

Water

RMS WATER SUPPLY CRITERIA

Level of Severity I: *When projected water demand over the next nine years equals or exceeds the estimated dependable supply.*

Level of Severity II: *When projected water demand over the next seven years equals or exceeds the estimated dependable supply.*

Level of Severity III: *When the existing water demand equals or exceeds the dependable supply.*

The communities of San Luis Obispo County obtain almost 60 percent of their water from groundwater supplies and about 40 percent from reservoirs. In this section, the discussion of groundwater supply focuses on the groundwater basins supplying water to the county's more heavily populated areas. For many of these basins, demand is now near or greater than supply, and recommended Levels of Severity are designated accordingly. Communities using these basins as a water source are assigned the same Level of Severity as the basin. A section covering overall recommendations for groundwater basins is included on pages 20 - 22.

Water information for specific communities is discussed in the Water Systems section page beginning on page 23. The discussion includes delivery systems in addition to sources of supply. In some cases, a community may have an adequate supply, but an inadequate delivery system. For example, storage facilities or pumping capacity may be inadequate to handle peak demand. Conversely, a community's delivery system may be able to supply whatever water its residents need, but the groundwater basin from which they extract water may be in a condition of overdraft.

The water supply and distribution status for each community are summarized in the table on page 38.

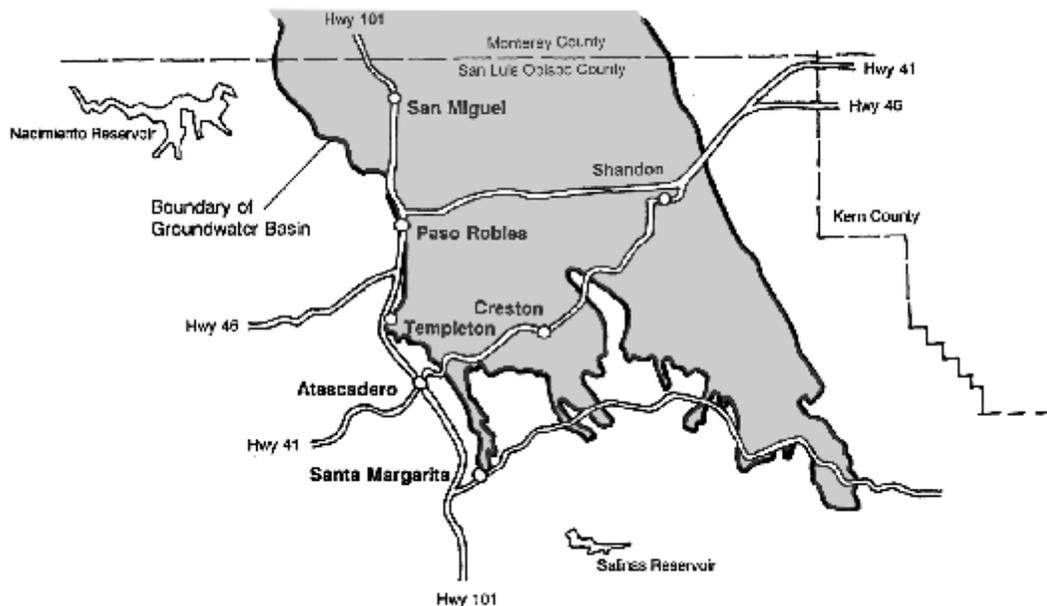
GROUNDWATER SUPPLY

The County Public Works Department collects groundwater data in many of the County's major basins. This program has been in continuous operation since the early 1950's. It relies on the cooperation of other local, state and federal agencies. Groundwater levels in approximately 400 wells throughout the county are measured in the Spring and Fall of each year. The data provides information that can be used to evaluate trends in groundwater levels and water quality, hydraulic gradients, basin storage and safe annual yield, and is used extensively in the various groundwater basin studies.

Paso Robles Groundwater Basin

In 2000, the SLO County Flood Control and Water Conservation District (SLOCFC&WCD) contracted with a consultant to conduct a study of the Paso Robles Groundwater Basin. The study was completed in February, 2005. The study includes creation of a model to simulate groundwater flow and water quality in the basin. The model provides a quantitative tool to refine the estimate of perennial yield and evaluate existing and future hydraulic and water quality trends across the basin, including changing groundwater level elevations, well yields and natural and artificial recharge. Also, options are identified for comprehensive or localized management of the basin. The study findings are summarized in the following paragraphs.

Extent of the Basin. The Paso Robles Ground Water Basin covers 790 square miles from the Garden Farms area south of Atascadero to as far north as San Ardo in Monterey County, and from the highway 101 corridor as far east as Shandon. 640 square miles, or about 80 percent of the basin, are located in San Luis Obispo County.



