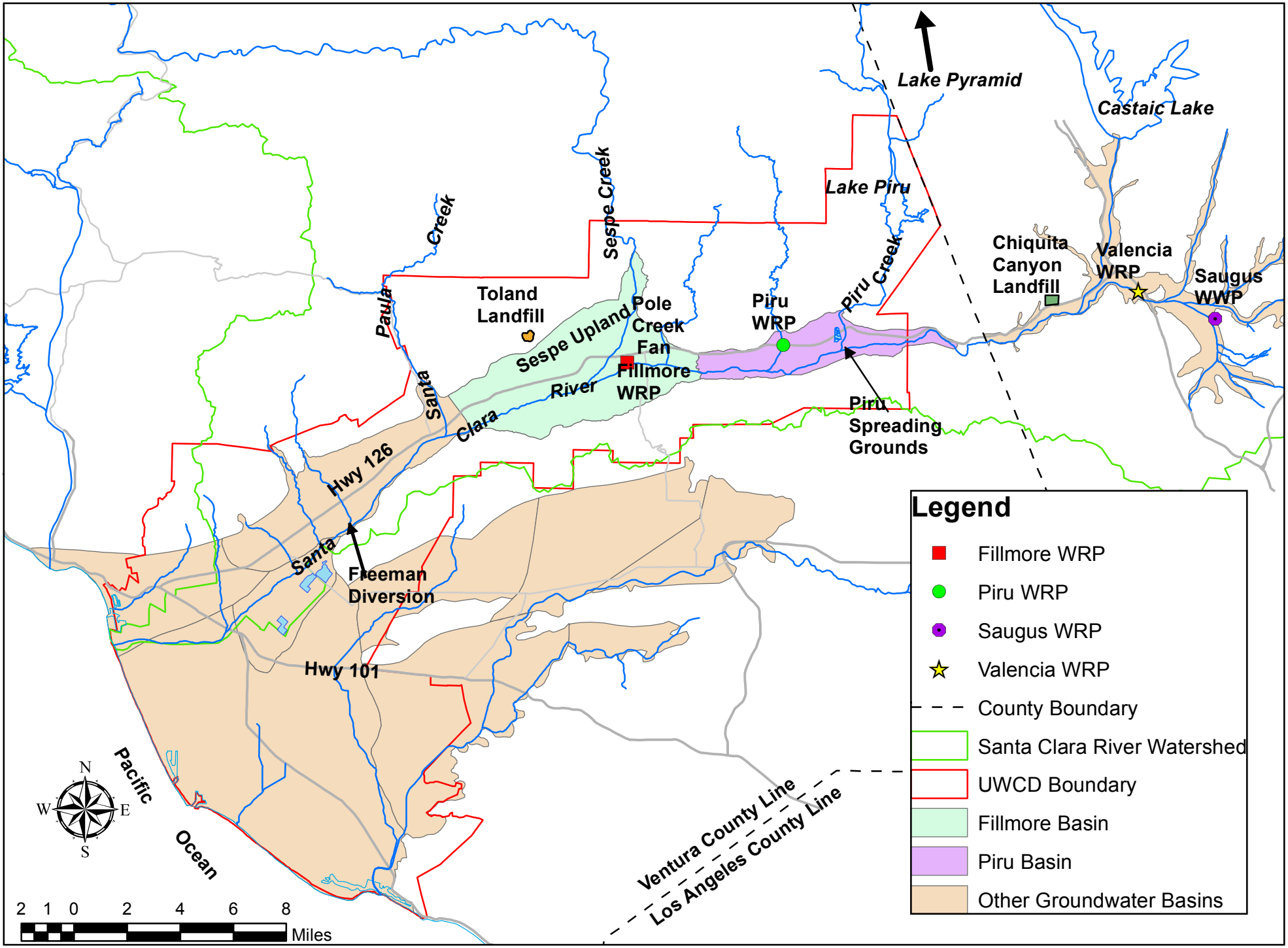


Figure 1. Regional location map

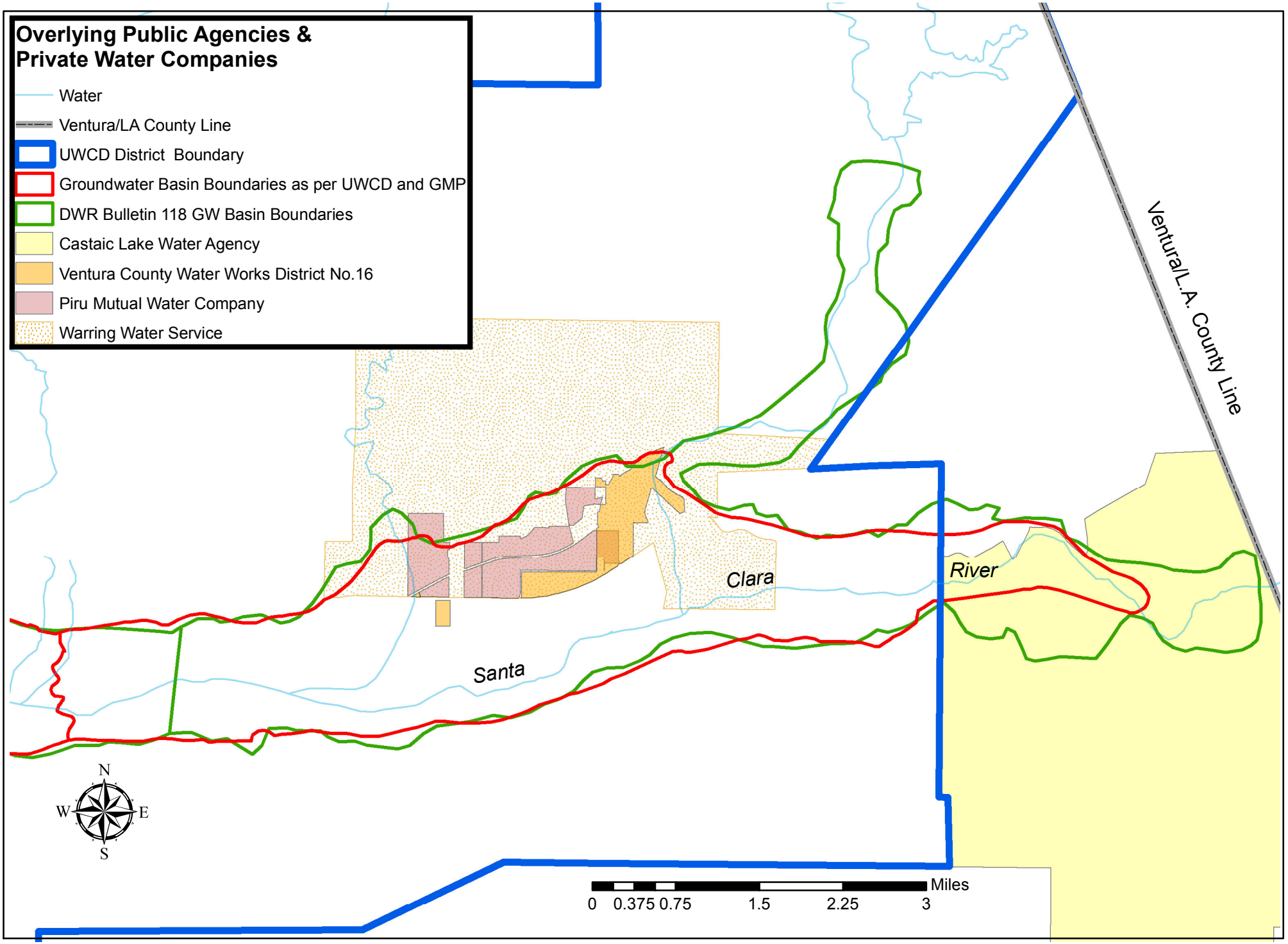


Figure 2. Piru Basin Overlying Public Agencies and Private Water Companies

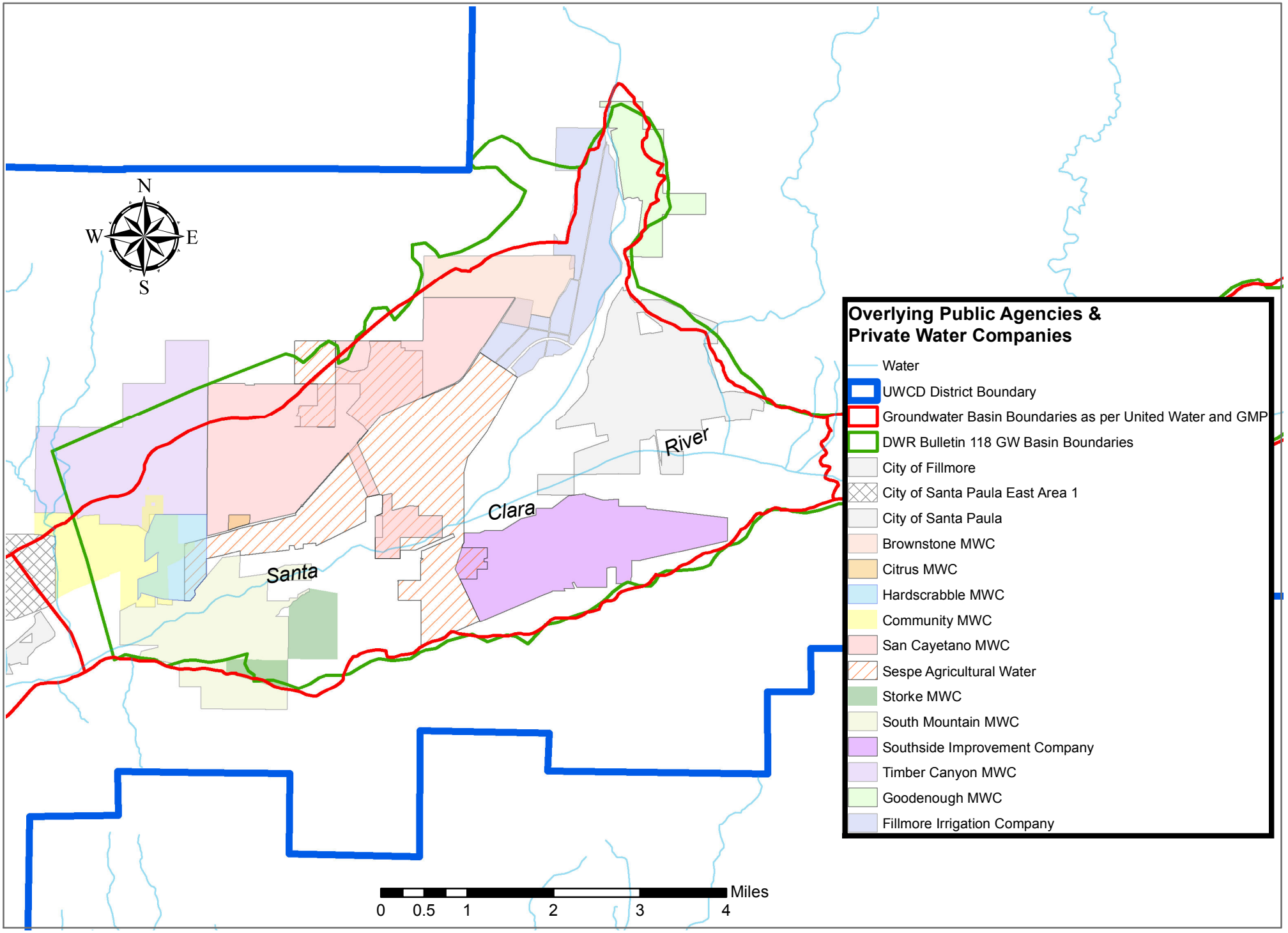


Figure 3. Fillmore Basin Overlying Public Agencies and Private Water Companies

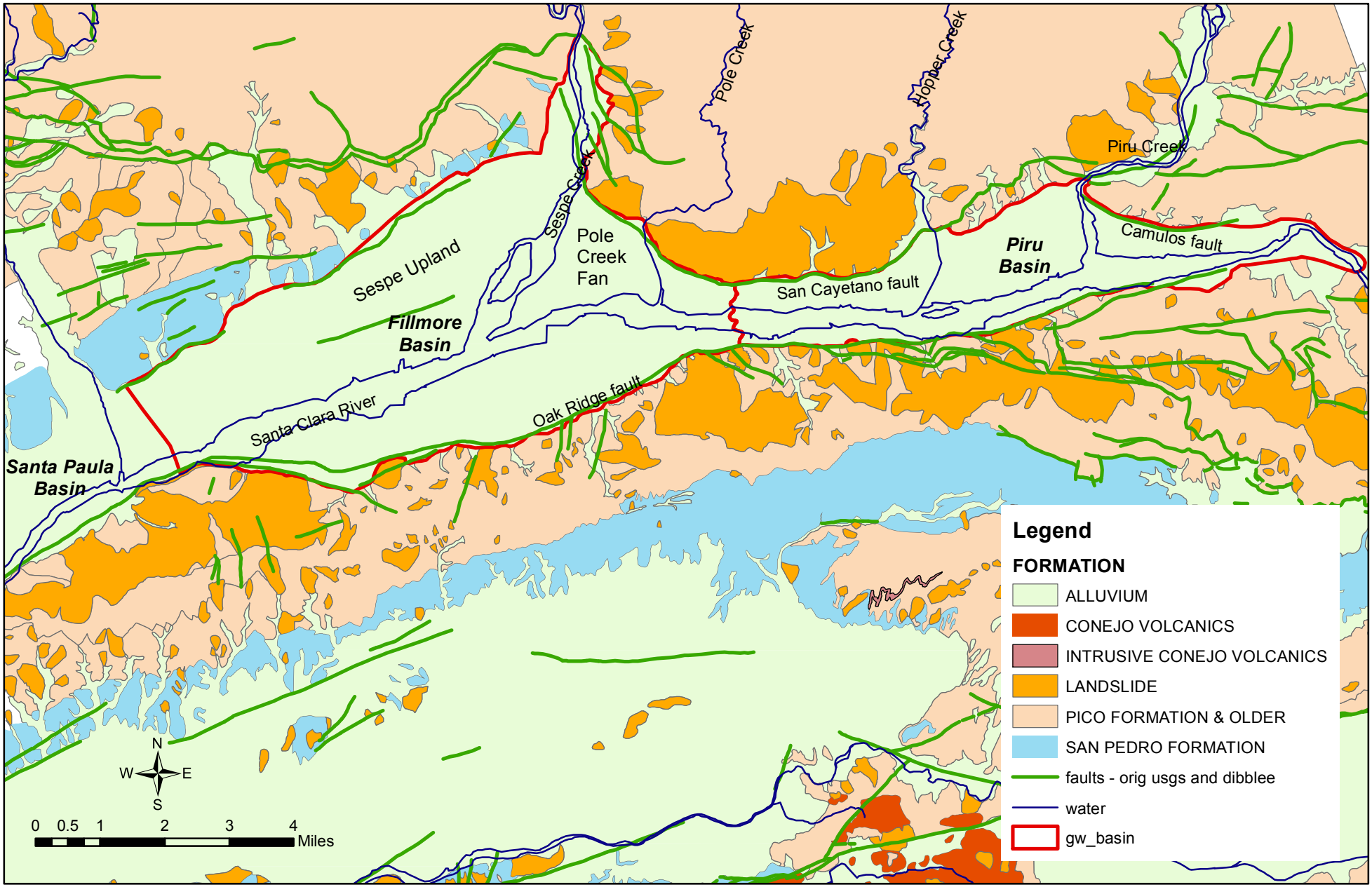


Figure 4. Surface Geology Map

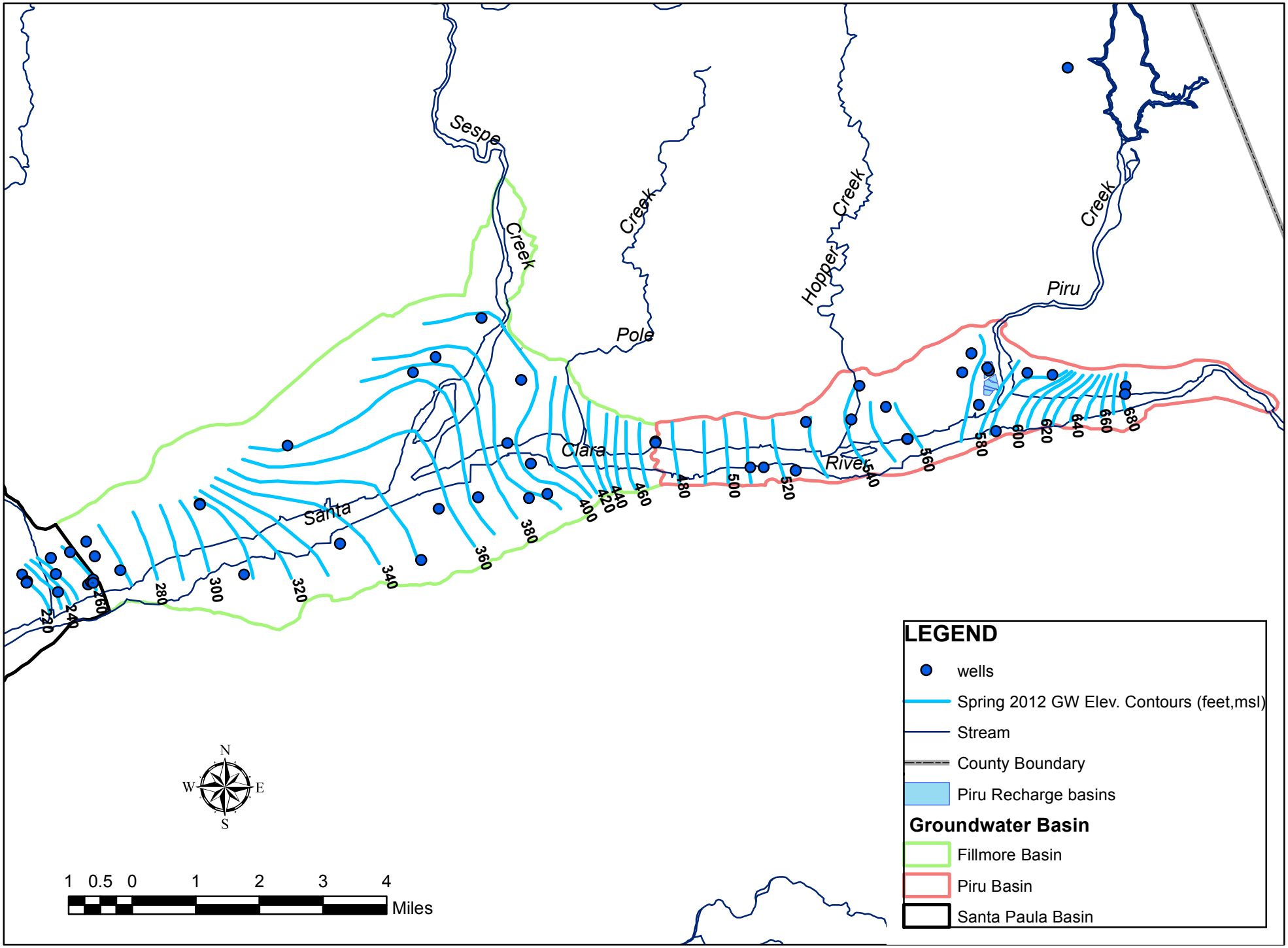


