CALENDAR YEAR 2011

ANNUAL REPORT

FOX CANYON GROUNDWATER MANAGEMENT AGENCY

ANNUAL REPORT FOR CALENDAR YEAR 2011

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EXECUTIVE SUMMARY

The Fox Canyon Groundwater Management Agency (FCGMA) is a State Legislature-chartered public agency created to manage groundwater resources in the southwestern portion of Ventura County, California. The FCGMA boundary covers most lands overlying the Fox Canyon aquifer, primarily from the coast at the City of Port Hueneme to inland areas northeast of the City of Moorpark.

During calendar year 2011, the Agency made progress towards implementing groundwater management strategies and meeting the Basin Management Objectives (BMOs) established in the 2007 Update to the Fox Canyon Groundwater Management Agency, Groundwater Management Plan (GMP). Overall, groundwater conditions and status relative to the BMOs are similar to that reported for 2010; however, many of the five-year water level trends reported as downward in the 2010 annual progress report are now considered to be flat or upward trending. In addition, the rising water levels coincide with notable water quality improvement in the Oxnard Forebay Basin.

Rainfall, evapotranspiration, groundwater extraction, net conservation credits earned, and the number of Irrigation Efficiency filings were about average. Rainfall data is collected from five weather stations within the FCGMA boundary. The overall average annual rainfall for 2011 was 12.12 inches, which is 18% below the 14.81-inch average observed from 1985 through 2011. It should be noted that the lower than average rainfall (8.88 inches compared to the 1985 through 2011 average of 10.73 inches) in the first half of 2011 (Period 2011-1) followed above average precipitation in late 2010 (11.27 inches compared to the 1991-2 to 2011-2 average precipitation of 4.07 inches). The average five-station evapotranspiration (ETo) value of 46.90 inches was 4.74 inches lower than the average ETo value of 51.64 inches (from 1997 through 2011). Total reported[1] volume of groundwater extractions in calendar year 2011 was 116,101 acre-feet (AF), which is below (95% of) the groundwater extraction volume long-term average (1991-2011), 121,838 AF. Irrigation Efficiencies filed totaled 122 of which two were not approved. The total groundwater volume extracted in 2011 under the Irrigation Efficiency program was 36,798 AF, about a third of the total groundwater volume extracted in 2011. Agricultural user groundwater extractions accounted for about two-thirds (64%) of the total groundwater extractions in 2011. The net conservation credits earned were 20,351 AF.

Many significant actions took place during 2011. Specific accomplishments are listed in summary form. The body of this Annual Report along with the attached tables and figures provide a more detailed description of such activities.

[1] Table provides data on reported groundwater extractions. In 2011, extractions from approximately 20% of active wells were not reported.

Summary of Accomplishments and Significant Actions during 2011

- The Agency adopted three Ordinances:
    - Ordinance No. 8.4 - Amended the FCGMA Ordinance Code relating to Annual Efficiency Extraction Allocations.
    - Ordinance No. 8.5 - Extinguished Conservation Credits for destroyed, inactive or abandoned wells with no active operator.
    - Ordinance No. 8.6 - Amended the FCGMA Ordinance Code relating to Chapter 4.0, protection of the Las Posas Basin Management Area.
- The Agency adopted four Resolutions:
    - Resolution No. 2011-01 repealed and replaced Grandfathering Resolution No. 97-02.
    - Resolution No. 2011-02 created a Storage Program for United Water Conservation District Saticoy Well Field.
    - Resolution No. 2011-03 recognized Mr. David Panaro's 14 years of service as Agency Staff Geologist.
    - Resolution No. 2011-04 specified the requirements for calculating the Irrigation Allowance Index under the Irrigation Efficiency Allocation Program.
- Completed the 2009 and 2010 FCGMA Annual Reports.
- Procedures developed for Reconsideration of a Motion.
- Adopted Administrative Policies and Business Practices Manual.
- Historical Allocation Reductions – continued at 25%.
- FCGMA Online Software Application – Continued testing and data conversion.
- Continued Semi-Annual Newsletter to improve stakeholder outreach and communication.
- Several Ordinance enforcement issues were undertaken.
- Las Posas Users Group prepared Draft Chapters of the Basin Specific Groundwater Management Plan.
- Provided Irrigation Allowance Index Roll Out Schedule and Updates, and Workshops.
- Credit Program Evaluation – Study Session held with Board and discussion/input from SAG.
- Adopted to change from a biennial financial audit schedule to an annual financial audit schedule.
- Discussion of Ag to M&I transfers. Approved adjustment to City of Camarillo and City of Ventura's extraction allocation in accordance with Section 5.3 of the Ordinance Code.
- Addressed a number of compliance issues where the Agency needed to enforce provisions of its Ordinance Code via civil penalties, appeals, and other lengthy efforts.
- Provided grant funding for five Groundwater Supply Enhancement Assistance Program (GSEAP) projects.

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1.0 AGENCY BACKGROUND

1.1 Introduction

The Fox Canyon Groundwater Management Agency (FCGMA) is a public agency tasked with managing groundwater resources in the southwestern portion of Ventura County, California (see Figure 1 – *Fox Canyon Groundwater Management Agency Boundary*). The primary water resource management goals are to control seawater intrusion, and help restore aquifers to a state of safe-yield. The FCGMA is an independent State "Special District", separate from the County of Ventura or any city government, with jurisdiction over all lands lying above the Fox Canyon aquifer. The Agency was created in 1982 by the California Legislature via the Fox Canyon Groundwater Management Agency Act [AB-2995] for the express purposes of regulating, conserving, managing, and controlling the use and extraction of groundwater to help preserve resources, and to counter seawater intrusion beneath the Oxnard Plain. Groundwater resources within the boundary of the FCGMA are used by the cities of Ventura, Oxnard, Port Hueneme, Camarillo, and Moorpark, along with the unincorporated communities of Saticoy, El Rio, Somis, Moorpark Home Acres, Nyeland Acres, and Montalvo. The FCGMA is funded solely by fees paid by those who extract groundwater within the Agency boundaries. These extraction fees are used by the Agency to administer and manage local groundwater resources within several aquifers beneath the Agency's boundary.

1.2 Purpose of this Report

The purpose of this report is to summarize the background and natural setting of lands within the FCGMA, and to present a synopsis of the technical and administrative groundwater resource management activities for calendar year 2011. Since the Agency's fiscal year is not concurrent with the calendar year or technical reporting year, this report includes only a brief summary of financial activities. Fiscal data for the first reporting period(s) covering 2011 can be found in the Agency's Annual Audit and/or the quarterly fiscal reports to the Board of Directors.

1.3 Origin and History of the Fox Canyon Groundwater Management Agency (FCGMA)

The unique geographic and geologic characteristics of Southern California have created a significant and valuable groundwater resource in the near-coastal and inland valley portions of Ventura County. Winter storms associated with the warm Mediterranean climate move inland from the Pacific Ocean and drop precipitation over the region, with greater amounts generally falling in the first quarter of the year (January-February-March) than the last quarter (October-November-December). The topography and geology of the area allow surface run-off and percolating groundwater to flow south and westward towards the coastal Oxnard Plain where such water can percolate into permeable sandy alluvial aquifers that are bounded by impermeable clays or compacted silts. Groundwater beneath the Oxnard Plain is contained in several named aquifers that are primarily rimmed by: upland and recharge areas to the north and east; the relatively impermeable rocks of the Santa Monica Mountains to the south and southeast; and the Pacific Ocean to the west and southwest.

Although the early indigenous people primarily relied on natural springs and available surface water, European settlers beginning in the early to mid 1800's recognized groundwater as a reliable resource. Beginning with shallow hand-dug (mostly windmill-driven) wells, the groundwater supply was developed to create one of the most prolific agricultural regions in California. In 2010, groundwater resources supported agricultural products in Ventura County valued at more than $1.8 billion (2010 Annual Crop Report, Ventura County Agricultural Commissioner's Office). Per verbal communication with the Ventura County Agricultural Commissioner's Office, the 2011 Crop Report will be available in July 2012.

The FCGMA was created by the State of California (legislative branch) in response to local and persistent overuse of groundwater resources resulting in declining water quality (especially in the southern part of the Oxnard Plain) first recognized in the early 1940's (DWR, 1954). Prior to the creation of the FCGMA, the California State Water Resources Control Board (SWRCB), as a condition to a State grant for the Seawater Intrusion Abatement Project, directed the United Water Conservation District (UWCD) and Ventura County as grantees to develop a Groundwater Management Plan for the purpose of controlling extractions and balancing water supply and demand in both the Upper Aquifer System (UAS) and Lower Aquifer System (LAS). Because of continuing overdraft by groundwater users and resulting seawater intrusion into aquifers beneath the Oxnard Plain, the Fox Canyon Groundwater Management Agency Act (AB-2995, Imbrecht) was passed on September 13, 1982, and became effective January 1, 1983. The Act (enabling legislation) is now contained in the State Water Code Appendix, Chapter 121 et seq. As directed by Article 2, Section 202 of that enabling legislation, the boundary of the FCGMA was established by Resolution of the Ventura County Board of Supervisors (VCBOS, 1982) on December 21, 1982 and became effective by recordation in the Ventura County Office of the Recorder (VCOR) on January 1, 1983. The boundary has been revised and legally re-recorded in 1996 and again in 2002 to reflect updated knowledge of the aquifer both geographically and to reflect subsequent hydrologic findings (VCOR, 1996).

1.4 Mission Statement of the Agency

The original State legislation created the FCGMA to manage groundwater within Ventura County, specifically the land overlying the Fox Canyon aquifer. The objectives of the Agency are to preserve groundwater resources for agricultural, municipal, and industrial uses in the best interests of the public and for the common benefit of all water users; however up until 2006, no formal mission statement had ever been adopted. The FCGMA formally adopted the following mission statement in 2006:

> *"The Fox Canyon Groundwater Management Agency (Agency), established by the State Legislature in 1982, is charged with the preservation and management of groundwater resources within the areas or lands overlying the Fox Canyon aquifer for the common benefit of the public and all agricultural, municipal and industrial users."*

1.5 Agency Operations and Personnel

The FCGMA is directed by an elected five (5) member Board of Directors, and staffed by technical and administrative personnel provided by the Ventura County Watershed Protection District (Table 1 – *Summary of FCGMA Personnel for Calendar Year 2011*).

As required by its enabling legislation (the Fox Canyon Groundwater Management Agency Act of 1982 [AB-2995]), the Board of Directors for the FCGMA is composed of one member from each of the following four stakeholder groups:

- The Ventura County Board of Supervisors.
- The United Water Conservation District (UWCD) Board of Directors.
- The City Councils of the five incorporated cities that partially or totally overlie the FCGMA. These cities include Ventura, Oxnard, Camarillo, Port Hueneme, and Moorpark.

- The seven[2] existing mutual water companies and special districts within the FCGMA, as identified in AB-2995. They include the governing boards of the following mutual water companies and special districts not governed by the County of Board of Supervisors, which are engaged in water activities, and whose territory at least in part overlies the territory of the Agency: (1) Alta Mutual Water Company, (2) Pleasant Valley County Water District, (3) Berylwood Mutual Water Company, (4) Calleguas Municipal Water District (CMWD), (5) Camrosa County Water District, (6) Zone Mutual Water Company, and (7) Del Norte Mutual Water Company.

These four stakeholder groups select the fifth Board Member from a list of at least five candidates nominated by the Ventura County Farm Bureau and Ventura County Agricultural Association acting jointly. This fifth member must reside in, and be "actively and primarily engaged in agriculture" within the territory of the Agency. The requirement "actively and primarily engaged in agriculture" means that farm members must derive at least seventy-five percent (75%) of their income from agriculture.

Five Alternate Board members are selected according to the same criteria and serve in the absence of the primary Board members. All Board members serve for a two-year term, unless reappointed. In 2007, the Board offset the terms of the City Council and the Agricultural representatives from the remaining three representatives by one year to ensure continuity of Agency operations and to prevent a complete turnover of all FCGMA Directors at the same time.

The Board normally conducts monthly public meetings, with additional public input received through various stakeholder-based committees and advisory groups. Two committees formed in 2007 to help implement the revised Groundwater Management Plan (GMP). The Strategic Advisory Group or SAG assists the FCGMA Board with policy decisions. SAG continued to play an active support role during 2011, with meetings in January, February and March, functioning as the main stakeholder input source. The Technical Advisory Group or TAG is the more scientific arm, and meets as needed to assist the SAG. There were no TAG meetings in 2011.

The personnel, technical, financial, and legal needs of the FCGMA are provided under contract with the Ventura County Watershed Protection District and the Office of the County Counsel. The United Water Conservation District (UWCD) provides additional technical resources to the Agency as needed. UWCD is a public wholesale and retail water agency that also provides groundwater basin management activities in the Santa Clara River Valley, and northern and central Oxnard Plain. In accordance with the enabling legislation, the FCGMA is not authorized to involve itself in activities normally undertaken by member agencies. Such activities include the construction, operation, and maintenance of capital facilities. Many facilities such as dams, spreading grounds, pipelines, flood control structures, and surface water diversions are operated by UWCD, CMWD, Camrosa, and other member agencies both inside and outside the FCGMA boundary.

2.0 GROUNDWATER RESOURCE MANAGEMENT

2.1 Location and Geographic Description of the FCGMA

The FCGMA is located in the southern portion of Ventura County in the southwest-coastal part of Southern California. At the time of its definition, the boundary of the Agency was defined as "all land

[2] An eighth mutual water company or special district, Anacapa Mutual Water Company, active at the passage of the enabling legislation (AB-2995), is no longer in existence.

overlying the Fox Canyon aquifer" (California Water Code, CWC, Appendix 121, Section 102), however to account for overlying or adjacent jurisdictions and/or political reasons, not all areas above the aquifer were included within the original boundary adopted by the Ventura County Board of Supervisors. The boundary was revised in 1996 and 2002. The Agency encompasses a northeast-southwest oriented, wedge-shaped area of 183.2 square miles that widens to the west and is bounded to the north by the Santa Clara River and South Mountain. To the east, the Agency boundary is defined by uplifted Tertiary and Quaternary-age consolidated rocks north and east of the City of Moorpark. The southern edge of the Agency is bounded by the Bailey Fault and the uplifted Santa Monica Mountains (Dibblee 1990). The western and southwestern limits are geographically limited by the Pacific Ocean coastline.

The eastern portion of the FCGMA bifurcates into two separate lobes east of the City of Camarillo. The longer northern lobe, which includes the Las Posas Valley, terminates east of the City of Moorpark near the central portion of the Happy Camp Syncline (Dibblee 1992b and 1992c). The furthest eastern extent of the Agency terminates in the County's Happy Camp Canyon Regional Park northeast of the City of Moorpark. The shorter southern lobe, which includes the western portion of Pleasant Valley, terminates approximately one-third of the distance into the Santa Rosa Valley (on the west end) (Dibblee 1990). These two valleys widen to the west and merge near the City of Camarillo to encompass the broader Oxnard Plain where the majority of groundwater extractions occur within the Agency. The Santa Clara River Valley intersects with the northeastern portion of the Oxnard Plain near the unincorporated area of Saticoy. The northern boundary of the Agency turns west-southwest across from South Mountain just north of the Santa Clara River at Saticoy, then parallels the river's course westward all the way to the Pacific Ocean. This latter stage of Santa Clara River flow is determined by the Oak Ridge Fault System, which also constitutes much of the northern Agency boundary line. Southwest of the City of San Buenaventura, the boundary crosses back to the south bank of the river just east of the Pacific Ocean.

2.2 Geology and Hydrogeology of the FCGMA

The FCGMA is located near the western margin of the Transverse Ranges Geologic Province in Southern California. This geologic province is characterized by east-west oriented mountain ranges separated by valleys, faults, and basins. The east-west trending folds and faults are common throughout the province and their surface expression is evident at many locations within the FCGMA boundary (see Figure 2 – Major Hydrologic Features and Groundwater Basins Within the FCGMA). The water-bearing sediments that comprise the valley fill and alluvial plains within the FCGMA consist of significantly deep unconsolidated and semi-consolidated sediments that range from Pliocene to Recent (Holocene) time in geologic age. The geologic formations from oldest to youngest include the Plio-Pleistocene-age Santa Barbara Formation (includes the Grimes Canyon aquifer), the Pleistocene-age San Pedro Formation (contains the Fox Canyon aquifer), and semi-consolidated and unconsolidated sediments of Upper-Pleistocene and Recent (Holocene) ages (Port Hueneme, Point Mugu, Oxnard, and perched aquifers). Local and regional unconformities (i.e. gaps in the geologic sedimentation record caused by uplift and subsequent erosion) occur between each of these formations (DWR, 1976).

The topography in the eastern portion of the FCGMA consists of narrow steep sided canyons that open into the broader east-west trending Las Posas Valley and Pleasant Valley areas. Moderate relief (typically 300 to 1,500 feet difference) between the bordering mountain highlands and the westward-sloping valley floors is typical of the area. The canyons and valley floors are partially filled by colluvium, unconsolidated fluvial sediments, and coalesced alluvial fans (also called a bajada or compound alluvial fan) comprised of material eroded from the surrounding uplifted Tertiary and Quaternary-aged sedimentary rocks. The alluvial deposits in the eastern portion of the Agency are typically less than 600 feet in thickness, and most such layers thin out in close proximity to surface exposures of bedrock. In the western portion of the FCGMA, the topography primarily consists of the broad, alluvial Oxnard Plain. The Oxnard Plain gently slopes to the southwest and continues beneath the Pacific Ocean. All of the

semi-consolidated rocks comprising the various freshwater aquifers outcrop beneath the ocean, and during periods of positive offshore pressure gradients, groundwater discharge has been documented in this offshore area (Izbicki, 1992, 1996a, 1996b). The thickness of the collective usable aquifer zone alluvial layers beneath the Oxnard Plain is typically greater than 1,200 feet.

Two main drainages lie within or form boundaries to the FCGMA. The Santa Clara River originates in the San Gabriel Mountains several miles east of Ventura County (in central Los Angeles County) and flows westward through the still largely natural Santa Clara River Valley, which lies north and northeast of the FCGMA. The Santa Clara River intersects the northwestern boundary of the FCGMA near the unincorporated area of Saticoy. The Santa Clara River supplies recharge to aquifers in the western third of the FCGMA by direct infiltration through the streambed, and infiltration of diverted river water in percolation ponds. A large man-made drop structure, operated by UWCD called the Vern Freeman Diversion, extends across the river and diverts river water via channels to off-stream percolation ponds (also owned and operated by UWCD) in the porous Oxnard Forebay Groundwater Basin. Because of near constant flows from wastewater treatment plants, urban runoff, and periodic releases from UWCD's Lake Piru, the Santa Clara River is now a perennial stream. The majority of river flows however, occur during runoff periods associated with winter storms, and this muddy, turbid water is difficult to capture and too silt-laden to be of any practical use. Calleguas Creek lies near the southern and southeastern boundaries of the FCGMA, and carries water during high-runoff periods, as well as nearly continuous discharge from upstream wastewater treatment plants in Simi Valley, Moorpark, Thousand Oaks, and Camarillo. Additional water is contributed to these streams by irrigation return flows and urban runoff. The Conejo Creek Diversion facility exists on a tributary to Calleguas Creek and surface water diverted from this location primarily supplements agricultural groundwater extractions in the Pleasant Valley area south of the City of Camarillo. Some Conejo Creek water also helps to add irrigation supply to the western end of the Santa Rosa Valley portion of eastern Camarillo. Although there are a number of small private reservoirs and County Watershed Protection District (WPD) stormwater retention basins, there are no major surface water bodies within the FCGMA boundary of any importance and none used for water supply needs.

Seven groundwater basins lie wholly or partially within the FCGMA:

1. Arroyo Santa Rosa Basin,
2. East Las Posas Basin,
3. West Las Posas Basin,
4. South Las Posas Basin,
5. Pleasant Valley Basin,
6. Oxnard Forebay Basin, and the
7. Oxnard Plain Basin[3].

Each basin has significant groundwater resources with unique physical and water quality characteristics (Izbicki et al., 2005). The majority of groundwater extractions occur within the Oxnard Plain Basin. We have assembled the data in figures and tables. Figure 3 – *2011 Ratio of Reported Groundwater Extractions by Basin* provides additional detail. Descriptions of the physical, hydrogeologic, and water quality characteristics of each of these groundwater basins are more extensively described in the 2007 FCGMA Groundwater Management Plan.

[3] Historic references have segregated the southeastern portion of the Oxnard Plain into a separate basin identified as the Mugu Forebay Basin. This Basin is not shown in Figure 2 because like the Agency's Groundwater Management Plan, this document considers these areas as a single groundwater basin, the Oxnard Plain Basin. Data and discussions included in this annual report treat all rainfall, extraction, and credit information from both the Oxnard Plain Pressure Basin and the Mugu Forebay Basin as one single basin.

There are six named aquifers in the FCGMA Boundary. From deepest to shallowest these are: a) the Grimes Canyon aquifer, b) the Fox Canyon aquifer, c) the Hueneme aquifer, d) the Mugu aquifer, e) the Oxnard aquifer, and d) the perched or semi-perched zone (DWR, 1976). These aquifers are grouped into a Lower Aquifer System (LAS), [Grimes Canyon, Fox Canyon, and Hueneme aquifers]; and the Upper Aquifer System (UAS), [Mugu and Oxnard aquifers]. The semi-perched zone is considered by some to be separate from the UAS because it is only locally extensive and of poorer quality than the deeper, more geographically extensive aquifers (Turner, 1975).

Faulting has significantly affected the local Tertiary and Quaternary-aged geologic formations, and the hydrogeology within the FCGMA reflects that. Significant faults that occur within or near the margins of the Agency include the Oak Ridge Fault, the Berylwood Fault, the Somis Fault, the Springville Fault, the Simi-Santa Rosa Fault Zone (includes Santa Rosa Fault, Northern Simi Fault, Southern Simi Fault), the Camarillo Fault, the Wright Road Fault, the Epworth Fault, and the Bailey Fault. Although the general groundwater flow direction in FCGMA aquifers is to the southwest, faults and other structural features may form partial or complete barriers to groundwater flow or cause local variability in flow direction.

Some authors have suggested that the Hueneme Canyon Fault as the western extension of the more prominent Simi-Santa Rosa Fault system that enters the Oxnard Plain near the northeast corner of the Pleasant Valley Groundwater Basin. The low-permeability feature separating the East and West Las Posas Groundwater Basins from north to south is, in all likelihood, a fault. Ultimately, the effects that these subsurface geologic structures have on groundwater flow can only be quantified through detailed hydrostratigraphic analysis, aquifer testing, and other methods such as geophysical reflection or refraction studies, etc. The Agency continues to work with its regional partners UWCD and CMWD to evaluate the impact of these features.

2.3 Groundwater Resource Management

The FCGMA's enabling legislation (CWC, Appendix 121), established the ability of the FCGMA to perform groundwater management activities including, but not limited to, registration of extraction facilities (wells), control of groundwater extractions, regulation of extraction facility construction, prosecution of legal actions against unreasonable use of water resources, imposition of reasonable operating regulations, and collection of fees. Through this legislation and a series of ordinances the FCGMA has developed a groundwater record management system to record well facility owner/operator information; to collect and record extraction data; to regulate groundwater extraction through the application of an annual allocation system; to assign credits as an incentive for non-use of allocations and/or for direct replenishment actions; to collect civil penalties and surcharges for overuse of groundwater, and to collect groundwater extraction fees to fund the Agency.

Data compiled by the Association of Water Agencies (AWA) based on 2007 information, revealed that Ventura County water needs were met by groundwater (approximately 60%) as the primary source, with local surface water (10%), reclaimed water from treatment plants or other recycled water sources (1%), and water imported to the County by the California State Water Project (29%) (AWA, 2007). When looking at the FCGMA specifically, data suggest 60% of groundwater was used for agriculture, and roughly 40% for municipal uses.

There are three specific groundwater allocation methods used by the FCGMA (see the FCGMA Ordinance Code for additional information). Allocation types include Historical Allocation (HA), Baseline Allocation (BA), and Irrigation Efficiency Allocation (IE). The type of allocation available depends upon the use of the groundwater, and the history of land and water use.

Wells operated by well Operators are grouped into three categories: agricultural (AG), municipal/industrial (M & I), and domestic (DOM). The definition of each type is specified in the Ordinance Code.

- **Agricultural Facility:** *"a facility whose groundwater is used on lands in the production of plant crops or livestock for market, and uses incidental thereto."* Well operators of Agricultural facilities may be entitled to HA, BA, or IE. They may also be entitled to credits on any unused HA[4]. Based on self-reported extraction data, in 2011, agricultural extraction facilities were responsible for approximately two-thirds (about 64%) of the reported groundwater extracted within the Agency (Table 2).

- **Municipal and Industrial User (M & I):** *"a person or other entity that used or uses water for any purpose other than agricultural irrigation".* An M & I operator is defined as *"an owner or operator that supplied groundwater for M & I use during the historical allocation period (1985-1989 inclusive), and did not supply a significant amount for agricultural irrigation during the historic period."* An M & I provider is defined as *"an entity or person which provides water for domestic, industrial, commercial, or fire protection purposes within the boundaries of the Agency."* M & I operators may be entitled to HA and/or BA, and can accumulate extraction credits for any unused HA in a particular year. M & I users are not eligible for IE. Based on self-reported extraction data, in 2011, M & I facilities were responsible for about one-third (35%) of the reported groundwater extracted within the Agency.

- **Domestic User or Domestic Extraction Facility:** *"a domestic extraction facility supplies a single family dwelling on one acre or less, with no income producing operations".* Typically, domestic users are responsible for a nominal pumping amount (less than 1%) of the total groundwater extracted within the Agency during any given calendar year.

Prior to 2011, the Agency used a Microsoft Access database to record groundwater extractions and payment as well as many other types of information. During 2011, the FCGMA continued development of a replacement to the Microsoft Access database. The new "FCGMA Online" software application is a web-based groundwater extraction reporting and billing system that can be used by well operators and FCGMA staff.

As of year-end 2011, the FCGMA had a total of 1268 wells identified by State Well Numbers listed within its boundary: 742 wells were reported as active; 138 wells were listed as inactive; with 383 wells destroyed, and 5 additional well numbers assigned to permanent monitoring or cathodic protection wells. On an ongoing basis, FCGMA staff registers new wells permitted by the County of Ventura[5] and/or by the City of Oxnard. Regular updates to the status of existing wells are completed according to information self-reported by the well owners or operators.

All extraction facility (well) operators are required to report their groundwater extraction on a semi-annual basis using an Agency provided Semi-Annual Groundwater Extraction Statement (SAES). The two six-month SAES reporting periods cover January 1 through June 30 (-01 Period), and July 1 through

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[4] Unused Historical Allocation (HA) refers to the difference between the total HA held by a registered extraction facility including any adjustments made by the Agency, minus the actual reported groundwater extraction reported by that facility in a particular year.

[5] Refers to wells permitted in accordance with the County of Ventura Ordinance No. 4184. All permitting in accordance with this ordinance is performed by the Ventura County Watershed Protection District. The City of Oxnard is the only other entity in Ventura County that issues water well permits.

December 31 of each year (-02 Period). Each SAES lists all wells under a particular operator code, any available allocations, the reported groundwater extraction (acre-feet) for each well, the application of any available credits, and the specific allocation method being used to calculate the permitted groundwater extraction. Based on the groundwater extraction reported, each operator is required by Ordinance to calculate the extraction charge due, plus any surcharges, interest, or late penalties associated with their user account, and then remit payment to the FCGMA along with the completed SAES form.

2.3.1 Current and Historic Groundwater Extraction in the FCGMA[6]

For the calendar year 2011:

1. A total of 116,101 acre-feet[7] (AF) of groundwater extraction was reported to the FCGMA.
2. For the period January 1 through June 30, 2011 (2011-01 period), the reported groundwater extraction was 52,299 AF.
3. During the last half of calendar year (2011-2, July 1 through December 31), the reported extraction was 63,802 AF.