Water Levels. Data reviewed for the Phase I report indicated declining water levels in the Creston Area and along the Highway 46 corridor east of Paso Robles. Water levels in the Atascadero subbasin have followed rainfall patterns, rising and falling in relation to annual rainfall. Water levels are relatively stable in the Shandon area. East of Paso Robles, water levels have declined in response to greater pumping by development of rural ranchettes, vineyards, and golf courses. Water levels in this area have declined as much as 60 feet from 1981 to 1997.

Since 1997, water level data indicate that levels in the Creston area increased significantly following several years of higher-than-average rainfall. However, water levels in the Geneseo/Jardine/Union Roads area east of Paso Robles have continued to decline and are now as much as 180 to 200 feet below levels observed in the early 1980's.

Water Quality. Increasing total dissolved solids (TDS) are observed along the urbanized Salinas corridor, near San Miguel, and near the confluence of the Salinas and Nacimiento Rivers. Increasing chlorides are noted northeast of Creston and near the Salinas/Nacimiento River confluence. Increasing nitrates are seen north of Highway 46 between the Salinas River and Huerhuero Creek. These deteriorating water quality trends are generally due to urban and agricultural activities throughout the basin. However, the source of chlorides in the Creston area is undetermined.

Inflow, Outflow, Perennial Yield. The study found that, during the period from 1980 to 1997, the basin inflow and outflow were largely in balance when looked at across the entire basin. The basin's estimated perennial yield is 97,000 acre-feet per year (AFY). Groundwater pumpage exceeded perennial yield from 1980 to 1990, largely due to higher crop water consumption at that time (i.e. alfalfa). During the 1990s, pumpage has been less than perennial yield.

In 2000, pumpage from the basin was approximately 82,600 AFY. About 69 percent of that was for agriculture and the remaining 31 percent for urban and rural domestic uses. The County Master County Water Plan Update estimates that future water needs throughout the Paso Robles Ground Water Basin will increase to approximately 89,000 AFY by 2020, which is about 95 percent of the basin's estimated perennial yield. Water demand at buildout is estimated to be about 110,000 AFY or about 13 percent more than the perennial yield.

Many water purveyors in the Paso Robles Basin have taken steps toward future receipt of supplemental water. Paso Robles, Atascadero and Templeton **executed Nacimiento Water Project Deliver Entitlement Contracts in August 2004 to initiate implementation of the project. Total deliveries to those agencies of 6,250 acre feet per year are expected to begin in late 2010.**

Since the existing and 20-year projected demand in the basin overall is within the estimated perennial yield, there is no recommended Level of Severity for **2005**. However, the steadily declining water levels and water quality indicators in the Highway 46 corridor east of Paso Robles remain a cause for concern.

Recommended Level of Severity: None

Recommended Actions: 1. Conduct additional studies to determine conditions contributing to declining water levels and deteriorating water quality in areas of the basin identified in the current study and identify possible solutions to stop or reverse these adverse trends. 2. Encourage implementation by the county's public and private water purveyors of the recommendations in the county's Water Conservation Policy Statement.

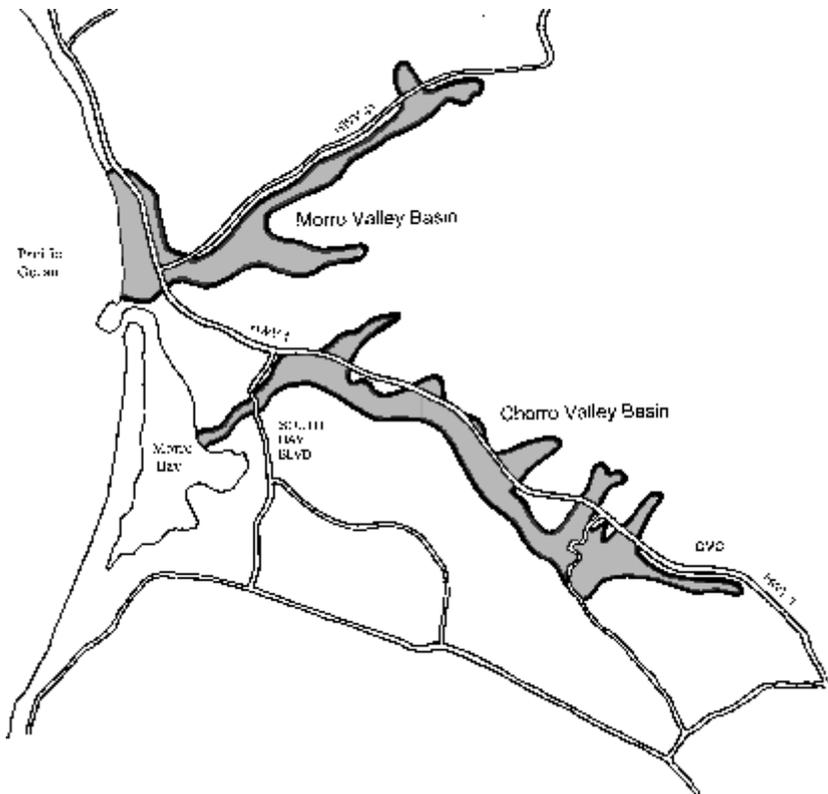
**2005
UPDATE**

The final report on the Paso Robles basin was completed in February, 2005. The study recommended that additional water demand scenarios be simulated to address pumping and water quality impacts. Additional modeling will be performed for Atascadero Mutual Water Company to evaluate water quality trends along the Salinas River. ■

Morro and Chorro Valley Groundwater Basins

The Morro Creek and Chorro Creek groundwater basins provide water for municipal use to the City of Morro Bay, to the Morro Bay golf course and to agricultural users in the valleys east of the bay.