Figure 5. Spring 2012 Groundwater Elevation Contours

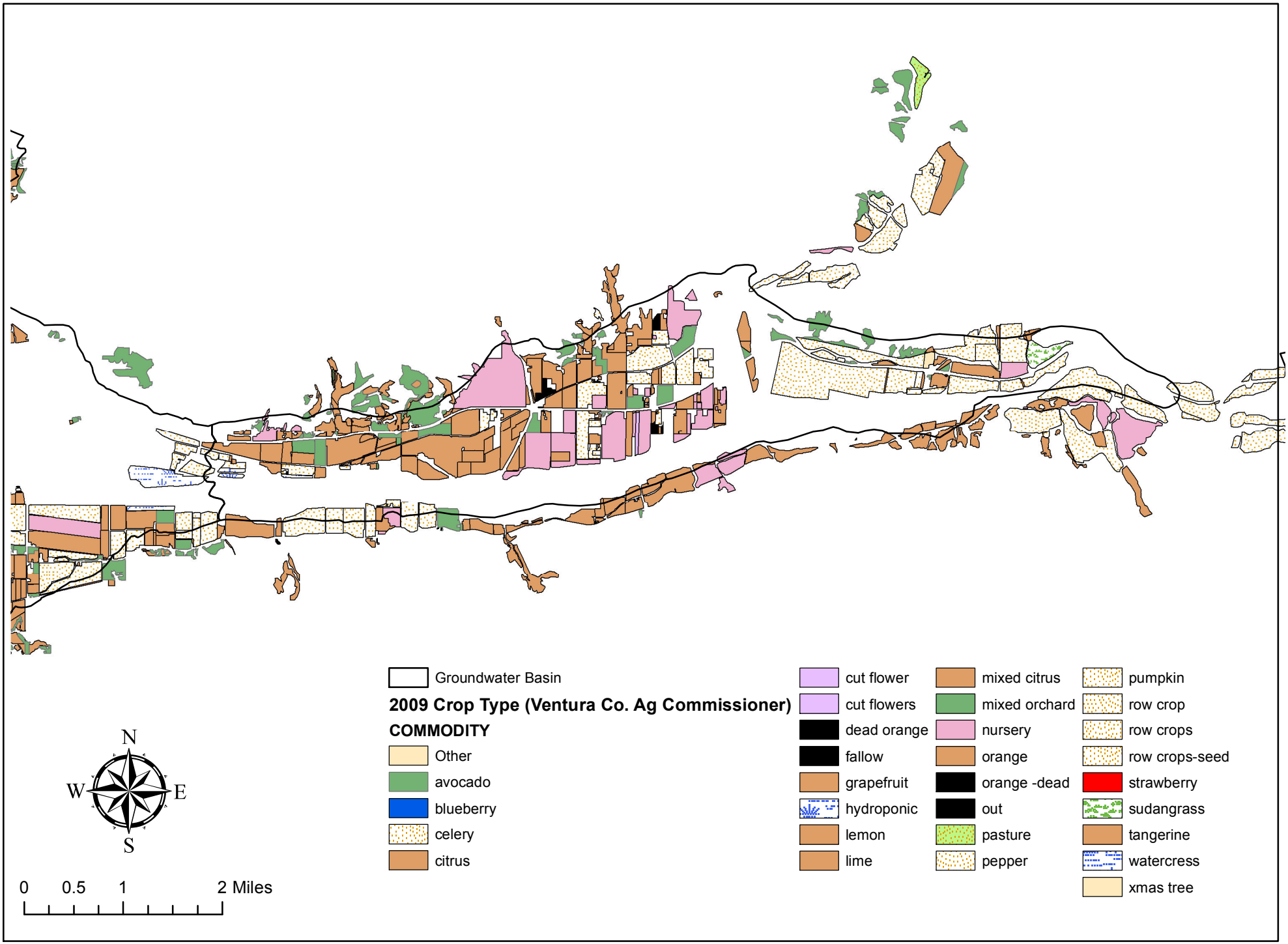


Figure 6. Piru Basin Crop Types

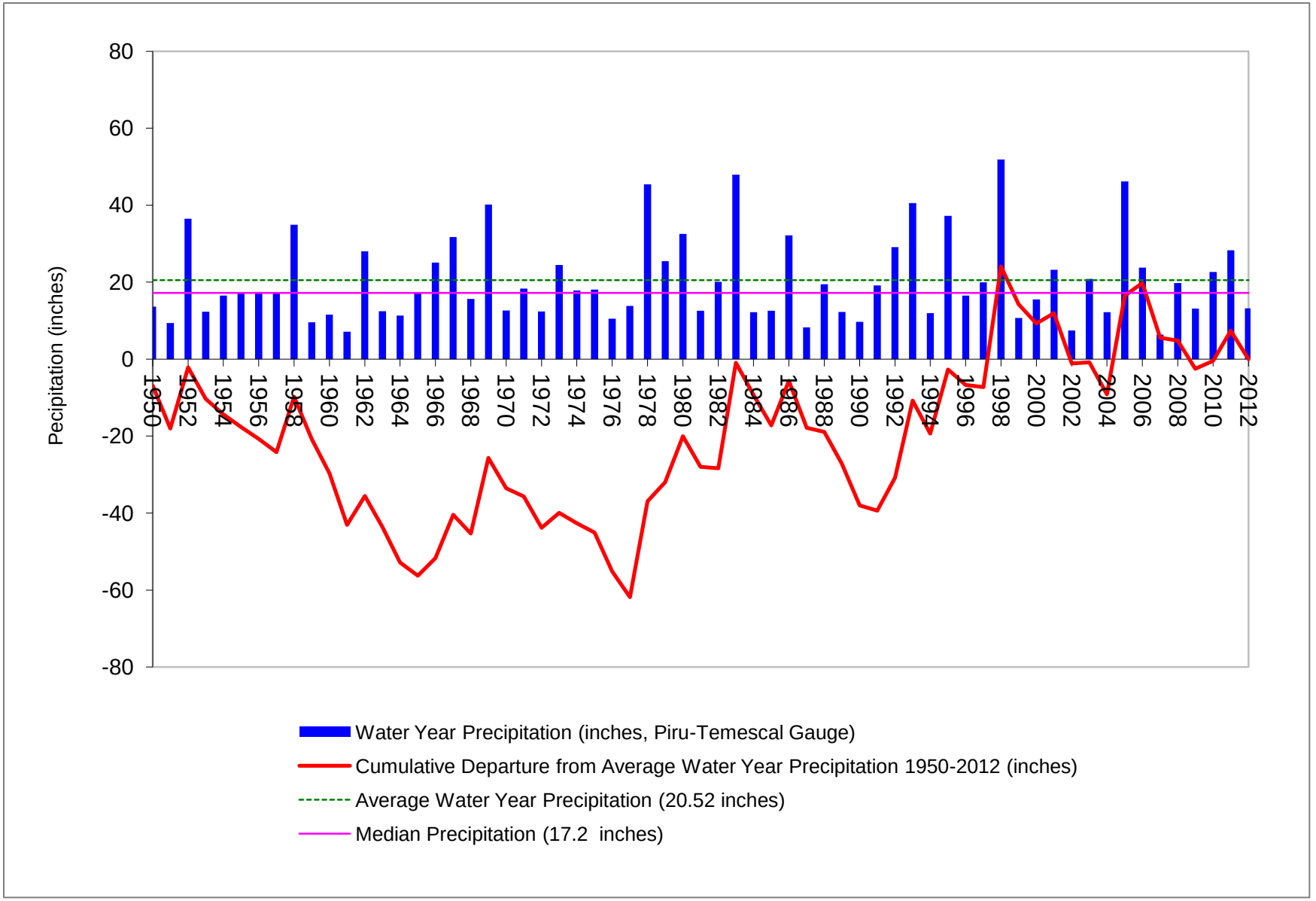


Figure 7. Piru Basin Historical Annual Precipitation

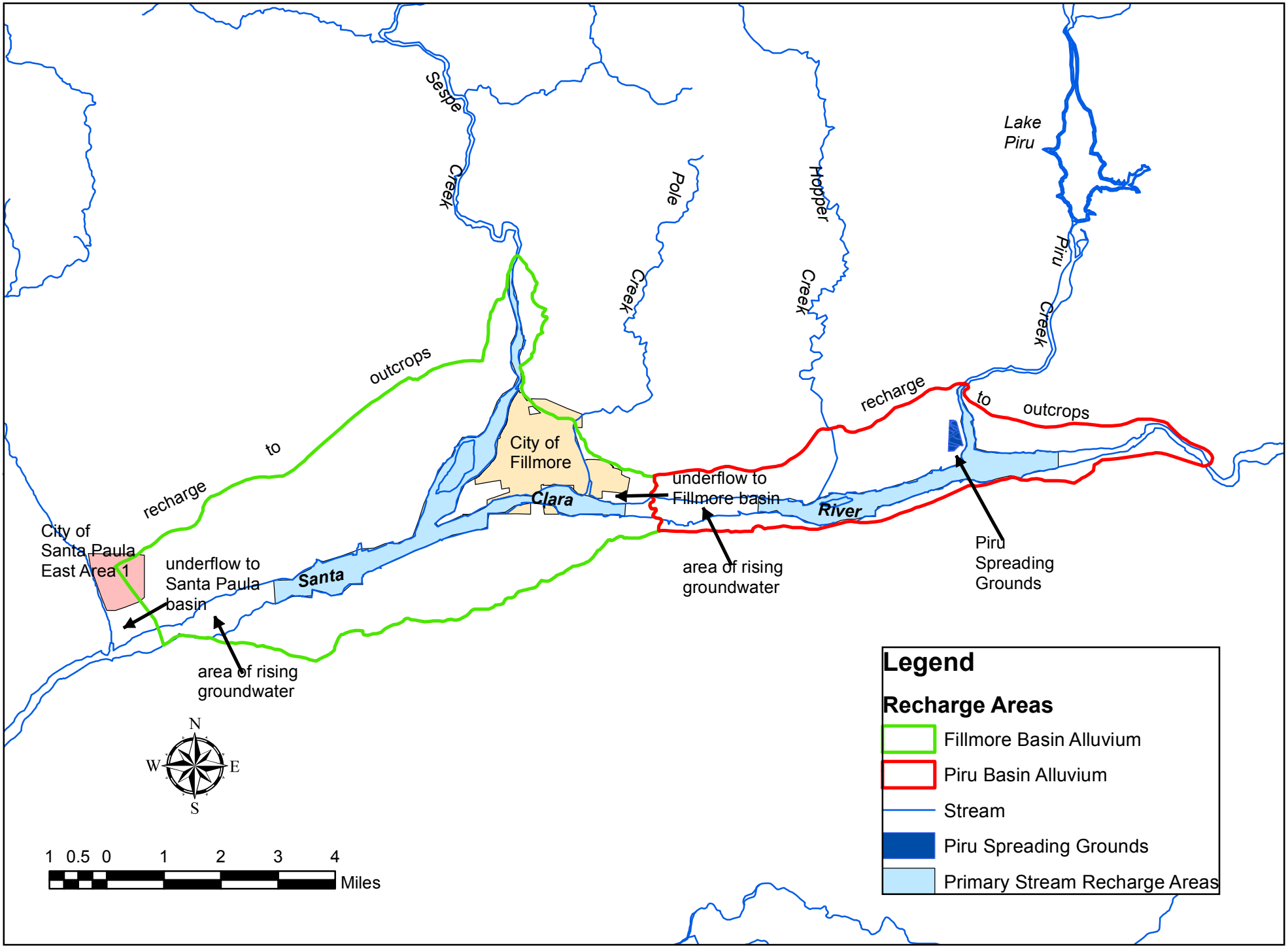


Figure 8. Map of Groundwater Recharge Areas

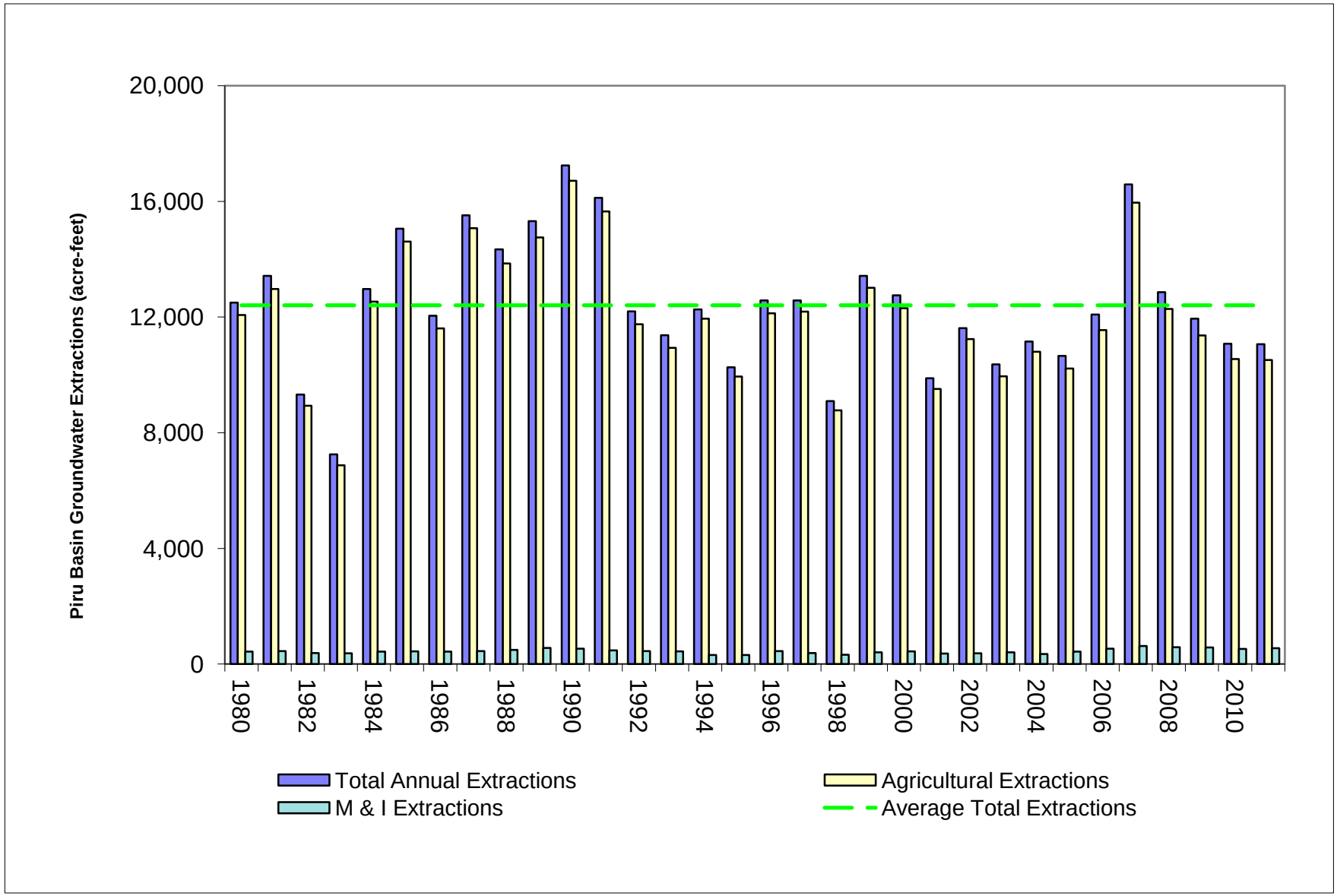


Figure 9. Graph of Piru Basin Historical Annual Groundwater Extractions (as reported to UWCD)

