

Table of Contents

Ojai Basin Groundwater Management Agency

Management Plan 2007 Update

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Ojai Basin Groundwater Management Agency
A Special District of Ventura County

OJAI BASIN GROUNDWATER MANAGEMENT AGENCY GROUNDWATER MANAGEMENT PLAN

BACKGROUND

Two critical facts underline the importance of the Ojai Basin Groundwater Management Agency (OBGMA) and this management plan.

Chronic drought is a climatic reality. Over the last 100 years there were several serious droughts, and climate change may likely bring an increase in the number and intensity of years with below average rainfall. Local precipitation, the only source of water in the Ventura River watershed, is predicted by several models to decrease in annual averages. Extended periods of drought are likely.

The Ventura River watershed is depended upon by numerous competing interests. Most water allocated to the various water purveyors in the watershed is accounted for; it has been predicted that, in a long- term drought, the Lake Casitas could go dry. Existing wells already in the Ojai Basin are producing groundwater at a rate that is considered to be at or near the safe yield of the basin, and it is predicted (with historical precedence) that in a long term drought a significant number of the existing wells will go dry. Stakeholders in the Ojai Basin can depend on no economically reasonable new source of water.

The OBGMA has been given the responsibility for managing the Ojai groundwater basin and, working with its constituents, the well operators in the basin, for conserving that groundwater. The intent of this plan is to avoid, where possible, and strive to minimize, the adverse economic and social impacts facing our valuable but limited water supply.

Mission Statement

It is the mission of the Ojai Basin Groundwater Management Agency to preserve the quantity and quality of groundwater in the Ojai Basin in order to protect and maintain the long-term water supply for the common benefit of the water users in the Basin.

The mission of the OBGMA is derived from its enabling legislation, the Ojai Basin Groundwater Management Agency Act, which became law in 1991. The act was approved as a response to the needs and concerns of local water agencies, water users, and well owners of the Ojai Basin. The Agency was established in the fifth year of a drought, amidst concerns for potential Basin overdraft. The mission is in keeping with the history of the Basin and the circumstances existing when the Agency was formed. Since that time, although there have been some good water years and the Ojai Basin has continued to provide sufficient water for its well owners, competition for scarce water resources in Southern California and Ventura County is ever expanding, water resource

planning is intensifying, and the importance of the OBGMA mission is even greater today.

Based upon the studies conducted by and for the Agency, and due to a relatively wet period over the past 15 years, the water and demand in the basin is largely in balance and capable of meeting the annual demands of overlying landowners and in-basin water users under present conditions. However, after a series of dry years water in some wells in the basin drop to the point where an alternative water source must be used. In part, that is why water users presently import some 3,750 (1981 to 2005 average) acre feet of Casitas Municipal Water District (Casitas) water into the basin annually, mostly for irrigation. If Casitas water was not available or not used in a series of dry years, considering the present understanding of the hydrology of the basin and the existing water uses, some shallower and peripheral wells would probably not produce water, pumping lift costs to pump groundwater would be excessive, some wells would produce excessive amounts of sand, water quality of pumped groundwater would likely be compromised, and other detrimental effects of a reduced amount of storage in the Basin.

Therefore, the focus of the Agency's efforts is on protecting and preserving the basin groundwater resource for in-basin use; and guarding against harmful export of water from the basin.

Current Fiscal Situation

The OBGMA is funded by extraction charges levied onto pumpers in the Basin; the present legislative ceiling on extraction charges is \$7.50 per acre-foot. In a typical year with 5,000 acre feet extracted the OBGMA budget is roughly \$37,500 per year. The OBGMA operates from a one room office, with one part time office assistant who also acts in the capacity of secretary and treasurer. These expenses, along with regular audits and required insurance consume the majority of the funding. The agency must have one professional, technically qualified staff person as a manager at least part time. The agency should also be a participant in funding projects that are within its purview (such as the proposed San Antonio Creek Spreading Grounds Rehabilitation Project [SACSGRP] operation and maintenance). The OBGMA is seeking legislation in the 2007 session to amend its enabling Act to provide for an increase in the extraction charge ceiling to \$25. Any actual extraction charge change will be voted upon by the board, which consists of representatives of the stakeholders. The Board of OBGMA has estimated that an actual extraction charge of \$15 per acre foot would provide the funding needed to carry out the basic responsibilities and that an additional charge of \$4 per acre foot would be need to pay the OBGMA share of the operation and maintenance of the proposed SACSGRP.