In general, groundwater extractions in the second half of the year are usually higher than in the first half (see Table 3– *Summary of Reported Extractions Within The FCGMA Since 1983*). When compared to the past year's reported groundwater extractions, the total annual reported groundwater extraction for 2011 was 5% below the long-term average, 121,838 AF (1991 to 2011). Reported extractions for the 2011-1 period were 2% above the long-term average extraction, 51,358 AF (1991-1 through 2011-1). Reported extractions for the 2011-2 period were 9% below the long-term average, 70,480 AF (1991-2 through 2011-2). Annual extraction data is presented in Table 3, and in Figure 4 - *2011 Annual Rainfall and Reported Groundwater Extractions in the FCGMA*. Table 4 – *Comparison of Year 2011 Groundwater Extractions to Historic Groundwater Extractions in the FCGMA* provides more detail.

Rainfall and other factors affect groundwater extraction within the Agency. In general, groundwater extractions in any given calendar year are inversely proportional to rainfall (i.e., lower precipitation results in higher groundwater extractions and vice-versa). However, in 2011, we had lower than average precipitation and evapotranspiration, and extractions were below average. Other factors that affect groundwater extraction include: imported water costs cost and availability of energy and State imported water; and supplies of recycled water or surface water (stream) diversions.

2.3.2 Rainfall and Evapotranspiration

In support of the FCGMA's Irrigation Efficiency program, the Agency funds the operation and data collection from five (5) weather stations. Each station captures meteorological data such as air temperature, rainfall, humidity, wind velocity, wind direction, dew point, and solar radiation, and calculates daily[8] evapotranspiration (ETo)[9] values according to a Modified Penman formula (Pruitt and

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[6] Table provides data on reported groundwater extractions. In 2011, extractions from approximately 20% of active wells were not reported.

[7] 1 acre-foot (AF) equals 325,851 U.S. gallons at Standard Temperature and Pressure (STP).

[8] Currently data are collected at 30-minute intervals and daily ETo summary values are calculated based on some measurements being averaged over the midnight to midnight 24-hour period (e.g. wind speed), and others (rainfall, ETo) aggregated over the same time period.

Doorenbos, 1977) and a standardized ET equation equivalent to the State CIMIS stations. Measured annual precipitation is detailed in Figure 4. Semi-annual rainfall and reported extraction details can be found in Figure 5-*Rainfall and Reported Groundwater Extraction in the FCGMA for the -01 Reporting Periods 1985-2011,* and Figure 6-*Rainfall and Reported Groundwater Extraction in the FCGMA for the -02 Reporting Periods 1985-2011.*

Data collected at FCGMA weather stations for calendar year 2011, showed rainfall was 18% below the 14.81 inch average observed from 1985 through 2011 (Figure 4). The annual rainfall observed at the weather stations in 2011 ranged from a high of 13.19 inches at the Moorpark station to a low of 10.05 inches at the Somis station, with an overall average of 12.12 inches.

Data collected at the FCGMA weather stations also indicates that the average five-station evapotranspiration (ETo) value of 46.90 inches for calendar year 2011 was 4.74 inches lower than the average ETo value of 51.64 inches from 1997 through 2011. Annual ETo at each of the stations during 2011 ranged from a high of 52.77 inches at the Moorpark station to a low of 41.52 inches at the Camarillo Airport station. This all adds up to a total average annual ETo value for 2011 that was about 9% below the 51.64 inch long-term average (1997 through 2011).

Higher than average precipitation in late 2010 (11.27 inches compared to the 1991-2 to 2011-2 average precipitation of 4.07 inches, Figure 4), the near average precipitation in the first half of 2011 (8.88 inches compared to the 1991-1 to 2011-1 average precipitation of 10.73 inches, Figure 5) and the near average precipitation in the second half of 2011 (Figure 6), along with lower ETo, probably contributed to the reported lower annual extraction volume in 2011, than that reported in 2010 (116,101 AF and 120,537AF respectively, Table 3).

2.3.3 Irrigation Efficiency

The meteorological data collected from the weather stations is used in required calculations for the Agency's Irrigation Efficiency Extraction Allocation (IE) to calculate the annual Irrigation Efficiency Allocations for agricultural well operators. Each year, agricultural well operators can apply for this water allocation. The amount of water allowed under the IE Program varies by crop-type and evapotranspiration for that year.

The number of Irrigation Efficiency (I.E.) filings varies each year. In 2011, 122 well operators applied for irrigation efficiency allocations, of those two were not approved. Figure 7 – *FCGMA Annual Irrigation Efficiency Filings* provides data on the number of applications for IE each year. The total groundwater volume extracted in 2011 under the Irrigation Efficiency program was 36,798 AF, about a third of the total groundwater volume extracted in 2011.

2.3.4 Credits for Non-Use of Groundwater Resources

There are a number of different credits earned for non-use of groundwater resources:

- Conservation Credits,

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[9] Evapotranspiration (ET) is a term used to describe the sum of evaporation and plant transpiration from the earth's land surface to the surrounding atmosphere. Evaporation accounts for the movement of water to the air from sources such as the soil, the plant coverage, leaf canopy interception, and exposed (uncovered) water bodies. Transpiration accounts for the movement of water within a plant and the subsequent loss of water as vapor through stomata (tiny holes or pores) in its leaves.

- Injection credits,
- In-Lieu Credits; and,
- Supplemental Credits

This credit system started in 1991, and since 1998,[10] the Agency computer system calculated credits automatically. Well owners or operators with a Historical Allocation take advantage of a credit system for not using the full Adjusted Historical Allocation. These credits granted under this system are called conservation credits to designate that they were earned by not pumping the full allocation. Operators that recharge aquifers within the FCGMA Boundary through direct injection of "foreign water" as defined in the Agency's Ordinance Code, earn injection credits. Conservation and Injection Credits traded for imported water are In-Lieu Credits. When credits are transferred to UWCD to offset surcharges for excess groundwater extractions, they are called Supplemental Credits. In summary, credits are meant as an incentive to not pump the full allocation, but be used in future years to offset imposition of surcharges for pumping groundwater in excess of the allocation. Adjusted Historical Allocation by basin and well use type is presented in Table 5 - *2011 FCGMA Allocations vs. Extractions by Basin and Well Type.*

For 2011, a net total of 20,351 AF of credits were earned by operators within the Agency (see Table 6- *Summary of Groundwater Conservation Credits Accumulated in the FCGMA since 1991*). This figure is 3,707 AF less than what was earned in 2010 and 8,739 AF more than what was earned in 2009. At the end of 2011, an aggregate total of 716,733 AF of credits were available to well operators within the FCGMA. Table 6 details the historical growth of accumulated credits since the initiation of the FCGMA credit system in 1991, and Figure 8- *Accumulation of FCGMA Credits* graphically shows the growth.

The accumulation of credits represents a long-term resource management challenge for the Agency and its stakeholders. Should there be an extended period with limited groundwater recharge and high groundwater demands, a significant number of credits could be used under the current management approach, that have the potential to over stress aquifer resources. Some institutional controls exist for credit transfers however. Thus, although the credit system represents additional groundwater allocation to assist individual operators in avoiding surcharges during extended dry periods, it also represents a potential cumulative threat to the groundwater resource depending on certain factors.

The effect of any large-scale credit use would be significant. For example, even a modest 5% use of the total credits available in year 2011 could result in a 35,837 AF increase in extraction. Given the average annual groundwater extraction observed from 1991 through 2011 (approximately 121,838 AF), this additional 35,837 AF extraction based on credit usage would represent a net 30.9% increase in annual extractions. One documented consequence of groundwater over-extraction, is groundwater basin overdraft in both the UAS and LAS groundwater elevations (UWCD, 2004), land subsidence (Hanson, 1992), and seawater intrusion (Izbicki, 1996 a, b; 1992; UWCD, 2004; and others). One of the Agency's 2007 Groundwater Management Plan goals is to assist FCGMA stakeholders in developing new groundwater management strategies, groundwater replenishment/replacement programs, conservation incentive programs, and stakeholder education that will increase their water-use efficiency and decrease overuse of the resource.

[10] Prior to 1998, operators were required to request credits from the FCGMA Board. The policy change resulted from the passage of FCGMA Ordinance 5.7 in 1998.

2.3.5 Extractions and Credits by Groundwater Basins within the Agency

In 2011, the Oxnard Plain Basin had the greatest single basin share of reported extractions (46%) within the Agency, the most gross credits earned (50.5%) (see Table 7 for basin comparisons). The Oxnard Forebay Basin, East Las Posas Basin, Pleasant Valley Basin, and West Las Posas Basin as a group account for nearly all of the remaining extraction within the Agency. The collective extraction in these four basins accounted for 51% of the total Agency extraction and 49% of the gross credits earned in 2011. Individually, the East Las Posas Basin reported 17% of the 2011 total extraction, the Oxnard Forebay Basin reported 15%, the West Las Posas Basin 10%, and the Pleasant Valley Basin 9%. The South Las Posas Basin and Arroyo Santa Rosa Basin each accounted for approximately 0 and 1 % (respectively) of the total 2011 extractions, and yet 0.5% of the gross credits earned in 2011 were associated with these two basins.

2.3.6 Groundwater Use in the FCGMA

Self reported extraction data in 2011 (see Table 2) indicates there were 493 active wells registered as agricultural, 136 active wells registered as M & I, and 113 active wells listed as domestic. For 2011, agricultural operators collectively reported 73,863 AF of extractions (up from 69,694 AF in 2010 and down from 81,173 AF in 2009). M & I operators reported 41,172 AF of extractions (down more than 9,359 AF from 50,531 AF in 2010 and 19,036 AF less than the 60,208 AF of M & I extractions reported in 2009). The reported annual extraction by domestic well operators was approximately 1,065 AF compared to the 675 AF in 2010, and the 911 AF of domestic extraction reported in 2009. Domestic[11] well operators are not required to use flowmeters to report groundwater extraction. Total domestic annual extractions are not considered to be a significant percentage (0.93%) in the annual groundwater total use within the Agency.

The FCGMA extraction data can also be used to reflect the ratio of groundwater use in each basin (Table 2 and Figure 3). The basins have been divided into three classifications based on groundwater use during 2011. These primary classifications are described as follows:

- **Agricultural-Use Basins:** The primarily agricultural-use basins include the Arroyo Santa Rosa, East Las Posas, South Las Posas, and West Las Posas Basins.

- **Mixed-Use Basins:** The larger mixed-use basins include the Oxnard Plain Basin and the Pleasant Valley Basin. These two basins have significant groundwater extraction by both agricultural and M & I operators in roughly similar amounts and relatively little domestic extraction.

- **M & I - Use Basin:** The Oxnard Forebay Basin yields the majority of its groundwater to M & I operators, a lesser amount to agricultural extraction, and only nominal volumes to domestic demands.

[11] Wells for domestic use, serving an single family residence, on a parcel of 1 acre or less, with no money making operation on the site, are not required to use a flowmeter.

3.0 ADMINISTRATIVE ACTIONS FOR CALENDAR YEAR 2011

3.1 Significant Administrative Actions

3.1.1 Adopted Changes to the Ordinance Code

The FCGMA Board of Directors formally adopted three changes to the Ordinance Code during calendar year 2011, all of which are attached in the Appendix A and summarized as follows:

- Ordinance No. 8.4 Adopted - Amended the Ordinance Code relating to Annual Irrigation Efficiency Allocations.

- Ordinance No. 8.5 Adopted - Extinguishment Conservation Credits for destroyed, inactive or abandoned wells with no active operator.

- Ordinance No. 8.6 Adopted - Amended FCGMA Ordinance Code relating to Chapter 4.0, protection of the Las Posas Basin Management Area.

3.1.2 Adopted Resolutions

The FCGMA Board of Directors formally adopted four Resolutions during calendar year 2011, all of which are attached in the Appendix A and summarized as follows:

- Resolution No. 2011-01: Repealed and Replaced Grandfathering Resolution No. 1997-02, recognized that there were thirteen, not just eight, water purveyors established prior to the formation of the Agency. Adopted on January 26, 2011.

- Resolution No. 2011-02: A Resolution Creating the United Water Conservation District Saticoy Well Field Storage. The Agency granted approval of the United Water Conservation District (UWCD) Storage Program retroactively to 2007. State Water Project water released from Santa Felicia Dam and spread at the Saticoy Spreading Grounds will not be eligible for extraction under this program; however, non-State Water Project water released and spread will be eligible for extraction. Temporary storage and removal of that water is permitted for up to two years. Extractions are restricted to four shallow wells located adjacent to the spreading grounds. Each year, UWCD shall provide an accounting for all water stored and extracted under the Storage Program. As Part of UWCD's annual reporting to the Agency, UWCD shall provide an evaluation of any impacts directly associated with the pumping approved under the Storage Program. Adopted on April 27, 2011.

- Resolution No. 2011-03: Honored David J. Panaro, Fox Canyon Groundwater Management Agency Staff Geologist, for fourteen years of: providing a high level of helpful service and information to stakeholders; facilitating Agency solutions to some complex issues; leading the Meter Calibration Program; initial development of the Technical Advisory Group (TAG) and the Strategic Advisory Group (SAG) meetings; designed the Agency logo; created the first website; and helped find solutions to a number of very complex legacy issues. Presented by the FCGMA Board of Directors on May 25, 2011.

- Resolution No. 2011-04: Specified the requirements for calculating the Irrigation Allowance Index under the Irrigation Efficiency Allocation Program. The new Irrigation Allowance Index computations will replace the existing Irrigation Efficiency Program computations to ensure efficient irrigation practices. This Resolution was adopted on October 26, 2011. Resolution shall become effective on January 1, 2013.

3.2 FCGMA Board Members and Staff

There was no change in the Members of the Board during 2011. In May 2011, Staff Geologist, Dave Panaro, transferred to another Division of Ventura County Watershed Protection District. In mid-2011, Gerard Kapuscik stopped serving as Special Programs and Project Manager. Kathleen Riedel began working as a Groundwater Specialist for the FCGMA in November 2011.

3.3 Project Reviews Performed in 2011

At times, Agency staff provides formal comments on proposed projects to the County of Ventura Planning Department. In 2011, Agency staff provided, approximately 20 project reviews to the County of Ventura Planning Department. Typically, proposed development projects are reviewed to identify the following groundwater-related issues: changes to the well ownership/operator, property-use changes that may affect or impact FCGMA extraction allocations, changes to land or crops, potential short or long-term impacts to water quality and/or water quantity, alterations or modifications in well status, changes to water distribution systems, and construction of structures that might impair infiltration of water to FCGMA aquifers. Projects may be approved with no further action needed, approved with conditions and/or modifications based in part on potential impacts to the FCGMA groundwater resources.

3.4 Permitting and Registration of Wells

Agency staff assists the Ventura County Watershed Protection District (VCWPD) in groundwater management within the larger scope of the county via review of installation plans for new wells, and with abandonment permits for old wells within the FCGMA boundary. New wells are required to meet the State of California Well Standards (DWR, 1991) and Ventura County Well Ordinance No. 4184 (VCBOS, 1999). The FCGMA Ordinance Code also requires registration of all groundwater extraction facilities in addition to semi-annual reporting of extraction volumes and payment of extraction fees. During 2011, 140 Ventura County well permits were issued. Of that number, eight permits were issued within the FCGMA. Four of those FCGMA permits were for new well installations, two were for repairs to existing wells, and two permits were issued for well destructions within the Agency. The continuation of a moratorium on installation of new wells in the Las Posas Valley imposed by FCGMA's Emergency Ordinance "D" caused a temporary reduction in FCGMA well permit activity.

3.5 Other Activities Performed in 2011

The FCGMA performed a number of other administrative activities during 2011. These included the following:

- Enforcement Program – Performed compliance work on five operator accounts. Through this effort, the statuses of 10 wells were resolved.

- FCGMA Allocation Transfer Requests – Approved five allocation transfers. Only one allocation transfer was in effect in 2011.

- FCGMA In Lieu Credit Transfer Requests – Ten examined, approved and performed.
- Development and testing of a of new FCGMA web-based online operating system
- Stepped up the Basin Specific Management Planning activities for the West, South, and East Las Posas Groundwater Basins. Additional meetings of the Las Posas Basin User Group were held.

3.6 Progress of the Groundwater Metering Program

The FCGMA Ordinance Code requires the use of flowmeters for all extraction facilities except inactive wells and facilities supplying a single-family dwelling on one acre or less providing that property has no income producing operations (domestic wells). The use of accurate flowmeters for reporting groundwater extractions is critical to the FCGMA for a number of reasons. First, it provides a relatively uniform method of reporting for all stakeholders. Second, it increases the efficiency of data management. Third, it allows FCGMA staff to analyze the extraction and use of the groundwater resources to help make meaningful recommendations to the Board regarding its use.

The Groundwater Metering Program was officially launched via a revision of Chapter 3.0 in Ordinance 8.1 (July 2005), and the initial passage of Resolution No. 2006-01 (adopted in March 2006). The initial groundwater flowmeter calibration program began in earnest in 2007 and continued into 2009. Resolution No. 2008-04 (adopted May 2008) replaced the original Resolution No. 2006-01 to clarify the methods and rules governing the meter calibration program: Resolution No. 2008-04 was again revised at the September 24, 2008 Board meeting. A second round of Agency-wide flowmeter calibration testing was initiated in 2011. Staff continued to enforce flowmeter calibration requirements throughout 2011.

Data indicates approximately 742 (about 58%) of the 1,268 State Well Numbers listed in the FCGMA database were actively being used in 2011. In the past, well extractions were reported using water flowmeters, electrical power meters, or a consumptive-use method that estimated annual water use volume for domestic or farm use based on number of people in a home, or to help gauge water use by comparing the acres irrigated times average water use for a specific crop. Because of a concerted effort by the FCGMA, the only known wells within the Agency that still use consumptive use methods to report extractions are domestic wells. Per Agency records, about 661 wells have flowmeters, of which, 355 flowmeters were due for calibration by the end of 2011; and, calibration test data was current for about 306 flowmeters. In order to increase the effectiveness of the flowmeter program, the FCGMA took the following actions in 2011, which helped increase the compliance rate for calibrated Agricultural well, and M & I well flowmeters:

- Staff stepped up enforcement of the metering requirement and to assure flowmeters had been calibrated if required on specific wells.
- Staff performed field visits to verify if six wells had flowmeters, or whether those flowmeters were being reported properly. These field visits resulted in two new flowmeters being installed, and correction of reported extractions from two existing well operators to resolve FCGMA irregularities. The remaining two site visits found a calibrated flowmeter on a well but the well was inactive, and a destroyed well.
- Assessed penalties for those well operators who had not responded to the meter calibration program, or who had not complied with the requirements to show proof of a calibrated flowmeter by the designated due date(s). Enforcement letters mailed to six operators helped resolve two of those cases by year-end.

- Initiated Phase I of the second round of Agency-wide flowmeter accuracy testing. One hundred fourteen (114) flowmeter calibration notices were mailed on July 19, 2011. Well owners had until December 31, 2011 to conduct recalibration of their flowmeter(s) and to submit proof of flowmeter calibration. As of January 3, 2012, 65 responses had been received, representing 57% of the notices sent out.

3.7 FCGMA Groundwater Management Plan

The enabling legislation for the FCGMA (AB-2995, Imbrecht, 1982) required the Agency develop a Groundwater Management Plan (GMP). The current FCGMA Groundwater Management Plan (GMP) was adopted by the Board on May 23, 2007, and can be viewed on the Agency Web Site (http://www.fcgma.org/publicdocuments/plans.shtml).

The GMP contains a background of the FCGMA, a brief overview of the regional hydrogeology, and summarizes the groundwater quality and quantity issues currently facing the Agency. The GMP identifies a series of short-term and long-term groundwater management projects and strategies designed to address the current imbalance between water supply and demand. The GMP includes presentation of Basin Management Objectives (quantitative groundwater quality and quantity targets used to measure and evaluate the "health" of the basins and the potential effectiveness of various groundwater management strategies).

During 2011, progress was made towards implementing the following strategies, with the goal of managing the basins and meeting the Basin Management Objectives (BMO):

- GREAT Project (recycled water for in-lieu delivery and direct injection) - in construction phase.
- South Las Posas Pump/Treat (pump poor quality water and blend/ treat it)
- Verification of Extraction Reporting (verify accuracy of reporting) – Continued FCGMA Online Software application testing and data conversion with implementation of a quality assurance/ quality control program, implementation of the meter calibration and enforcement programs, and processing of SAES.
- Irrigation Efficiency (determine if warrants modifications) – Ordinance No. 8.4 was amended.
- Shelf Life for conservation Credits (limit the long-term accumulation of credits and/or limit number of credits pumped in any one year) - Ordinance No. 8.5 was adopted.

BMP strategies implemented:

- Continuation of 25% Pump Reduction (continue original Plan strategy of 25% reductions by 2010) – In 2011 continued 25% reduction of Historical Allocation.

The Annual BMO progress report was presented to the Board on January 25, 2012, which includes progress made towards meeting the BMOs in 2011. Per the Progress Report, overall groundwater conditions and status relative to the BMOs are similar to that reported in January 2011. However, many of the five-year water level trends reported as downward in 2010 are now considered to be flat or upward trending. This is most evident at locations in the Upper Aquifer System (UAS) of the Oxnard Plain Basin north of Point Mugu. In the Oxnard Forebay Basin, rising water levels coincided with notable water quality improvement; nitrate and total dissolved solids (TDS) concentrations are now generally well below

their respective BMOs and are continuing to decline in the Forebay. The progress report is attached as Appendix B.

3.8 Financial Status of the Agency for 2011

The FCGMA's fiscal year begins July 1st and ends on June 30th of the next calendar year. Accordingly, the financial status information contained in this 2011 Annual Report covers the Fiscal Year period beginning July 2010 and ending on June 30, 2011. Fiscal administration and oversight of the Agency's financial transactions is performed by Agency management in consultation with the Fiscal Services Section Central Services Department within the Ventura County Public Works Agency pursuant to an existing and ongoing contractual arrangement between the Agency and the County of Ventura.

Quarterly and year-end budget to actual performance reports are presented to the FCGMA Board of Directors for their information, review, and where necessary, adjustments. The information below highlights key fiscal performance metrics reported by Agency management during the 2010-11 Fiscal Year period.

Fiscal Year Ended June 30, 2011

- FCGMA revenues received in 2010-11 totaled $809,044. An amount that reflected a $586,198 or 42% *decrease* versus 2009-10 actual revenues received.
- FCGMA expenditures incurred in 2010-11 totaled $1,010,896. An amount that reflected a $102,580, or 11% *increase* above 2009-10 actual expenditures incurred by the Agency.
- FCGMA *operating gain/ (loss)* on June 30, 2011 totaled a loss of $245,077. An amount that was $680,289 less than the $435,212 operating gain figure experienced on June 30, 2010.
- FCGMA *net assets* at June 30, 2011 totaled $3,099,967 [$3,179,174 in total assets minus $79,210 in liabilities]. Of the net asset amount, $504,961 reflected the GEMES Fund portion [the proceeds of which are *restricted* for extraordinary groundwater enforcement activities authorized solely by the Board of Directors]. In addition, $2,095,003 reflected the *unrestricted and undesignated* portion of the Agency's net assets that were available for *subsequent year financing* of Agency operations.
- FCGMA received $230,000, which is kept in a separate, settlement money account.

3.9 Financial Audits

Pursuant to the Section 26909, the audit requirements applicable to FCGMA are found in the Minimum Audit Requirements and Reporting Guidelines for California Special Districts, as published by the Division of Accounting and Reporting, Office of the State Controller. Essentially, the minimum requirements reflect Generally Accepted Auditing Standards (GAAS), as described in the American Institute of Certified Public Accountants publication, Audits of State and Local Governmental Units.

Under GAAS, the FCGMA, which is a special purpose government engaged in the preservation and management groundwater resources for the common benefit within its boundary, is required to prepare its financial statements in an enterprise format. The FCGMA is funded primarily through user extraction charges (set at $4.00 per acre-foot throughout the duration of the audit), and is operated on a cash-accounting basis. The only other income to the Agency is from surcharge fees, civil penalties, and accumulated interest earnings on Agency funds on deposit with the County Treasurer's Pooled Investment Fund.

Collins Accountancy Company, Certified Public Accountants, was selected by the County Auditor-Controller's Office to complete the Agency's current annual audit report. The independent auditors found that Agency's financial statements presented fairly, *in all material respects*, the financial position of the FCGMA as of June 30, 2011. Further, the auditors found that the respective changes in financial position and cash flows as presented in the financial statements for the above referenced fiscal years *were in conformity with generally accepted accounting principles.* Copies of the Agency's biennial audit reports are available upon request.