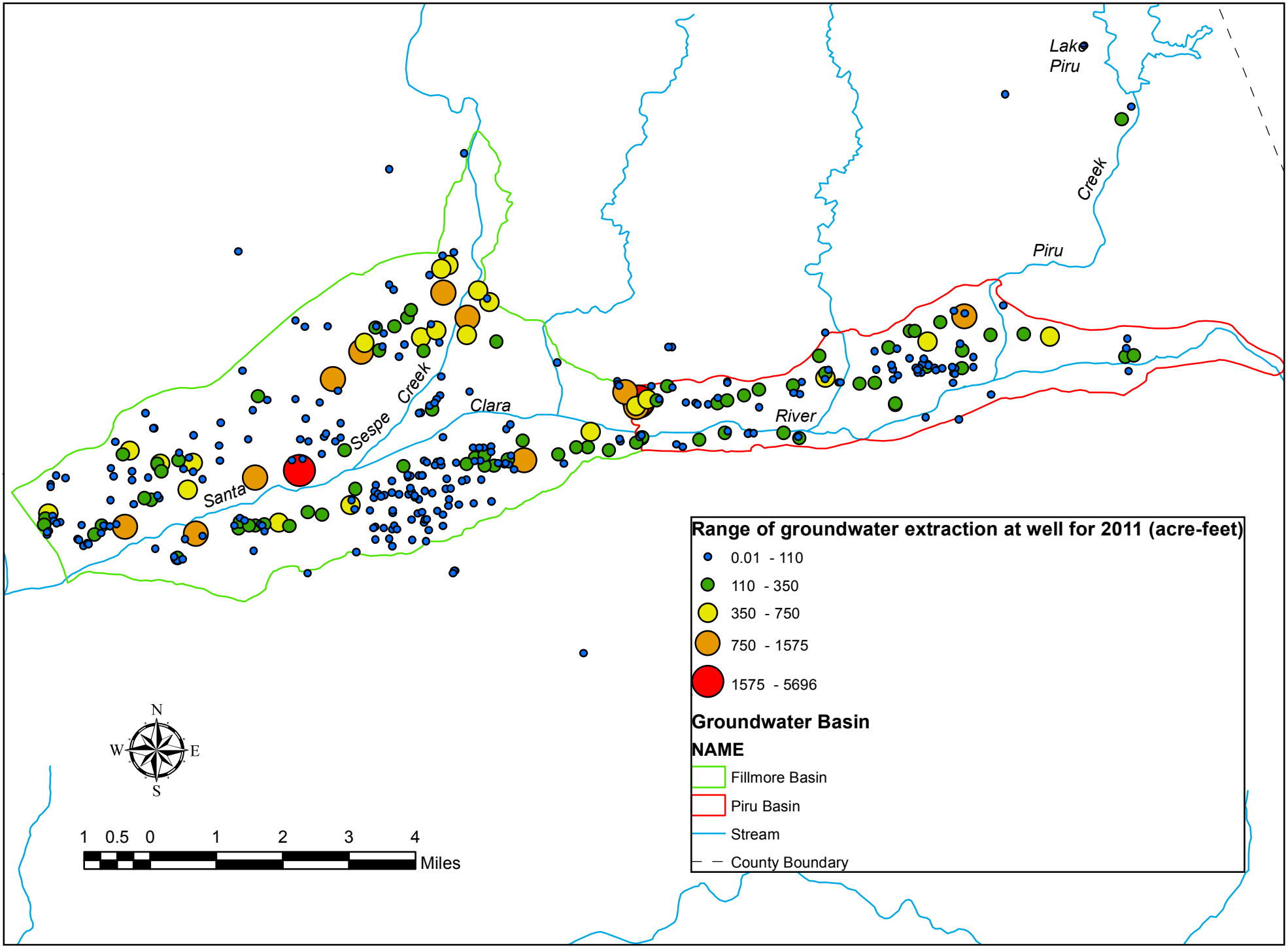


Figure 10. Map of Piru and Fillmore Basin Goundwater Extractions by Well Location for 2011

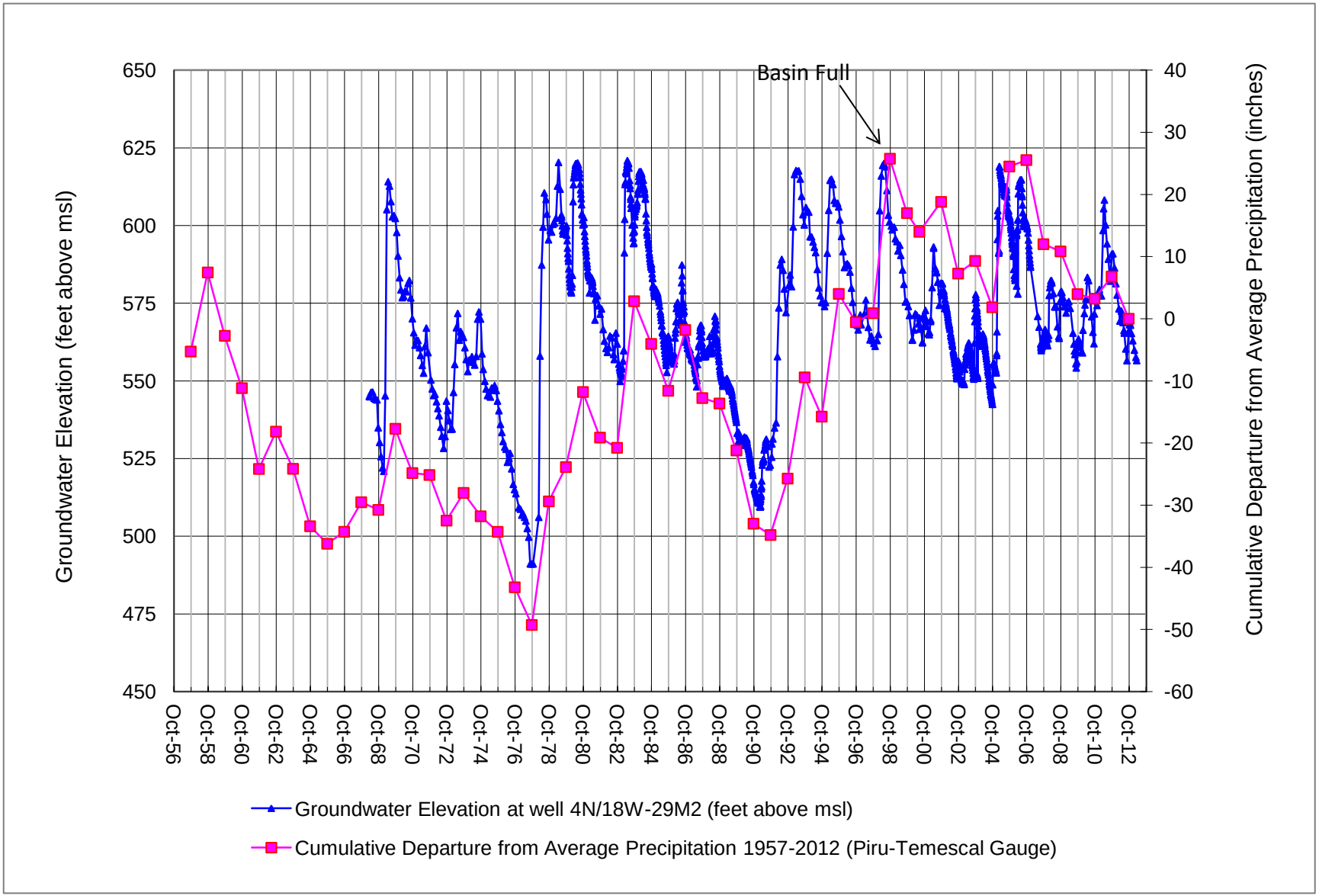


Figure 11. Piru Basin Groundwater Elevation Hydrograph and Cumulative Departure from Average Precipitation

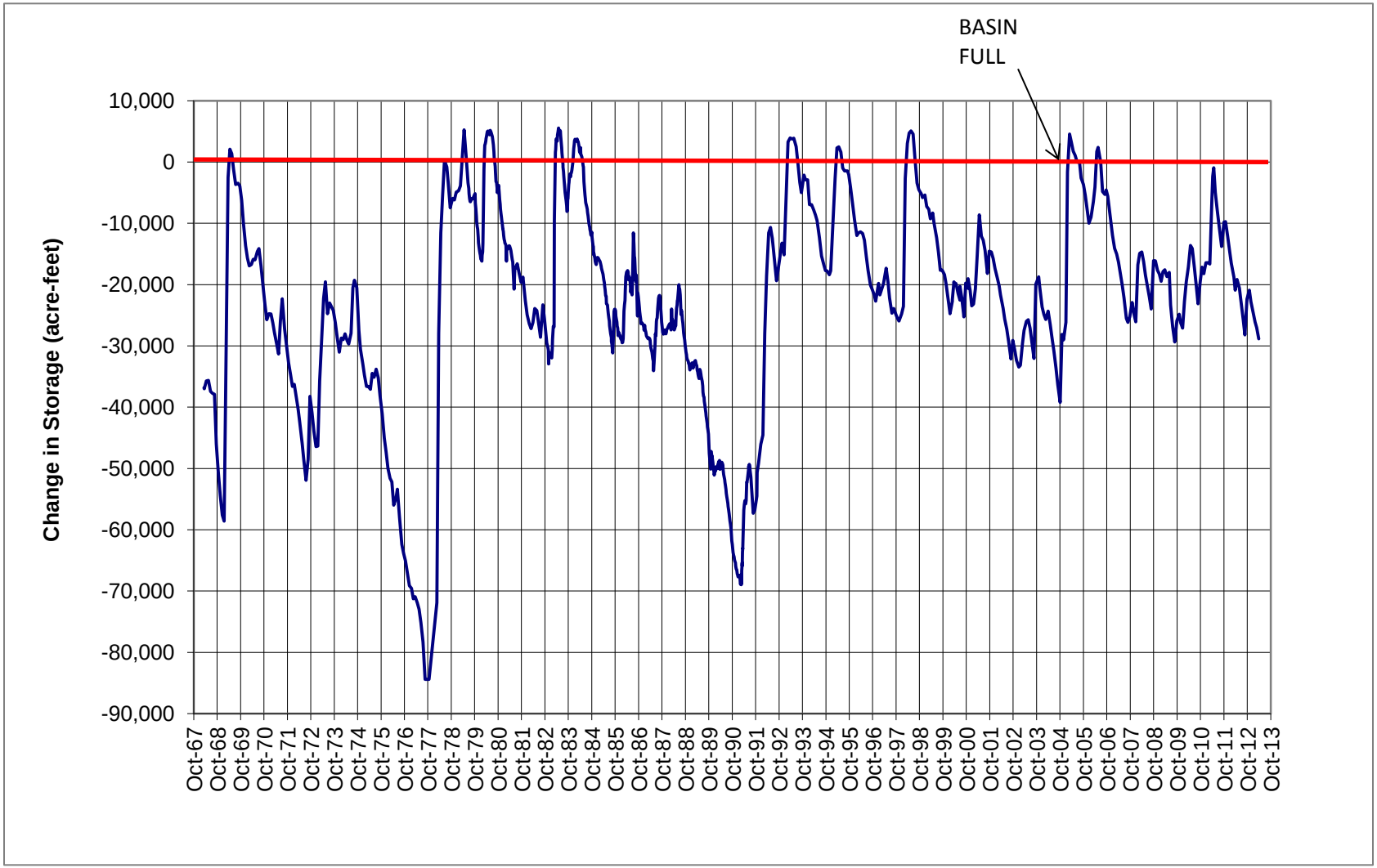


Figure 12. Piru Basin Change in Groundwater Storage

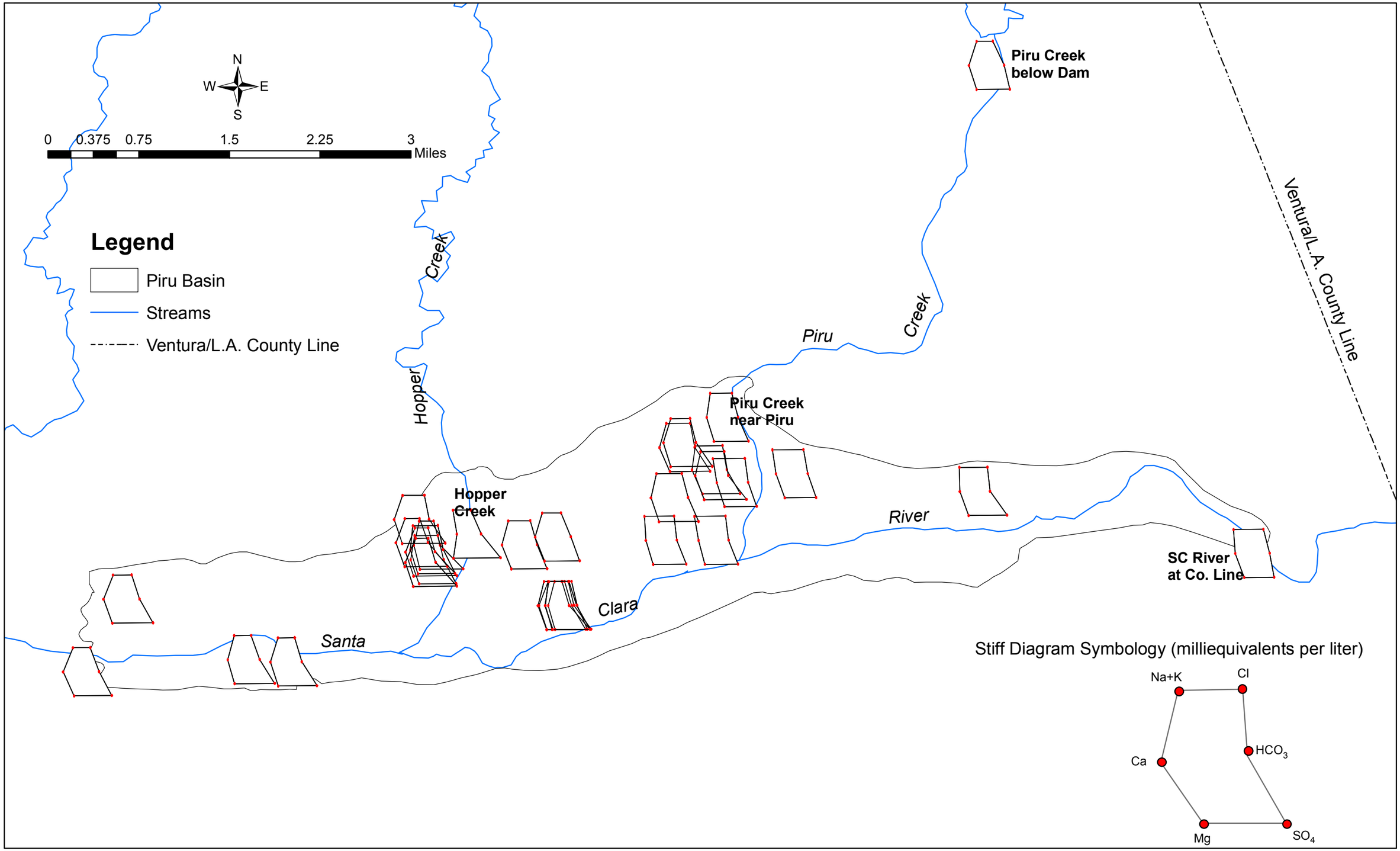


Figure 13. Map Showing Stiff Diagrams of 2010 Groundwater and Surface Water Quality Analyses for the Piru Basin
(Diagrams representing surface water analyses are identified with the remaining diagrams representing groundwater analyses)