GENERAL APPROACH

The OBGMA is required by law to have a Groundwater Management Plan (Plan) to guide its operations. The initial Plan was prepared and published in 1995. The 2007 Update provides additional information to the original Plan and has been developed based

on studies done for the Agency by its hydrogeologists, engineering contractors, input from well owners and water users, recommendations made by the Agency's advisory committee and by the State of California Department of Water Resources. Figure 1 presents a map of the OBGMA area of purview and service areas of other local agencies.

In the ensuing years between the original Plan publication and this update, numerous studies and projects have been undertaken in the Basin within the purview of the OBGMA and have led to a better understanding of Basin hydrogeology, demands, and hydrologic fluctuations which affect the stakeholders. Continually improved understanding provides an additional level of detail to the goals and objectives of the Plan; as the understanding of the Basin improves over the years, updates to the Plan will be incorporated. It is anticipated that the Plan will be updated every five years.

The Plan consists of five broad goals. Each goal includes a number of action elements, and as described herein there are tables under each goal which demonstrate when various action elements were completed or are planned for completion. While the five broad goals will provide the structure to the Agency's management efforts for several years, the Agency anticipates that the detailed action elements will evolve as the Agency's efforts continue to progress. Elements approved with this will be implemented in the form of rules, regulations or ordinances. Prior to implementation, additional criteria to guide these actions will be developed in a public process by the Board and added to this management plan. Some elements as noted herein require more study and public review before specific implementation actions are approved. Additions will be made to this Plan as actions to implement these elements are reviewed by the water users and well owners in the basin and approved by the Agency Board of Directors (Board). Amendments to the approved Plan will be made only after full review, consideration of any advisory recommendation and formal approval by the Board.