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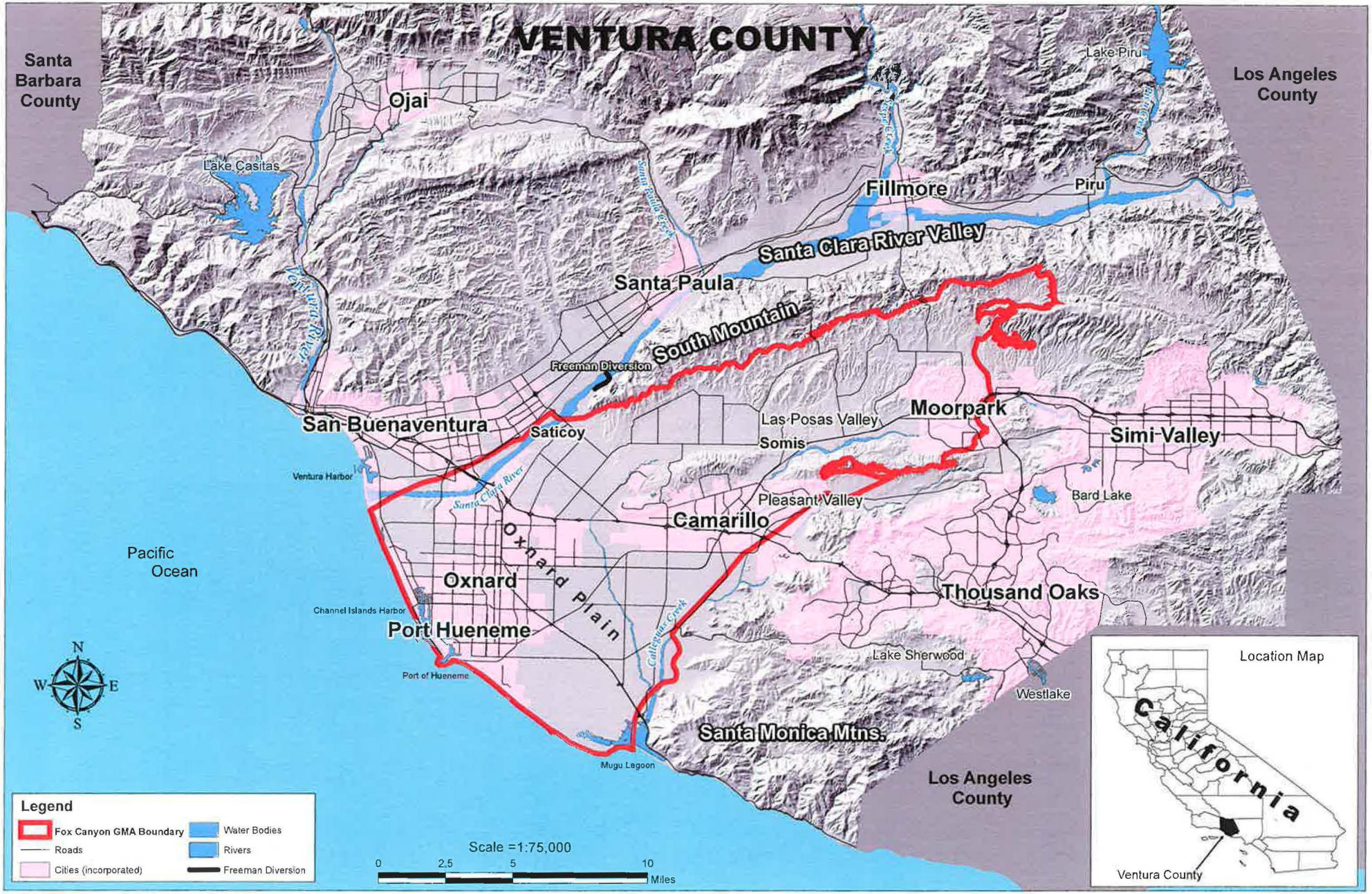

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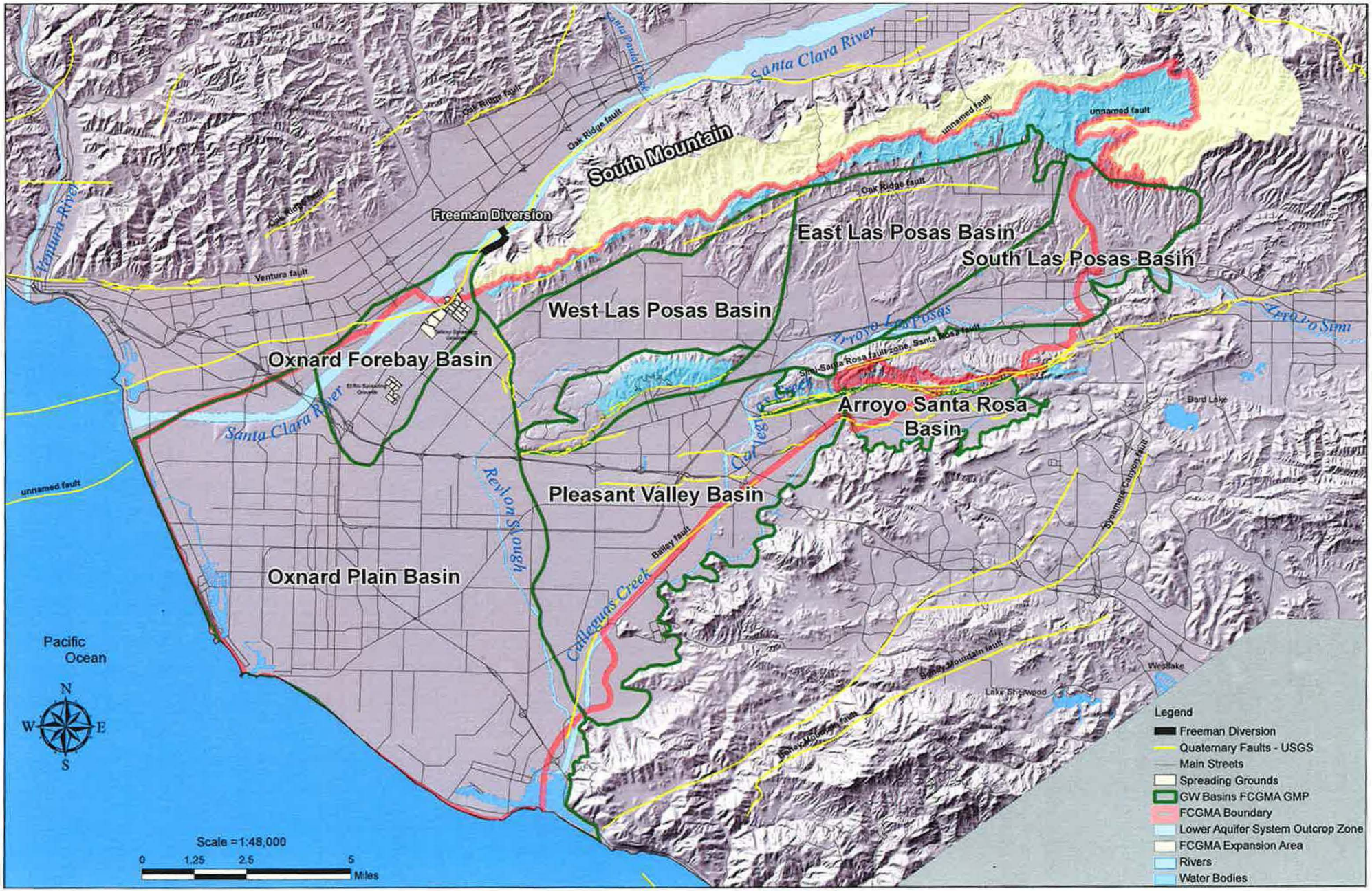
Prepared By: JPD
Reviewed By: KR
Date Prepared: April, 2012
Date Reviewed: April, 2012

1. City limits: Ventura County Geographic Information Sysytems, 2007
2. FCGMA Boundary VCBOS, 1992, Revised 1996.

Figure 1: Fox Canyon Groundwater Management Agency Boundary



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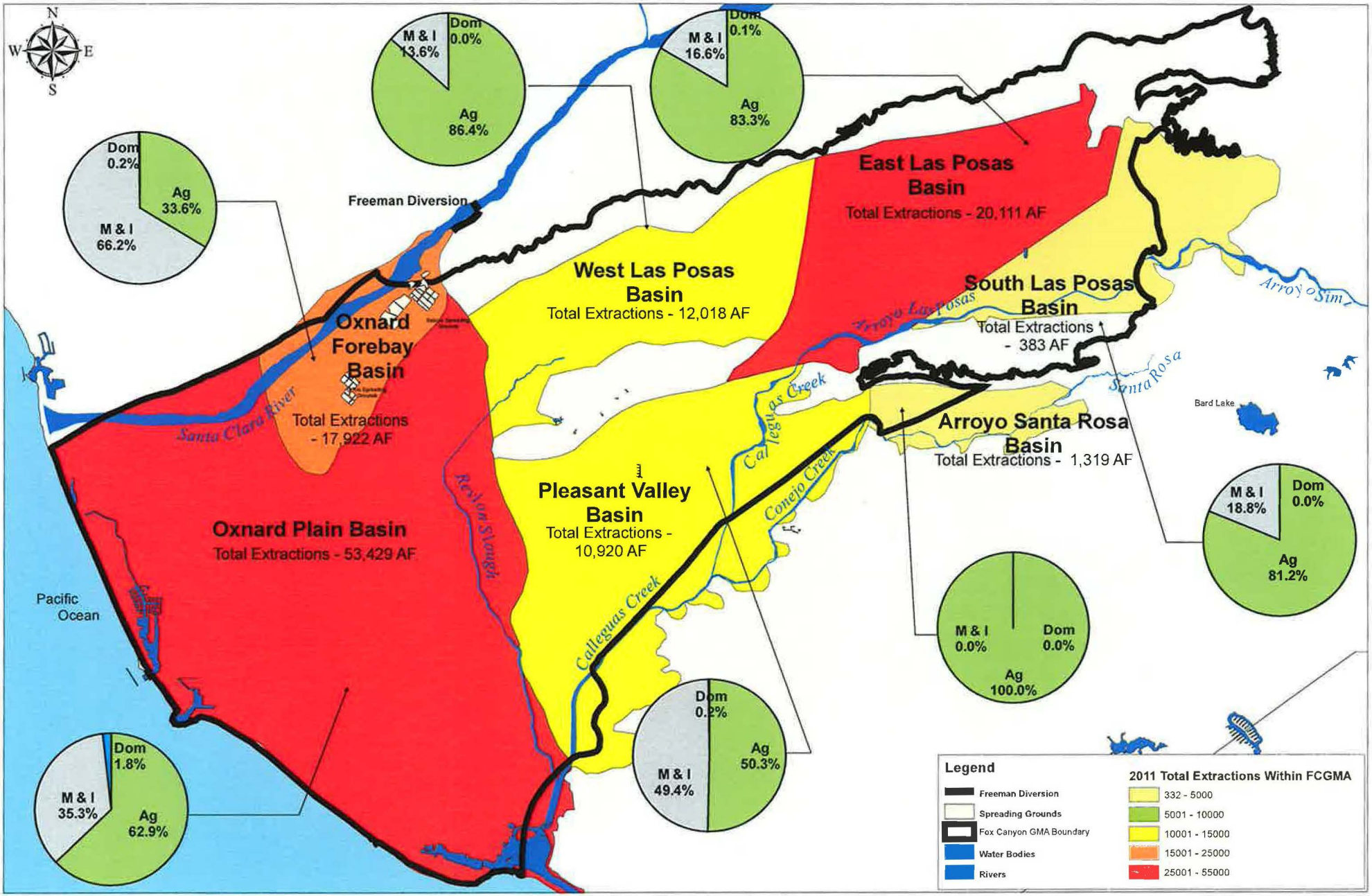
3. Faults & Folds compiled from multiple sources including Dibblee, 1990, 1992a; 1992b; 1992c; USGS - various sources

Figure 2: Major Hydrogeologic Features and Groundwater Basins Within the FCGMA



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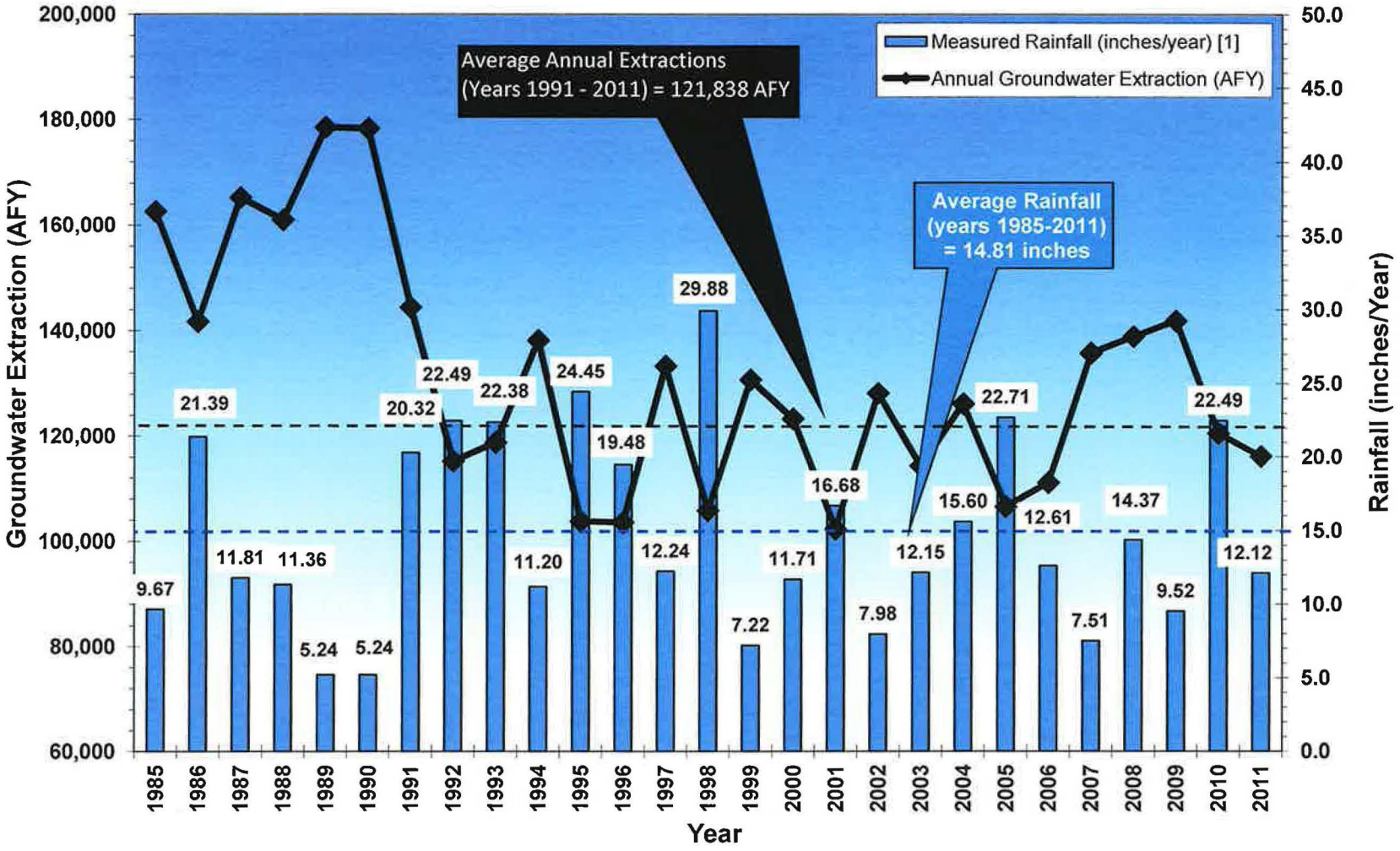
Prepared By: JPD
Reviewed By: KR
Date Prepared: May, 2012
Date Reviewed: May, 2012

Scale = 1:42,000
0 1.25 2.5 5 Miles

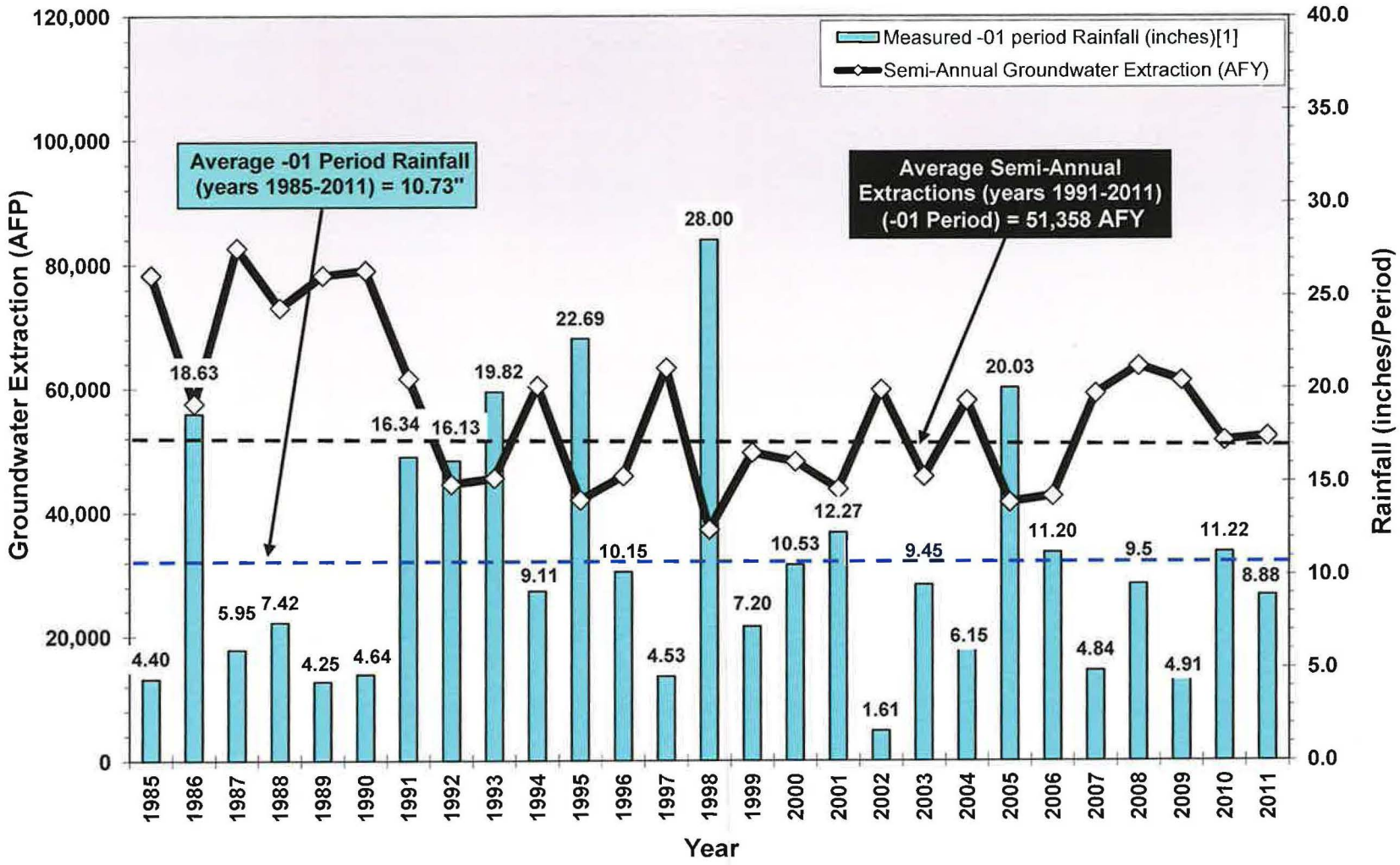
Figure 3: 2011 Ratio of Reported Groundwater Extractions By Basin

FIGURE 4
2011 Annual Rainfall and Reported Groundwater Extractions in the FCGMA



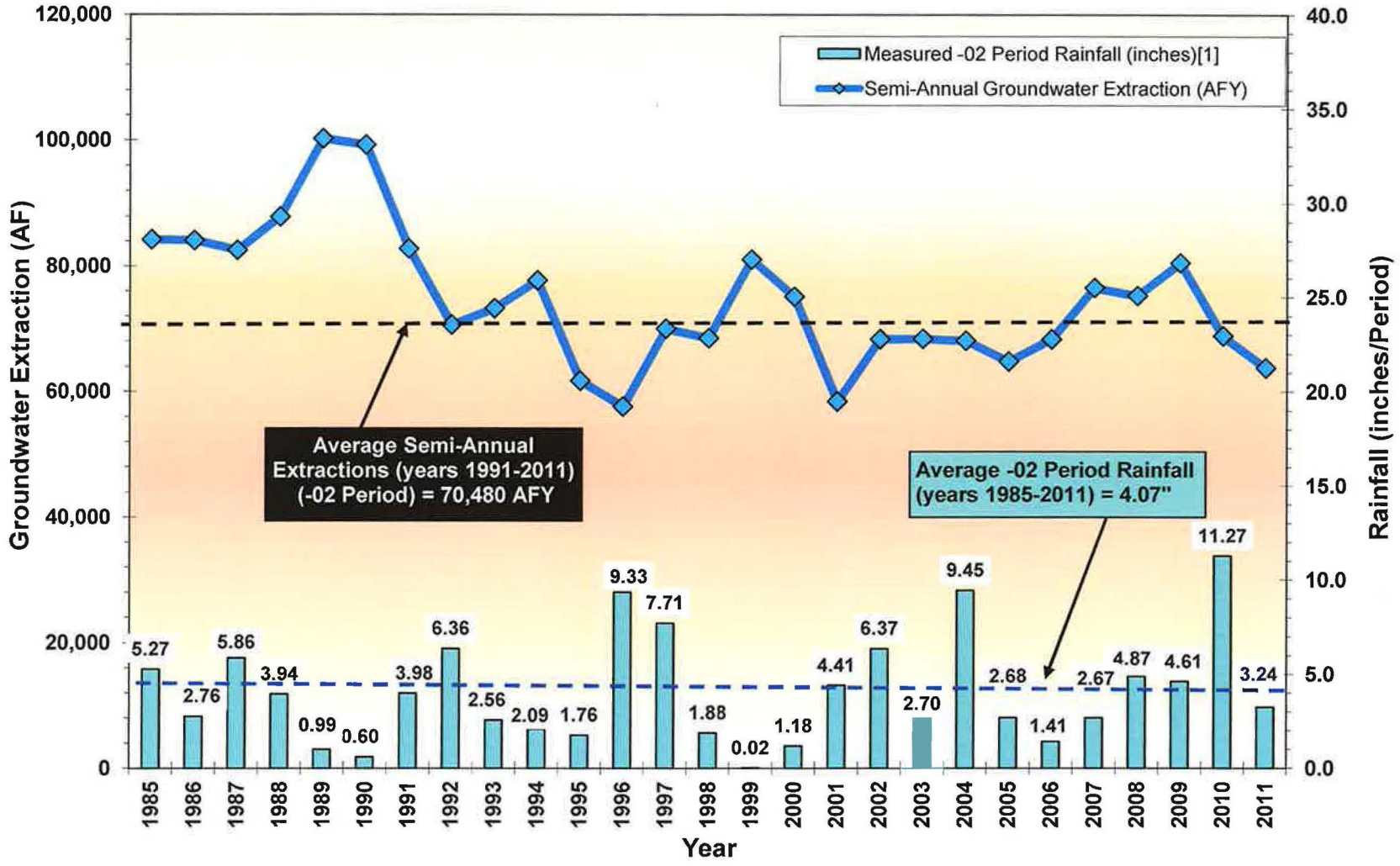
[1] - Measured rainfall is the average of FCGMA weather station annual recorded precipitation. There were 6 stations between 1991 and 2006, and 5 between years 2007-2011. County gauges used for 1985-1990.

FIGURE 5
Rainfall and Reported Groundwater Extraction in the FCGMA for the -01 (January 1 to June 30) Reporting Periods 1985-2011



[1] - Measured rainfall is the average of FCGMA weather station -01 period recorded precipitation. There were 6 stations between 1991-2006, 5 between 2007-2011. County rain gauges used for 1985-1990.

FIGURE 6
Rainfall and Reported Groundwater Extraction in the FCGMA for the -02 (July 1 to December 31) Reporting Periods 1985-2011



[1] - Measured rainfall is the average of FCGMA weather station -02 period recorded precipitation. There were 6 stations between 1991-2006, and 5 between years 2007-2011. County gauges used for 1985-1990.

FIGURE 7
FCGMA ANNUAL IRRIGATION EFFICIENCY FILINGS

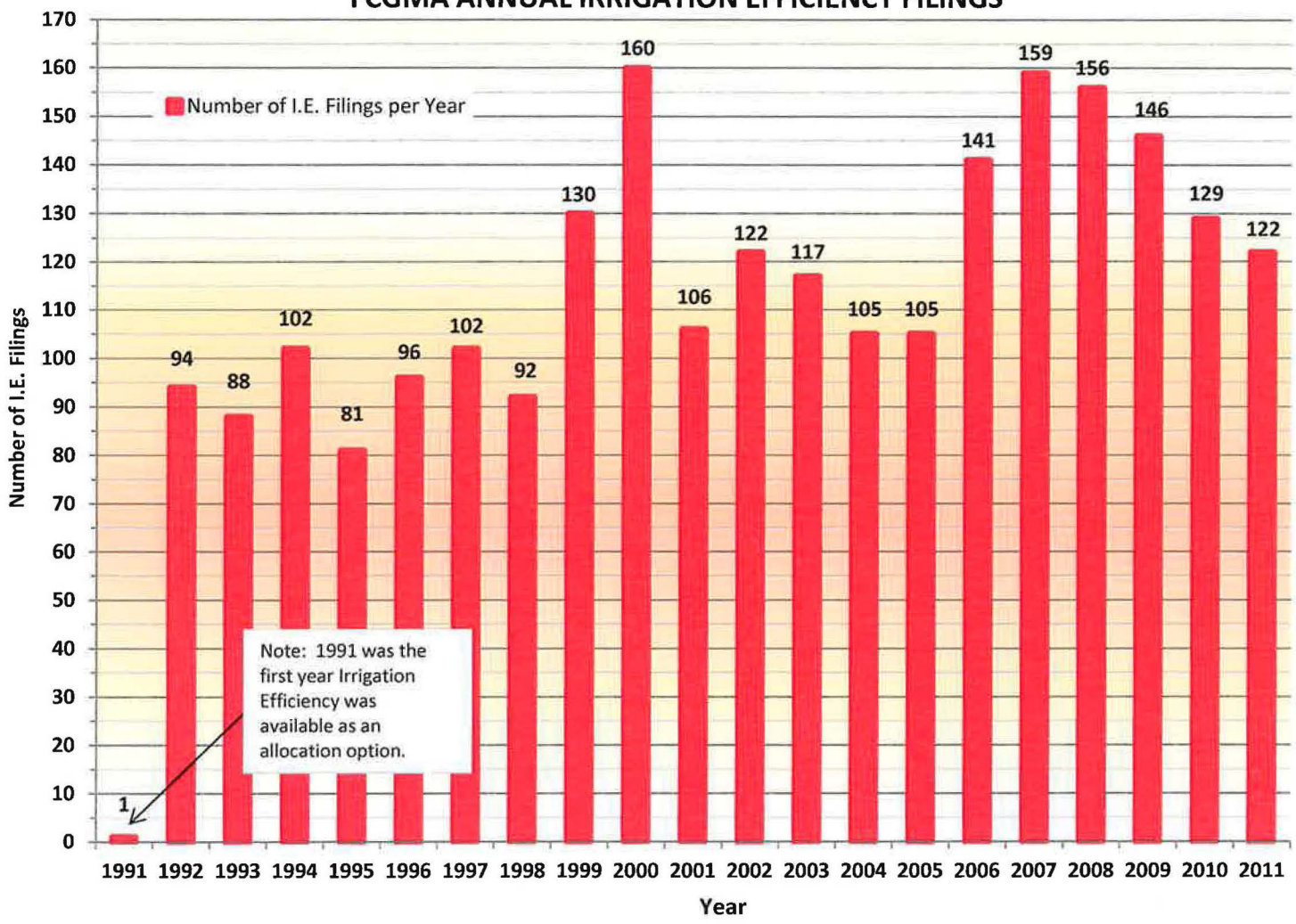
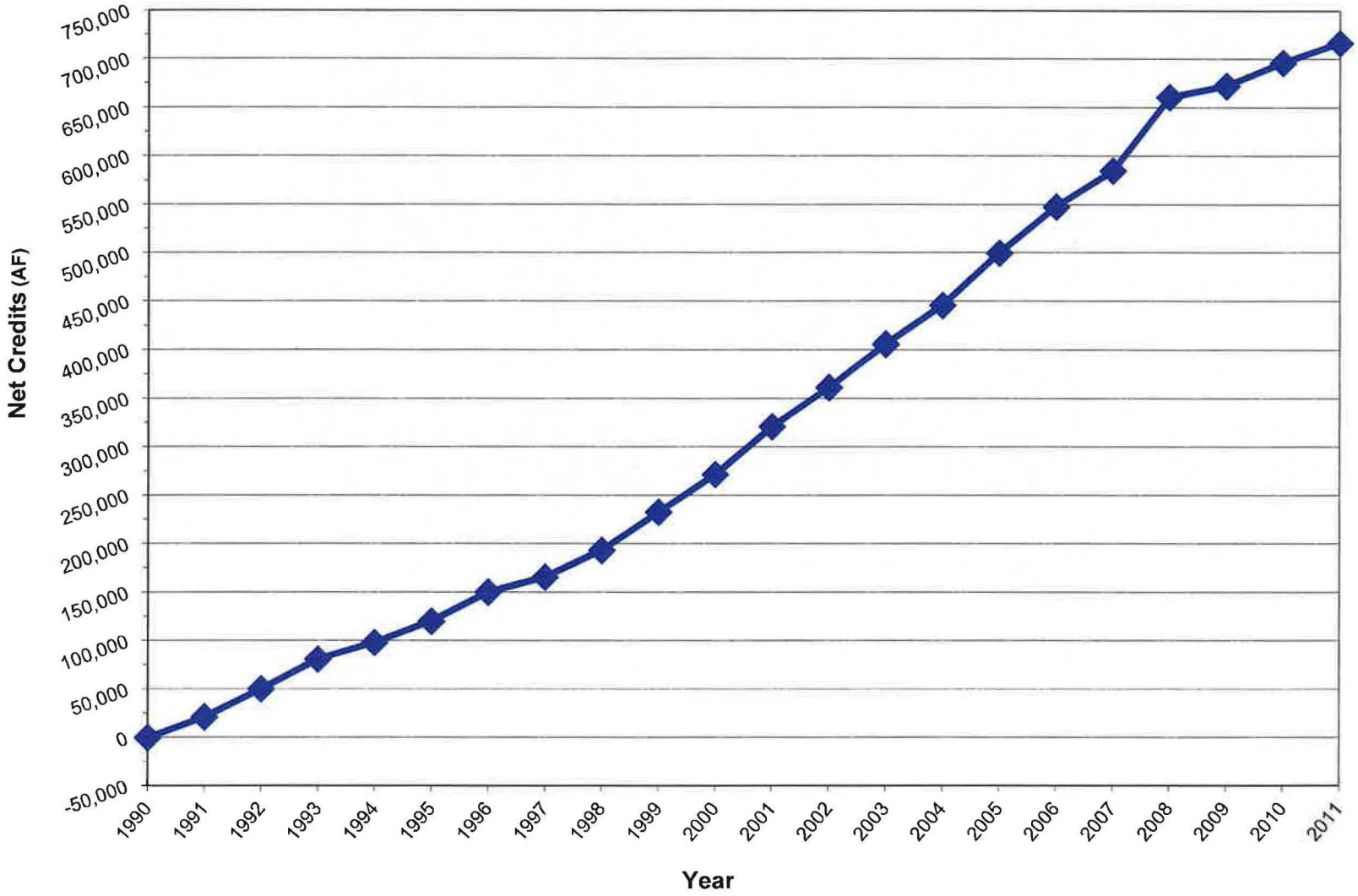


FIGURE 8

Accumulation of FCGMA Credits (values in acre-feet) [1]



[1] FCGMA database statistics for year end credit totals in each category.