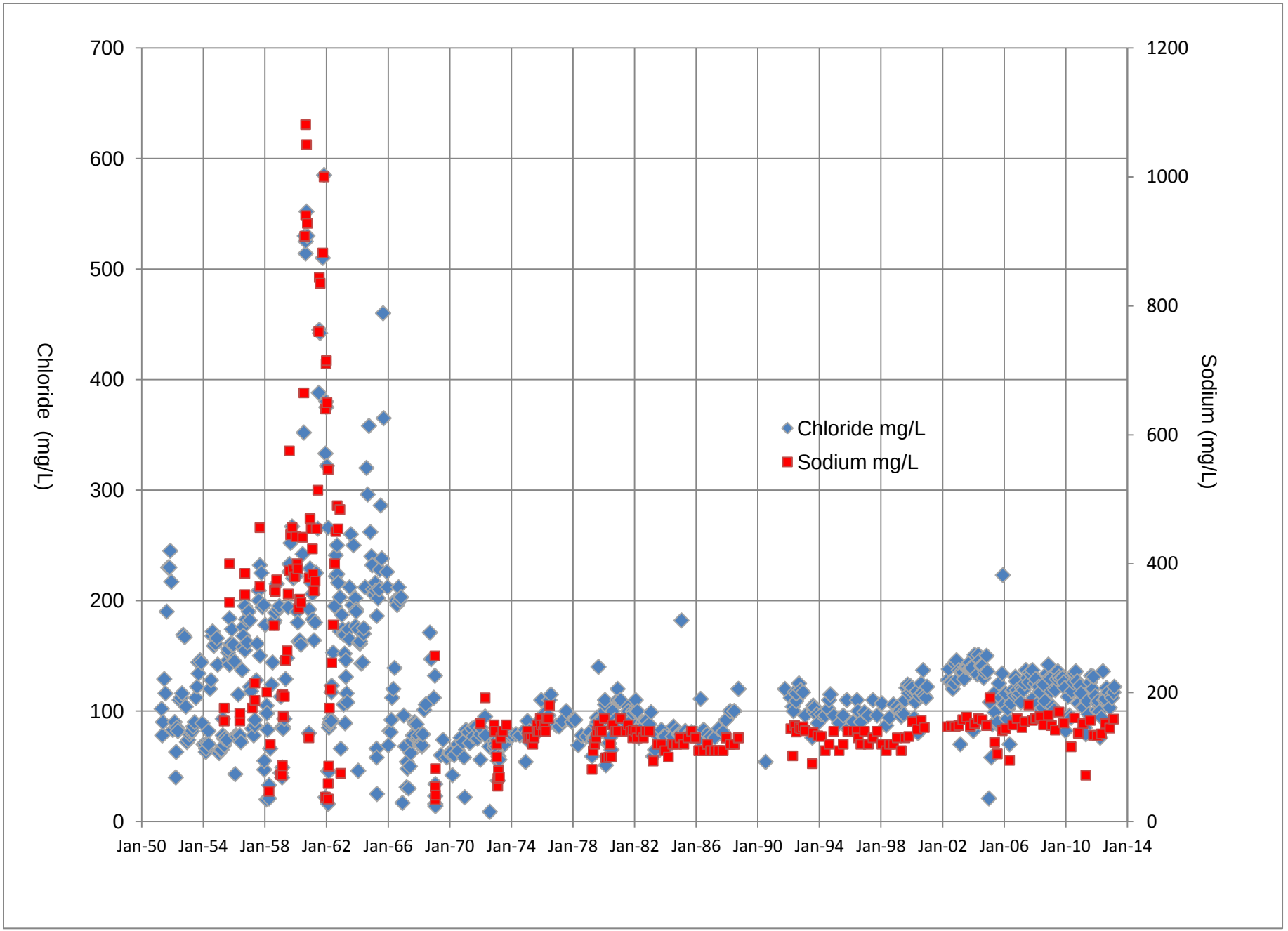


Figure 14. Chloride and Sodium Time Series Graph for the Santa Clara River at Ventura /L.A. County Line

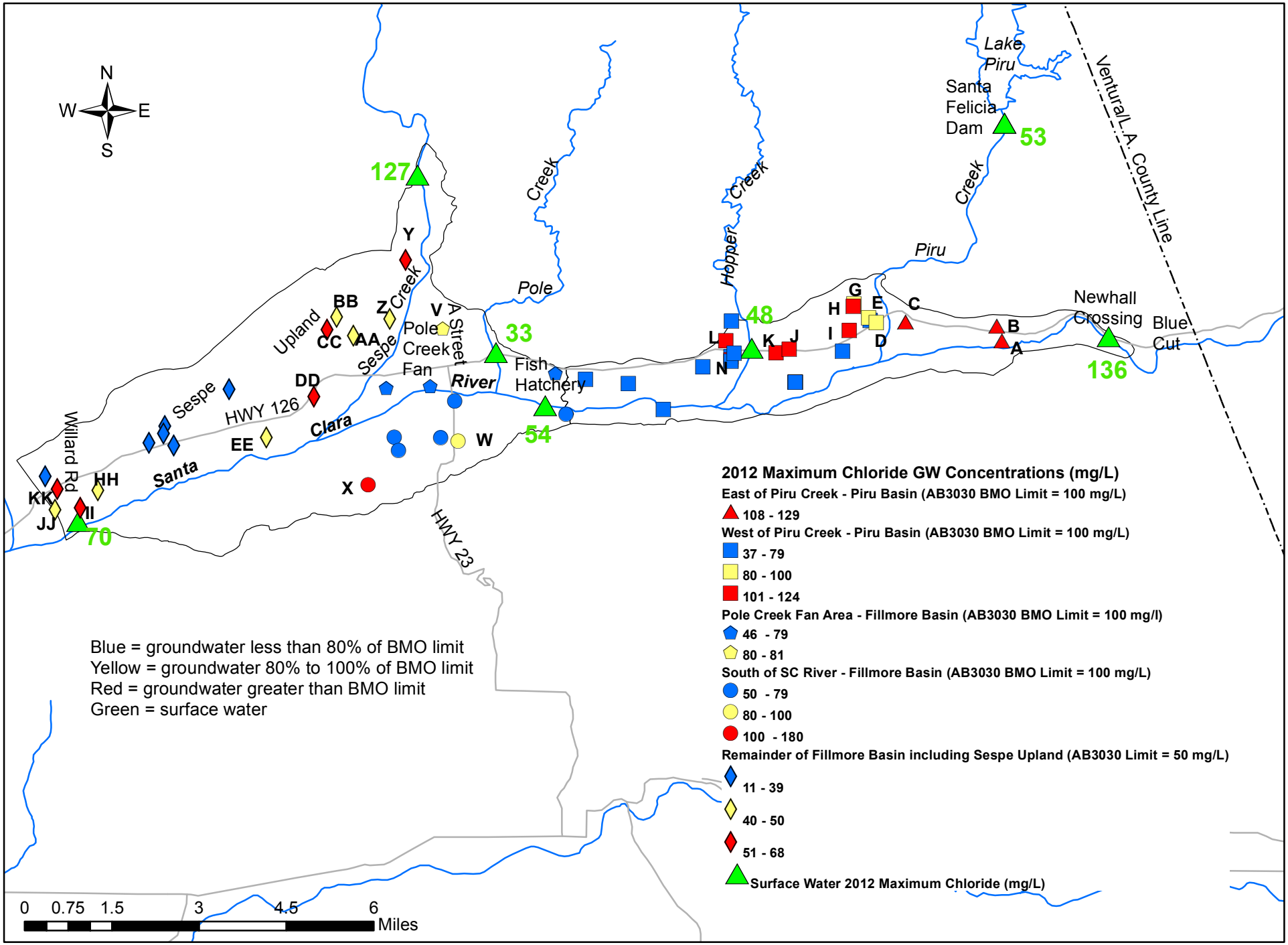


Figure 15. Maximum Chloride Concentrations in Groundwater and Surface Water for Calendar Year 2012
(See Table 3 and Table 8 in Groundwater Management Plan text for chloride concentrations of wells with letter designations)

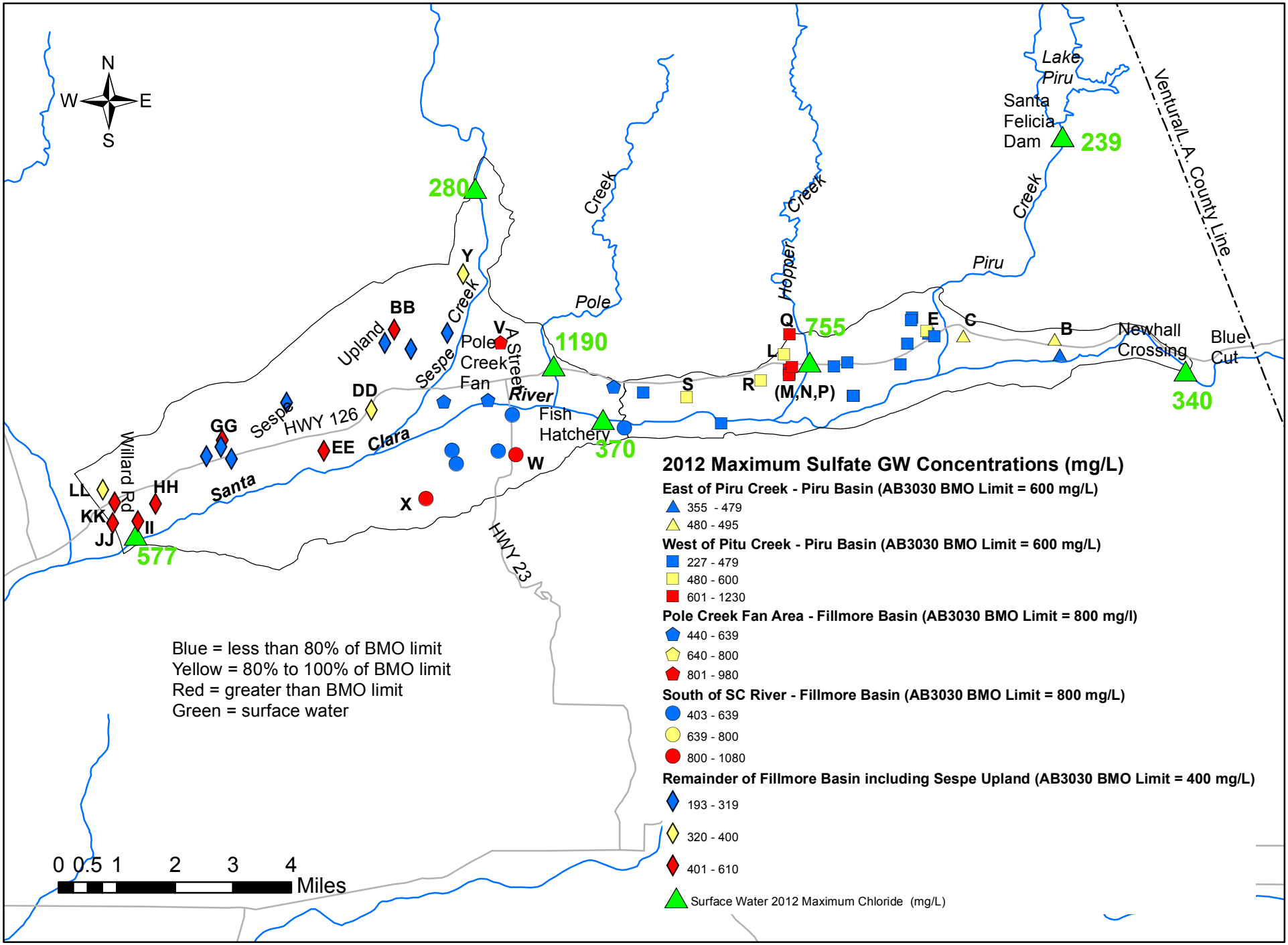


Figure 16. Maximum Sulfate Concentrations in Groundwater and Surface Water for Calendar Year 2012

(See Table 3 and Table 8 in Groundwater Management Plan text for sulfate concentrations of wells with letter designations)

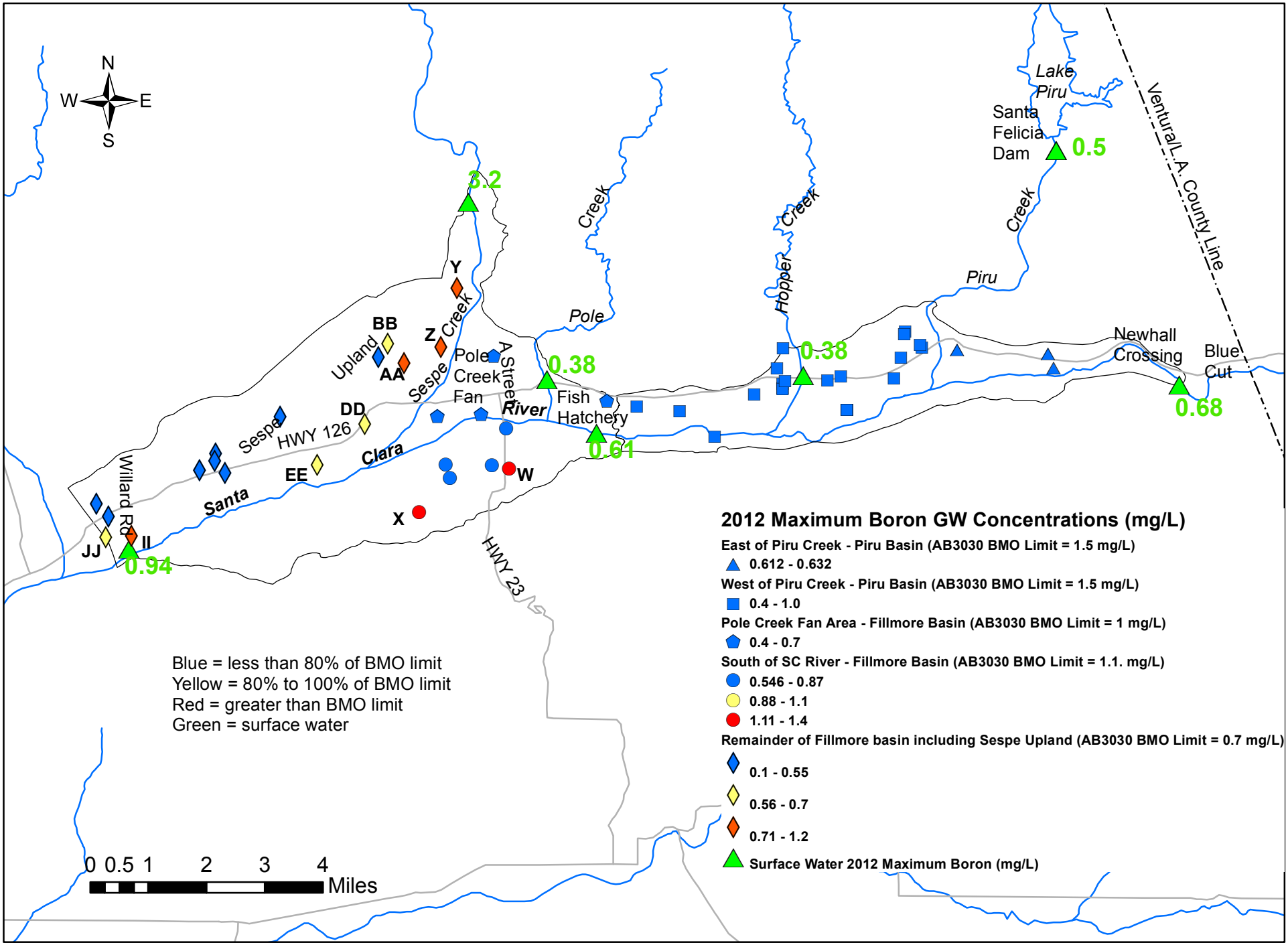


Figure 17. Maximum Boron Concentrations in Groundwater and Surface Water for Calendar Year 2012

See Table 3 and Table 8 in Groundwater Management Plan text for boron concentrations of wells with letter designations