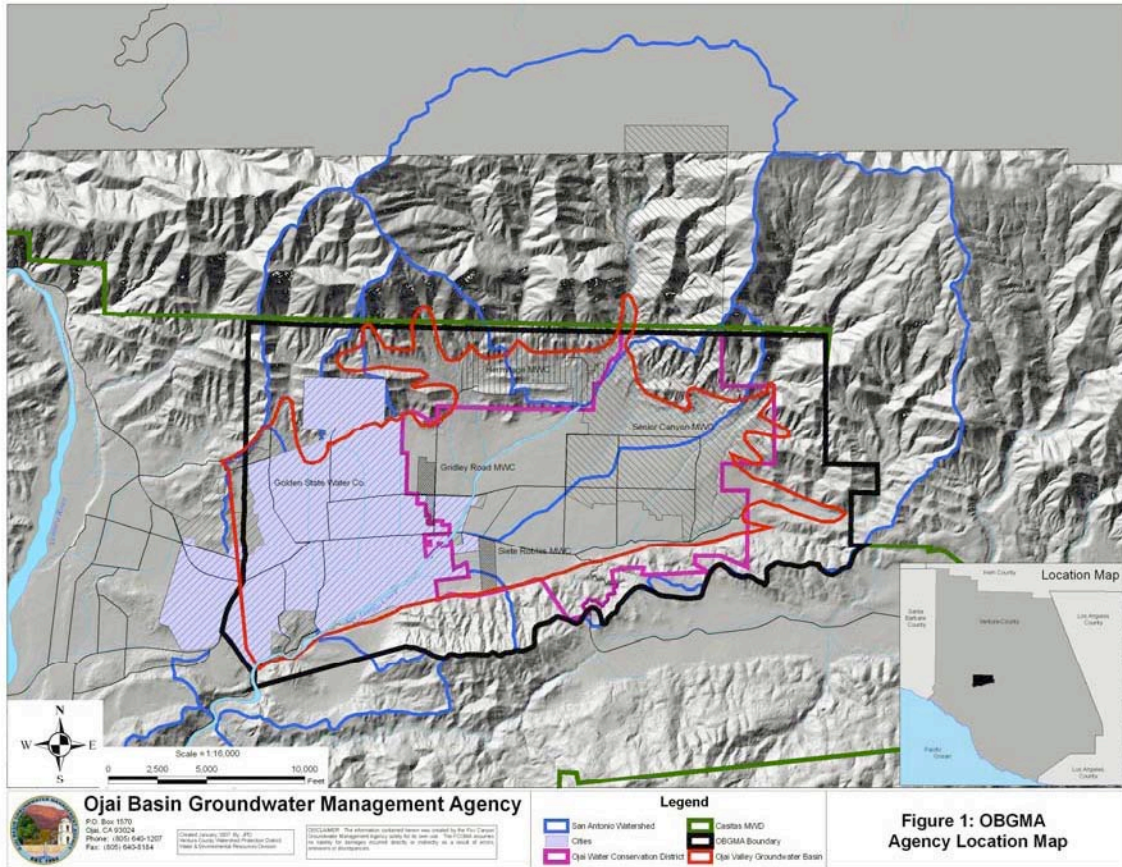


Figure 1: OBGMA Agency Location Map

GROUNDWATER MANAGEMENT PLAN – DETAILED ACTION PLAN

GOAL 1 – UNDERSTANDING THE BASIN

The Agency must have a comprehensive understanding of the hydrology of the basin under its jurisdiction in order to carry out its mission. This understanding will continue to evolve as additional goal elements are implemented. Table 1 provides a description of selected Goal 1 elements that have been completed, are scheduled, or planned.

a. Monitoring. The Agency has at its disposal several studies of the basin hydrology, including conceptual models. These models must be tested and updated regularly under a continuing monitoring program to serve as a basis for informed decision making. Monitoring will also be conducted to identify changing conditions and implement management programs when needed. Monitoring will include:

1. Surface water entering the basin
2. Recharge of the basin from rainfall.

3. Stream flow seepage
4. Evapotranspiration
5. Discharge from the basin as surface flow from San Antonio Creek and subsurface flow
6. Extractions from the basin via public and private wells.

Monitoring results will be shared annually by the Agency with owners, water users and the public.

b. Data Collection. Previous studies identified significant gaps in the current monitoring activities in the basin. Specific areas identified for increased data collection are basin water level and water quality monitoring in stratified aquifers known to be present in the Basin based on aquifer testing and geophysical log correlations. In cooperation with the Agency, the Ventura County Watershed Protection District may measure key wells routinely for water levels and water quality. Permission from the well owners will be obtained by the Agency prior to monitoring not already being conducted by Ventura County. This data will be analyzed and reported annually by the Agency. Additional data collection actions, including surface water discharged from San Antonio Creek and surface water inflow into the Basin, has been assessed and will be considered in greater detail in the future. This data will be analyzed and reported annually by the Agency. All results from each well measurement are to be shared with the respective well owner via either direct communication and/or provision of any Agency publication that contains such data.

c. Well Registration.

The Agency adopted Ordinance No. 94-01 which required all wells in the basin to be registered with the Agency. There are currently 145 registered wells in the Basin, of which 120 are reported to be active and the remainder (20) are inactive. Approximately 60 wells are reported to be destroyed, bringing the total number of historically known wells in the Basin to over 200. The Agency will continue to seek to have all wells in the basin registered, under a formal agreement with Ventura County to ensure that their well records are made available to the Agency and that any new well permits are registered with the Agency. Figure 2 presents a map of active wells while Figure 3 depicts wells that are registered as inactive and destroyed. The OBGMA is also planning to obtain delegated authority from the State Water Resources Control Board, Water Rights Division to handle groundwater recordation within OBGMA area of jurisdiction.

d. Extraction Measurement.

The Agency is mandated by its enabling act to monitor groundwater extractions. A measurement of the amount of water extracted from the basin is important, along with precipitation and recharge data and water level monitoring, understand the hydrology of the basin and to implement management to maintain a balance between replenishment of the supply and water use. The Agency is also committed to implementing an effective, reliable method of monitoring well extractions. Currently, well owners are required to report, as precisely as possible, using meters or a variety of methods such as electrical

power usage or crop factor, their annual water extractions. The Agency will consider requiring metering of new wells and metering of all wells within a three year time frame.