TABLE 1
SUMMARY OF FCGMA PERSONNEL FOR CALENDAR YEAR 2011

NAMES	AFFILIATION	CONTACT NUMBER
DIRECTORS		
Steve Bennett	Representing the Ventura County Board of Supervisors	(805) 654-2703
David Borchard	Representing the Farming Interests	(805) 485-3525
Charlotte Craven (Vice Chair)	Representing the Five Cities within the Agency	(805) 482-4730
Dr. Michael Kelley	Representing the Small Water Districts within the Agency	(805) 890-6095
Lynn Maulhardt (Chair)	Representing the United Water Conservation District	(805) 485-5728
ALTERNATE DIRECTORS		
Neil Andrews	Cities	(805) 654-7827
Sam McIntyre	Small Water Districts	(805) 484-1779
Daniel Naumann	United Water Conservation District	(805) 488-1424
David Schwabauer	Farmers	(805) 432-9375
John Zaragosa	Ventura County Board of Supervisors	(805) 654-2613
STAFF		
Alberto Boada	Agency Legal Counsel	(805) 654-2578
Bryan Bondy, P.G., CHg.	UWCD-FCGMA-CMWD Senior Hydrogeologist	(805) 658-4373
Tammy Butterworth	Agency Deputy Clerk of the Board	(805) 654-2002
Gerhardt Hubner, P.G.	Deputy Director, WPD, Water & Environmental Resources	(805) 654-5051
Sheila Lopez	Agency Engineering Technician	(805) 645-1372
Miranda Nobriga	Agency Clerk of the Board	(805) 654-2014
Jeff Pratt, P.E.	Agency Executive Officer	(805) 654-2073
Kathleen Riedel, P.G., C.E.G.	Groundwater Specialist	(805) 654-2954
Rick Viergutz, P.G., C.E.G.	County Groundwater Manager	(805) 650-4083

Notes:

1. Table lists active Board Members, and Alternates at the end of 2011.

2. The notable staff changes for 2011 included: David Panaro left the full-time position of Agency Staff Geologist; Gerard Kapuscik left the position of Special Programs and Projects Manager; and Kathleen Riedel joined Agency staff as a full time Groundwater Specialist.

TABLE 2

SUMMARY OF REPORTED GROUNDWATER EXTRACTIONS AND WELL USE-TYPE WITHIN THE FCGMA FOR CALENDAR YEAR 2011[1]

Groundwater Basin	Groundwater Use-Type	Total Reported Groundwater Extractions for 2011 (AF/Year)[2]	Percent of Individual Groundwater Basin Extractions	Portion of 2011 Groundwater Extractions (%)	Total Number of FCGMA Wells[4]	Active Wells in Basin[5] (by use type)	Active Wells in Basin by Use (%)
Arroyo Santa Rosa	**Basin Total**	**1,319**	**100%**	**1.1%**	**20**	**10**	**50.0%**
	Agricultural	1,319	100.0%	1.1%	19	10	50.0%
	Domestic	0	0.0%	0.0%	1	0	0.0%
	M & I	0	0.0%	0.0%	0	0	0.0%
East Las Posas	**Basin Total**	**20,111**	**100%**	**17.3%**	**203**	**148**	**72.9%**
	Agricultural	16,748	83.3%	14.4%	141	101	49.8%
	Domestic	15	0.1%	0.0%	21	17	8.4%
	M & I	3,348	16.6%	2.9%	41	30	14.8%
South Las Posas	**Basin Total**	**383**	**100%**	**0.3%**	**41**	**18**	**43.9%**
	Agricultural	311	81.2%	0.3%	34	17	41.5%
	Domestic	0	0.0%	0.0%	3	0	0.0%
	M & I	72	18.8%	0.1%	4	1	2.4%
West Las Posas	**Basin Total**	**12,018**	**100%**	**10.4%**	**89**	**56**	**62.9%**
	Agricultural	10,383	86.4%	8.9%	67	42	47.2%
	Domestic	3	0.0%	0.0%	5	4	4.5%
	M & I	1,631	13.6%	1.4%	17	10	11.2%
Oxnard Plain[3]	**Basin Total**	**53,429**	**100%**	**46.0%**	**605**	**350**	**57.9%**
	Agricultural	33,585	62.9%	28.9%	396	229	37.9%
	Domestic	977	1.8%	0.8%	92	68	11.2%
	M & I	18,867	35.3%	16.3%	117	53	8.8%
Pleasant Valley	**Basin Total**	**10,920**	**100%**	**9.4%**	**160**	**73**	**45.6%**
	Agricultural	5,496	50.3%	4.7%	119	48	30.0%
	Domestic	26	0.2%	0.0%	28	18	11.3%
	M & I	5,397	49.4%	4.6%	12	7	4.4%
Oxnard Plain Forebay	**Basin Total**	**17,922**	**100%**	**15.4%**	**150**	**87**	**58.0%**
	Agricultural	6,021	33.6%	5.2%	76	46	30.7%
	Domestic	44	0.2%	0.0%	10	6	4.0%
	M & I	11,857	66.2%	10.2%	64	35	23.3%
	2011 Totals	**116,101**	**100%**	**100%**	**1,268**	**742**	**59%**

Notes:

AF = Acre-feet; 1 acre-foot equals 325,851 gallons

M & I - Municipal and Industrial

1. Table provides data on reported groundwater extractions. In 2011, extractions from approximately 20% of active wells were not reported.
2. Groundwater extraction reporting periods are: Jan. 1 - June 30 and July 1 - Dec. 31.
3. Oxnard Plain Basin includes area formerly identified as Mugu Forebay Groundwater Basin.
4. Total number of wells ever registered with the FCGMA in each basin (includeds inactive and destroyed wells).
5. Wells reported as being used in each basin during 2011.

TABLE 3

SUMMARY OF REPORTED GROUNDWATER EXTRACTIONS WITHIN THE FCGMA SINCE 1983

Calendar Year	-01 Period Extractions [in AFY][1,2,3]	-02 Period Extractions [in AFY][1,2,3]	Total Annual Extractions [in AFY][1,2,3]	Historical Allocation Reduction Percent[4]
2011	52,299	63,802	116,101	25%
2010	51,664	68,873	120,537	25%
2009	61,741	80,551	142,292	20%
2008	63,695	75,360	139,055	15%
2007	59,604	77,337	136,941	15%
2006	43,655	69,457	113,113	15%
2005	41,692	64,906	106,597	15%
2004	59,357	70,805	130,161	15%
2003	46,122	69,540	115,662	15%
2002	61,642	70,515	132,158	15%
2001	43,703	58,497	102,200	15%
2000	48,203	75,022	123,225	15%
1999	49,659	81,130	130,788	10%
1998	37,316	68,530	105,846	10%
1997	63,322	70,014	133,335	10%
1996	45,907	57,636	103,543	10%
1995	42,028	61,738	103,766	10%
1994	60,484	77,720	138,205	5%
1993	45,574	73,274	118,849	5%
1992	44,589	70,636	115,225	5%
1991	61,638	82,843	144,481	0%
1990	79,074	99,262	178,336	0%
1989	78,301	100,251	178,553	NA
1988	73,102	87,909	161,010	NA
1987	82,682	82,586	165,268	NA
1986	57,585	84,137	141,722	NA
1985	78,339	84,281	162,620	NA
1984	36,377	35,506	71,883	NA
1983	285	28,984	29,269	NA
Totals =	**1,569,638**	**2,091,103**	**3,660,741**	

Notes:

AF = Acre-feet; 1 acre-foot equals 325,851 gallons
AFY = Acre-feet per year

1. Table provides data on reported groundwater extractions. In 2011, extractions from approximately 20% of active wells were not reported.

2. Reporting Periods are: Jan. 1 - June 30 to July 1 - Dec. 31

3. Data for reporting periods 1983-1, 1983-2, 1984-1, and 1984-2 provided by UWCD. Data determined to be incomplete due to low extraction values and low number of registered operators compared to proceeding years.

4. Historical Allocation (HA) is one of three methods employed by the FCGMA to allocate groundwater extraction (1990-present) (See text Section 2.3). Reductions stipulated by FCGMA Ordinance and Resolutions. 1985-1989: Historical Allocation Determination Period.

TABLE 4

COMPARISON OF YEAR 2011 REPORTED GROUNDWATER EXTRACTIONS[1] TO HISTORIC REPORTED GROUNDWATER EXTRACTIONS IN THE FCGMA

	Annual Extraction (AF/Year)[2]	Extraction for -01 Periods (AF/Period)[2]	Extraction for -02 Periods (AF/Period)[2]
2011 Reported Extractions	**116,101**	**52,299**	**63,802**
Average Reported Extractions[3] (1991 - 2011)	121,838	51,358	70,480
Comparison of Current Year (2011) Reported Extractions to Average Reported Extractions (1991 - 2011)[3] (reported as %)	95%	102%	91%
Rank Comparing Current Year Extraction to Annual Extraction[4] (1991 - 2011)	13	9	18

Notes:

AF = acre-feet; (1 acre-foot equals 325,851 gallons)

1. Table provides data on reported groundwater extractions. In 2011, extractions from approximately 20% of active wells were not reported.
2. Reporting Periods are: (-01) January 1 - June 30; and (-02) July1 - December 31.
3. Average reported Agency-wide groundwater extractions per period and year from 1991 through 2011.
4. Priority Ranking from largest to smallest

TABLE 5

2011 FCGMA ALLOCATIONS vs. EXTRACTIONS by BASIN and WELL TYPE

Groundwater Basin	Historical Allocations (AF) (for *all wells in each basin*) [1]	Well Use Type [2]	Historical Allocation by Well Type (AF)	Adjusted Historical Allocation [3] (AF)	Assigned Baseline Allocations (AF)	2011 Total Available Allocation [4] (AF)	2011 Reported Extractions by Type per Groundwater Basin (AF) [5]
Arroyo Santa Rosa (ASR)	846	AG	846	635	0	635	1,319
		DOM	0	0	0	0	0
		M&I	0	0	0	0	0
Oxnard Plain Forebay (FOR)	29,636	AG	9,490	7,117	135	7,252	6,021
		DOM	526	395	15	410	44
		M&I	19,619	14,715	66	14,781	11,857
Oxnard Plain Basin (OXP)	74,904	AG	58,282	43,711	45	43,756	33,585
		DOM	2,896	2,172	87	2,259	977
		M&I	13,726	10,295	2,163	12,458	18,867
Pleasant Valley (PV)	21,954	AG	16,142	12,107	2	12,109	5,496
		DOM	524	393	22	415	26
		M&I	5,288	3,966	1,383	5,349	5,397
East Las Posas (ELP)	19,011	AG	15,873	11,905	325	12,230	16,748
		DOM	133	100	22	122	15
		M&I	3,004	2,253	55	2,309	3,348
West Las Posas (WLP)	13,704	AG	11,987	8,990	25	9,016	10,383
		DOM	11	8	14	22	3
		M&I	1,706	1,279	465	1,744	1,631
South Las Posas (SLP)	2,064	AG	1,562	1,172	22	1,194	311
		DOM	0	0	0	0	0
		M&I	502	377	0	377	72
Totals	**162,119**		**162,119**	**121,589**	**4,847**	**126,436**	**116,101**

NOTES: (totals or subtotals may not be exact due to rounding)

1) Total includes Historical Allocation (HA) as averaged after the 1985-1989 Base Period along with any adjustments and before any scheduled reductions.

2) Although some wells serve more than one use type, the main use type is listed.

3) Total includes Historical Allocation (HA) as averaged after the 1985-1989 Base Period along with any adjustments and after any scheduled reductions. The current scheduled reduction reduces Historic Allocations by 25%.

4) The Historical Allocation plus any adjustments minus scheduled reductions, plus any Baseline Allocation, equals Total Available Allocation for year 2011.

5) Reported groundwater extractions may be higher or lower than than total available allocations due to use of Credits or an Irrigation Efficiency (I.E.) allowance.

TABLE 6

SUMMARY OF GROUNDWATER CONSERVATION CREDITS ACCUMULATED IN THE FCGMA SINCE 1991[1]

Year	Net Credits Earned[2] (AF)	Net Credit Balance (+ AF)
2011	20,351	716,733
2010	24,058	696,382
2009	11,612	672,324
2008	75,423	660,712
2007	37,252	585,288
2006	48,166	548,037
2005	53,829	499,871
2004	39,893	446,042
2003	44,763	406,149
2002	40,396	361,386
2001	49,355	320,990
2000	39,132	271,635
1999	39,178	232,502
1998	27,632	193,324
1997	15,464	165,693
1996	29,903	150,228
1995	22,036	120,326
1994	17,283	98,290
1993	30,593	81,007
1992	50,414	50,414
1991	21,345	21,345
1990	0	0

Notes:

AF = acre feet of water; 1 Acre-foot = 325,851 US gallons of water @ STP

1. **Credit Program** initiated in 1991. Credits are granted for extracting less water than allocation (credits not authorized with irrigation efficiency allocation).

2. Prior to 1998, operators were required to apply for credits. For 1999-2011 (present), credits are automatically granted for groundwater use of less than Adjusted Historical Allocation or for groundwater injected. Credits did not exist prior to 1990.

TABLE 7

SUMMARY OF REPORTED GROUNDWATER EXTRACTION AND CREDITS BY GROUNDWATER BASIN FOR CALENDAR YEAR 2011

Groundwater Basin	2011 Total Reported Groundwater Extraction (AF/Year)[1]	2011 Basin Share of Total Agency Extraction (%)	2011 Gross Credits Earned (AF)[2]	Basin Share of Total Credits Earned in 2011 (%)	Credits Redeemed in 2011 per Basin (AF)[3]	2011 Net Credit by Basin (AF)[4]
Oxnard Plain Basin	53,429	46%	12,339	50.5%	1,860	10,480
Oxnard Plain Forebay Basin	17,922	15%	8,410	34.4%	1	8,410
Pleasant Valley Basin	10,920	9%	2,366	9.7%	15	2,350
West Las Posas Basin	12,018	10%	782	3.2%	757	25
East Las Posas Basin	20,111	17%	404	1.7%	1,375	-971
South Las Posas Basin	383	0%	0	0.0%	0	0
Arroyo Santa Rosa Basin	1,319	1%	126	0.5%	69	56
Totals	**116,101**	**100%**	**24,428**	**100%**	**4,077**	**20,351**

Notes:

AF = Acre-feet; 1 acre-foot equals 325,851 gallons

1. Table provides data on reported groundwater extractions. In 2011, extraction from approximately 20% of active wells was not reported.

2. FCGMA Operator total available Adjusted Historical Allocation plus adjustments plus Baseline Allocation minus Reported Extraction equal Gross Credits Earned (Note: Extraction greater than Historical Allocation, or Credit Transfers can result in operators redeeming credits).

3. FCGMA credits are redeemed to avoid payment of a surcharge for extraction exceeding allocation.

4. Sums current credits by groundwater basin for all FCGMA Operator Accounts to get a cumulative net credit balance at the end of Calendar Year 2011.

Ordinance No. 8.4

An Ordinance to Amend the Fox Canyon Groundwater Management Agency Ordinance Code Relating to Annual Efficiency Extraction Allocations

The Board of Directors of Fox Canyon Groundwater Management Agency hereby ordains as follows:

SECTION ONE: Findings: The Board of Directors hereby finds as follows:

A. Under the current Ordinance Code, operators irrigating agriculturally developed land may obtain an annual efficiency extraction allocation if they can demonstrate an 80 percent overall irrigation efficiency, using a formula that takes into account evapotranspiration and effective rainfall.

B. Applications submitted by operators for an annual efficiency extraction allocation frequently exceed 100 percent efficiency which indicates that the formula set forth in the Ordinance Code overestimates the amount of water required for irrigation and does not provide a true calculation of actual irrigation efficiency.

C. The Agency commissioned a technical study to determine whether the formula should be updated to more accurately reflect the amount of water needed by different crops, different rates of evapotranspiration, as well as changes in crop types and irrigation practices within the Agency boundaries.

D. The Board evaluated options presented by the technical study and selected the approach based on the ratio of actual water used to an annual irrigation allowance based on evapotranspiration for 24 crop categories, salinity management, frost protection, and reasonable distribution uniformity.

E. In order to give operators sufficient time to adjust to the revised method for determining irrigation efficiency, the threshold for imposition of surcharges should be adjusted upward for water used during calendar year 2012.

F. The adoption of this Ordinance is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, sections 15307 and 15308 which exempt actions taken for the protection of natural resources and the environment. This Ordinance will help eliminate overdraft from the aquifer systems with the boundaries of the Agency and bring the groundwater basins to safe yield.

SECTION TWO. Section 5.2.1.2 of Chapter 5.0, Reduction of Groundwater Extractions, is hereby amended to read as follows:

5.2.1.2 Regardless of allocation, the total water use for agricultural purposes must be at least 60 percent efficient as determined by the formula described in Section 5.6.1.2.4.

SECTION THREE: Section 5.6.1.2 of Chapter 5.0, Reduction of Groundwater Extractions, is hereby amended to read as follows:

5.6.1.2. Annual Efficiency Allocation - If an operator can demonstrate to the Executive Officer that the Irrigation Allowance Index for agriculturally developed land is 1.0 or less, an Annual Efficiency allocation shall be established for one calendar year. An Irrigation Allowance Index of 1.0 or less than 1.0 has been determined by the Agency to be reasonable on agricultural lands within the Agency's boundaries.

5.6.1.2.1 An Efficiency Allocation may be used when no historical allocation exists or when the historical allocation is not sufficient for the crop being grown. A historical allocation shall not be used in conjunction with an efficiency allocation.

5.6.1.2.2 To prove irrigation efficiency the operator must submit a detailed report covering a minimum period of the immediately preceding calendar year. This report shall be submitted to the Executive Officer no later than February 1st of the following year unless otherwise extended by the Board. The report shall include all details required in a Resolution adopted by the Board.

5.6.1.2.3 The irrigation allowance index includes an appropriate amount of water necessary to provide water for a) crop evapotranspiration, b) leaching to avoid salt build-up based on the quality of irrigation water used, c) frost protection, and d) reasonable distribution uniformity.

5.6.1.2.4 Irrigation Efficiency (I.E.) will be calculated using the following formula:

$$I.E. = \frac{[ETo \times Kc] - ER \times 100}{\text{Actual Water Applied (inches)}}$$

Where:

ETo is the reference evapotranspiration measured in inches.

Kc is a crop factor, which is a dimensionless number that relates water use by a given plant in comparison to ETo.

ER is the effective rainfall measured in inches as determined by the Executive Officer utilizing the appropriate measuring equipment and methods.

5.6.1.2.5 The Irrigation Allowance Index will be calculated using the procedures set forth in a Resolution adopted by the Agency.

SECTION FOUR: For calendar year 2013 (January 1, 2013 through December 31, 2013), Section 5.8.5 of Chapter 5.0, Reduction of Groundwater Extractions, is hereby amended to read as follows:

Efficiency Surcharge - Facilities relying on the annual efficiency allocation shall also be subject to surcharge for inefficient use. The extraction allocation for efficiency is the amount of water used at an Irrigation Allowance Index (index) of 1.0 or less as defined in 5.6.1.2 of this ordinance. Extraction surcharges will be applied to the water extracted greater than index of 1.2 For example, an index of 1.3 would be subject to surcharges on the difference between the amount of water used at an index of 1.3 and the amount of water that would have been used at an index of 1.2. If the index is greater than 1.4, no efficiency allocation will be available, and the operator shall revert to a historical, baseline or to no allocation, whichever applies to that facility. Extraction surcharges would then apply to the difference between actual water used and the applicable allocation, if any. For example, a facility operating at an index greater than 1.4, with no historical or baseline allocation would be subject to surcharges on all water used.

SECTION FIVE: Effective January 1, 2014, Section 5.8.5 of Chapter 5.0, Reduction of Groundwater Extractions, is hereby amended to read as follows:

Efficiency Surcharge - Facilities relying on the annual efficiency allocation shall also be subject to surcharge for inefficient use. The extraction allocation for efficiency is the amount of water used at an Irrigation Allowance Index (index) of 1.0 or less as defined in 5.6.1.2 of this ordinance. Extraction surcharges will be applied to the water extracted greater than an index of 1.0. For example, an index of 1.1 would be subject to surcharges on the difference between the amount of water used at an index of 1.1 and the amount of water that would have been used at an index of 1.0. If the index is greater than 1.2, no efficiency allocation will be available, and the operator shall revert to a historical, baseline or to no allocation whichever applies to that facility. Extraction surcharges would then apply to the difference between actual water used and the applicable allocation, if any. For example, a facility operating at an index greater than 1. 2 with no historical or baseline allocation would be subject to surcharges on all water used.

This Ordinance shall become effective on the thirty-first day after adoption.

ADOPTED this 26th day of October 2011 by the following vote:

AYES: Directors Maulhardt, Craven, Zaragoza, Kelley, and Borchard
NOES: None
ABSENT: None

By: _____
Lynn Maulhardt, Chair, Board of Directors
Fox Canyon Groundwater Management Agency

ATTEST: I hereby certify that the above is a true and correct copy of Ordinance No. 8.4

By: Miranda Nobriga
Miranda Nobriga, Clerk of the Board

Ordinance No. 8.5

AN ORDINANCE TO AMEND THE FOX CANYON GROUNDWATER MANAGEMENT AGENCY ORDINANCE CODE RELATING TO EXTINGUISHMENT OF CONSERVATION CREDITS FOR DESTROYED, INACTIVE OR ABANDONED WELLS WITH NO ACTIVE OPERATOR

The Board of Directors of Fox Canyon Groundwater Management Agency hereby ordains as follows:

SECTION ONE: Findings: The Board of Directors hereby finds as follows:

A. Under the current Ordinance Code, operators can obtain conservation credits by extracting less groundwater that the historical allocation. Conservation credits so obtained are accounted for by the Agency and are carried forward from year to year. As a result, the number of accumulated conservation credits now exceed the annual safe yield from the aquifer systems within the boundaries of the Agency.
B. The large number of conservation credits that have accumulated in operator accounts complicates the Agency's goal of eliminating overdraft from the aquifer systems.
C. A significant portion of the accumulated conservation credits are associated with extraction facilities (wells) that have been destroyed, abandoned or are otherwise no longer active. Operators of these facilities no longer need these credits in order to manage their extractions.
D. The elimination of accumulated credits in these accounts will clarify the number of conservation credits that may redeemed.
E. The adoption of this Ordinance is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, sections 15307 and 15308 which exempt actions taken for the protection of natural resources and the environment. This Ordinance will help eliminate overdraft from the aquifer systems with the boundaries of the Agency and bring the groundwater basins to safe yield.

SECTION TWO. Section 5.7.1 of Chapter 5.0, Reduction of Groundwater Extractions, is hereby amended to read as follows:

5.7.1. Credits can be obtained by operators, but are not considered as extraction allocations or adjustments to extraction allocations. Credits are not subject to any reductions as set forth in Section 5.4.1, Credits, if available, shall be used to avoid paying extraction surcharges. Credits shall be accounted for through the normal reporting and accounting procedure and are carried forward from year to year unless extinguished as provided in section 5.7.2.1.1.1. Except as provided below, credits may be transferred between commonly operated extraction facilities and within the basin where the credits were earned.

SECTION THREE: Section 5.7.2.1.1.1. of Chapter 5.0, Reduction of Groundwater Extractions, is hereby added to read as follows:

5.7.2.1.1.1. The Executive Officer shall extinguish all accumulated conservation credits obtained by an operator with a destroyed or abandoned well of record who fails to submit extraction data for five (5) consecutive years. Notice of the action taken by

the Executive Officer pursuant to this section shall be sent by first class mail to the address stated on the most recent registration filed with the Agency and shall advise that the action being taken may be appealed within 120 days thereof in the manner specified in section 6.1. Notice of the Executive Officer's intended action shall also be provided as a Consent Item on the Board meeting agenda preceding the extinguishment of the conservation credits. This agenda item shall include a list of the last known Operator, the last known Owner, the State Well Number, and a map depicting the location of the well, along with number of conservation credits to be extinguished and a tabulation of the last reported activity on the well.

This Ordinance shall become effective thirty days after adoption.

ADOPTED this 7th day of December 2011 by the following vote:

AYES: Directors Maulhardt, Craven, Kelley, and Borchard
NOES: None
ABSENT: Director Bennett

By: _____
Lynn Maulhardt, Chair, Board of Directors
Fox Canyon Groundwater Management Agency

ATTEST: I hereby certify that the above is a true and correct copy of Ordinance No. 8.5.

_____
Miranda Nobriga, Clerk of the Board

ORDINANCE NO. 8.6

An Ordinance to Amend the Fox Canyon Groundwater Management Agency Ordinance Code Relating to Establishment and Protection of the Las Posas Basin Management Area

The Board of Directors of the Fox Canyon Groundwater Management Agency ordains as follows:

SECTION ONE. Findings.

The Board of Directors hereby finds that:

A. The Las Posas groundwater basin, divided into the West, East, and South Las Posas sub-basins, and immediately surrounding areas presents a unique set of challenges not fully addressed by the Agency's current groundwater management approaches. Groundwater levels in the South and East Las Posas sub-basins are controlled by a complex interplay of pumping, aquifer storage and recovery operations by Calleguas Municipal Water District, natural recharge processes, and recharge of wastewater, shallow dewatering discharges, and urban runoff ("non-native inflows"). Increased recharge from the non-native inflows has helped stabilize groundwater elevations, but has also exacerbated the migration of pre-existing salts into the main groundwater production zones of the South and East Las Posas sub-basins. The non-native inflows themselves are too saline for some beneficial uses. The area of degraded groundwater quality is expanding northward into the central portion of the East Las Posas sub-basin, threatening additional beneficial uses. In the West Las Posas sub-basin, groundwater elevations are declining within a localized pumping depression that is located in the easternmost portion of the sub-basin. The condition of continued water level decline is not sustainable and the condition of depressed water levels increases the potential for inflow of poor quality water from surrounding sources. The above-described groundwater management issues represent water resource problems that constitute an ongoing threat to groundwater quality and quantity and beneficial uses.

B. Developing a Las Posas Basin-Specific Groundwater Management Plan ("BSMP" or "Plan"), distinct from the management of the remainder of the basins within the Agency, is an appropriate strategy to preserve the long-term integrity of the water resources of the Las Posas groundwater basin for all reasonable and beneficial uses.

C. The Agency has the authority to adopt ordinances to control groundwater extractions by regulating, limiting, or suspending extraction of groundwater within its territory.