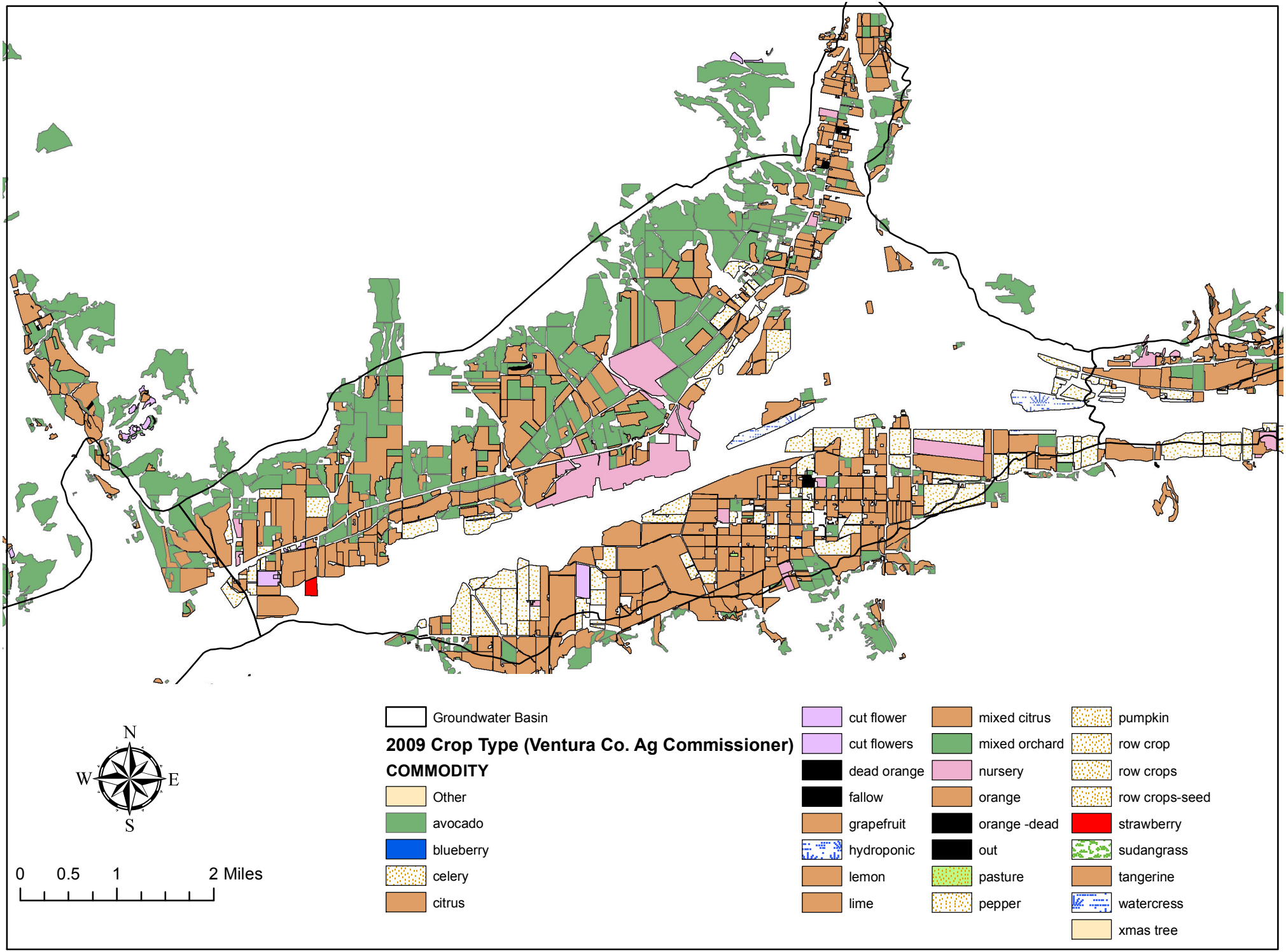


Figure 18. Fillmore Basin Crop Types

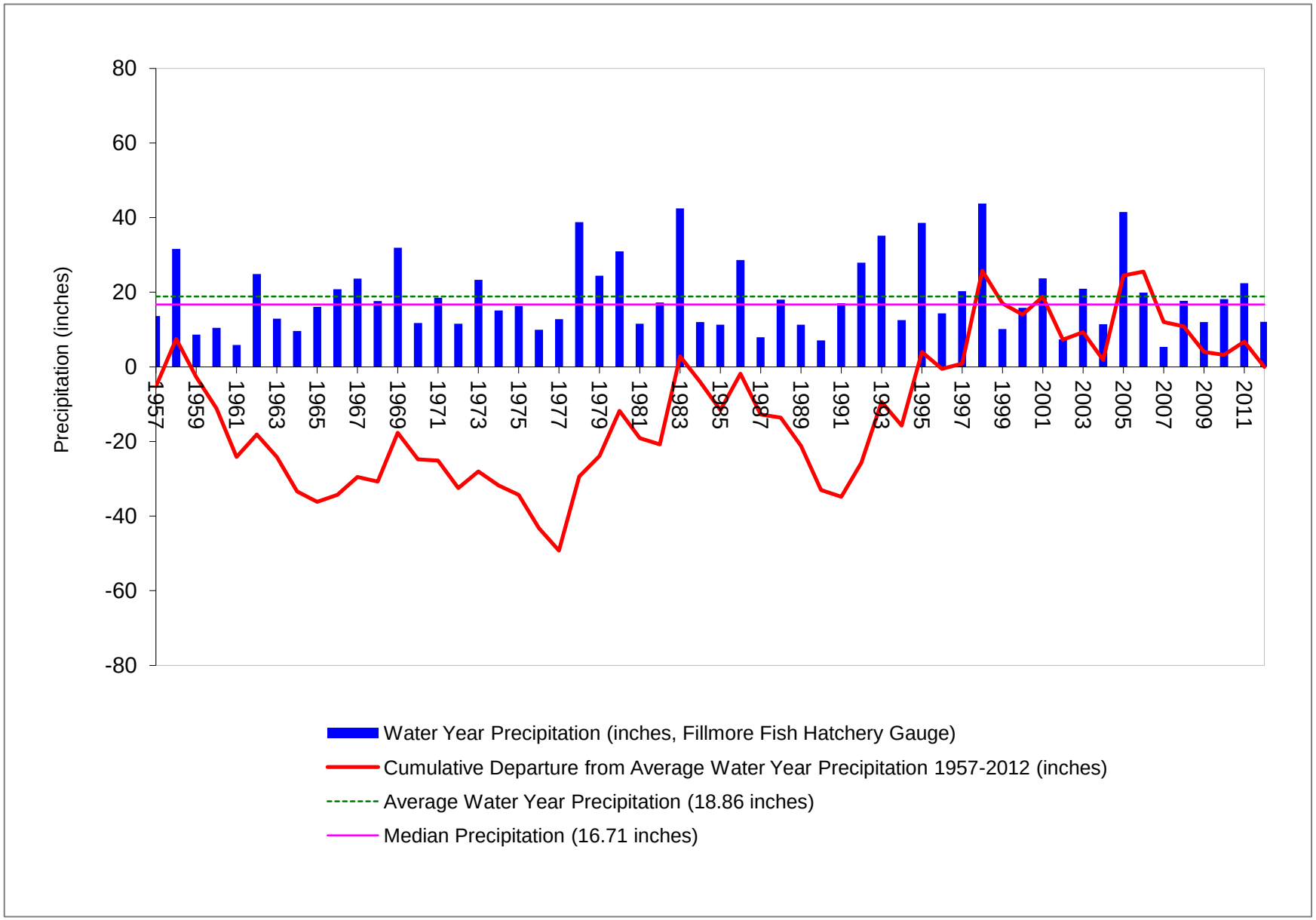


Figure 19. Fillmore Basin Historical Annual Precipitation

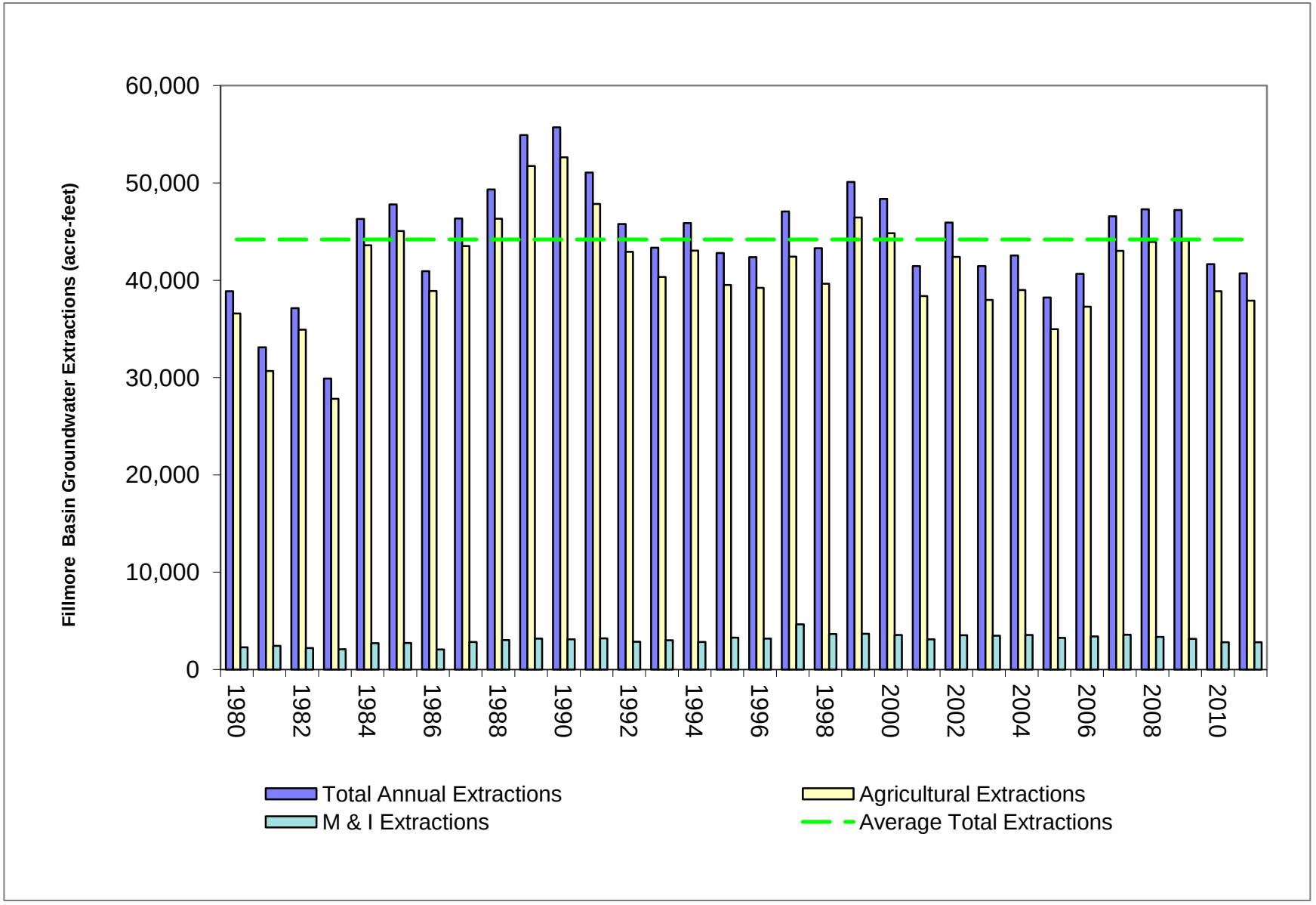


Figure 20. Graph of Historical Annual Groundwater Extractions for the Fillmore Basin (reported to United Water)

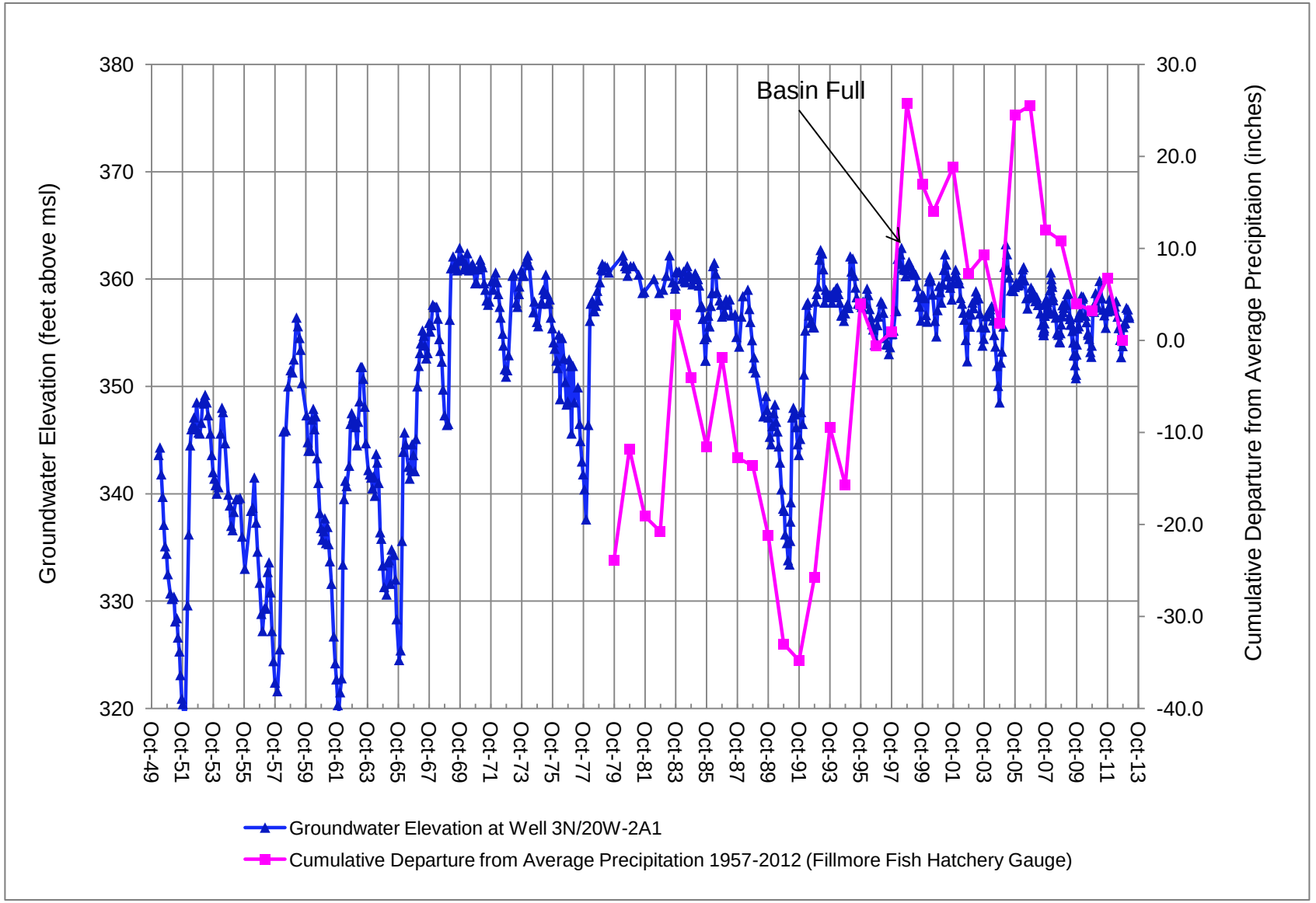


Figure 21. Fillmore Basin Groundwater Elevation Hydrograph and Cumulative Departure from Average Precipititation