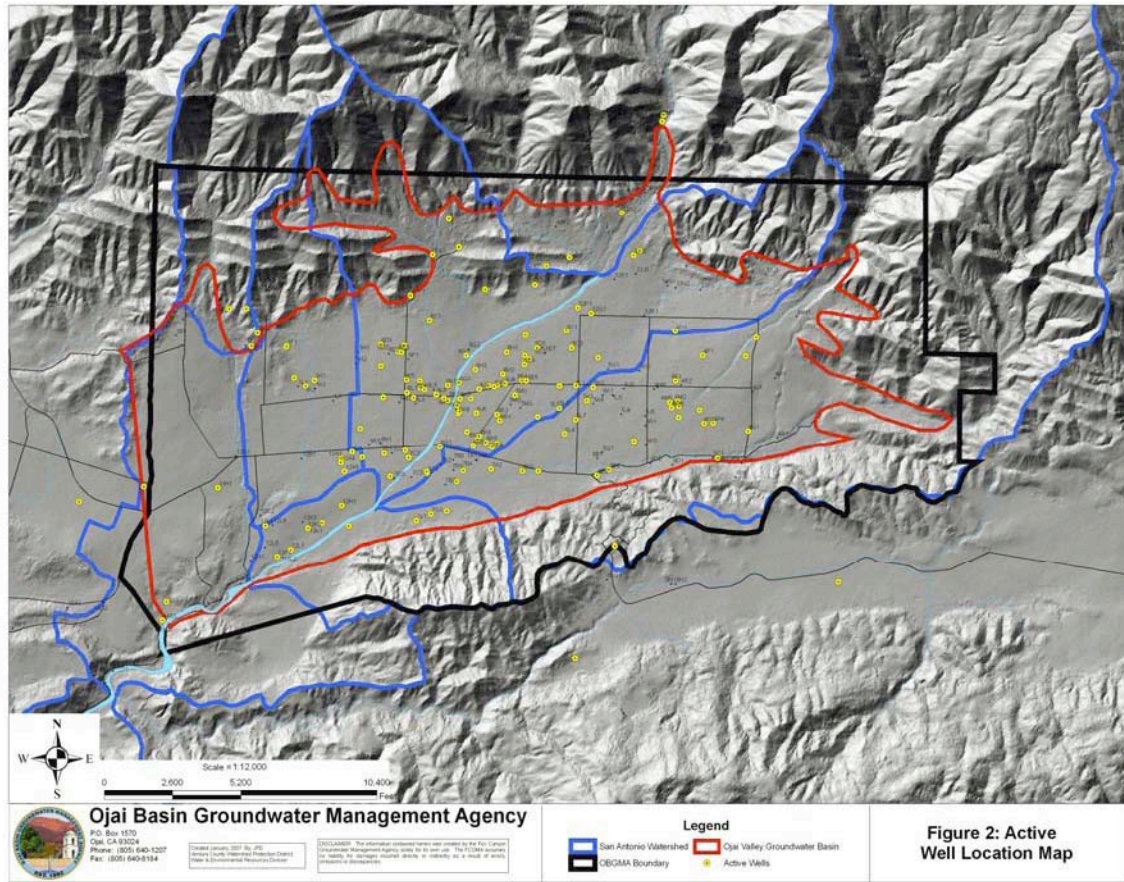
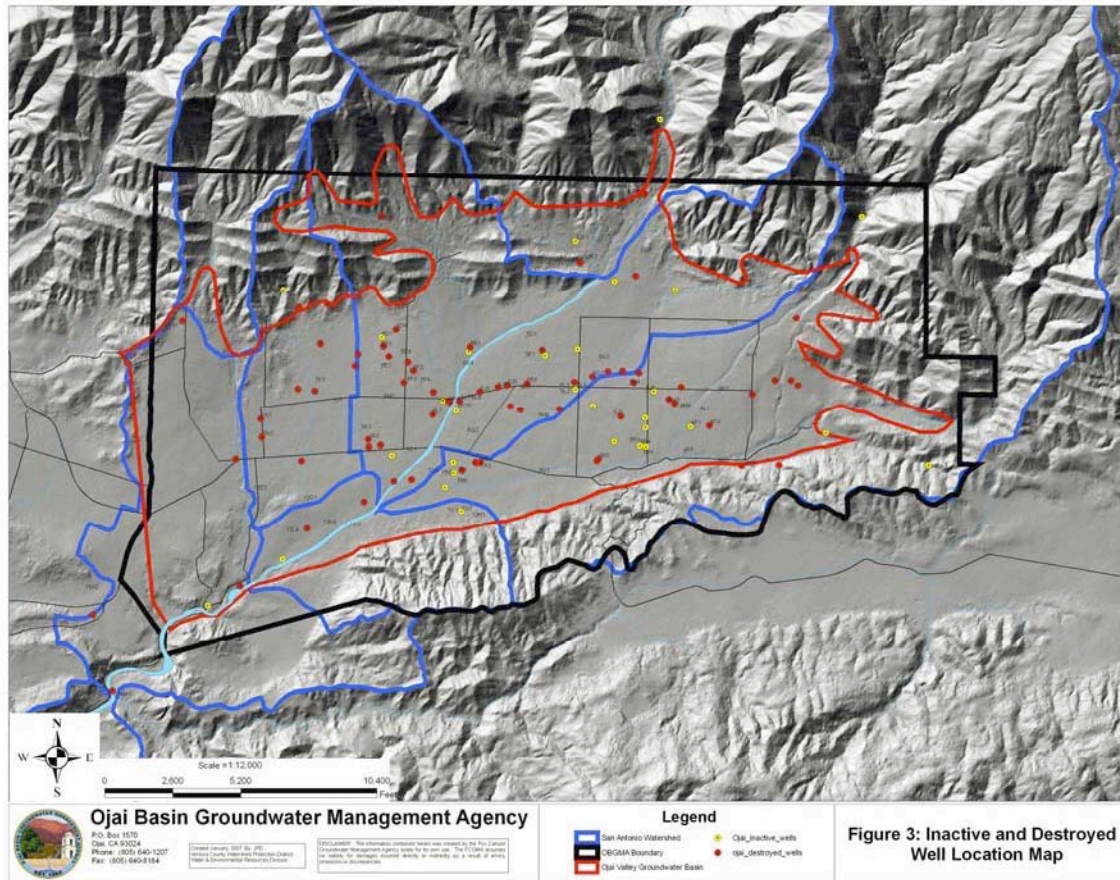