D. This Ordinance is necessary to prevent a worsening of the groundwater conditions in the Las Posas groundwater basin and to facilitate implementation of a BSMP, which will have the purpose of bringing groundwater extractions into balance with operational yield, and managing and improving groundwater quality.

E. The measures adopted in this Ordinance require additional findings for permitting new or replacement extraction facilities in the Las Posas Basin Eastern and Western Management Sub-Areas. It is emphasized herein that extraction facility permits for these areas are discretionary permits that require the exercise of judgment and deliberation. A

decision to approve, approve with conditions, or deny a permit application may require that an analysis of potential impacts be performed by the applicant.

F. The measures adopted in this Ordinance include a 4 acre-feet per acre per calendar year limitation on groundwater use within the Las Posas Basin Eastern and Western Management Sub-Areas. This limitation is intended as an interim measure until such time the Agency adopts new extraction allocations recommended in the Plan. The limitation does not represent an action that will adequately restore sustainable use of the Las Posas Basin Eastern and Western Management Sub-Areas, nor is it a substitute for implementation of the management strategies recommended in the Plan. It is emphasized herein that new extraction allocations developed pursuant to the BSMP may be different from the extraction allocations currently provided for in Chapter 5 of the Agency's Ordinance Code.

G. The adoption of this Ordinance is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, sections 15307 and 15308, which exempt actions taken for the protection of natural resources and the environment. This Ordinance will help conserve and improve the availability of Agency water resources, particularly within the area addressed by the BSMP, and will help ensure the maintenance and sustainability of certain local and imported water resources.

SECTION TWO: Chapter 1.0, Definitions, is hereby repealed and reenacted as follows:

CHAPTER 1.0
Definitions

As used in this code, the following terms shall have the meanings stated below:

1.1. **"Actual Applied Water"** – means the total water applied by the grower to the crop over the course of a calendar year without regard to the water source. Examples of actual applied water include the sum of well water, water delivered from a water supplier, and or from surface water diversions. Total applied water does not include precipitation.

1.2. **"Agency"** means the Fox Canyon Groundwater Management Agency.

1.3. **"Agency Boundary"** shall be as depicted on the map adopted by the Board and recorded as an official record with the County Recorder's Office on January 14, 2002 (Document No. 2002-0009215), and as may be adjusted as provided in the Agency's enabling legislation.

1.4. **"Agricultural Extraction Facility"** means a facility from which the groundwater produced is used on lands in the production of plant crops or livestock for market, and uses incidental thereto.

1.5. **"Annual"** means the calendar year January 1 through December 31.

1.6. **"Aquifer"** means a geologic formation or structure that yields water in sufficient quantities to supply pumping wells or springs. A confined aquifer is an aquifer with an overlying less permeable or impermeable layer.

1.7. **"Board"** means the Board of Directors of the Fox Canyon Groundwater Management Agency.

1.8. **"County"** means the County of Ventura.

1.9. **"Developed Acreage"** means that portion of a parcel within the Agency Boundary that is receiving water for reasonable and beneficial agricultural, domestic or municipal and industrial (M & I) use.

1.10. **"East Las Posas Basin"** That part of the former North Las Posas Basin that is east of the subsurface anomaly described by significant changes in groundwater levels, as described in the Groundwater Management Plan and the Las Posas Basin–Specific Groundwater Management Plan, located for record purposes on maps as provided in Section 1.20.

1.11. **"Excess Extraction"** means those extractions in excess of an operator's extraction allocation or adjusted extraction allocation.

1.12. **"Executive Officer"** means the individual appointed by the Board to administer Agency functions, or his/her designee.

1.13. **"Exempt Well Operators"** means all well operators operating extraction facilities supplying a single family dwelling on one acre or less, with no income producing operations and those operators granted an exemption by the Board.

1.14. **"Expansion Area"** means that portion of land beyond the outer limits of the Agency Boundary in the West, East, and South Las Posas Basins that lies between the Agency Boundary and the crest of the hill or 1.5 miles beyond the Agency Boundary as defined by Map Number Two, entitled Fox Canyon Outcrop, Las Posas Basin, 1995. .

1.15. **"Extraction"** means the act of obtaining groundwater by pumping or other controlled means.

1.16. **"Extraction Allocation"** means the amount of groundwater that may be obtained from an extraction facility during a given calendar year, before a surcharge is imposed.

1.17. **"Extraction Facility"** means any device or method (e.g. water well) for extraction of groundwater within a groundwater basin or aquifer.

1.18. **"Foreign Water"** means water imported to the County through the State Water Project facilities or other newly available water as approved by the Board, such as recycled water that would otherwise be lost to the Ocean.

1.19. **"Groundwater"** means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water.

1.20. **"Groundwater Basin"** means a geologically and hydrologically defined area containing one or more aquifers, which store and transmit water yielding significant quantities of water to wells. For the purposes of this Ordinance Code, groundwater basins that of which either all or a portion or portions thereof are located within the Agency Boundary include, but are not limited to the Oxnard Plain Forebay Basin, Oxnard Plain Pressure Basin, Pleasant Valley Basin, East Las Posas Basin, West Las Posas Basin, South Las Posas Basin and the Arroyo Santa Rosa Basin, as described in the Groundwater Management Plan. The boundaries of these basins are shown on maps that shall be adopted by a Resolution. Groundwater basin boundaries may be modified by a Resolution.

1.21. **"Groundwater Management Plan"** means the 2007 Update to the Fox Canyon Groundwater Management Plan or Board-adopted updates to this plan.

1.22. **"Historical Extraction"** means the average annual groundwater extraction based on the five (5) calendar years of reported extractions from 1985 through 1989 within the Agency Boundary. This average will be expressed in acre-feet per year. All historical extraction allocations became effective on January 1, 1991.

1.23. **"Inactive Well"** An inactive well is a well that conforms to the County Water Well Ordinance requirements for an active well, but is being held in an idle status in case of future need. Idle status means the well is pumped no more than 8 hours during any 12-month period. Inactive wells are not required to have a flowmeter. Pumping to maintain status as an active well under the County Water Well Ordinance shall not exceed 8 hours in a 12 month period, shall be for beneficial use, and shall be estimated and reported to the Agency. Prior to removing a well from idle status, the operator shall install a flowmeter in accordance with the requirements in Chapter 3 of the Ordinance Code.

1.24. **"Injection/Storage Program"** means any device or method for injection/storage of water into a groundwater basin or aquifer within the Agency Boundary, including a program to supply foreign water in lieu of pumping.

1.25. **"Las Posas Basin–Specific Groundwater Management Plan"** means the Las Posas Basin–Specific Groundwater Management Plan or Board-adopted updates to this plan.

1.26. **"Las Posas Basin Eastern Management Sub-Area (Las Posas EMSA)"** means the geographic area identified as such in the Las Posas Basin–Specific Groundwater Management Plan.

1.27. **"Las Posas Basin Management Area"** means the geographic area identified as such in the Las Posas Basin–Specific Groundwater Management Plan, which is comprised of the Las Posas Basin Western Management Sub-Area, Las Posas Basin Eastern Management Sub-Area, and the Las Posas Basin Management Area – Monitor Only Area.

1.28. **"Las Posas Basin Management Area – Monitor Only Area"** means the geographic area identified as such in the Las Posas Basin–Specific Groundwater Management Plan.

1.29. **"Las Posas Basin Western Management Sub-Area (Las Posas WMSA)"** means the geographic area identified as such in the Las Posas Basin–Specific Groundwater Management Plan.

1.30. **"Las Posas Outcrop"** or **"Outcrop"** means the area of Lower Aquifer System surface exposure as defined by Map Number One, Fox Canyon Outcrop, Las Posas Basin, 1982.

1.31. **"May"** as used in this Ordinance Code, permits action but does not require it.

1.32. **"Flowmeter"** means a manufactured instrument for accurately measuring and recording the flow of water in a pipeline.

1.33. **"Municipal and Industrial (M & I) Provider"** means person who provides water for domestic, industrial, commercial, or fire protection purposes within the Agency Boundary.

1.34. **"Municipal and Industrial (M & I) Operator"** An owner or operator that supplied groundwater for M & I use during the historical allocation period and did not supply a significant amount of agricultural irrigation during the historical period."

1.35. **"Municipal and Industrial (M & I) User"** means a person or other entity that used or uses water for any purpose other than agricultural irrigation.

1.36. **"Municipal and Industrial (M & I) Use"** means any use other than agricultural irrigation.

1.37. **"Non-Operating Flowmeter"** – A non-operating flowmeter includes a flowmeter that is out of calibration by plus or minus 5%, and/or a flowmeter that has not been calibrated within the flowmeter calibration schedule adopted by the Board.

1.38. **"Operator"** means a person who operates a groundwater extraction facility. In the event the Agency is unable to determine who operates a particular extraction facility, then "operator" shall mean the person to whom the extraction facility is assessed by the County Assessor, or, if not separately assessed, the person who owns the land upon which the extraction facility is located.

1.39. **"Ordinance Code"** means the Fox Canyon Groundwater Management Agency Ordinance Code.

1.40. **"Overdraft"** means the condition of a groundwater basin or aquifer where the average annual amount of water extracted exceeds the average annual supply of water to a basin or aquifer.

1.41. **"Owner"** means a person who owns a groundwater extraction facility. Ownership shall be determined by reference to whom the extraction facility is assessed by the County

Assessor, or if not separately assessed, the person who owns the land upon which the extraction facility is located.

1.42. **"Perched"** or **"Semi-Perched Aquifer"** means the shallow, unconfined aquifer that overlies the Oxnard Aquifer in Sealing Zone III, as described in the California Department of Water Resources Bulletin No. 74-9.

1.43. **"Person"** includes any state or local governmental agency, private corporation, firm, partnership, individual, group of individuals, or, to the extent authorized by law, any federal agency.

1.44. **"Recharge"** means natural or artificial replenishment of groundwater in storage by percolation or injection of one or more sources of water.

1.45. **"Resolution"** means a formal statement of a decision adopted by the Board.

1.46. **"Safe Yield"** means the condition of groundwater basin when the total average annual groundwater extractions are equal to or less than total average annual groundwater recharge, either naturally or artificially.

1.47. **"Section"** as used in this Ordinance Code, is a numbered paragraph of a chapter.

1.48. **"Semi-Annual Groundwater Extraction Statement"** is a form filed by each operator containing the information required by Section 2.2 and 2.3.1 and shall cover the periods from January 1 to June 30 and from July 1 to December 31 annually.

1.49. **"Shall"** as used in this Ordinance Code, is an imperative requirement.

1.50. **"Well Flushing"** means the act of temporarily discharging extracted groundwater through a connection located upstream of the water distribution system at the beginning of an extraction cycle. Well flushing is typically performed until the quality of the extracted water is suitable for beneficial use and/or will not damage the distribution system. In some cases, the flushing flows may be discharged upstream of the distribution system, including the flowmeter. Flushing flows discharged upstream of the flowmeter shall be estimated and reported to the Agency in accordance with the requirements accordance with the requirements in Chapter 2 of the Ordinance Code.

1.51. **"Well Rehabilitation"** means the act of restoring a well to its most efficient condition by various treatments, development, or reconstruction methods. In most cases, groundwater extracted during well rehabilitation is not discharged through the extraction facility piping and, consequently, is not flowmetered. In these cases, the volume of water extracted shall be estimated and reported to the Agency in accordance with the requirements accordance in Chapter 2 of the Ordinance Code.

1.52. **"West Las Posas Basin"** is that part of the former North Las Posas Basin that is west of the subsurface anomaly described by significant changes in groundwater levels, as described in the Groundwater Management Plan and the Las Posas Basin–Specific

Groundwater Management Plan, located for record purposes on maps as provided in Section 1.20.

SECTION THREE: Chapter 4.0, Protection of the Las Posas Basins, is hereby repealed and reenacted as follows:

CHAPTER 4.0
Protection of the Las Posas Basin Management Area

4.1. **This chapter has the following purpose and intent:**

4.1.1. To facilitate implementation of the groundwater management strategies identified in the Las Posas Basin-Specific Groundwater Management Plan, which are intended to maintain a reliable groundwater supply of a quality suitable to the needs of the groundwater users in the Las Posas EMSA and Las Posas WMSA.

4.1.2. To protect the Las Posas outcrop as a source of groundwater recharge into the Las Posas Basin Management Area.

4.1.3. To prevent groundwater quality degradation of the Las Posas Basin Management Area by influence from the Expansion area.

4.1.4. This Ordinance Code is only one means by which these goals will be met.

4.2. **Anti-degradation and Extraction Prohibition**

4.2.1. Extraction Facility Permits.

4.2.1.1. Permit Required - Prior to either: (a) initiating any new or increased use of groundwater in the Expansion area, obtained from any source within the Agency, including the Expansion area or (b) constructing a new or replacement extraction facility in the Las Posas Basin Management Area, or the Expansion area, a permit must be obtained from the Agency as provided in this Chapter. For the purpose of this Chapter, a new or increased use is that which did not exist or occur before June 30, 1988.

4.2.1.2. Permit Application - Application shall be made in accordance with the requirements set forth in Section 2.1.1 and shall include all information required by the County Well Ordinance and the following:

4.2.1.2.1. Location of each water well to be used, along with the associated state well number.

4.2.1.2.2. Location(s) of current and proposed groundwater use, including acreage accurately plotted on copy of the County Assessor's Parcel Map.

4.2.1.2.3. The proposed crop type(s) or Municipal and Industrial use(s) at each location.

4.2.1.2.4. A brief description of the type of irrigation or distribution system and flowmeter to be used.

4.2.1.2.5. The estimated average annual quantity of water use proposed for each location of use.

4.2.1.2.6. An identification of the source of historical allocation to supply the proposed water use by the well.

4.2.1.2.7. An analysis of the potential impacts on the water balance and water quality in the Las Posas Basin Management Area resulting from the proposed use(s).

4.2.1.3. Findings - A permit may only be granted if the Executive Officer finds that the proposed groundwater use will result in no net detriment to the Las Posas Basin Management Area by determining that:

4.2.1.3.1. The Las Posas outcrop is not exposed to potential degradation of water quality of any type.

4.2.1.3.2. Recharge to the Las Posas Basin Management Area from the Las Posas outcrop is not diminished.

4.2.1.3.3. Neither baseline nor efficiency allocation will be used, directly or indirectly, to support groundwater use on the Expansion Area (an example of indirect use is using efficiency to supply a demand inside the Agency and using the replaced historical allocation on the outcrop).

4.2.1.3.4. No increased or new uses of groundwater from inside the Agency Boundary will be applied on any area outside the Expansion area (or outside the Las Posas Basin Management Area).

4.2.1.3.5. [Operative Until Adoption of the Las Posas Basin-Specific Groundwater Management Plan] For extraction facilities located in the West Las Posas Basin, the proposed extraction will not interfere with attainment of basin management objectives or implementation of groundwater management strategies for the West Las Posas Basin identified in the Groundwater Management Plan, including, but not limited to, efforts to stabilize or raise groundwater elevations in the pumping depression identified in the Groundwater Management Plan.

4.2.1.3.6. [Operative Upon Adoption of the Las Posas Basin-Specific Groundwater Management Plan] For extraction facilities located in the Las Posas WMSA, the proposed extraction will not interfere with attainment of basin management objectives or implementation of groundwater management strategies for the Las Posas WMSA identified in the Las Posas Basin-Specific Groundwater Management Plan, including, but not limited to, efforts to stabilize or raise groundwater elevations in the pumping depression identified in the Las Posas Basin-Specific Groundwater Management Plan.

4.2.1.3.7. [Operative Until Adoption of the Las Posas Basin-Specific Groundwater Management Plan] For extraction facilities located in the East and South Las Posas Basins, the proposed extraction will not interfere with attainment of basin management objectives or implementation of groundwater management strategies for the East and South Las Posas Basins identified in the Groundwater Management Plan, including, but not limited to, efforts to manage or improve groundwater quality for the benefit of existing pumpers.

4.2.1.3.8. [Operative Upon Adoption of the Las Posas Basin-Specific Groundwater Management Plan] For extraction facilities located in the Las Posas EMSA, the proposed extraction will not interfere with attainment of basin management objectives or implementation of groundwater management strategies for the Las Posas EMSA identified in the Las Posas Basin-Specific Groundwater Management Plan, including, but not limited to, efforts to manage or improve groundwater quality for the benefit of existing pumpers.

4.2.1.4. Permit Conditions. The Executive Officer may include in the permit granted, any conditions consistent with the purpose of this Chapter, including:

4.2.1.4.1. Any proposed agricultural use shall include the installation of irrigation systems that employ irrigation best management practices consistent with then current industry standards.

4.2.1.4.2. Any proposed municipal or industrial use shall include the installation of systems that employ municipal and industrial best management practices consistent with the then current industry standards.

4.2.1.4.3. Mitigation, monitoring, and periodic reporting, as may be appropriate given the proposed use.

4.3. **Registration of Existing Uses** - The owners of groundwater wells located within the East or West Las Posas basins shall register their wells with the Agency no later than January 1, 2006, through the following procedure:

4.3.1. Registration Form - The Agency shall make available a registration form which shall be completed, and filed with the Agency for each well, which shall include the following:

4.3.1.1. Location(s) of all water well(s), along with the associated state well number(s) including offsite well(s) serving the proposed use. Information concerning wells shall also include any other use for the water well.

4.3.1.2. Location(s) of groundwater use for the well including acreage accurately plotted on a copy of the County Assessor's Parcel Map.

4.3.1.3. The proposed crop type(s) or Municipal and Industrial use(s) at each location.

4.3.1.4. A brief description of the type of irrigation or distribution system and flowmeter in use.

4.3.1.5. The estimated average annual quantity of water use at each location and for each well.

4.4. **Monitoring** - The Agency shall monitor compliance with this Chapter by reviewing County well permit applications and reported groundwater extractions and by conducting field surveys as may be necessary.

4.5 **Unreasonable Uses** - The Agency may commence and prosecute legal actions to enjoin unreasonable uses or methods of use of water within or without the Agency Boundary to the extent those uses or methods of use adversely affect the groundwater supply within the Agency Boundary.

4.6 **Extraction Surcharges** - Notwithstanding an operator's allocation under Chapter 5.0 of this Ordinance Code or the availability of conservation credits, groundwater use within the Las Posas EMSA and the Las Posas WMSA in excess of 4.0 acre-feet per acre per calendar year by shall be subject to extraction surcharges pursuant to Section 5.8 of this Ordinance Code.

This Ordinance shall become effective on the thirty-first day after adoption.

ADOPTED this 7th day of December 2011 by the following vote:

AYES: Directors Maulhardt, Craven, Kelley, and Borchard
NOES: None
ABSENT: Director Bennett

Lynn Maulhardt, Chair, Board of Directors
Fox Canyon Groundwater Management Agency

ATTEST: I hereby certify that the above is a true and correct copy of Ordinance No. 8.6.

Miranda Nobriga, Clerk of the Board

Resolution 2011-01
of the
Fox Canyon Groundwater Management Agency

A RESOLUTION REPEALING AND REPLACING GRANDFATHERING RESOLUTION NO. 1997-02

WHEREAS, the Fox Canyon Groundwater Management Agency Board of Directors adopted Resolution No. 1997-02 during its December 17, 1997 regular meeting; and

WHEREAS, Resolution No. 1997-02, among other things, recognized eight named water purveyors which were established prior to the formation of the Agency who continue to supply groundwater from wells inside the Agency boundary to portions of their service areas located outside the boundary of the Agency; and

WHEREAS, the eight water purveyors explicitly named in Resolution No. 1997-02 included: the City of San Buenaventura, the Alta Mutual Water District, the Pleasant Valley County Water District, the Balcom-Bixby Mutual Water Association, Camrosa Water District, Calleguas Municipal Water District, Ventura County Waterworks District No.1-Moorpark, and the Del Norte Mutual Water Company. Each of those eight purveyors existed prior to the formation of the Agency and each has portions of its service area boundaries located outside of the Agency's boundary; and

WHEREAS, Resolution No. 1997-02 further stated that well owners located within the service area boundaries of the above referenced eight named water purveyors who exported groundwater outside of the Agency's boundary were limited by established annual allocations and subject to periodic allocation reductions and/or efficiency standards per ordinance or restriction established by the Agency; and

WHEREAS, subsequent to the adoption of Resolution No. 1997-2, the Agency determined that there were five additional water purveyors similarly situated, and therefore, in the interest of groundwater management policy equity should have been included in the body of Resolution No. 1997-02, but which were not; and

WHEREAS, those five additional water purveyors, (with the year of their formation in parenthesis) included: the Coastal Berry Farms (originally Hugo McGrath Associates, 1870), the Guadalasca Mutual Water Company (1967), the La Loma Ranch Mutual Water Company (1978), the Solano-Verde Mutual Water Company (1981), and Ventura County Water Works District No. 19 (1980); and

WHEREAS, the Agency has determined that there is a need to clarify and emphasize to the above named water purveyors that any groundwater extracted from wells located both within their service areas and the Agency's boundary that is exported to areas outside of the Agency's boundary is limited by established annual allocations and subject to periodic allocation reductions and/or efficiency standards per ordinance or restrictions established by the Agency; and

WHEREAS, the Agency desires to limit the exportation of groundwater by water purveyors or pumpers whose service areas did not extend beyond the Agency boundary prior to the formation of the Agency in order to manage groundwater resources subject to its jurisdiction effectively and efficiently for the common general benefit of agricultural, municipal and industrial users located within the Agency's boundary

NOW, THEREFORE, IT IS HEREBY PROCLAIMED AND ORDERED THAT: The Board of Directors of the Fox Canyon Groundwater Management Agency recognizes that the above named thirteen water purveyors, each of which were established prior to the formation of the Agency, may continue to supply groundwater from wells located within their respective service area boundaries to parcels located outside of the Agency's boundary, subject to the terms and conditions of this resolution.

Further, the Board of Directors finds that the export of groundwater extracted by these named purveyors to areas within their service areas outside of the Agency's boundary shall be regulated by, and subject to, all ordinances and regulations governing groundwater extractions adopted by the Agency, specifically including regulations governing historical allocations, credits and requests for irrigation efficiency filings, as amended.

And finally, the Board of Directors reaffirms its express intent to not approve future requests for the exportation of groundwater from within the Agency boundary by groundwater pumpers or water service purveyors which have service areas outside of the Agency boundary but who were not in existence prior to the formation of the Agency in 1983.

On motion by Director Bennett, seconded by Director Craven, the foregoing resolution was passed and adopted on January 26, 2011 by the following vote.

AYES - Chair Maulhardt, Directors Craven and Bennett
NOES - Director Borchard and Alternate Director McIntyre
ABSTAINS - None
ABSENT - None

By: _____
Lynn E. Maulhardt, Chair, Board of Directors
Fox Canyon Groundwater Management Agency

ATTEST: I hereby certify that the above is a true and correct copy of Resolution No. 2011-01

By: _____
Miranda Nobriga, Clerk of the Board

Resolution 2011-02
of the
Fox Canyon Groundwater Management Agency

A RESOLUTION CREATING THE UNITED WATER CONSERVATION DISTRICT SATICOY WELL FIELD STORAGE PROGRAM

WHEREAS, the Fox Canyon Groundwater Management Agency ("Agency") was established to preserve the integrity of the quality and quantity of groundwater resources within its boundaries; and

WHEREAS, the Agency exercises its regulatory authority through ordinances, resolutions, and implementation of its adopted groundwater management plan; and

WHEREAS, the current Agency groundwater management plan ("Management Plan") was updated and adopted in May 2007; and

WHEREAS, the Management Plan provides an extensive evaluation of the varying conditions in aquifers within the Agency, and an assessment of the water management strategies that various entities propose for implementation within the Agency; and

WHEREAS, the Management Plan finds that depressed groundwater levels caused by pumping in the Oxnard Plain Basin and Pleasant Valley Basin increase the potential for saline intrusion from multiple sources into the aquifers present in these basins. Saline intrusion is a serious threat to beneficial uses and the cost to remediate saline intrusion may be prohibitively expensive for most water users; and

WHEREAS, the Management Plan identifies groundwater management strategies that involve supplying water to the Oxnard Plain Basin and Pleasant Valley Basin to decrease pumping in these basins; and

WHEREAS, United Water Conservation District's ("UWCD") mission is to manage, protect, conserve and enhance the water resources of the Santa Clara River, its tributaries, and associated aquifers; and

WHEREAS, UWCD has and continues to serve an integral role in evaluating groundwater conditions within the Agency jurisdiction and developing strategies to optimize the management and use of water resources within the region. UWCD's efforts in this regard are documented in the Management Plan and its ongoing responsibilities in monitoring aquifer conditions and regularly operating and updating the Ventura Regional Groundwater Model; and

WHEREAS, UWCD owns and operates the Santa Felicia Dam in Piru and the Saticoy Spreading Grounds and Saticoy Well Field located in the Oxnard Plain Forebay Basin ("Forebay"); and

WHEREAS, In conjunction with its Fall Conservation Release water releases from Santa Felicia Dam, UWCD diverts and temporarily stores surface water beneath its Saticoy Spreading Grounds for later recovery and delivery to the Pleasant Valley and Oxnard Plain Basins for the purpose of reducing pumping in these basins; and

WHEREAS, UWCD has operated its facilities in the above-described manner and for the above-described purposes since 2007 without an extraction allocation. UWCD has recovered 9,384 AF of stored surface water via pumping through 2010; and

WHEREAS, UWCD proposes a storage program ("Storage Program") to account for historical and future pumping of stored surface water via the Saticoy Well Field in the manner described above; and

WHEREAS, UWCD has submitted an application for the Storage Program in accordance with Section 5.7.2.1.2 of the Agency's Ordinance Code (Attachment No. 1); and

WHEREAS, UWCD's proposed Storage Program as set forth herein meets the requirements of Section 5.7.2.1.2 of the Agency's Ordinance Code and contributes to the maintenance of groundwater quality and groundwater supply in the Oxnard Plain Basin and Pleasant Valley Basin.

NOW, THEREFORE, IT IS HEREBY PROCLAIMED AND RESOLVED AS FOLLOWS:

The Agency approves the Storage Program retroactively to 2007 as described in Attachment No. 1, subject to the conditions listed below.

1. The Agency grants its approval of the Storage Program based on the finding that it will result in no net detriment to any basin, subbasin or aquifer within the Agency boundaries.

2. State Water Project water released from Santa Felicia Dam and spread at the Saticoy Spreading Grounds shall not be eligible for extraction under this program. State Water Project water shall continue to be accounted for under the Good Deed Credits Trust Program pursuant to Agency Resolution No. 2002-01.

3. Extractions made under this Storage Program shall be limited to the volume of non-State Water Project surface water released from Santa Felicia Dam and spread at the Saticoy Spreading Grounds.

4. Temporary storage. For the purposes of accounting and retroactive to 2007, surface water released from Santa Felicia Dam and spread at the Saticoy Spreading Grounds shall be assumed to remain in storage no more than two (2) years. After two (2) years, any unrecovered stored water will no longer be eligible for extraction under this Storage Program.

5. Extractions associated with this Storage Program shall be from the four shallow wells located immediately adjacent to the UWCD Saticoy Spreading Grounds - Saticoy Well Field (State Well Nos. 02N21W07L07, 02N21W07M04, 02N22W12H01, and 02N22W12J04).

6. UWCD shall provide an accounting for all water stored and extracted under the Storage Program each year in conjunction with its second period semi-annual extraction statement.

7. As part of UWCD's annual reporting to the Agency regarding basin-wide conditions, UWCD shall provide an evaluation of any impacts directly associated with the pumping approved under this Storage Program. This information will be provided to the Agency by March 31 each year.

On motion by Director Naumann, seconded by Director Kelley, the foregoing resolution was passed and adopted on this 27th day of April, 2011.

By: Charlotte Craven
Chair, Board of Directors
Fox Canyon Groundwater Management Agency

ATTEST: I hereby certify that the above is a true and correct copy of Resolution No. 2011-02.