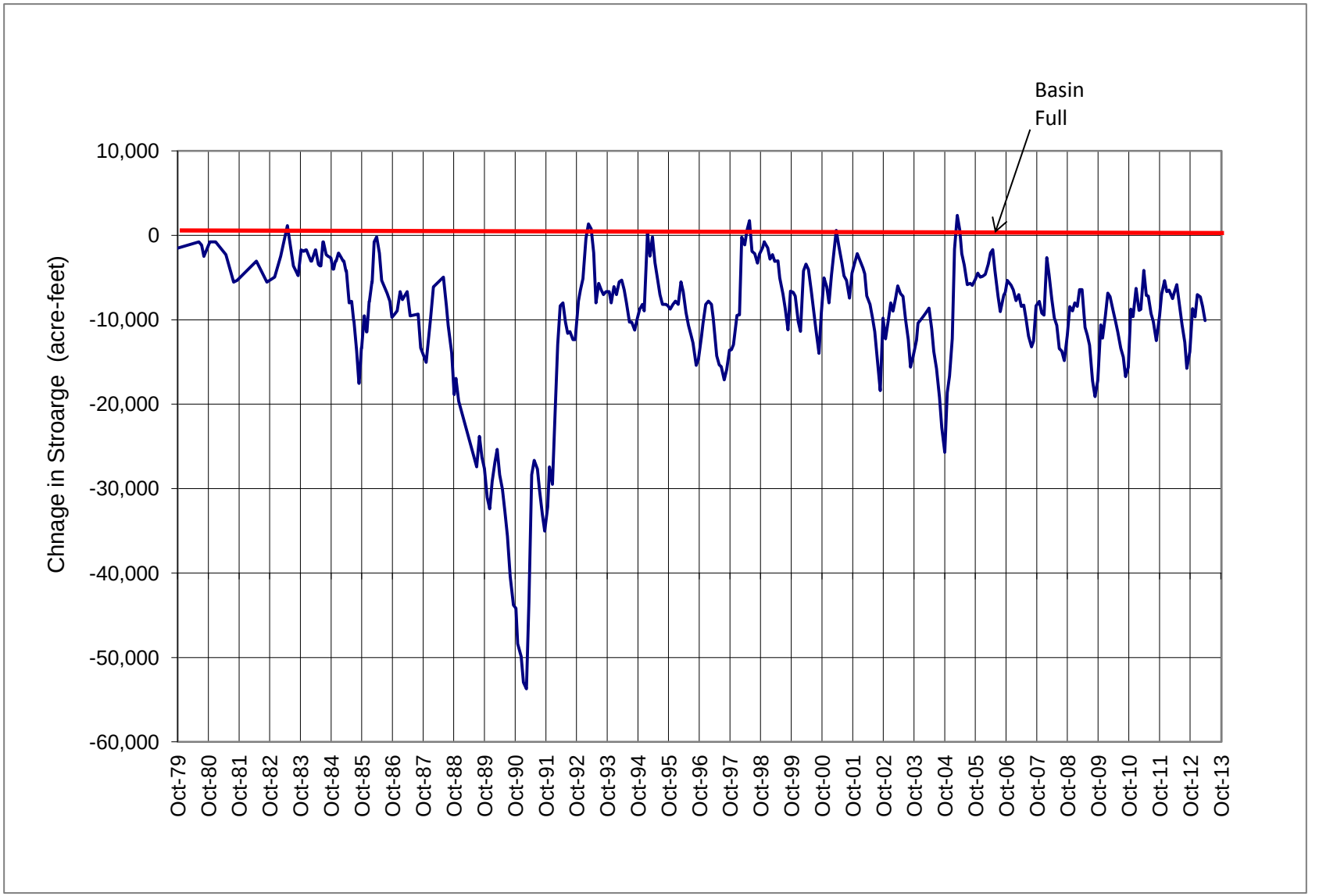


Figure 22. Fillmore Basin Change in Groundwater Storage

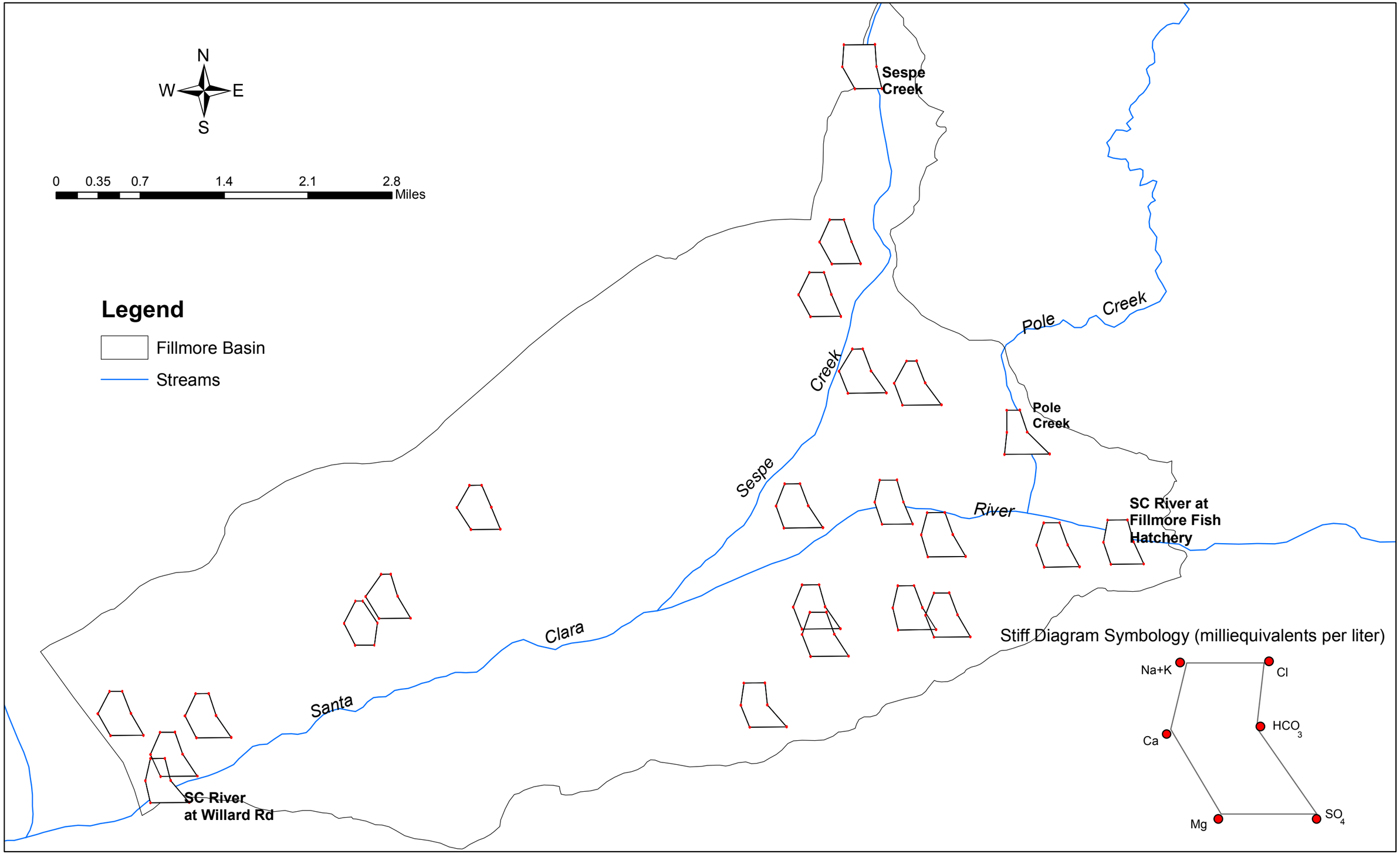
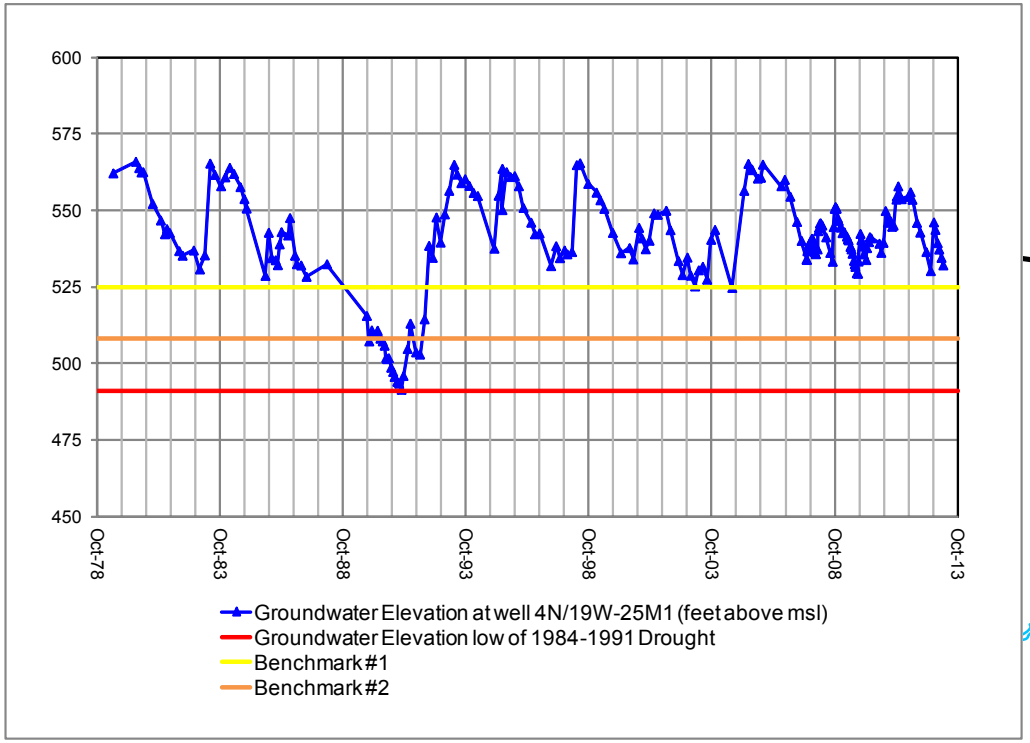
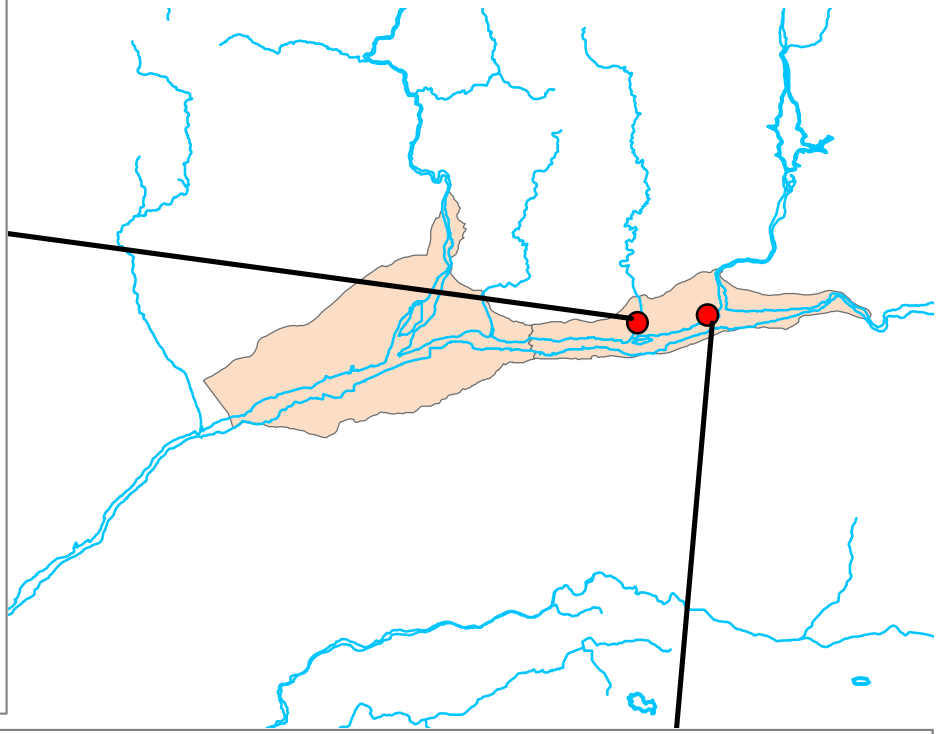
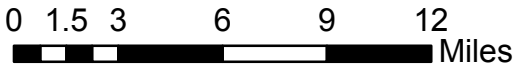


Figure 23. Map Showing Stiff Diagrams of 2010 Groundwater and Surface Water Quality Analyses for Fillmore Basin
(diagrams representing surface water analyses are identified with the remainder of the diagrams represetning groundwater analyses)







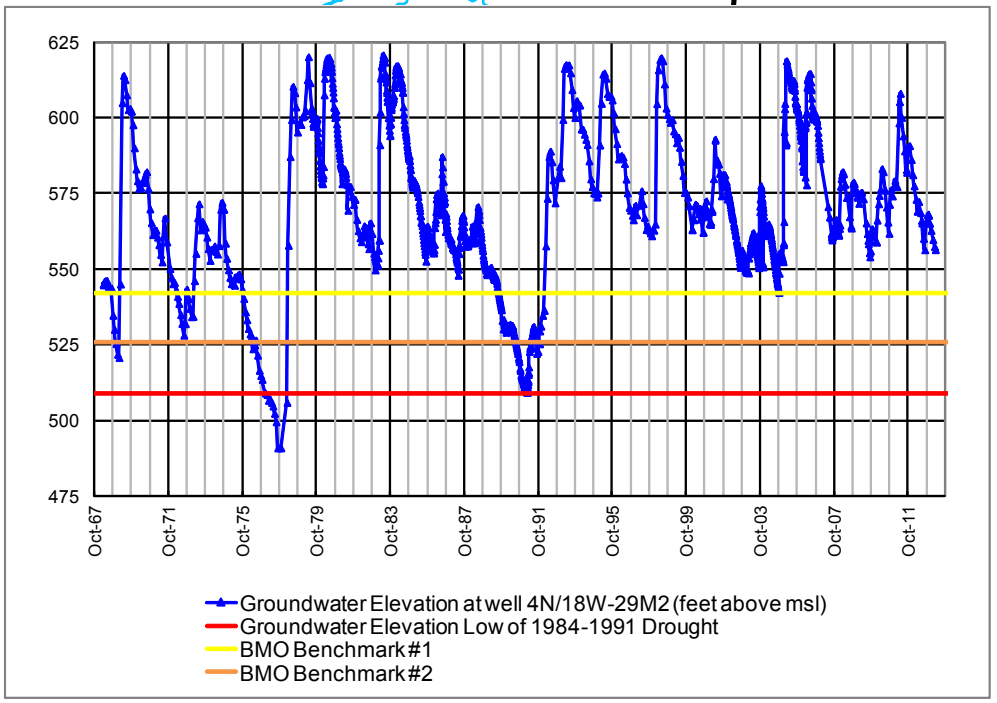


Figure 24. Piru Basin Groundwater Elevation BMO Indicator Well Locations and Hydrographs

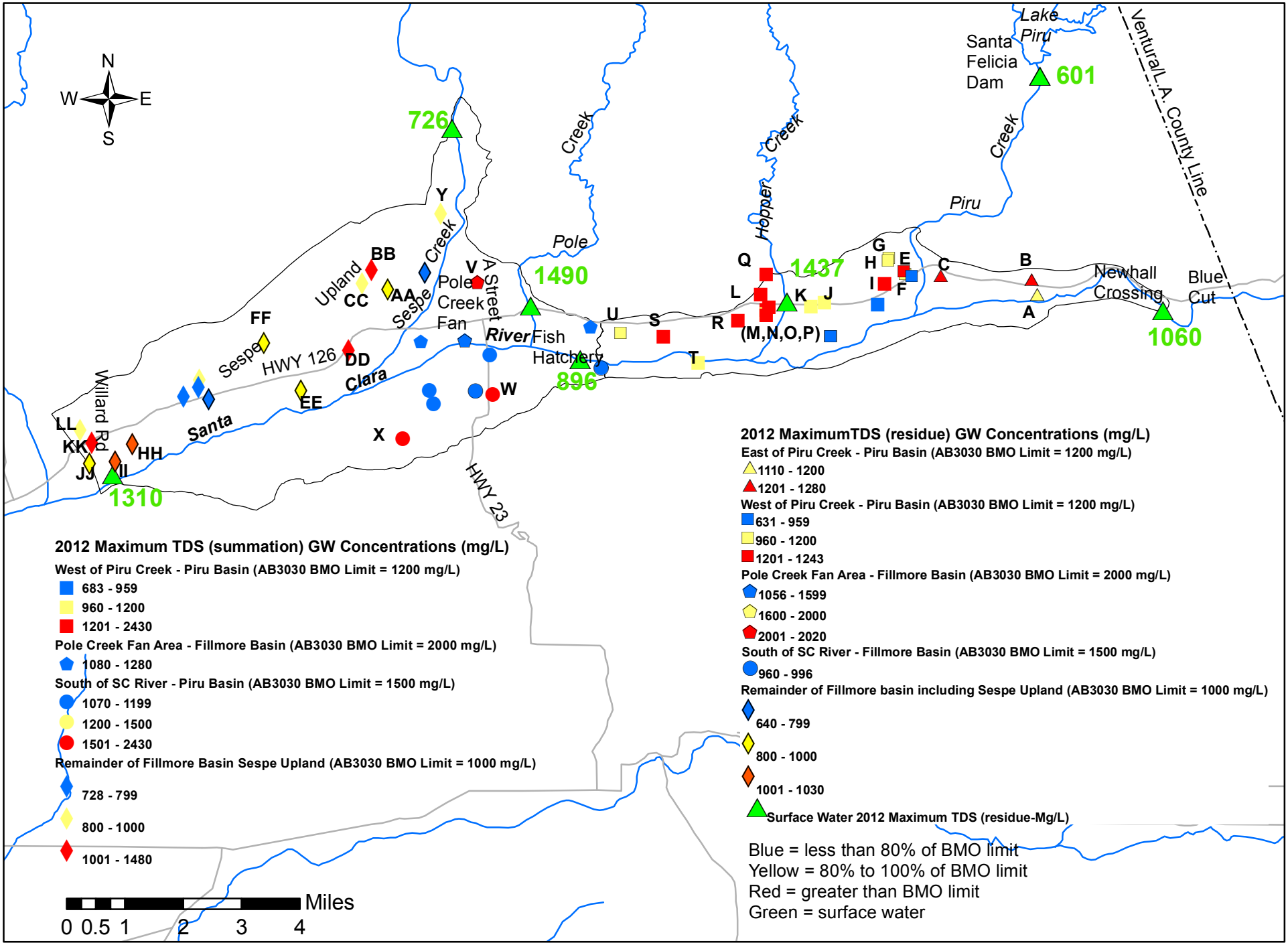


Figure 25. Maximum TDS Concentrations in Groundwater and Surface Water for Calendar Year 2012

See Table 3 and Table 8 in Groundwater Management Plan text for TDS concentrations of wells with letter designations