Table 1 – Selected completed, scheduled, and planned future ‘Goal 1’ elements		
<i>Completed Element</i>	<i>Description</i>	<i>Date completed</i>
Basin studies	Study of Basin water records developed by County technicians to monitor Basin Water Quantity and quality, well permits, stream flows, and precipitation	1996
Monitoring	Conducted ongoing meetings and monitoring with County hydrologists	2000
Jim Capito, Basin Study	Located wells of record, obtained GPS coordinates of each, Plot surface altitudes of wells, determine conditions of abandoned wells, hazard screening, record well data sheets, provide QA/QC of County well records with OBGMA records	September 2001 to Spring 2002
Database creation	Established database	2004
Kear, 2005, MS Thesis	Hydrogeology of the Ojai Groundwater Basin: Storativity and Confinement, Ventura County, California	December 2005
Daniel B. Stephens & Associates, Inc., 2006	Hydrologic Assessment, San Antonio Creek Sub-watershed, Ventura County, California	June 2006
Extraction Reporting	Reporting of Basin groundwater extractions	Twice annually
<i>Scheduled Element</i>	<i>Description</i>	<i>Date planned</i>
Extraction Reporting	Reporting of Basin groundwater extractions	Twice annually
Extraction Reporting	Recordation of extraction to State agencies	Annually
Basin studies	Depth discrete monitoring well construction and monitoring	2007-2010
Basin Studies	Monitoring San Antonio Creek flow into Basin	2007-2010
Monitoring	Key wells for water quality	annually
Monitoring	Key wells for groundwater levels	every other month
<i>Future Element</i>	<i>Description</i>	<i>Year targeted</i>
Extraction Reporting	Reporting of Basin groundwater extractions	Twice annually
Monitoring	Conversion of inactive production wells into depth-discrete monitoring wells	2008
Groundwater Model	Generation of a MODFLOW type of groundwater model for the Basin	2009
Basin Studies	Evaluate and augment recharge along creek channels	2008
Basin Studies	Geophysical survey of the Ojai Basin to identify aquifer and bedrock morphology.	2010