By: Miranda Nobriga
Miranda Nobriga, Clerk of the Board

Attachment:

1. Letter from M. Solomon to J. Pratt dated February 9, 2010, Subject: United Water Conservation District Saticoy Well Field Storage Program

UNITED WATER CONSERVATION DISTRICT

"Conserving Water Since 1927"

February 9, 2011

Jeff Pratt, P.E., Executive Officer
Fox Canyon Groundwater Management Agency
800 South Victoria Avenue
Ventura, CA 93009-1610

Subject: United Water Conservation District Saticoy Well Field Storage Program

Dear Jeff,

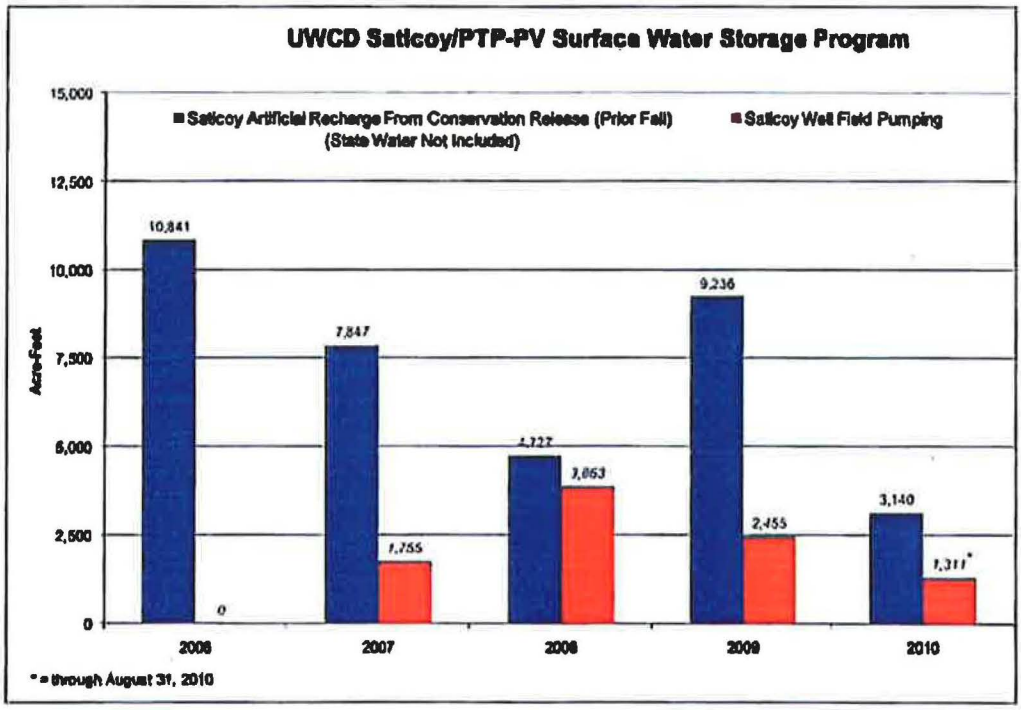
As you are aware, United Water Conservation District (UWCD) and Fox Canyon Groundwater Management Agency (FCGMA) staff have been working to clarify UWCD's Pumping Trough Pipeline (PTP) and Saticoy Well Field groundwater extraction reporting to the FCGMA. Based on our meeting with your staff on November 8, 2010 we are confident that we have identified a mutually acceptable solution consistent with provisions of the Fox Canyon Groundwater Management Agency Ordinance Code. At the November meeting, the attendees agreed that the reporting issues for PTP and Saticoy Well Field required different solutions and should be handled separately. This letter lays out a proposed plan to address the Saticoy Well Field reporting through the creation of a FCGMA Board-approved groundwater storage program. This letter serves as our written application for approval of a storage program retroactive to 2007, in accordance with Section 5.7.2.1.2 of the FCGMA Ordinance Code. We will address the PTP reporting issues at a later time.

Background

The UWCD Saticoy Well Field, formally the Groundwater Storage Management Project, was completed in 2005 adjacent to our Saticoy Spreading Grounds. The project was funded by a grant from the California Department of Water Resources, which recognized it as serving an important storage management function. The purpose of the Saticoy Well Field is to pump shallow water from the recharge mound underlying the spreading grounds in wet years. This pumping from the Oxnard Plain Forebay Basin (Forebay) decreases the recharge mound, allowing more spreading during wet periods. The pumped water is delivered to our customers along our existing agricultural pipeline system (Pleasant Valley (PV) and Pumping Trough Pipeline (PTP) pipelines) thereby reducing Lower Aquifer System (LAS) pumping in severely overdrafted areas of the Oxnard Plain and Pleasant Valley Basins. In accordance with Resolution 1999-3, we do not need an allocation or credits to pump when mounding conditions prevail.

In addition to decreasing the recharge mound during wet years, the Saticoy Well Field provides us the ability to store and recover surface water released from Santa Felicia Dam during the fall of most years for later delivery to severely overdrafted areas along the PV and PTP pipelines. This conjunctive use project operates as follows. During early fall in most years, we conduct a managed release from Santa Felicia Dam to supply the PV and PTP areas and recharge the Forebay. A portion of surface water recharged at the Saticoy Spreading Grounds is stored in the Upper Aquifer System (UAS) for later delivery when there is insufficient surface water in the Santa Clara River to meet irrigation demand in the PV and PTP areas. The Saticoy Well Field is used to recover the stored surface water. The aquifer is used to the store the water because there is no direct conveyance from Santa Felicia Dam to PV/PTP and there is insufficient surface storage for this water on the coastal plain. Since 2007, we have replaced approximately 9,400 AF of LAS pumping with stored surface water (Figure 1). Given that this mode of operation reduces pumping in severely overdrafted areas in the Oxnard Plain and Pleasant Valley Basins, it is clearly aligned with the goals of the Agency's Groundwater Management Plan and clearly provides a net benefit to the groundwater resources within the Agency. Since this program involves temporary storage and recovery of surface water for the benefit of the aquifers within the Agency, UWCD believes it qualifies as a storage program under Section 5.7.2.1.2 of the FCGMA Ordinance Code.

Figure 1



Saticoy Well Field Storage Program Application – Required Information
Below you will find the information required for storage program applications, as set forth in Section 5.7.2.1.2 of the FCGMA Ordinance Code.

5.7.2.1.2.1 – Operator of the proposed injection/storage program: UWCD

5.7.2.1.2.2 – Purpose of the proposed injection/storage program: Reduce LAS pumping in severely overdrafted areas of the Oxnard Plain and Pleasant Valley Basins, consistent with the FCGMA Groundwater Management Plan.

5.7.2.1.2.3 – Injection/storage facilities information & 5.7.2.1.2.4 – Method of operation: When available, surface water is released from Santa Felicia Dam during early fall. A portion of release reaches the Freeman Diversion as surface flow and is diverted by UWCD. Since the diversion rate typically exceeds our pipeline capacity to Pleasant Valley and the Oxnard Plain, a portion of the diversion is spread at the Saticoy Spreading Grounds and stored in the UAS for later use when surface water is insufficient to meet irrigation demand. The surface water is recovered via four shallow wells located immediately adjacent to the spreading basins (02N21W07L07, 02N21W07M04, 02N22W12H01, and 02N22W12J04). The construction details of these wells are on-file at your office.

As described above, the recharge phase of this program typically occurs during early fall of each year, depending on water availability. The timing of the extraction phase depends on surface water availability, irrigation demand, and groundwater levels beneath our Saticoy facility. In most years, the extraction phase will be limited to summer and fall months. Since the wells were designed to lower the groundwater mound during wet years, extraction is limited by the shallow well construction and declining groundwater levels following recharge events. For this reason, the volume of water recovered does not exceed the amount recharged and impacts to local wells have not been observed. Our current monitoring activities at the Saticoy facility and surrounding areas are sufficient to detect any unanticipated changes in groundwater levels associated with pumping under this program. Figure 1 shows our actual operations since 2006.

Program Summary
This request is for approval of a storage program for the Saticoy Well Field, in accordance with Section 5.7.2.1.2 of the FCGMA Ordinance Code. Under this program, we will obtain storage credits for that portion of our managed Fall Conservation Release from Santa Felicia Dam that is recharged at our Saticoy facility. This program is intended to operate independently from the Good Deed Credits Trust Program to avoid double credits for State Water Project water. In other words, State Water Project water will not be counted under this program.

The storage credits will be applied against groundwater extractions from the Saticoy Well field. As part of this approval, we ask that the program be approved retroactively to 2007

to address the accounting issues associated with the reported pumping during the previous three years. Based on our records, the accounting under this program for 2007 – 2009 would be as shown in Table 1 below. Moving forward, we will provide your staff with the recharge volume for the previous calendar year with our second period semi-annual extraction statement for FCGMA account "UWCD".

Table 1
Recharge, Extraction, and Cumulative Storage Credits

Year	Recharge (AF)	Extraction (AF)	Cumulative Storage Credits
2007	7,847	1,755	6,092
2008	4,727	3,863	6,956
2009	9,236	2,455	13,737

If you have any questions, please contact Bryan Bondy, Associate Hydrogeologist, by phone (805-525-4431) or by email (bryanb@unitedwater.org).

Sincerely,

E. Michael Solomon
General Manager

Cc: Mary Lindley, Administrative Services Manager
Bryan Bondy, Sr. Hydrogeologist
Christine Williams, Controller

Resolution No. 2011-03

Fox Canyon Groundwater Management Agency

HONORING

David J. Panaro

WHEREAS, The Fox Canyon Groundwater Management Agency's Staff Geologist Mr. David Panaro has served on the FCGMA staff since early 1997 providing a high level of helpful service and information to stakeholders, and

WHEREAS, Mr. Panaro used his considerable experience and perspective in Agency working history and practices to guide and facilitate Agency solutions to some complex issues, and

WHEREAS, Mr. Panaro led the Agency's Meter Calibration Program over many years to steady success with his considerable experience and helpfulness, by using his detailed knowledge about wells, meters, operators and the multitude of meter related problems and solutions, and

WHEREAS, Mr. Panaro was key to the Agency's initial development of the Technical Advisory Group (TAG) and Strategic Advisory Group (SAG) meetings, designed the Agency logo and created the first website, and

WHEREAS, during his time here, Mr. Panaro helped find solutions to a number of very complex legacy issues, using his institutional knowledge, his creativity, desire to be helpful, efforts toward protection of the underlying aquifers and achieving safe yield in the Agency's groundwater basins, we now decree and confer special recognition upon him by officially declaring the following,

THEREFORE, BE IT RESOLVED, that the Board of Directors of the Fox Canyon Groundwater Management Agency take great pleasure in thanking and publicly honoring, **Mr. David J. Panaro** for his 14 years of dedicated service to the Agency, and wish him well in his future career endeavors.

PRESENTED BY THE FCGMA BOARD OF DIRECTORS THIS 25th DAY OF MAY, 2011.

Lynn Maulhardt, Chair | Director Steve Bennett | Director Michael Kelley | Director Neal Andrews | Director David Borchard

Resolution No. 2011-04
of the
Fox Canyon Groundwater Management Agency

A RESOLUTION SPECIFYING THE REQUIREMENTS FOR CALCULATING THE IRRIGATION ALLOWANCE INDEX UNDER THE IRRIGATION EFFICIENCY ALLOCATION PROGRAM

WHEREAS, The Fox Canyon Groundwater Management Agency Ordinance Code allows an operator to apply for an Efficiency Allocation based on a showing that water used for agriculturally developed land is at least 80 percent efficient; and

WHEREAS, The Fox Canyon Groundwater Management Agency determined that its Efficiency Allocation under the Irrigation Efficiency Program was in need of an independent technical review; and

WHEREAS, Following an independent technical review of the Irrigation Efficiency Program, the Fox Canyon Groundwater Management Agency determined a more appropriate method to ensure efficient irrigation practices is to replace the Irrigation Efficiency Program computations used with the new Irrigation Allowance Index computations; and

WHEREAS, Ordinance No. 8.4 amended the Agency Ordinance Code to provide that the method for allocating groundwater based on an efficiency allocation is now the Irrigation Allowance Index; and

WHEREAS, Pursuant to the Agency Ordinance Code, the Irrigation Allowance Index will be calculated using the procedures set forth in a resolution adopted by the Agency.

NOW, THEREFORE, IT IS HEREBY RESOLVED AND ORDERED THAT:

SECTION 1. Irrigation Allocation Index Calculation

The irrigation allowance index is computed as:

$$Irrigation\ Allowance\ Index = \frac{Actual\ Applied\ Water}{Annual\ Irrigation\ Allowance}$$

Where,Actual Applied Water = Flow meter totalized actual volume of water applied from all water sources.

Annual Irrigation Allowance = Volume of annual irrigation allowance for a specific evapotranspiration zone, specific year type, and appropriate crop type(s) using average actual vegetative acres.

An annual irrigation allowance has been developed by the Agency for 24 crop categories divided by evapotranspiration zone (coastal, midland, and inland). The evapotranspiration zones are shown on Figure 1. The annual irrigation allowance for each zone has also been divided by "year type" as defined by the annual precipitation (annualized value provided by the Agency for the irrigation allowance index). Each year the precipitation values will be categorized by the Agency

as Typical (11" – 17" of precipitation), Dry (less than 11" of precipitation), or Wet (more than 17" of precipitation) using rainfall data from a network of precipitation recording stations.

Application forms required to compute the irrigation allowance index will require, in addition to the actual applied water, that the Planted Acreage and Canopy Cover is reported. Planted acreage should not include areas with buildings, roads or areas not used for growing crops. Aerial photos (available online) should be used to confirm irrigated acreage and canopy cover and be submitted with the application. The Agency website will include websites that may be used for this and will include the application forms.

SECTION 2. Effective Date

This Resolution shall become effective on January 1, 2013 and will remain in force until changed by the Agency's Board of Directors or by a change to the Agency's Ordinance Code.

On a motion by Director Craven and seconded by Director Zaragoza, the foregoing Resolution was duly passed and adopted by the Board of Directors at a regularly scheduled meeting of the Board held on this 26th day of October 2011 in Ventura, California.

By: _____
Lynn E. Maulhardt, Chair, Board of Directors
Fox Canyon Groundwater Management Agency

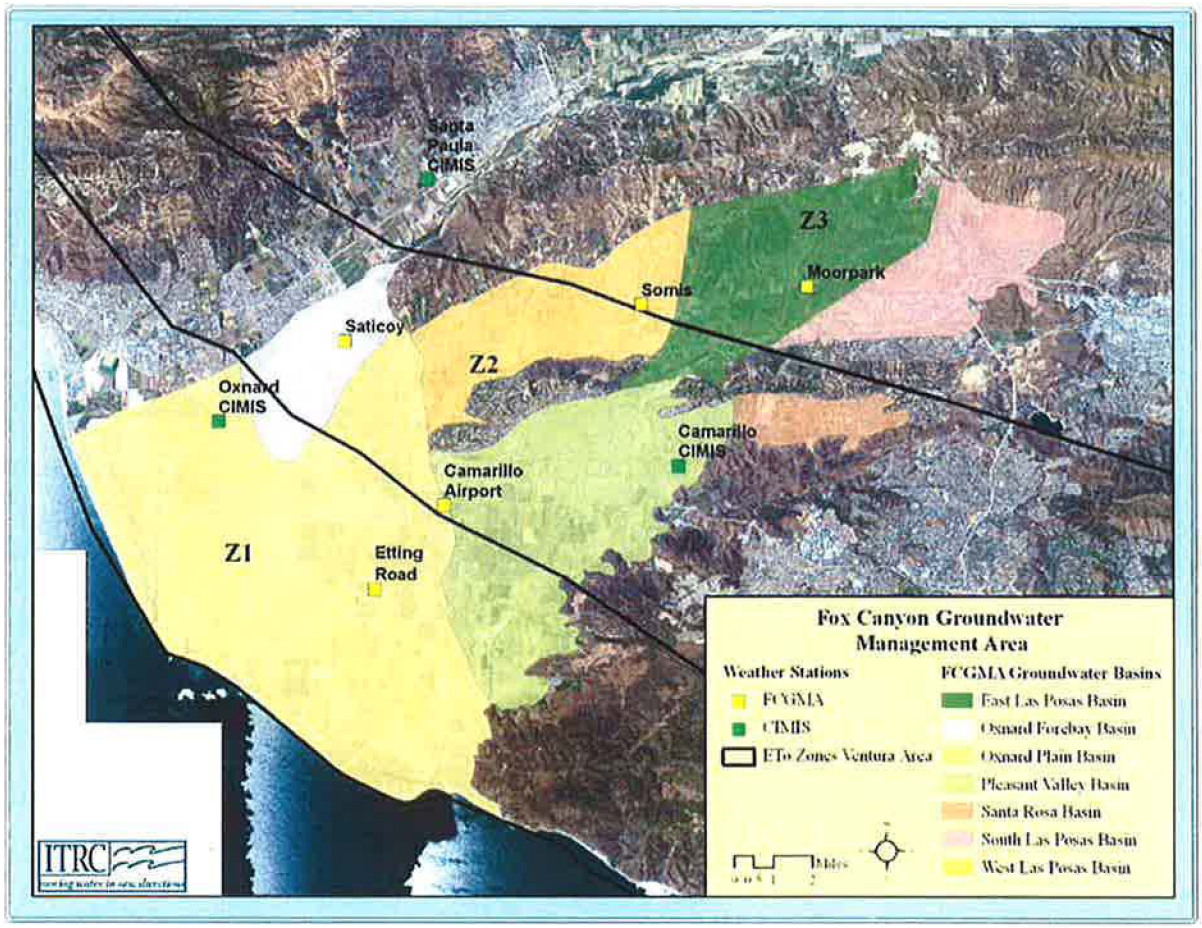
ATTEST: I hereby certify that the above is a true and correct copy of Amended Resolution No. 2011-04.

By: _____
Miranda Nobriga, Clerk of the Board

Attachment: Figure 1: Evapotranspiration Zone Map

Resolution 2011-04- Figure 1

Evapotranspiration Zone Map



FOX CANYON GROUNDWATER MANAGEMENT AGENCY

A STATE OF CALIFORNIA WATER AGENCY

January 25, 2012

Board of Directors
Fox Canyon Groundwater Management Agency
800 South Victoria Avenue
Ventura, CA 93009-1600

SUBJECT: ANNUAL BASIN MANAGEMENT OBJECTIVES PROGRESS REPORT – *(Continuing Item)*

RECOMMENDATION: Receive and file a report regarding the status of groundwater conditions relative to the Agency's Basin Management Objectives.

BACKGROUND:
As you may recall, the 2007 Update to the FCGMA Groundwater Management Plan (GMP) established Basin Management Objectives (BMOs) for the basins within the Agency. BMOs are groundwater levels or water quality measurements (concentrations) defined at specific locations that serve as quantitative performance metrics for evaluating the effectiveness of the Agency's groundwater management strategies toward meeting its GMP goals.

The current set of 52 BMOs provide performance metrics for the GMP plan goals, which are designed to address the varying water quality concerns in the groundwater basins within the Agency. The primary water quality concerns include:

- Nitrate impact to potable beneficial groundwater uses in the Oxnard Plain Forebay;
- Saline intrusion in coastal areas of the Oxnard Plain Basin;
- Migration of saline water from surrounding geologic sources in the Pleasant Valley Basin;
- Elevated nitrate and chloride in the Arroyo Santa Rosa Basins; and
- Chloride impact to agricultural beneficial groundwater uses in Las Posas Basins.

PURPOSE:
The purpose of this item is to provide an update on the status of groundwater conditions and progress toward meeting the BMOs. Staff believes reviewing BMO status periodically helps keep the Agency's goals and progress toward meeting those goals front and center.

The approach is to compare measured water levels and groundwater quality to the Agency's current set of BMOs. The primary tool used to communicate status is the attached suite of BMO "Report Cards" (Item 4A). The report cards summarize current groundwater levels and/or quality relative to the BMOs for a particular basin.

GROUNDWATER CONDITIONS AND BMO STATUS BY BASIN:
The status of the BMOs for each basin is summarized below and on the respective report card (Item 4A). Further details are provided in the "Status Summary Table" located on page one of each report card, where the status of each BMO is displayed quantitatively and visually. The geographic location of each BMO can be found on the map located below the table on page one of each report card. Time-series plots of groundwater levels and constituent concentrations can be found on page two of each report card for individuals who are interested in reviewing historical trends.

Oxnard Plain Forebay Basin (Forebay)

- BMOs: The Forebay has BMOs for nitrate and total dissolved solids (TDS) to protect groundwater quality for potable and irrigation uses. There are no groundwater level BMOs for the Forebay.

- Status: Average nitrate and TDS concentrations were well below their respective BMOs in 2011.

- Trends: Nitrate and TDS concentrations have decreased notably since 2009. TDS concentrations are now at their lowest point in two decades (approximately 750 milligrams per liter [mg/L]). These trends are likely the result of above normal precipitation during the past two years that resulted in significant groundwater recharge to the Forebay.

Oxnard Plain Basin – Upper Aquifer System

- BMOs: The Oxnard Plain Basin – Upper Aquifer System has BMOs for groundwater levels and chloride concentrations along the coast and at one inland location. These BMOs work together to protect against saline intrusion (sufficiently high water levels guard against intrusion, while chloride is a direct indicator of intrusion).

- Status: In 2011, water levels BMOs were met in all wells except those located near Pt. Mugu. The Pt. Mugu area is challenging because it lies furthest from the primary groundwater recharge area for the basin (e.g. the Forebay). As long as water levels remain consistently below BMOs, the risk for additional intrusion persists. Consistent with past results, chloride BMOs were not met near Port Hueneme (A1-195 and CM4) and Pt. Mugu (CM1A and CM6).

- Trends: In general, water levels rose approximately 10 feet during the last two years, reversing a declining trend that began in 2007. The exception is near Pt. Mugu, where water levels have been approximately stable or declining very slightly during the last five years. Chloride concentrations have been stable at all BMO locations except CM6, where concentrations are declining in the Oxnard Aquifer and increasing in the Mugu Aquifer. CM6 is located in an area of documented saline intrusion.

Oxnard Plain Basin – Lower Aquifer System

- BMOs: The Oxnard Plain Basin – Lower Aquifer System has BMOs for groundwater levels and chloride concentrations along the coast and at one inland location. These BMOs work together to protect against saline intrusion (sufficiently high water levels guard against intrusion, while chloride is a direct indicator of intrusion).

- Status: In 2011, water levels BMOs were met only at the northern most location along the coast (CM3). Average water levels at the remaining four locations were significantly below their respective BMOs (17 feet below near Port Hueneme and 43-53 feet below near Pt. Mugu). The

Pt. Mugu area is challenging because it lies furthest from the primary groundwater recharge area for the basin (e.g. the Forebay). As long as water levels remain consistently below BMOs, the risk for additional intrusion persists. Consistent with past results, chloride BMOs were not met near Port Hueneme (CM2) and Pt. Mugu (CM1A).

- Trends: In general, water levels rose approximately 20 feet during the last two years near Oxnard and Port Hueneme (CM3 and CM2), partially reversing a declining trend that began in 2007. Near Pt. Mugu and at the PTP-1 location, water levels were approximately stable during the last five years. Chloride concentrations have been stable or declining at BMO locations CM3, CM6, and PTP-1. Chloride concentrations continued to increase during the past five years in the Fox Canyon Aquifer at Port Hueneme and Pt. Mugu (CM2 and CM1A). These locations are in areas of documented saline intrusion.

Pleasant Valley Basin

- BMOs: The Pleasant Valley Basin has BMOs for groundwater levels and chloride concentrations. These BMOs work together to protect against saline intrusion (sufficiently high water levels guard against intrusion, while chloride is a direct indicator of intrusion).

- Status: In 2011, water levels BMOs were not met at either BMO location. Average water levels remain significantly below the respective BMOs (37 to 59 feet below). Chloride BMOs continue to be met at both locations (126 and 137 mg/L). However, it is worth noting that these concentrations are close to the 150 mg/L target and appear to be increasing, as discussed below.

- Trends: In general, water levels rose during the last approximately three years, reversing a declining trend that began in 2006. Chloride trends at the BMO locations are difficult to interpret due to the limited number of analyses. In general, it appears the chloride concentrations have increased by approximately 20-40 mg/L since 2005. As long as water levels remain consistently below BMOs, the risk of increasing chloride (and other salt) concentrations remains. Chloride concentrations would be expected to increase significantly and more rapidly if water levels were to drop again to levels experienced in the late 1980s and early 1990s.

Arroyo Santa Rosa Basin

- BMOs: The Arroyo Santa Rosa Basin has BMOs for nitrate and chloride to protect groundwater quality for potable and irrigation uses. There are no groundwater level BMOs for this basin.

- Status: Data for 2011 were available at one of the two BMO locations (25D1). Nitrate exceeded its BMO (62 vs. 45 mg/L) and chloride was slightly below its BMO (142 vs. 150 mg/L).

- Trends: Available data are not adequate for determining trends during the last five years. The most recent results at both locations are similar to or slightly less than historical results from the late 1990s and early 2000s, suggesting that nitrate and chloride concentrations may be stable or decreasing near the BMO locations.

- Other Comments: Given the limited and sporadic availability of data at the BMO locations, it is recommended that Agency staff investigate potential alternative BMO locations for this basin.

Las Posas Basins

- BMOs: The Las Posas Basins have BMOs for chloride and TDS to protect groundwater quality for potable and irrigation uses. There are currently no groundwater level BMOs for this basin.

- Status: Chloride and TDS BMOs were met in all locations except 9F1 and 9R1, which are located within the expanding plume of poor quality water in the East Las Posas Basin.

- Trends: Chloride and TDS trends over the last five years were stable at the BMO locations. However, none of the BMO locations are situated at the leading edge of the poor quality water plume that is known to be migrating northward into the East Las Posas Basin from sources in the South Las Posas Basin. Thus, stable chloride and TDS trends at the BMO locations should not be interpreted to mean that poor quality water has stopped migrating into the East Las Posas Basin.

- Other Comments: If adopted, BMOs recommended in the Las Posas Basin-Specific Groundwater Management Plan will replace the current set of BMOs.

SUMMARY:
The Agency's BMO "Report Cards" are updated for the 2011 calendar year. The report cards are used to communicate status of groundwater conditions and progress toward meeting the Agency's goals. This is accomplished by comparing groundwater levels and/or quality to the BMOs.

Overall, groundwater conditions and status relative to the BMOs are similar to that reported last January, with some notable exceptions. The prior two water years (2009/2010 and 2010/2011) were slightly wetter than normal and notably wetter than normal, respectively. Two consecutive years of above-average precipitation has resulted in notable groundwater level increases in the coastal basins, generally reversing the groundwater level declines that occurred between 2006 and 2009. Many of the five-year water level trends reported as downward on last year's report cards are now considered to be flat or upward trending. This was most evident at locations in the Upper Aquifer System (UAS) of the Oxnard Plain Basin north of Pt. Mugu. In the Oxnard Plain Forebay Basin, rising water levels coincided with notable water quality improvement; nitrate and TDS concentrations are now generally well below their respective BMOs and are continuing to decline in the Forebay.

The primary areas of concern remain:

1. Oxnard Plain Basin and Pleasant Valley Basins: Depressed water levels continue to allow conditions under which salts from the ocean and/or other geologic sources can potentially migrate into the aquifers. Areas of greatest concern are the coastal portions of the Oxnard Plain Basin near Port Hueneme (especially the Lower Aquifer System) and Pt. Mugu (both Upper and Lower Aquifer Systems) and the Pleasant Valley Basin where intrusion has been previously documented. It is important to note that these areas remain a concern despite the fact that we have experience overall wet conditions since the early 1990s; salt migration would be expected to increase during an extended drought.

2. Las Posas Basins: Poor quality water continues to migrate northward into East Las Posas Basin from sources in the South Las Posas Basin, although the current set of BMO locations is not situated so as to illustrate this movement. Additional detail will be available in the Las Posas Basin-Specific Groundwater Management Plan currently under development.