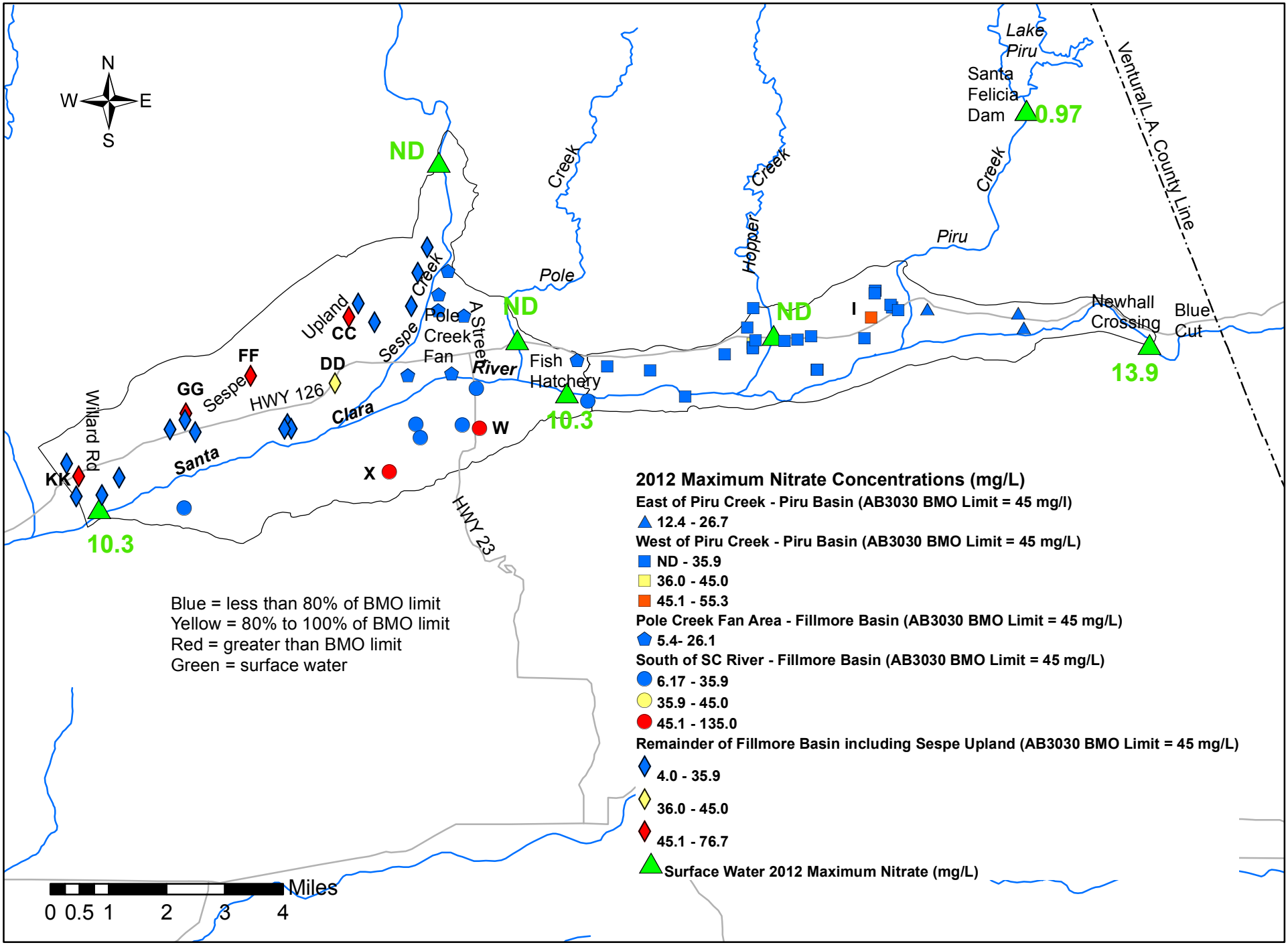
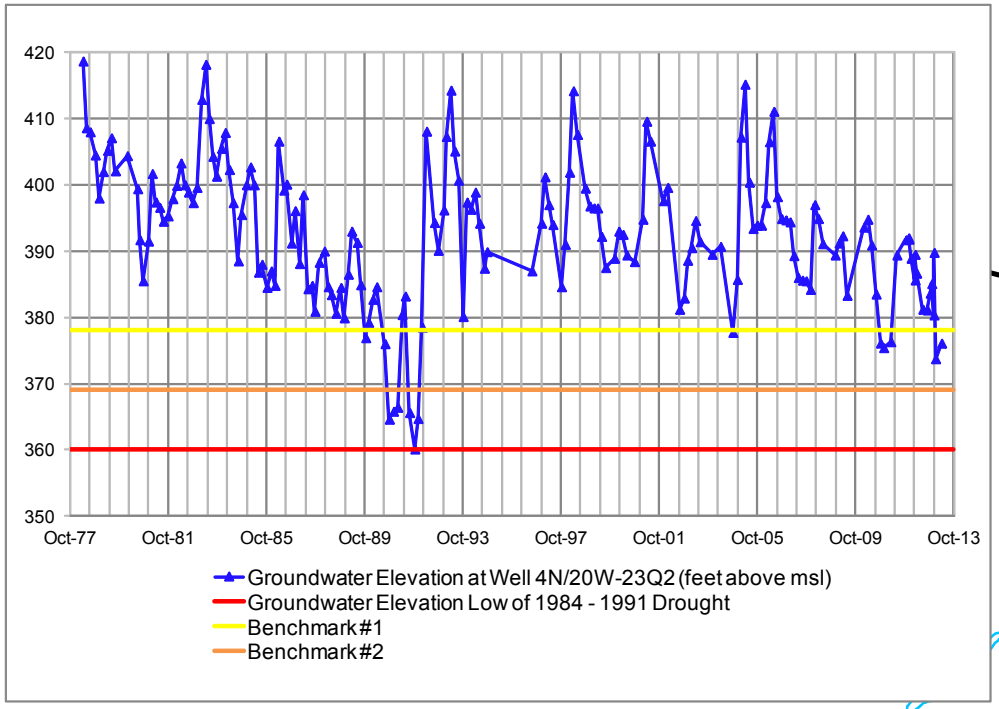
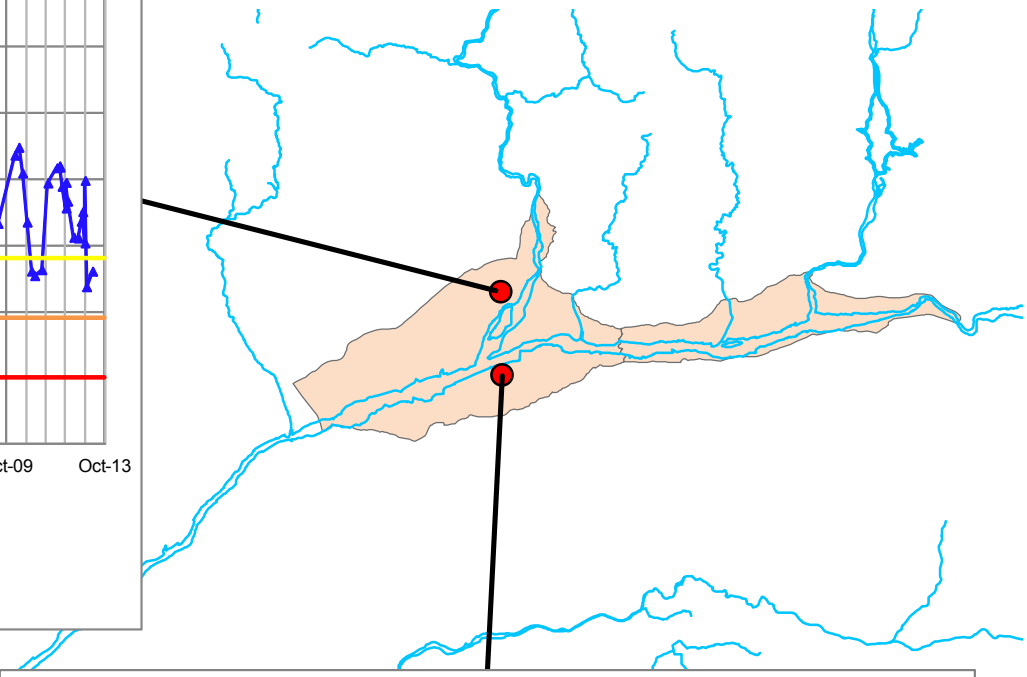
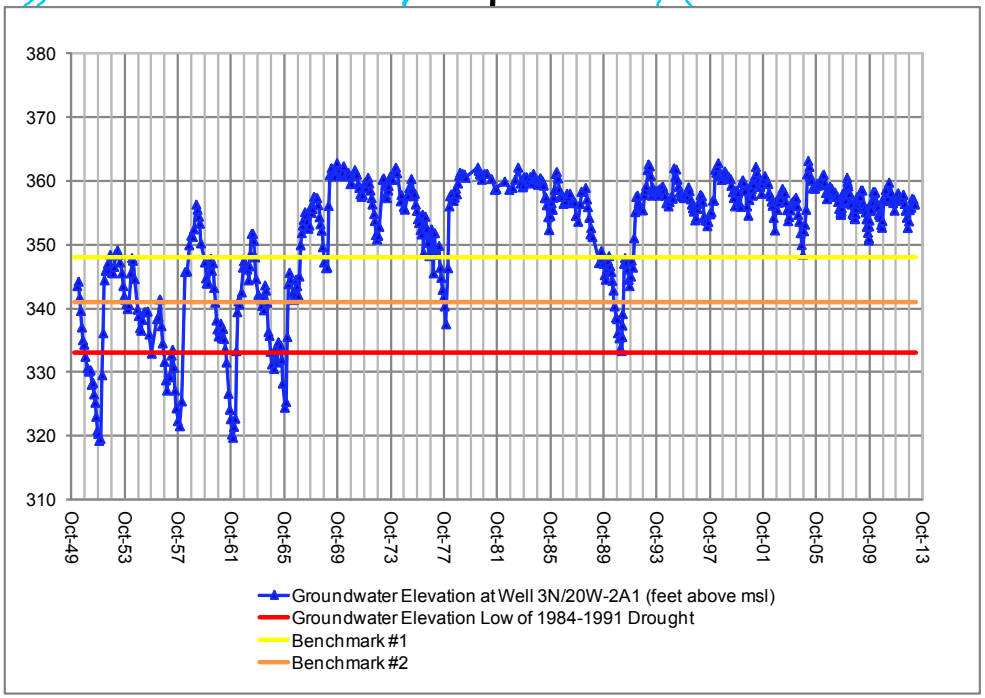


Figure 26. Maximum Nitrate Concentrations in Groundwater and Surface Water for Calendar Year 2012

See Table 3 and Table 8 in Groundwater Management Plan text for nitrate concentrations of wells with letter designations







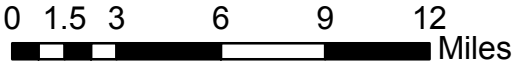


Figure 27. Fillmore Basin Groundwater Elevation BMO Indicator Well Locations and Hydrographs

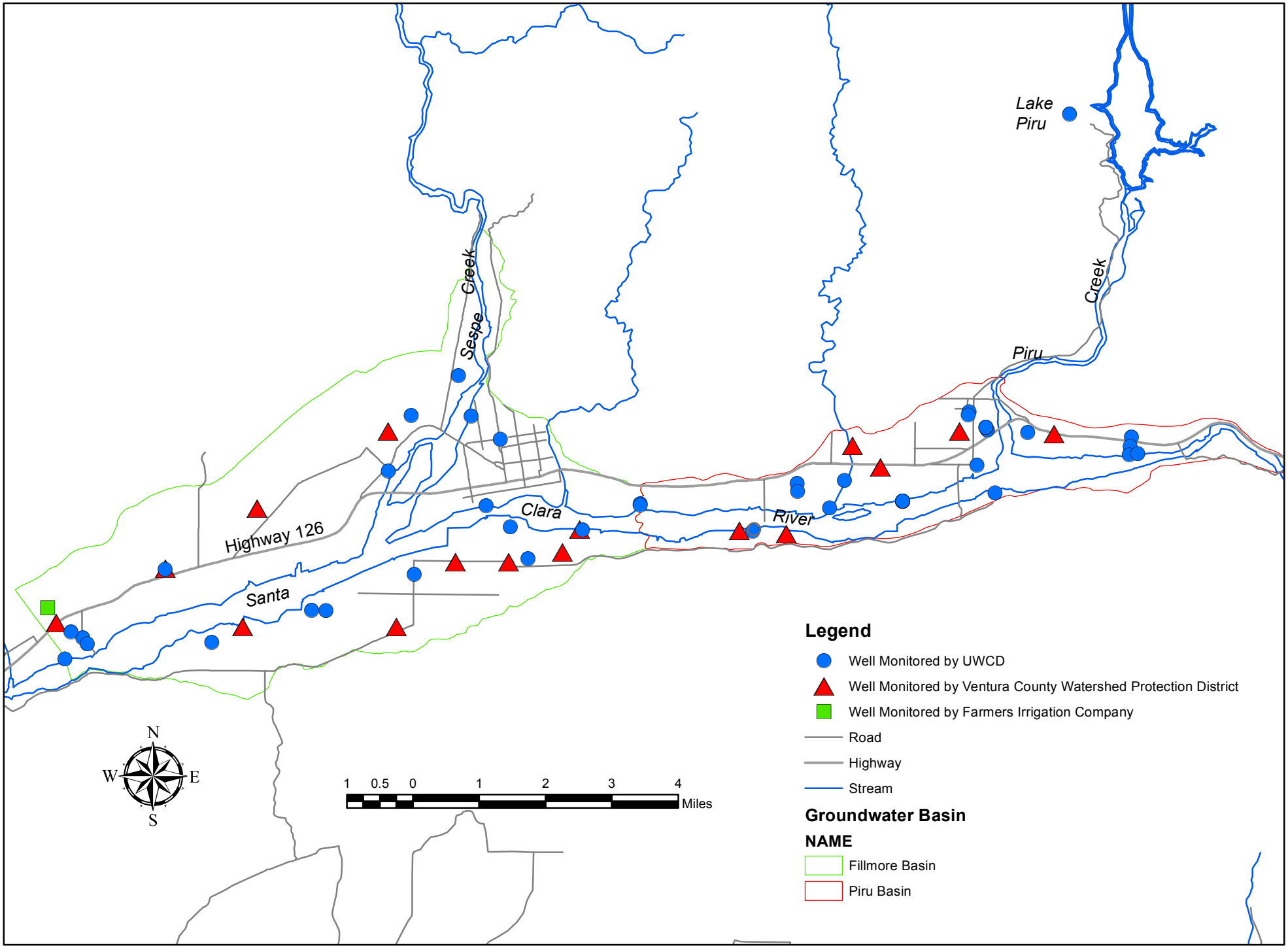


Figure 28. Locations of Wells Monitored for Groundwater Elevations in the Piru and Fillmore Basins (2012 monitoring)

APPENDIX A - GROUNDWATER EXPORT POLICY

D R A F T – NOT FOR PUBLIC DISTRIBUTION OR CITATION

GROUNDWATER EXPORT POLICY AB 3030 GROUNDWATER MANAGEMENT PLAN PIRU/FILLMORE BASINS

In order to preserve the groundwater resources of the Piru/Fillmore basins, the AB 3030 Groundwater Management Plan (GMP) states that:

"Any projects that pump groundwater from the basins for export outside of the basins could lead to over-pumping of the basins, and related problems. Thus, to minimize the potential of over-pumping related to groundwater exports, an export plan has been formulated that requires written application to the Council for any new groundwater pumping in excess of 5 ac-ft/yr that will extract water for export outside of the basins. If the pumping and export of the groundwater would not create conditions that could lead to over-pumping or degraded conditions in the basins, then the approval of the application would not be unreasonably withheld. If the pumping and export of the groundwater would reasonably create conditions that could lead to over-pumping in the basins, then the application would be denied."

This groundwater export policy lays out the guidelines for determining what constitutes a groundwater export from the basin, what general conditions could lead to overpumping of the basins, what will be included in a written application for export, and what conditions will be included with approval of an export application. These issues are outlined and discussed in the following sections.

GROUNDWATER EXPORT FROM THE BASIN(S)

Any proponent of a project to pump and export groundwater from the Piru or Fillmore basin that exceeds 5 acre-feet/year (ac-ft/yr) to an area that lies outside the groundwater export boundary of the respective basin (Piru or Fillmore Basin) must file a written application with the AB 3030 Groundwater Management Council (GWMC). For the purpose of this export policy, any water pumped from and delivered within the same basin (i.e. pumped from the Piru basin and delivered within the Piru basin) will not be considered an export from the basin.

The groundwater export boundary for the Piru basin is shown on the map in Figure A-1. The area inside the Piru basin export boundary includes the Piru basin, and all assessor parcels outside of the basin, that have any agricultural or M&I development, that indicates groundwater is being pumped and exported from the basin for use within these parcels, as of the date this policy is accepted by the GWMC and UWCD. The area inside the Piru basin export boundary will also include the current existing service areas of all established mutual and other private water companies as of the date this policy is accepted by the GWMC and UWCD.

Groundwater pumped from the Piru basin and transferred outside of the Piru basin export boundary, which includes transfers to the Fillmore basin, is considered an export.

The groundwater export boundary for the Fillmore basin is shown on the map in Figure A-2. The area inside the Fillmore basin export boundary includes the Fillmore basin, and all assessor parcels outside of the basin, that have any agricultural or M&I development, that indicates groundwater is being pumped and exported from the basin for use within these parcels, as of the date this policy is accepted by the GWMC and UWCD. The area inside the Fillmore basin export boundary will also include the current existing service areas of all established mutual and other private water companies as of the date this policy is accepted by the GWMC and UWCD.

Groundwater pumped from the Fillmore basin and transferred outside of the Fillmore basin export boundary, which includes transfers to the Piru basin, is considered an export.