GOAL 2 – CONTROLLING EXPORTS: PROTECTING AND MANAGING THE BASIN

In order to preserve the groundwater in the Basin the Agency will take direct management actions based upon a factual knowledge of the Basin and the needs and concerns of water users and well owners in the basin. Table 2 provides a description of selected Goal 2 elements that have been completed, are scheduled, or planned.

a. Exports of Water from the Basin. The Agency's enabling legislation mandates that no groundwater shall be exported from the basin except under permit issued by the Agency in full compliance with the policy and intent of the law. The law mandates the preservation of the groundwater for the common benefit of water users within the Basin. Based upon present hydrologic facts and circumstances, the Agency finds that there is no surplus water available for export. Under natural conditions, when surplus water is present in the Basin, water flows under artesian pressure from wells and from exposed aquifers into San Antonio Creek along gaining reaches of the stream. Because this surplus has value to downstream stakeholders, and the surplus conditions are ephemeral (occurring only during years of heavy rainfall such as 1993, 1995, 1998, 2005) and can

change rapidly to conditions of deficiency, it is likely that surplus conditions will not exist in the foreseeable future.

Nevertheless, the Agency will review the existence of surplus from time to time, as dictated by the receipt and review of its annual report or as new, reliable information becomes available. The Agency will establish the conditions and criteria under which it would contemplate granting a permit for export, should a surplus be determined to exist. These conditions and criteria will include at least the following:

1. The applicant for a permit will bear the full financial and regulatory and legal burden of demonstrating that a surplus of water exists which, if exported, would not cause harm to any existing groundwater user in the basin, now or in the future.
2. The export permit suspended in the event of a declared water shortage, basin storage threshold level, or upon other pre-established conditions.
3. All export permits will contain conditions and criteria which will otherwise protect the in-basin users to the fullest extent allowable under the law.

b. Establishment of Thresholds and Triggers. Water levels in the basin fluctuate considerably in response to pumping and recharge from seasonal rainfall. The Ojai Basin is considered largely in balance. Review of precipitation, accumulative departure curves, and water level responses over time indicate that the Basin has the hydrologic characteristics of quick discharge and quick recharge, when precipitation occurs. Also, based on aquifer testing, there is a significant amount of overlap of cones of depression created in the potentiometric surface by pumping wells. These features must be considered when establishing action levels of groundwater elevations or stream flow.

Groundwater use between 1981 and 2005 averaged approximately 5,170 acre feet of which some 1,820 acre feet was pumped by Golden State Water Company for municipal and domestic supply (35 percent). In addition three mutual water companies and approximately 100 active private wells supply both agricultural and domestic water in the basin. There is a great variation in location, depth, and of the wells in the basin, and their relative access to groundwater at low points in the hydrologic cycle. There is also variation in water quality in different parts of the basin. Taking into account the needs of the water users in the basin, overlying landowners and well operators and the existing conjunctive relationship between the groundwater used in the basin and the Casitas water imported into the basin, the Agency will establish basin storage thresholds which trigger special action by the Agency to assure protection of groundwater supplies in the basin.

The OBGMA will develop triggers and the conservation measures that must be implemented at those points, and also will develop the procedures and pass the ordinances needed to put the conservation measures into effect. This will be done with full communication with, involvement, and understanding of the basin well operators.

Table 2 – Selected completed, scheduled, and planned future ‘Goal 2’ elements		
<i>Completed Element</i>	<i>Description</i>	<i>Date completed</i>
Export controls	Review Matilija Dam Removal Issues, attend stakeholder meetings and EIR certification	2005
<i>Scheduled Element</i>	<i>Description</i>	<i>Date planned</i>
Establish Triggers	Establish basin triggers such as the relationship between groundwater levels and drought conditions to alert stakeholders to conservation measures	2008
Managing the Basin	Update GWMP	2012 (every five years)
<i>Future Element</i>	<i>Description</i>	<i>Year targeted</i>
Maintain thresholds	Quantify relationship between Basin storage and outflow into San Antonio Creek	2009

GOAL 3 – ENCOURAGING SUPPORTING ACTIVITIES

With its limited resources the Agency must strive to achieve its goals in cooperation with and through the supporting activities of other agencies, and through the encouragement of supportive actions by water users. Table 3 provides a description of selected Goal 3 elements that have been completed, are scheduled, or planned.