3. Arroyo Santa Rosa Basin: Nitrate and chloride concentrations remain a concern in the Arroyo Santa Rosa Basin, although there are limited data available for evaluation in this basin.

CLOSING:
This letter has been reviewed by Agency Counsel. If you have any questions, please call me at (805) 654-2073 or Bryan Bondy at (805) 212-0484.

Sincerely,

Jeff Pratt, P.E.
FCGMA Executive Officer

Attachment: Basin Management Objectives Report Cards (Item 4A)

FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN FOREBAY
Updated January 2012

Goal: Protect water quality at public drinking water wells (nitrate and TDS) and irrigation suitability (TDS). (Note TDS = total dissolved solids)

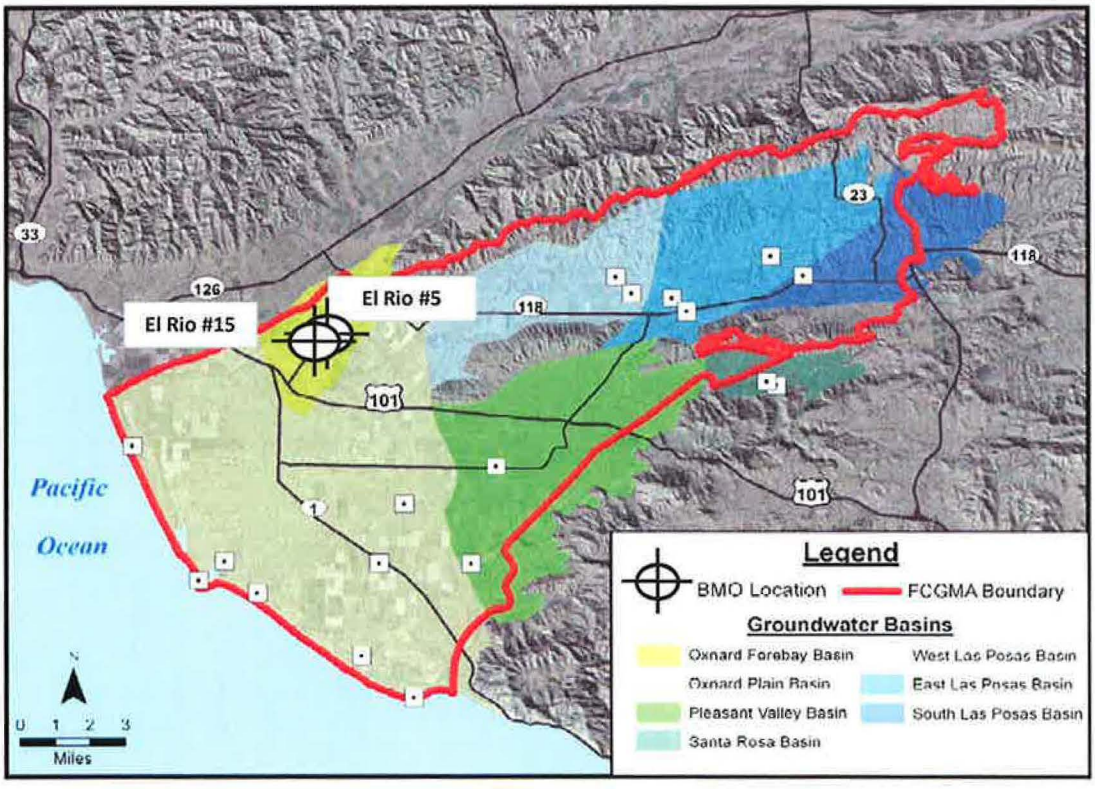
BMOs: Nitrate Concentration: 22.5 mg/L-NO_3 (50% of State of California MCL)

TDS Concentration: 1,200 mg/L (LARWQCB Basin Plan Objective)

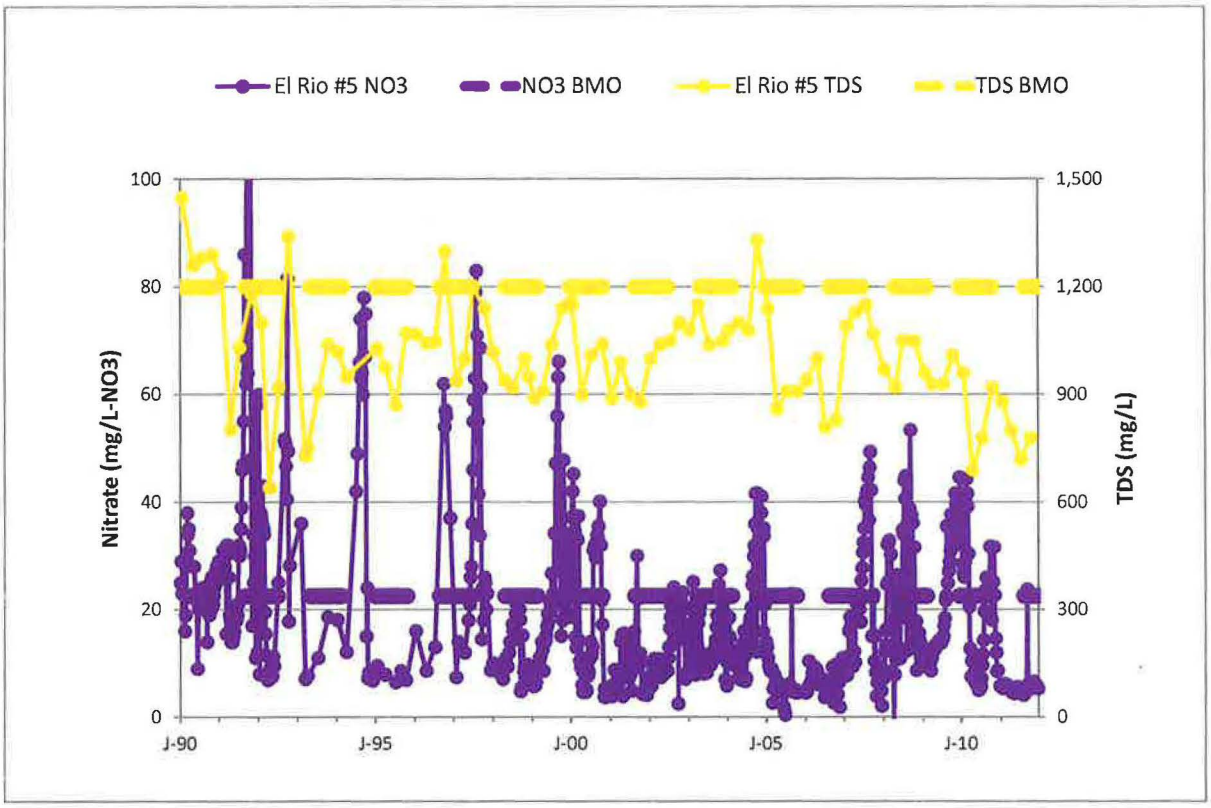
Status Summary: Average nitrate and TDS concentrations were well below the BMOs in 2011. Short term nitrate exceedances are managed by blending with other water sources. Increasing water levels during the last two years have contributed to declining nitrate and TDS concentrations. TDS concentrations are now near their lowest point in two decades.

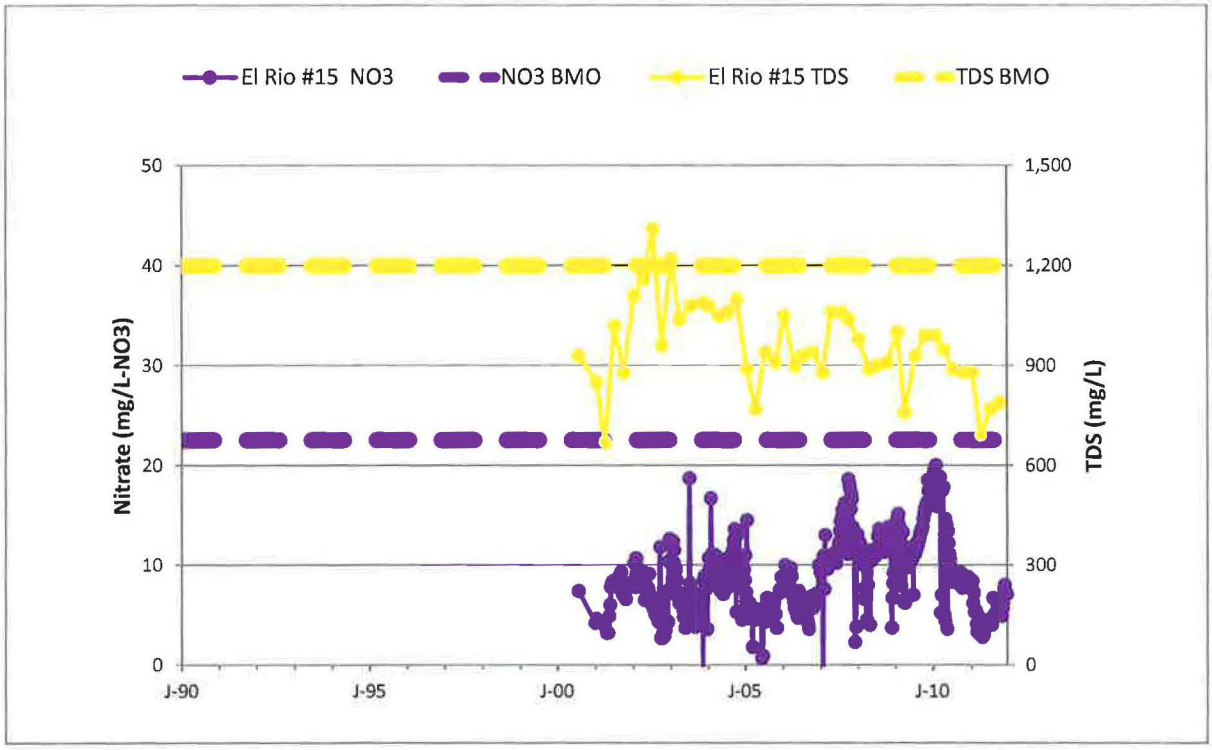
Status Summary Table

State Well Number (name)	Depth (ft)	Nitrate (mg/L)		TDS (mg/L)		5-yr Trend	
		BMO	2011 Ave	BMO	2011 Ave	Nitrate	TDS
02N22W23B02S (El Rio #5)	135-277	22.5	6	1,200	795	↓	↓
02N22W23C05S (El Rio #15)	140-310	22.5	5	1,200	783	↓	↓



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN FOREBAY
Updated January 2012





FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - UPPER AQUIFER SYSTEM
Updated January 2012

Goal: Prevent saline intrusion in the Oxnard and Mugu Aquifers. Primary source is seawater inflow via aquifer outcrops in submarine canyons near Port Hueneme and Pt. Mugu.

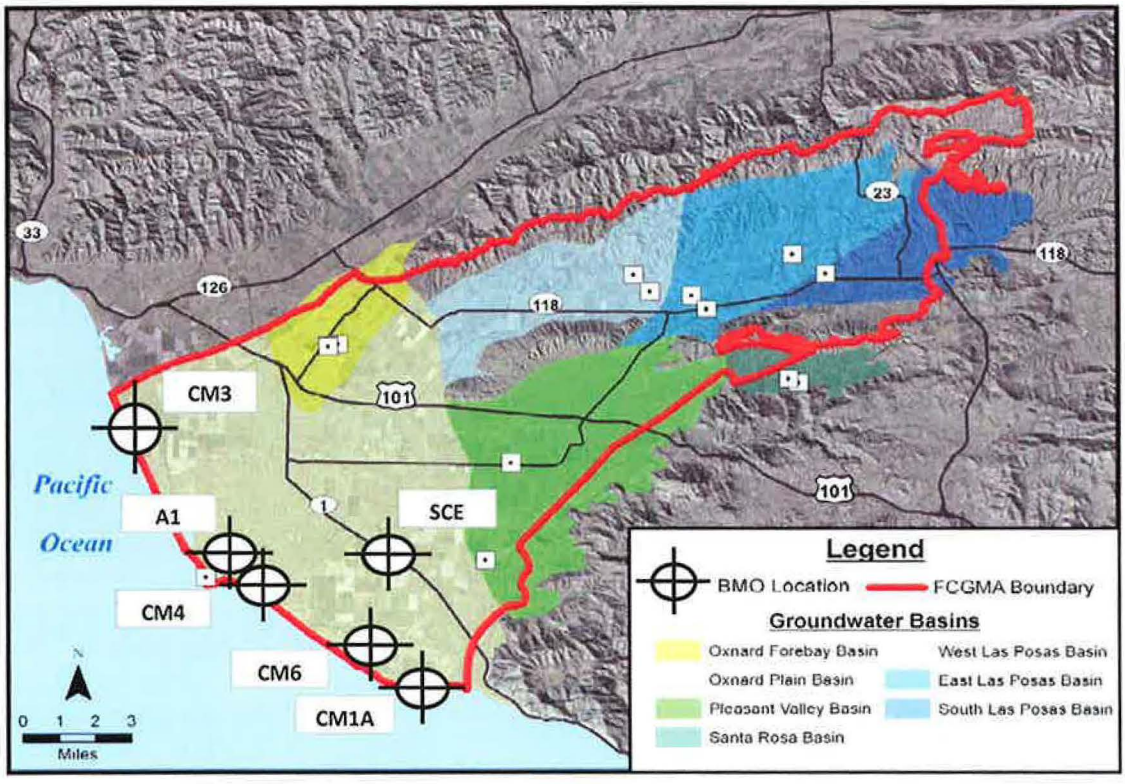
BMOs: Water Levels: Average groundwater elevations suffient to maintain slight seaward groundwater gradient. Elevation varies with location.

Chloride Concentration: 150 mg/L Chloride (LARWQCB Basin Plan Objective).

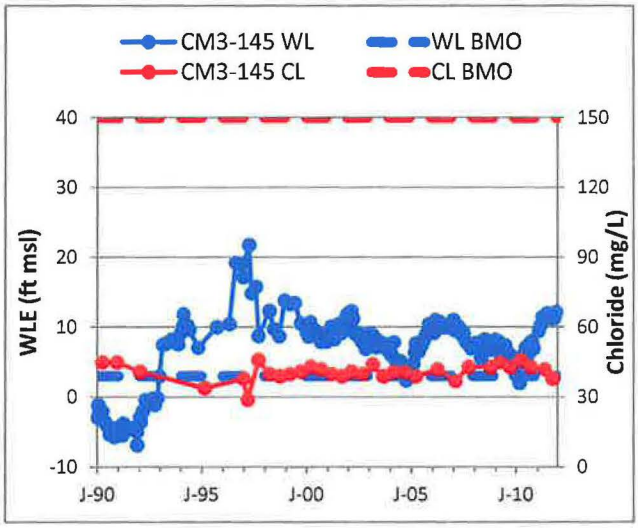
Status Summary: Water level BMOs were met at all locations except near Pt. Mugu in 2011. Water levels rose roughly 10 feet during the past two years, reversing a decling trend that began in 2007. Consistent with past results, chloride BMOs were not met near Port Hueneme and Pt. Mugu (these are areas of documented saline intrusion).

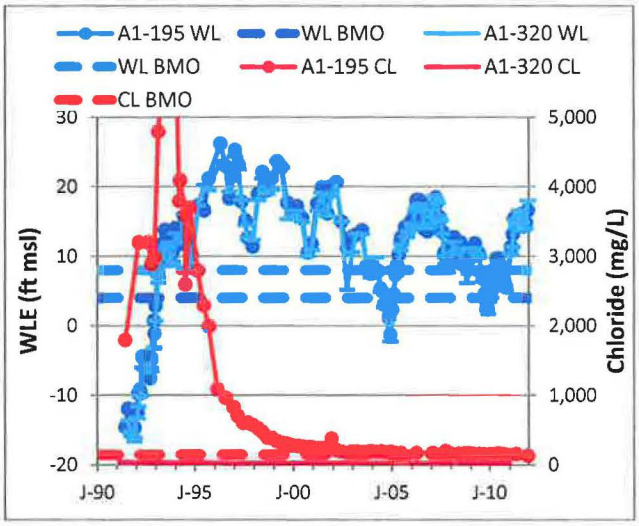
Status Summary Table

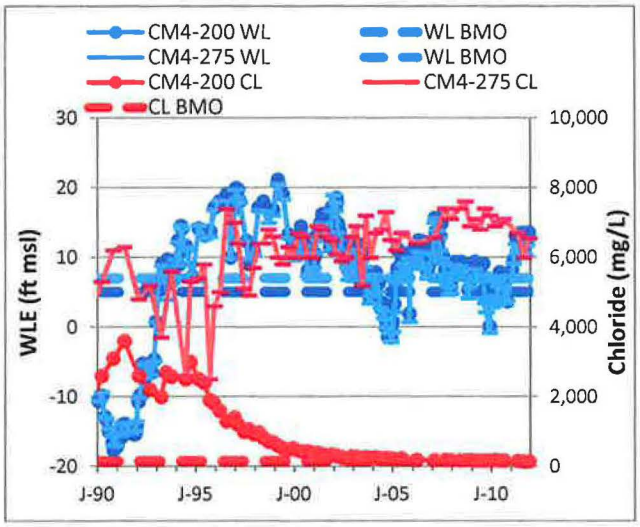
State Well Number (name)	Depth (ft)	Water Level (ft msl)		Chloride (mg/L)		5-yr Trend	
		BMO	2011 Ave	BMO	2011 Ave	Water Level	Chloride
01N23W01C05S (**CM3**-145)	120-145	3	11	150	40	⇨	⇨
01N22W20J08S (**A1**-195)	155-195	4	15	150	151	⇨	⇨
01N22W20J07S (**A1**-320)	280-320	8	15	150	36	⇨	⇨
01N22W28G05S (**CM4**-200)	180-200	5	12	150	151	⇨	⇨
01N22W28G04S (**CM4**-275)	255-275	7	11	150	6,421	⇨	⇨
01N21W19L12S (**SCE**-220)	200-220	5	8	150	62	⇨	⇨
01S22W01H04S (**CM6**-200)	180-200	5	-2	150	3,191	⇩	⇩
01S22W01H03S (**CM6**-330)	310-330	8	-14	150	2,177	⇨	⇧
01S21W08L04S (**CM1A**-220)	200-220	5	-3	150	16,050	⇨	⇨

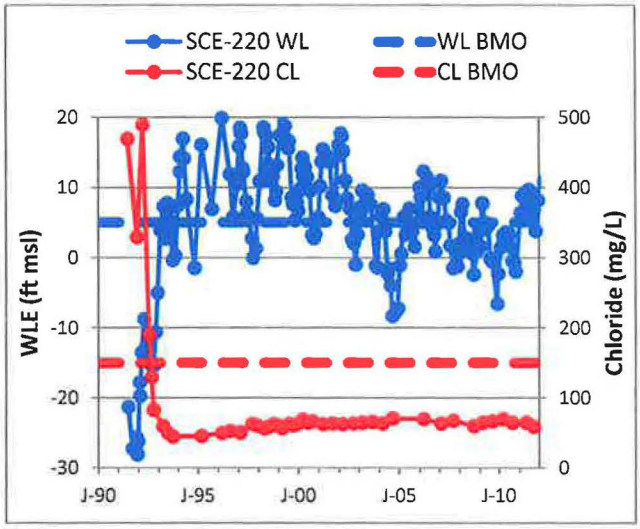


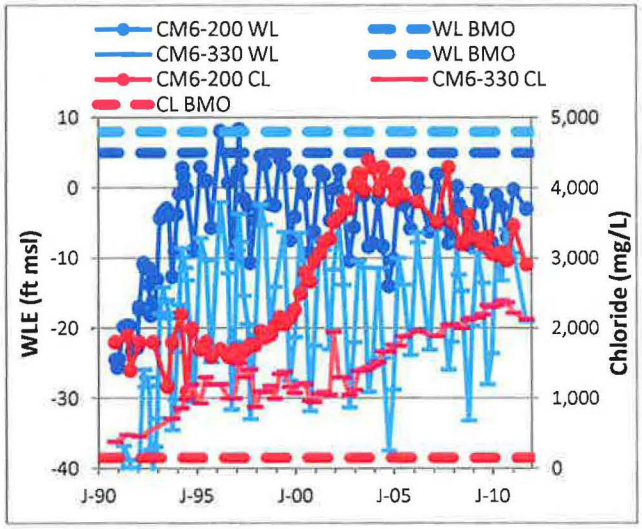
FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - UPPER AQUIFER SYSTEM
Updated January 2012

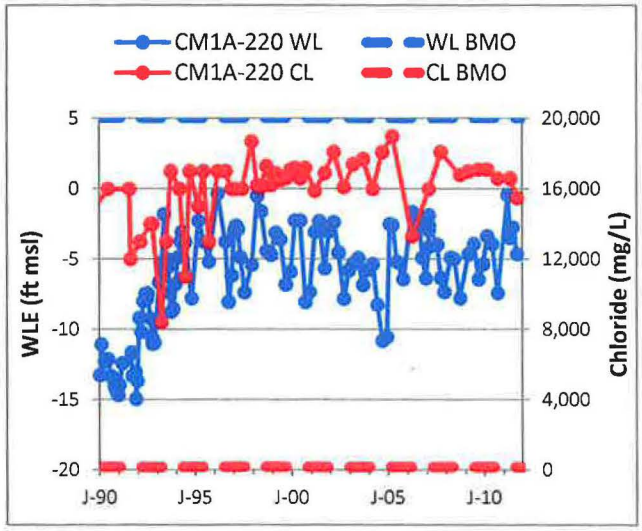












FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - LOWER AQUIFER SYSTEM
Updated January 2012

Goal: Prevent saline intrusion in the LAS. Sources are seawater inflow via aquifer outcrops in submarine canyons near Port Hueneme and Pt. Mugu and and marine sediments.

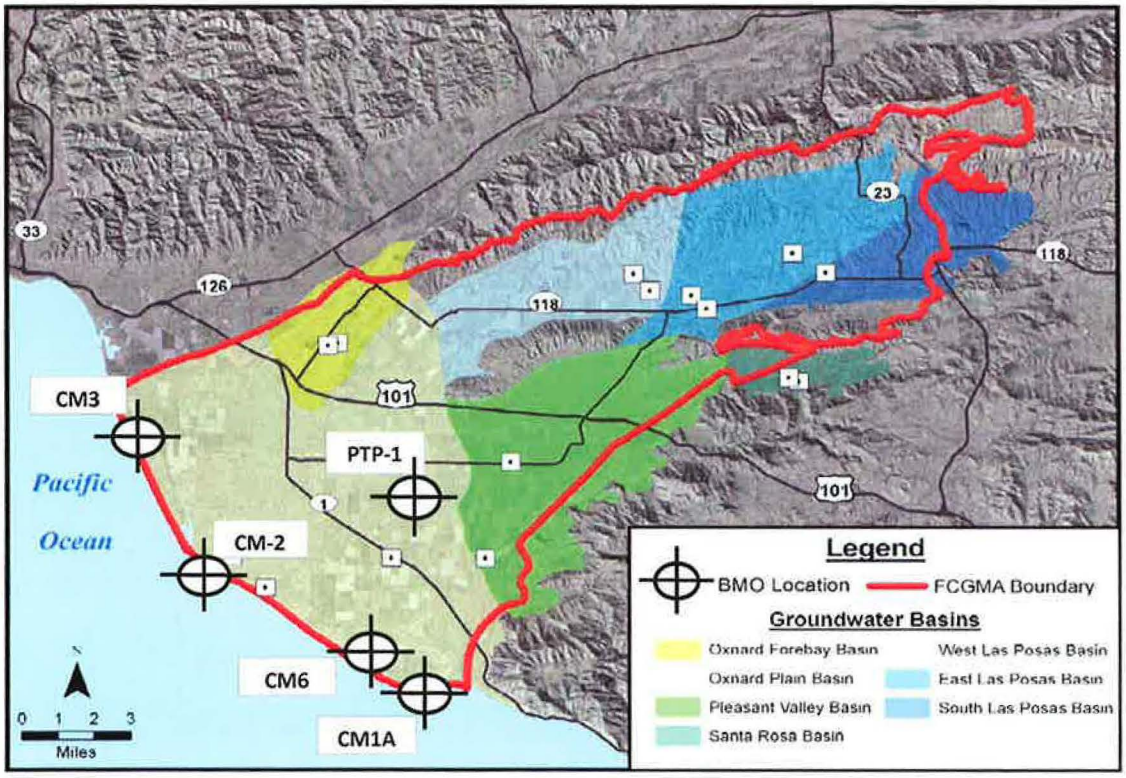
BMOs: Water Levels: Average groundwater elevations suffient to maintain slight seaward groundwater gradient. Elevation varies with location.

Chloride Concentration: 150 mg/L Chloride (LARWQCB Basin Plan Objective).

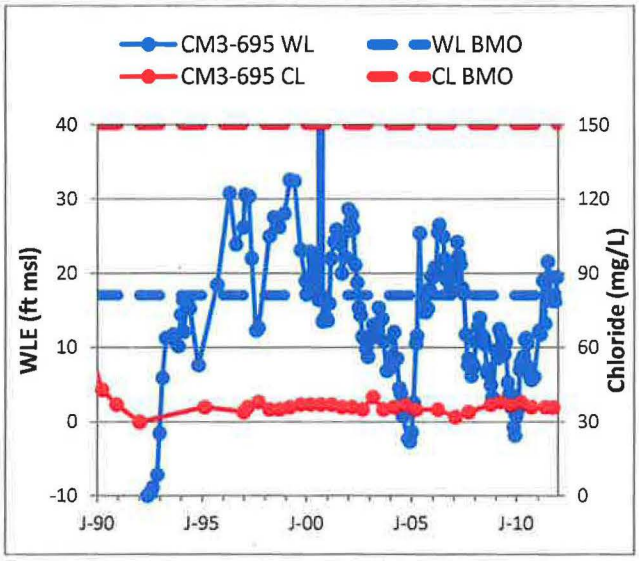
Status Summary: In 2011, water level BMOs were met only at the northern most location along the coast (CM3). Water levels at remaining locations continue to be significantly below their respective BMO. As long as water levels remain depressed, the potential for saline intrusion remains. Consistent with past results, chloride BMOs were not met near Port Hueneme (CM2) and Pt. Mugu (CM1A) (these are areas of documented intrusion).