Entities exporting groundwater as of the date this policy is adopted by the GWMC and UWCD are exempt from this application process until such time as their pumped quantity of groundwater exceeds their historical maximum by 5 ac-ft/yr or the GWMC determines that the export is having detrimental impact(s) on groundwater resources. Upon this determination, the exporter must submit an application for groundwater export as presented in this document.

CONDITIONS LEADING TO OVERPUMPING

Over-pumping could lead to overdraft of the basins. Overdraft occurs when over a complete hydrologic cycle more groundwater is extracted than is recharged. Several conditions could lead to overdraft of the Piru and/or Fillmore basin(s). The groundwater levels in the basins presently fluctuate with wet/dry climatic conditions, with both basins reaching maximum fill levels during wet portions of a climatic cycle. Groundwater levels in both basins also drop during dry portions of the cycle, with the Piru basin showing greater fluctuations in groundwater levels than the Fillmore basin. Over-pumping of the basins could occur if groundwater pumping for water export would prevent the basins from filling during wet cycles or would lower water levels below historic low levels during dry cycles. Similarly, groundwater pumping for export that could initiate or exacerbate a water quality problem in the basins would also be considered over-pumping of the basins. The technical evaluation of a proposed groundwater export program must be conducted by the project proponent's technical expert to predict its effect on the basin. The export application will be evaluated by UWCD on behalf of the GWMC.

APPLICATION FOR GROUNDWATER EXPORT

The project proponent must submit an application prior to the export of any groundwater. The application will include, at a minimum, the following:

- Administrative Items:
  - Contact information for the project proponent and their technical expert;
  - Project description with appropriate maps detailing project location;
  - Owner of well(s) proposed for pumping export; and
  - Proposed use for exported water including a rationale for why water from the Piru or Fillmore basins is the best available water supply option for the project.

- Technical Items:
  - State well number of groundwater wells proposed for pumping export;
  - Historical pumping quantities from the well(s);
  - Proposed quantity of groundwater to be pumped and exported;
  - Description and location of conveyance system to move the water;
  - Description, location, and owner of where water will be delivered;
  - Analysis of the potential impacts (e.g., water levels, water quality) of the pumping on nearby wells and surface water bodies including the determination of the significance of those impacts;
  - Proposed monitoring program (e.g., water level and water quality) to quantify project impacts; and
  - Proposed mitigation measures to be employed if significant impacts are detected from the monitoring program.

It is the intent of the GWMC that the analysis of impacts be, at a minimum, sufficient to comply with California Environmental Quality Act (CEQA) guidelines for water resources.

An export application renewal must be filed every three (3) years to review compliance with proposed mitigations.

CONDITIONS INCLUDED WITH APPROVAL OF GROUNDWATER EXPORT

To ensure that an export project doesn't harm either the basin or nearby pumpers, certain conditions, at the discretion of the GWMC, may be included with each export application. These conditions could include, but are not limited to, the example items listed below:

- Regular monitoring of groundwater levels and water quality in the project area;
- Submittal of an annual report to the GWMC detailing the operations of the water export activities (e.g., quantities pumped from each well, use of the exported water) and the results of the monitoring program (e.g., changes in pumping or static water levels, water quality changes, impact on nearby surface water bodies);
- Execution of a mitigation plan if nearby wells or surface water bodies or their water quality are significantly impacted; and
- Execution of a dry-year plan that would limit groundwater exports in the event of a prolonged drought.

Additional conditions may be added on a case-by-case basis.

APPLICATION PROCESS

The application will be filed with UWCD, who will take it to the GWMC for discussion and recommendation. The Council's recommendation will then be forwarded to the UWCD Board of

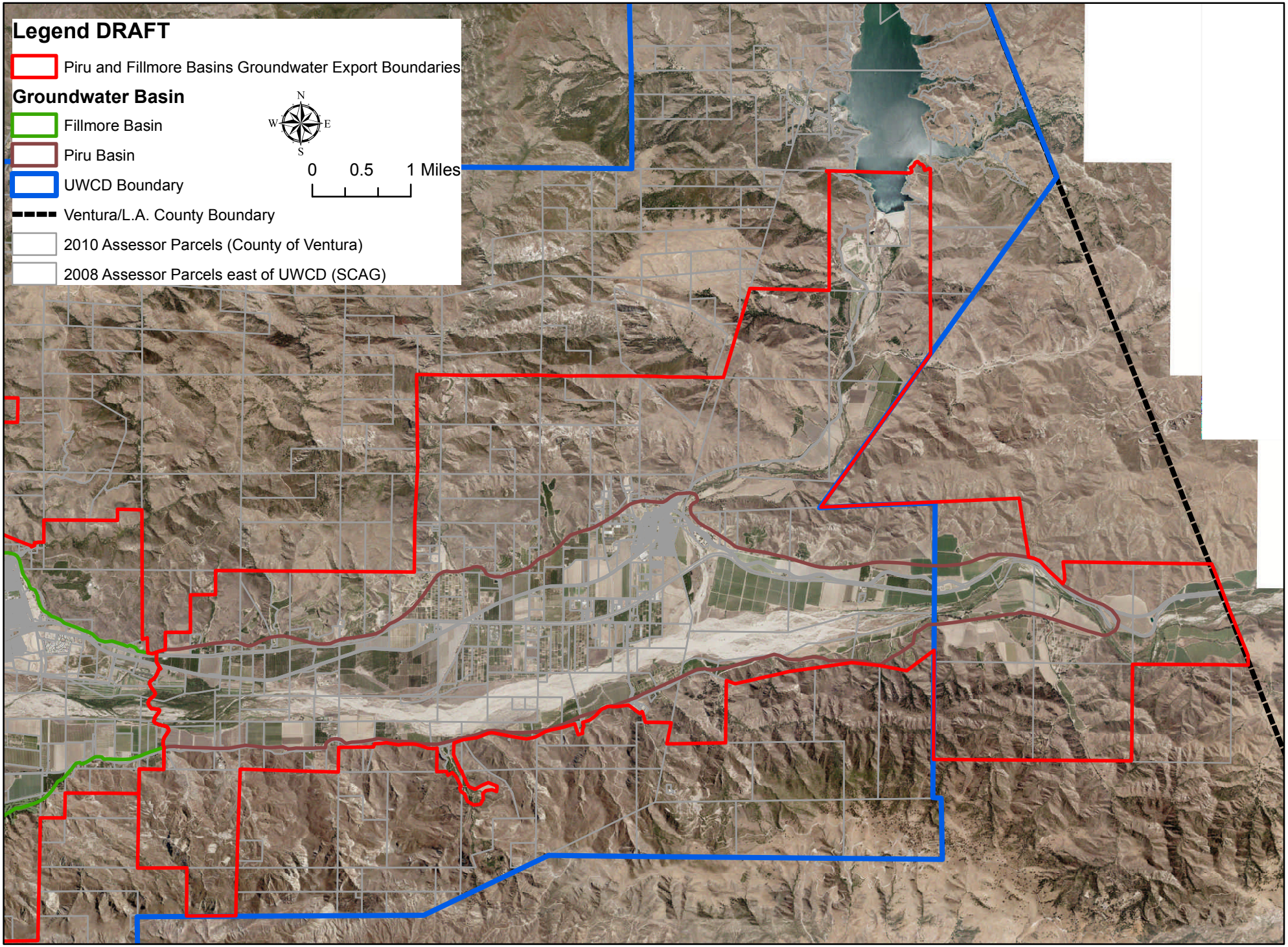


Figure A-1. Piru Basin Groundwater Export Boundary

2010 Aerial Photo from Channel Islands Regional GIS (CIRGIS)

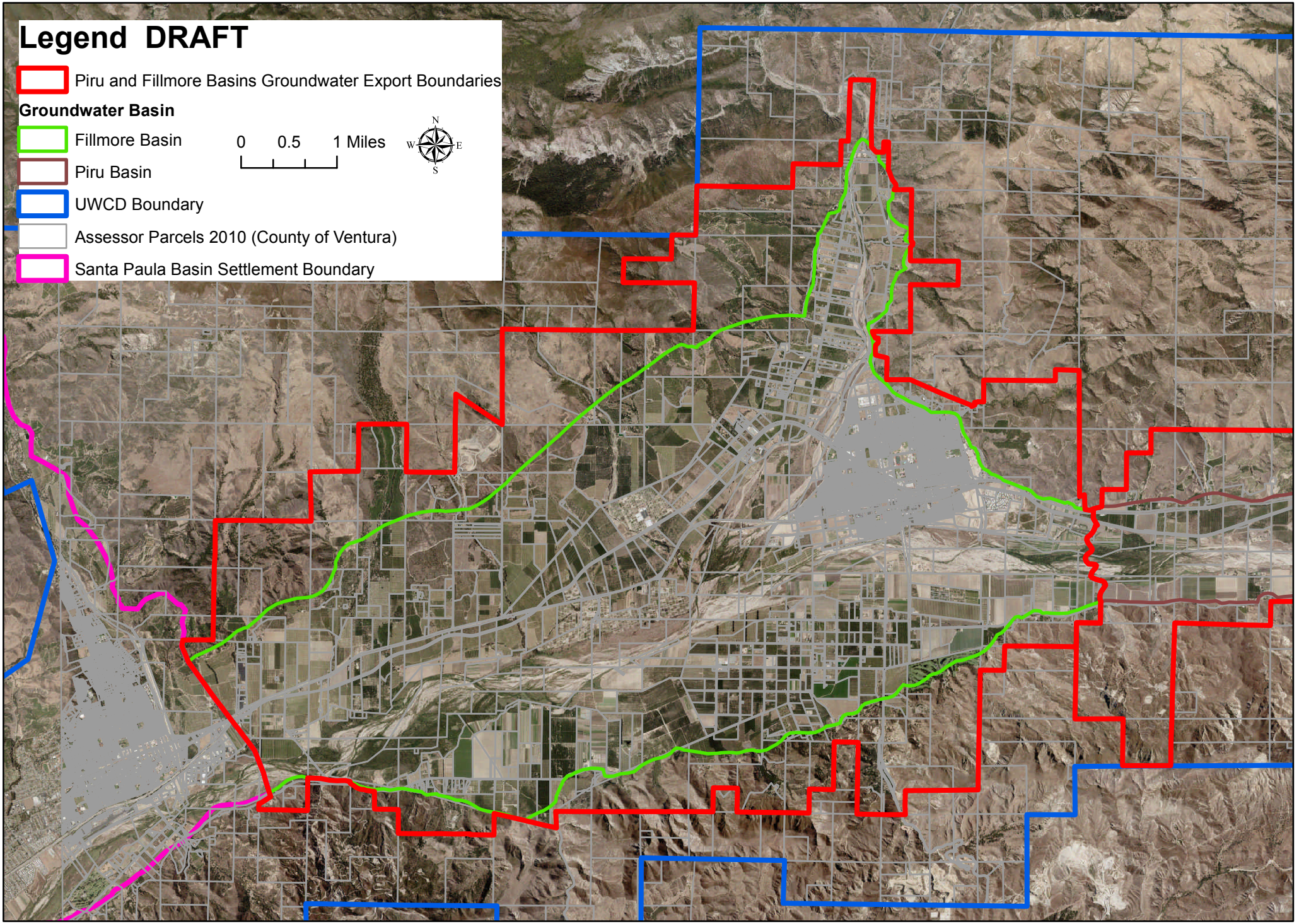
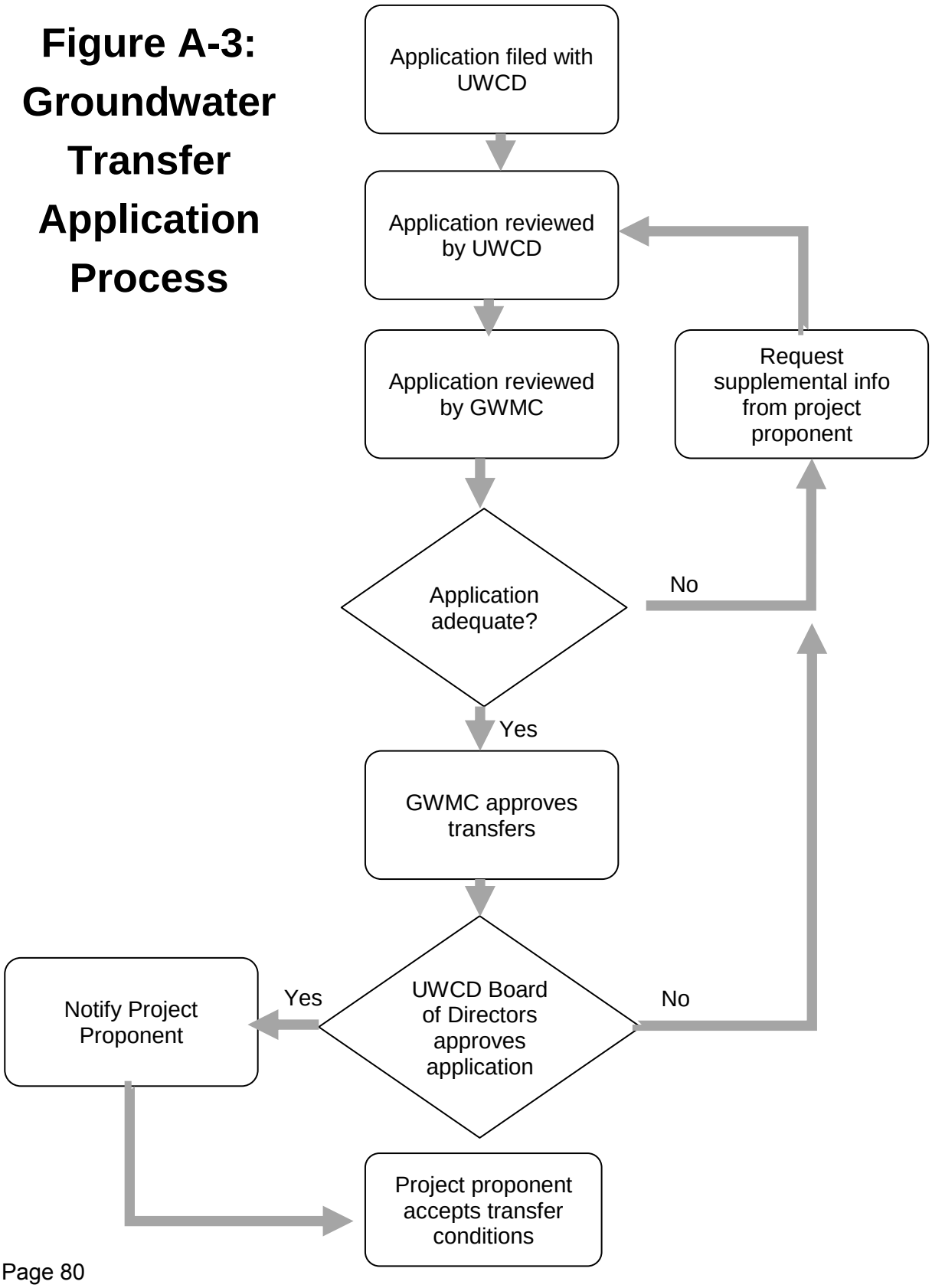


Figure A-2. Fillmore Basin Groundwater Export Boundary

2010 Aerial Photo from Channel Islands Regional GIS (CIRGIS)

Directors, who will take action on the application within 90 days from date of initial application filing with GWMC. Figure A-3 shows the general steps in the application review and approval process.

Figure A-3: Groundwater Transfer Application Process



APPENDIX B - UWCD BOARD RESOLUTION 2013-02

RESOLUTION NO. 2013-02

A RESOLUTION OF INTENTION OF THE BOARD OF DIRECTORS OF UNITED WATER CONSERVATION DISTRICT DIRECTING STAFF TO PREPARE AN UPDATED, REVISED GROUNDWATER MANAGEMENT PLAN FOR THE PIRU AND FILLMORE GROUNDWATER BASINS

WHEREAS, the AB3030 Groundwater Management Council for the Piru and Fillmore Groundwater Basins has recognized the need for an updated groundwater resource management tool; and

WHEREAS, the United Water Conservation District Board of Directors recognizes the need for an updated groundwater resource management tool; and

WHEREAS, the Legislature of the State of California and the California Department of Water Resources has altered the required contents of Groundwater Management Plans since the preparation of the original plan in 1996; and

WHEREAS, the United Water Conservation District Board of Directors has held a Public Hearing on this matter to consider input from stakeholders in the Piru and Fillmore groundwater basins;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of United Water Conservation District in accordance with this resolution of intention directs District staff to prepare an updated, revised Groundwater Management Plan for the Piru and Fillmore Basins.

PASSED AND ADOPTED by the Board of Directors of United Water Conservation District on this 10th day of April 2013.

ATTEST _____
Daniel C. Naumann, President

ATTEST _____
F.W. Richardson, Secretary/Treasurer

APPENDIX C - AB 3030 Plan M.O.U. REGARDING GROUNDWATER BASIN MANAGEMENT IN THE PIRU/FILLMORE GROUNDWATER BASINS (2013) (NOT PRESENTLY AVAILABLE)

APPENDIX D - AB 3030 PLAN M.O.U. BETWEEN UWCD AND CLWA (2013) (NOT PRESENTLY AVAILABLE)