- a. **Data Collection and Storage.** Ventura County already routinely collects information on water levels and quality from wells in the Basin. In cooperation with the Agency this effort is planned to continue to meet the monitoring needs of the Basin.
- b. **Water Conservation.** The Agency encourages water conservation practices by both agricultural users and urban users. Market forces as well as good management practices are moving most agricultural users in the basin toward implementation of water conservation measures. Likewise, Golden State Water Company, the largest municipal supplier in the basin, has initiated a conservation plan approved by the Public Utilities Commission and supported by the City of Ojai. The Agency will encourage the development, publication and sharing of information with these users that will encourage the optimum use of water resources in the basin. Further, the Agency will seek the assistance of various local, state, federal and private organizations to provide water conservation services and education programs for in-basin water users, including the pursuit of grant funds as available. The Agency will encourage in basin water users to incorporate conservation practices and will consider development of a conservation plan in anticipation of drought conditions.

c. **Abandoned Wells.** Ventura County has a program to address abandoned wells as part of the water well ordinance. The Agency encourages a special program by the County to implement that program in the Ojai Basin, to identify all abandoned wells, to make a determination if they pose any hazard to the quantity or quality of groundwater in the basin, and to identify the actions needed and help obtain the resources to rectify any problems. The Agency supports evaluation of abandoned or idle wells to determine whether they can be converted to monitoring wells, rehabilitated, or properly destroyed in accordance with Ventura County standards.

d. **Artificial Recharge.** The Ojai Water Conservation District was involved in a program of enhanced percolation of stream flow on San Antonio Creek until 1985. This involved the diversion of surface flows into a series of percolation basins and was highly successful. The program was discontinued after the emergency construction of a debris basin on San Antonio Creek by Ventura County using FEMA funds, following a major fire in the watershed. The result of that construction was the destruction of most of the percolation basins which were never restored. The artificial recharge of the basin from San Antonio Creek by the Ojai Water Conservation District is strongly endorsed by the OBGMA. To rehabilitate these spreading grounds, the OBGMA strongly supports the San Antonio Creek Spreading Grounds Rehabilitation Project (SASGRP), one of the key projects of the Watersheds Coalition of Ventura County (WCVC) suite of applications. Other partners in the SASGRP endeavor include the OWCD, the VCWPD, and Golden State Water Company. This project will strive to augment Basin storage by restoring the percolation basins and gravity water systems that were destroyed by the emergency construction; this was a key goal element on the OBGMA 1995 Plan and also may offset some of the losses associated with Matilija Dam decommissioning.

e. **Watershed Management.** The Agency will work with other stakeholders in the Ventura River Watershed to effectively understand and manage the drainage area that includes Ojai. Such a project is also included in the suite of tasks applied for by the WCVC, under the Ventura River Watershed Protection Plan. The OBGMA supports this endeavor and the understanding of the Basin will be ameliorated with additional monitoring wells in the Basin provided under the project.

Table 3 – Selected completed, scheduled, and planned future ‘Goal 3’ elements		
<i>Completed Element</i>	<i>Description</i>	<i>Date completed</i>
Well inventories	Worked with well owners to increase number of Ventura County key wells in Ojai	1994
Joint meetings	Casitas, OWCD, and OBGMA explore interests in common	1995
Meetings	Participated with and followed progress of Ventura Countywide Stormwater quality Management Program	1996
IRWMP Efforts	Participated in Integrated Regional Watershed Management Planning, Pursuit of Proposition 50 water bond funding	2006
<i>Scheduled Element</i>	<i>Description</i>	<i>Date planned</i>
SACSGRP	Rehabilitate abandoned spreading grounds in cooperation with OWCD, VCWPD	2007-2010
Ventura River Watershed Planning	Study Ventura River Watershed in cooperation with VCWPD	2007-2010
<i>Future Element</i>	<i>Description</i>	<i>Year targeted</i>
Grant funding pursuit	As available and targeted to Basin issues	Annually

GOAL 4 – EFFECTIVE COMMUNICATION

The effectiveness of the Agency will depend upon its ability, within its limited means, to meet the needs of the water users and well owners of the Basin. This will depend upon effective, two way communication between the Agency and the users it serves. Table 4 provides a description of selected Goal 4 elements that have been completed, are scheduled, or planned.