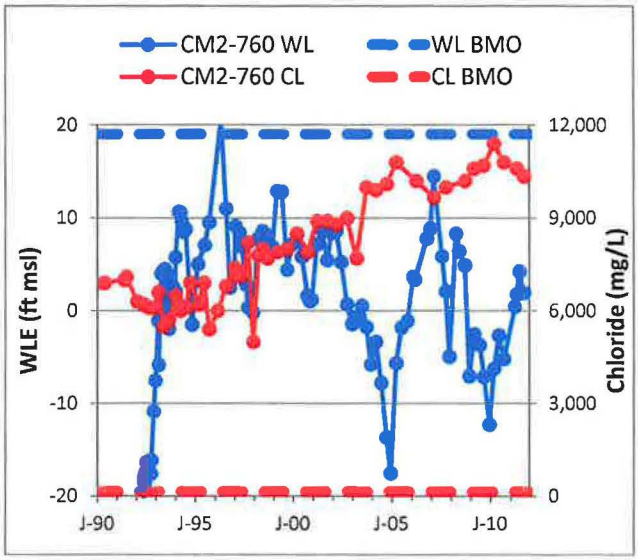
Status Summary Table

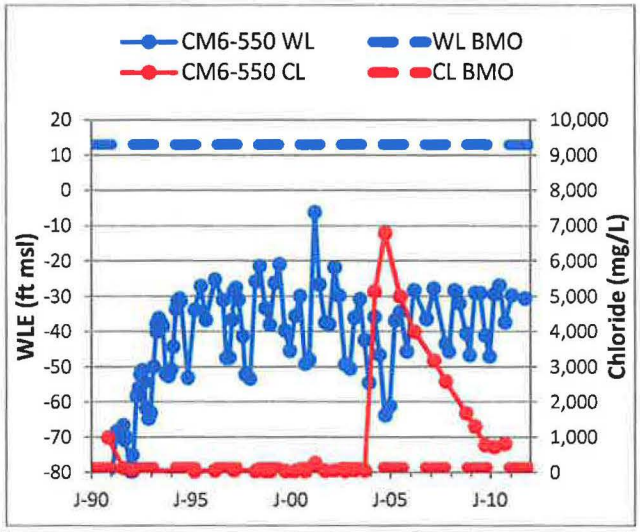
State Well Number (name)	Depth (ft)	Water Level (ft msl)		Chloride (mg/L)		5-yr Trend	
		BMO	2011 Ave	BMO	2011 Ave	Water Level	Chloride
01N23W01C04S (**CM3**-695)	630-695	17	17	150	36	⇩	⇨
01N22W29D02S (**CM2**-760)	720-760	19	2	150	10,475	⇩	⇧
01S22W01H01S (**CM6**-550)	490-550	13	-30	150	*No Data*	⇨	⇩
01S21W08L03S (**CM1A**-565)	525-565	14	-31	150	5,074	⇨	⇧
01N21W07J02S (**PTP #1**)	590-1280	20	-33	150	41	⇨	⇨

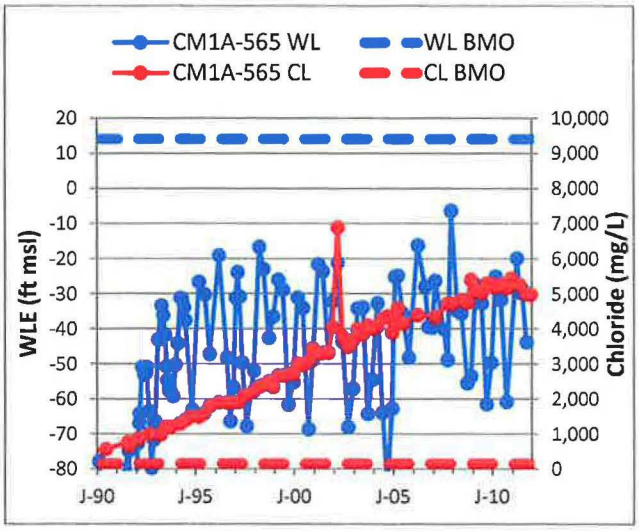


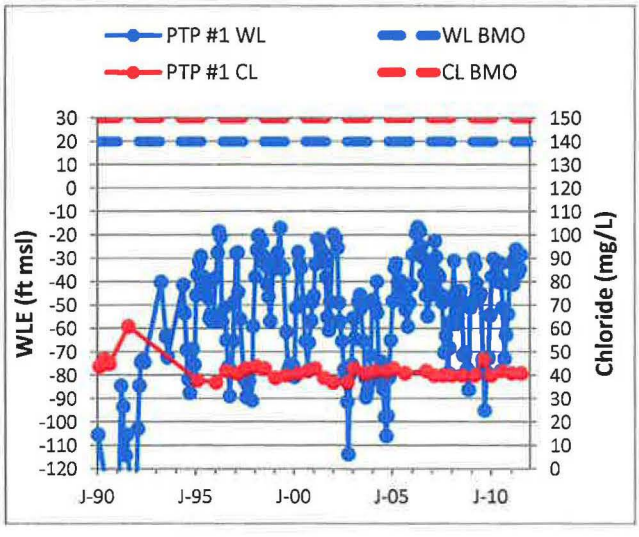
FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - LOWER AQUIFER SYSTEM
Updated January 2012











FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
PLEASANT VALLEY BASIN
Updated January 2012

Goal: Prevent inland migration of saline groundwater from coastal areas, underlying sources, and fine-grained interbeds.

BMOs: Water Levels: Average groundwater elevations suffient to prevent landward migration from coastal areas and minimize vertical gradients.

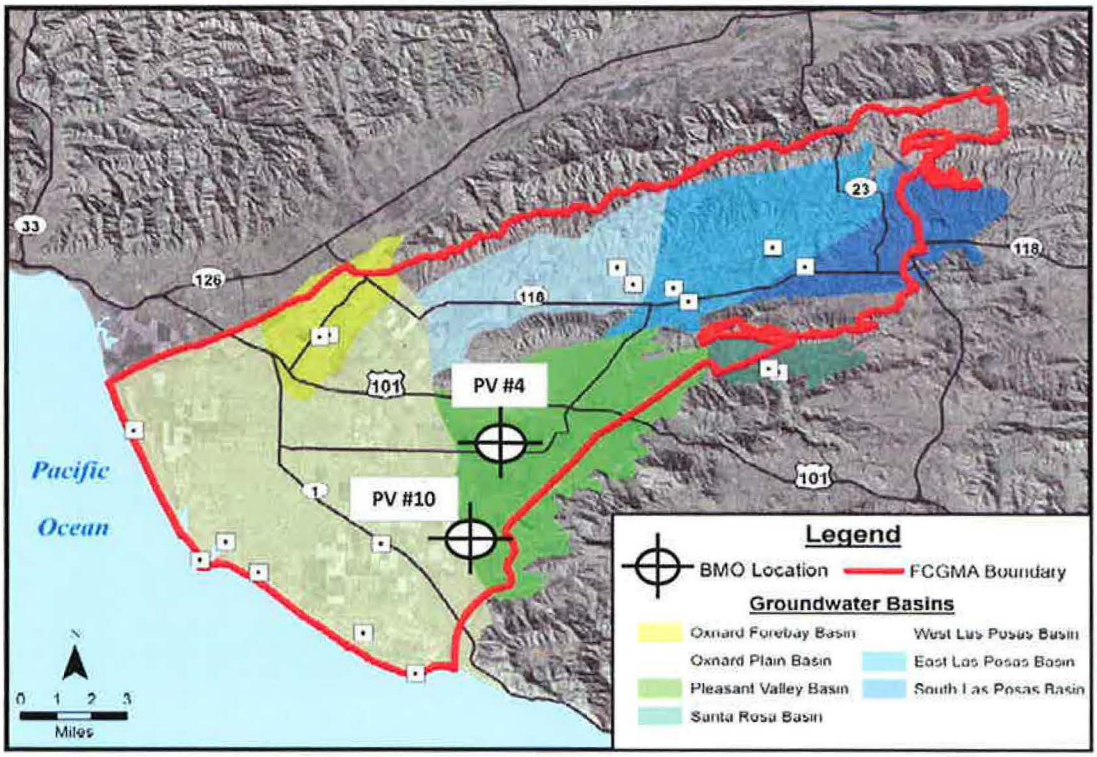
Chloride Concentration: 150 mg/L Chloride (LARWQCB Basin Plan Objective).

Status Summary: In 2011, water level BMOs were not met at either location. Despite rising water levels during the past three years, water levels remain significantly below the BMOs. Chloride BMOs continue to be met at both locations, although concentrations are close to the BMOs and increasing since 2005. With depressed water levels, the risk of increasing chloride concentrations remains.

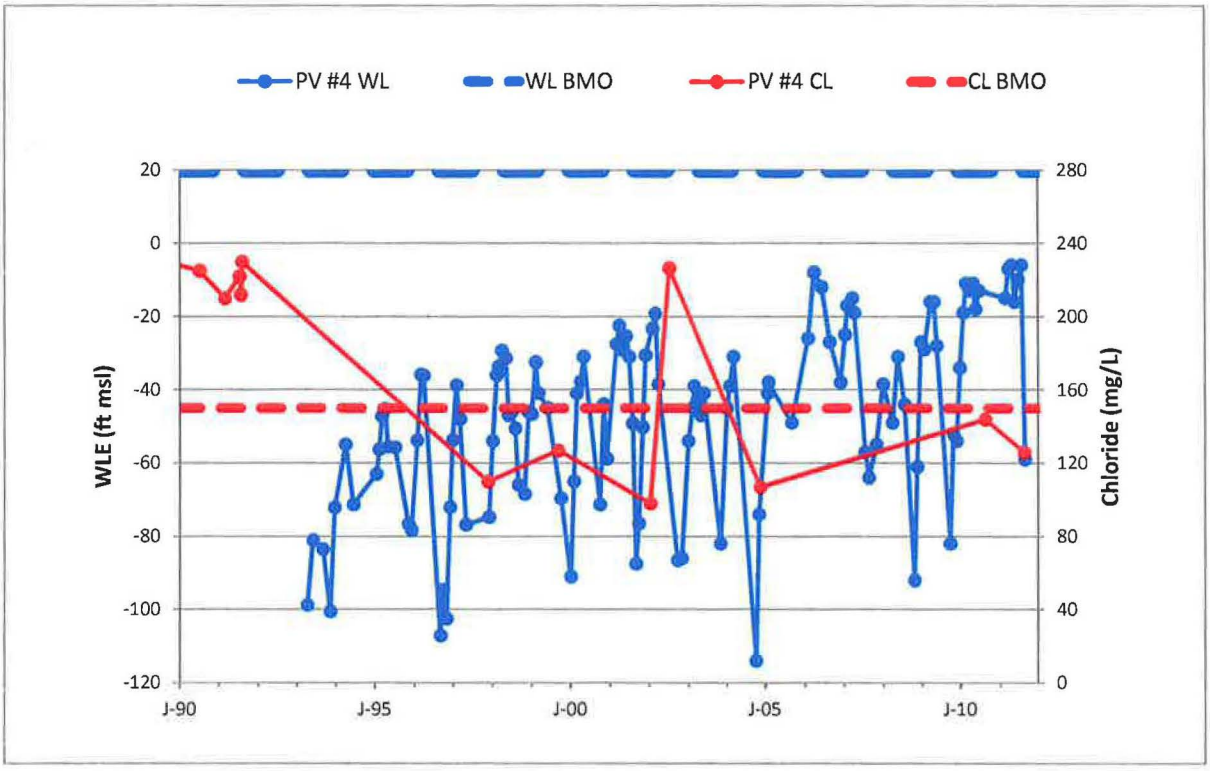
Status Summary Table

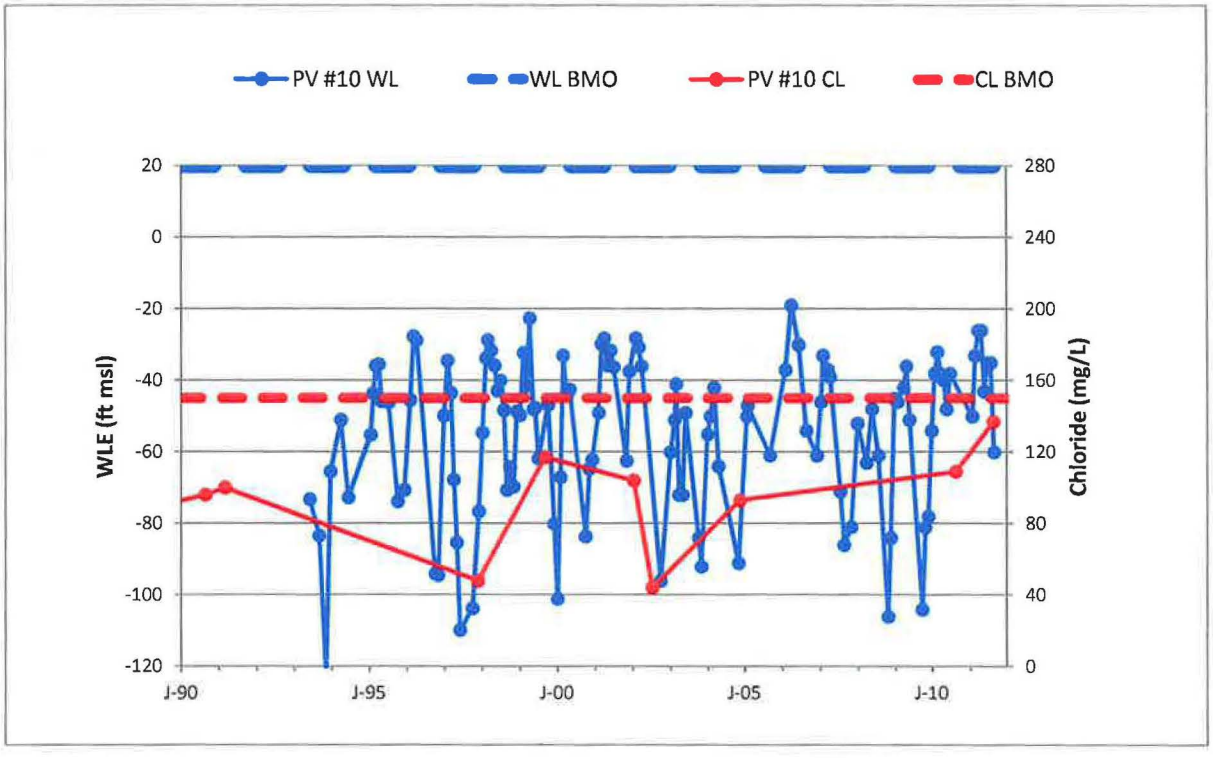
State Well Number (name)	Depth (ft)	Water Level (ft msl)		Chloride (mg/L)		5-yr Trend	
		BMO	2011 Ave	BMO	2011 Ave	Water Level	Chloride*
01N21W03K01S (**PV #4**)	403-1433	20	-17	150	126	⇧	⇨
01N21W21H02S (**PV #10**)	503-863	20	-39	150	137	⇧	⇧

Note: * = Trend evaluation is inconclusive; no chloride data between 2004 and 2010.



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
PLEASANT VALLEY BASIN
Updated January 2012





FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
ARROYO SANTA ROSA BASIN
Updated January 2012

Goal: Meet LARWQCB Basin Plan Objectives for nitrate and chloride.

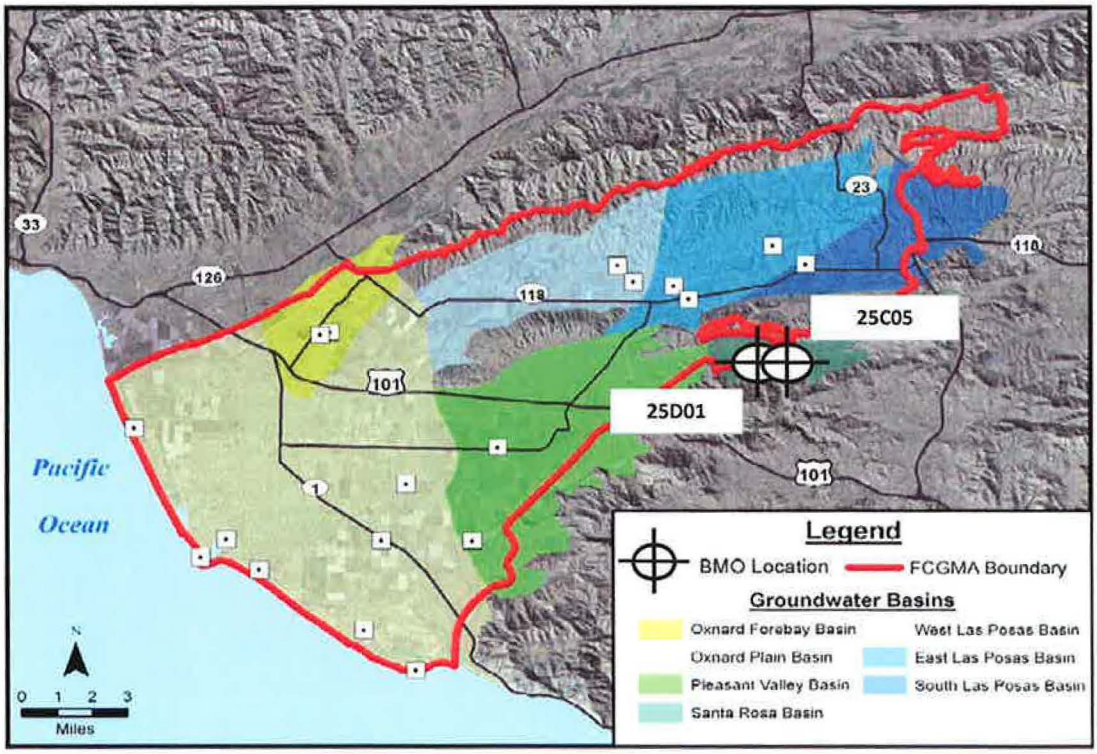
BMOs: Nitrate Concentration: 45 mg/L-NO_3 (LARWQCB Basin Plan Objective & State of CA MCL)

Chloride Concentration: 150 mg/L (LARWQCB Basin Plan Objective)

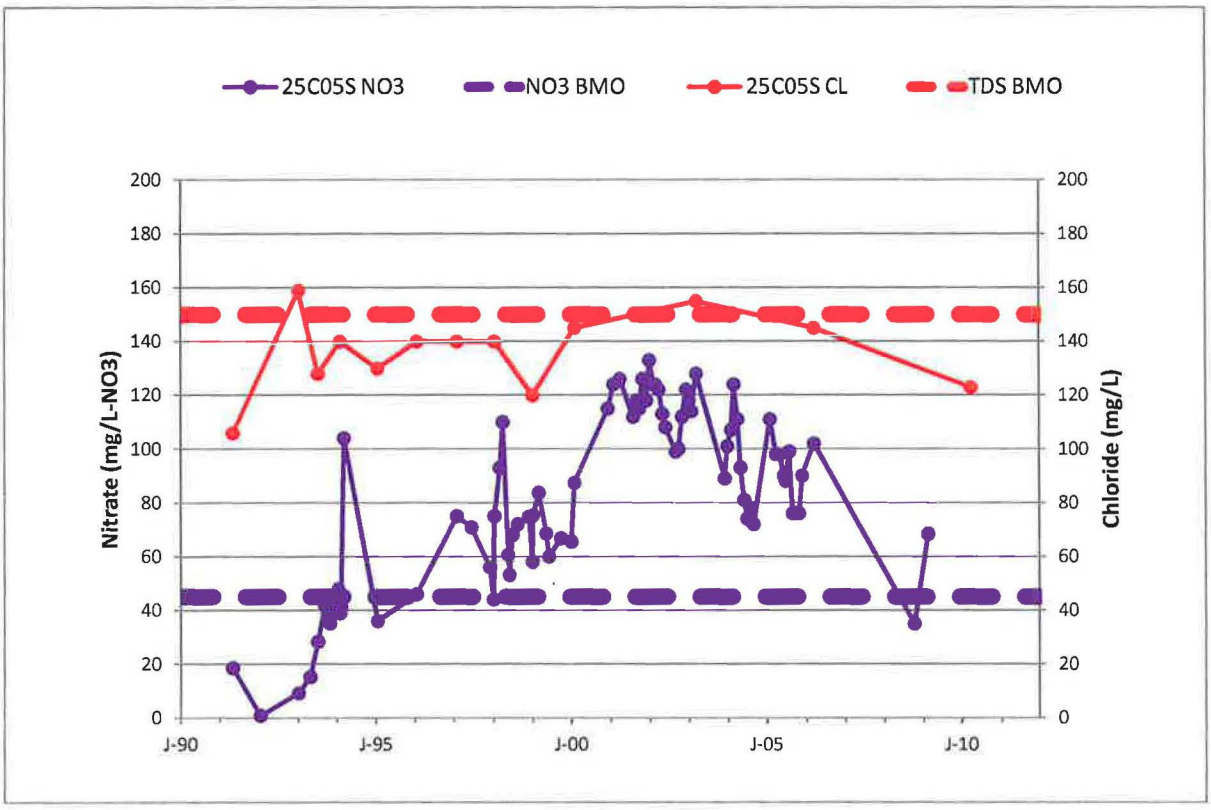
Status Summary: Data for 2011 were limited to one of the two BMO locations (25D1). Nitrate exceeded its BMO (62 vs. 45 mg/L) and chloride was slightly below its BMO (142 vs. 150 mg/L). Available data are not adequate for determining trends during the previous five years. Comparision of recent results with historical data suggests that nitrate and chloride concentrations may be similar to or slightly less than concetrations in the late 1990s and early 2000s.

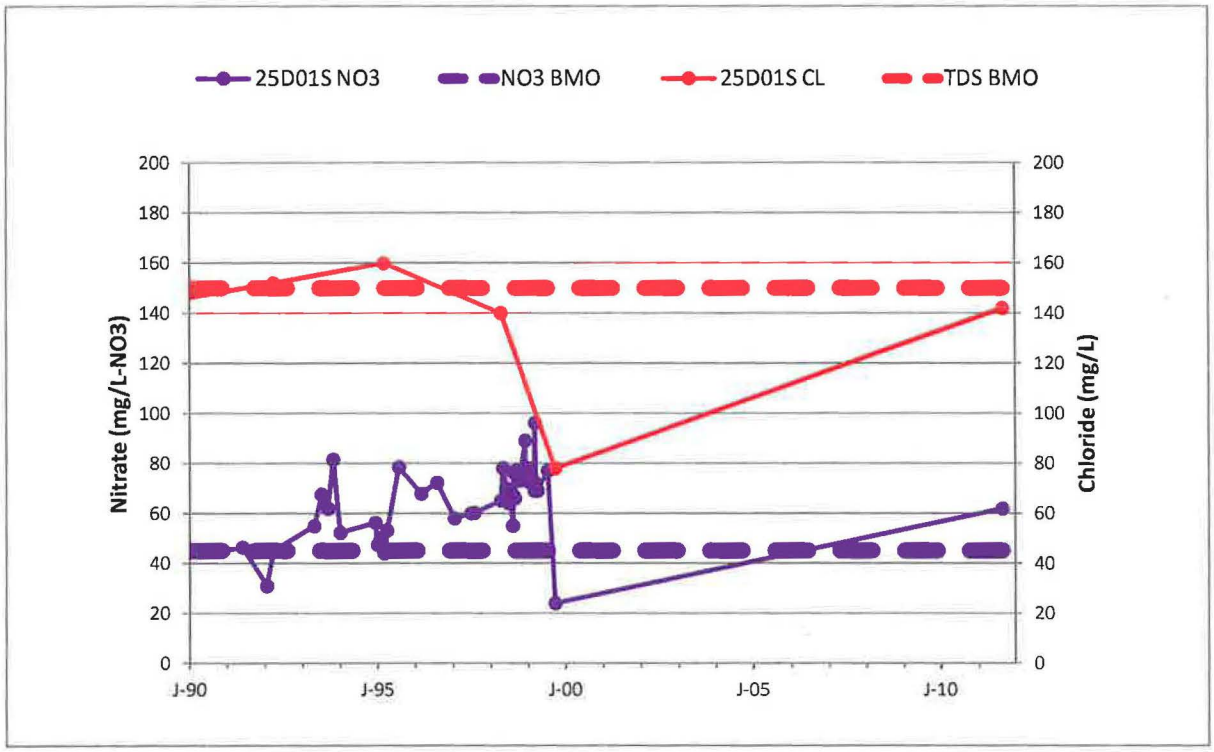
Status Summary Table

State Well Number (name)	Depth (ft)	Nitrate (mg/L)		Chloride (mg/L)		5-yr Trend	
		BMO	2011 Ave	BMO	2011 Ave	Nitrate	Chloride
02N20W25C05S	160-260	45	*No Data*	150	*No Data*	⇩	⇩
02N20W25D01S	Unknown	45	*62*	150	*142*	*Insufficient Data*	



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
ARROYO SANTA ROSA BASIN
Updated January 2012





FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
LAS POSAS BASINS
Updated January 2012

Goal: Maintain chloride and TDS concentrations suitable for irrigation of salt-sensitive crops, particulary avocados and berries. BMOs for SLP are equal to the concentrations observed in surface water in Arroyo Las Posas.

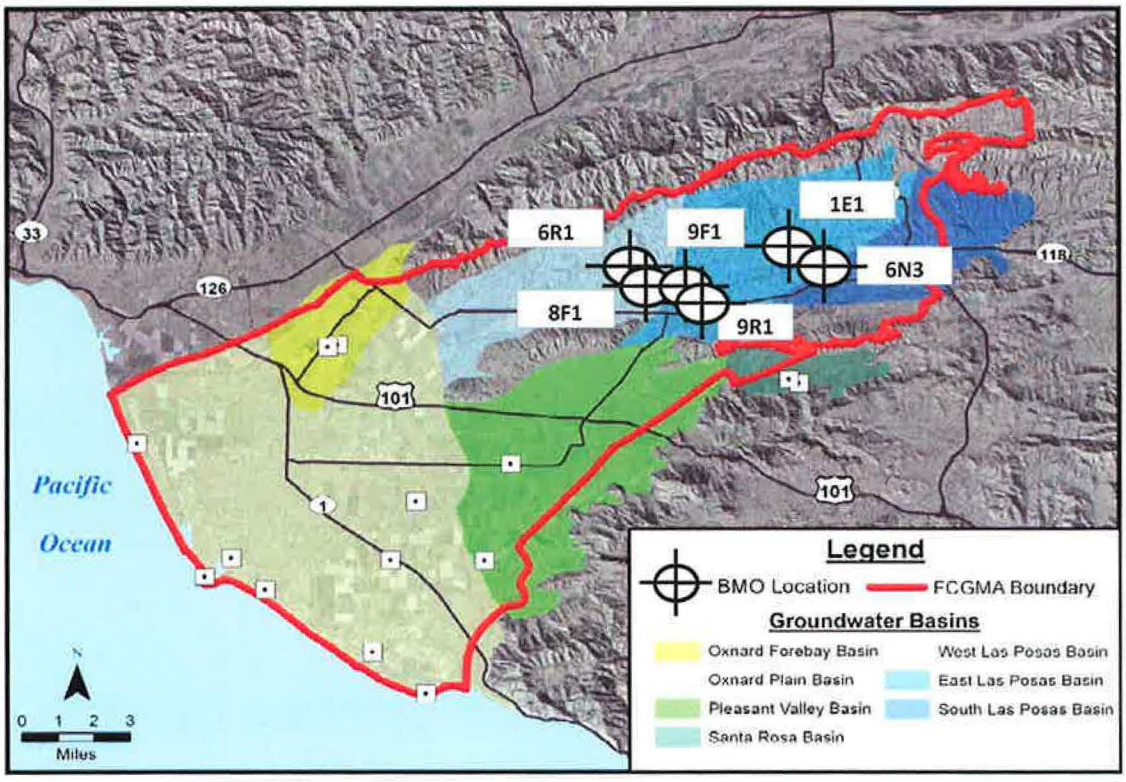
BMOs: Chloride Concentration: WLP & ELP: 100 mg/L; SLP: 160 mg/L.

TDS Concentration: ELP: 500 mg/L; WLP: 600 mg/L; and SLP: 1,500 mg/L.

Status Summary: In 2011, chloride and TDS BMOs were met at all locations except 9F1 and 9R1, which are located within the expanding plume of poor quality water in the East Las Posas Basin. Concentration trends are generally stable at the BMO locations, however, none of the locations are situated at the leading edge of the plume where rising concentrations are being observed. New BMOs will be proposed in the basin-specific plan.

Status Summary Table

State Well Number (name)	Depth (ft)	Chloride (mg/L)		TDS (mg/L)		5-yr Trend	
		BMO	2011 Ave	BMO	2011 Ave	Chloride	TDS
02N20W09F01S (ELP)	906-1,290	100	171	500	1,520	⇨	⇨
02N20W09R01S (ELP)	456-724	100	179	500	1,280	⇨	⇨
02N20W01E01S (ELP)	567-907	100	30	500	416	*Insufficient Data*	
02N20W06R01S (WLP)	1,090-1,512	100	15	600	520	⇨	⇨
02N20W08F01S (WLP)	752-1,406	100	12	600	363	⇨	⇨
02N19W06N03S (SLP)	101-121	160	*No Data*	1500	*No Data*	*No Data*	



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
LAS POSAS BASINS
Updated January 2012