a. Advisory Committee. Ad hoc advisory committees with representatives of the well owners and water users in the basin have been periodically created by the Agency Board and have been a means of developing a dialogue between users and the Agency. The advisory committees are used by the Agency Board as a nucleus of interested and affected users to consider and develop the details of actions proposed under this Groundwater Management Plan.

b. Annual Report. The Agency will prepare an annual report as required by law which it will publish itself at minimum expense. Technical contractors will only be used if required to perform technical analysis of data collected during the year. Information learned about the basin and water use in the basin will be shared by the Agency with all well owners directly and with water users in the basin through the general news media and the publications of local water purveyors. Actions or items of special interest will be

shared with well owners by direct mailing newsletters, which will also include notice of Agency meetings and agendas. Agency Board members will be available to meet with basin water users to address issues of concern and the ongoing management activities of the Agency.

Table 4 – Selected completed, scheduled, and planned future ‘Goal 4’ elements		
<i>Completed Element</i>	<i>Description</i>	<i>Date completed</i>
Public Workshops	Two workshops to hear and record well owner concerns	1994
Advisory Committee	Explore basin issues	1994
Public Workshop	Sponsored “Well Maintenance and Rehabilitation” Seminar	1998
Outreach	Displayed “Pollution Prevention House” on Ojai Day and at local elementary schools	1999
<i>Scheduled Element</i>	<i>Description</i>	<i>Date planned</i>
Website	To inform stakeholders of Agency operations and Basin issues	2007
<i>Future Element</i>	<i>Description</i>	<i>Year targeted</i>
Website	To inform stakeholders of Agency operations and Basin issues	Ongoing
Awareness Campaign	Increase public awareness of water issues in the Basin by means such as workshops, forums, highway banners, etc.	2008 and ongoing

GOAL 5 – EFFICIENT ADMINISTRATION

The resources available to the Agency to carry out its mission and serve the water users of the basin are limited. Therefore cost containment measures are essential. These measures will be developed and made part of this Plan. Table 5 provides a description of selected Goal 5 elements that have been completed, are scheduled, or planned.

a. **Funding.** The OBGMA is funded by extraction charges levied onto pumpers in the Basin; the present legislative ceiling on extraction charges is \$7.50 per acre-foot. In a typical year with 5,000 acre feet extracted the OBGMA budget is roughly \$37,500 per year. The OBGMA operates from a one room office, with one part time office assistant who also acts in the capacity of secretary and treasurer. These expenses, along with regular audits and required insurance consume the majority of the funding. The agency must have one professional, technically qualified staff person as a manager at least part time. The agency should also be a participant in funding projects that are within its purview (such as the proposed San Antonio Creek Spreading Grounds Rehabilitation Project [SACSGRP] operation and maintenance, matching funds for grants, hiring consultants). The OBGMA is seeking legislation in the 2007 session to amend its

enabling Act to provide for an increase in the extraction charge ceiling to \$25. Any actual extraction charge change will be voted upon by the board, which consists of representatives of the stakeholders. The Board of OBGMA has estimated that an actual extraction charge of \$15 per acre foot would provide the funding needed to carry out the basic responsibilities and that an additional charge of \$4 per acre foot would be need to pay the OBGMA share of the operation and maintenance of the proposed SACSGRP.

b. Minimum Requirements. The Agency's enabling legislation requires the Management Plan to establish a minimum amount of extraction below which the requirements of the act will not be applied. The Agency will establish these criteria.

Table 5 – Selected completed, scheduled, and planned future ‘Goal 5’ elements		
<i>Completed Element</i>	<i>Description</i>	<i>Date completed</i>
Finance committee	Formed finance committee of board members and well owners, prepare fiscal budget	1994 (annually thereafter)
User Fees	Established a system to fund Agency based on well user fees	1995
Revenue evaluation	Evaluated expenses and revenue, to reach goal of operating on revenue from extraction fees only. Grants of \$3,500 from Casitas, Southern California Water Co. and the City of Ojai were encumbered as seed moneys for OBGMA advancement.	1996
<i>Scheduled Element</i>	<i>Description</i>	<i>Date planned</i>
Funding increase	Increase extraction charge ceiling to a reasonable amount via legislation.	2007
<i>Future Element</i>	<i>Description</i>	<i>Year targeted</i>
Donations	Solicitations of donations from stakeholders and other benefactors	Ongoing