The combined safe yield of these two basins is estimated to be approximately 3200 acre-feet per year. Most of the city's municipal water demand is met by its State Water entitlement and its desalination facility.



Water Demand and Supply
Morro / Chorro Groundwater Basins
 (acre-feet per year)

	Demand		Supply	
	2004/05	Buildout		
City of Morro Bay	1400	2070		
Morro Bay Golf Course	180	180	Groundwater	3200
Morro Bay Power Plant	30	30	Desalination	645
Private Wells	55	60	State Water Project	1313
Agriculture	2600	2600	Nacimiento Project	55
Total	4265	4940	Total	5213

Recommended Level of Severity: None

Santa Maria Groundwater Basin

In San Luis Obispo county, the Santa Maria groundwater basin lies generally west of Highway 101, extending north to the southern boundary of the city of Pismo Beach. South of the Santa Maria River at the county line, the basin extends south into northern Santa Barbara county. Approximately 30 percent of the basin's area lies north of the river in San Luis Obispo county.

In 1994, the DWR began an update of the 1979 study of the Arroyo Grande Valley - Nipomo Mesa Area groundwater basin (Basin 3-11) and the northern portion of the Santa Maria River Valley groundwater basin (Basin 3-12). The study, Water Resources of the Arroyo Grande - Nipomo Mesa Area, was completed and published in 2003. The study contains the following findings and conclusions:

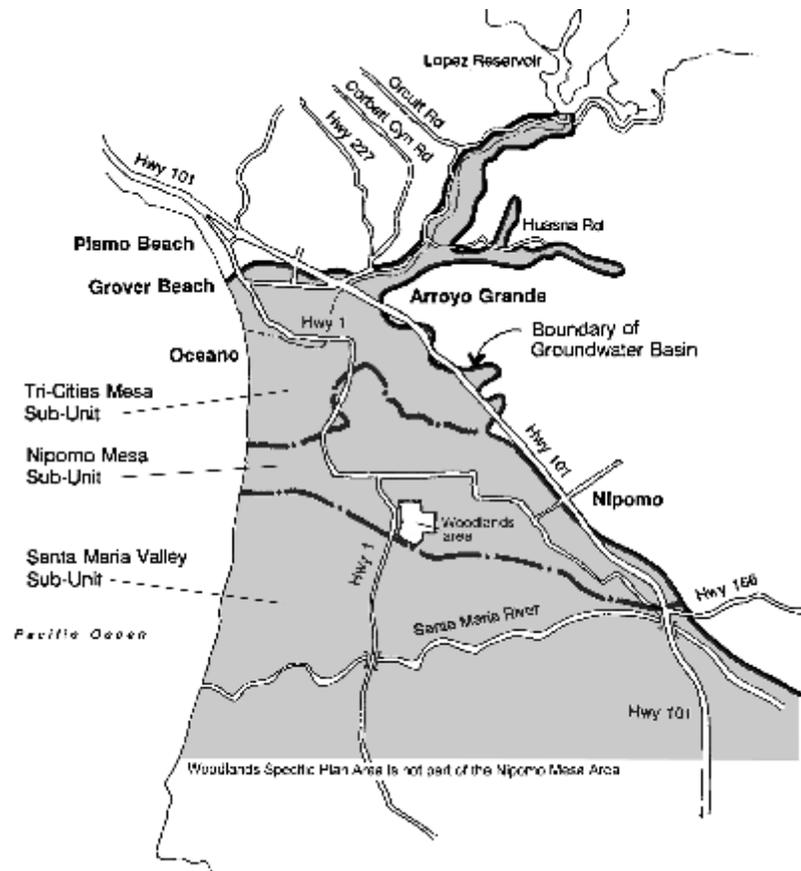
Observations of groundwater elevations in 1975, 1985 and 1995 revealed the development and subsequent expansion of a depression in groundwater elevations generally south of Willow Road and east of Highway 1 - the south central portion of the Nipomo Mesa. Nipomo Community Services District and Southern California Water Company have many of their wells in or near the depression. The extractions of these two agencies have increased from about 940 afy in 1979 to 2,790 afy in 1995 and 3,620 in 2000. There have also been increases in demand for water to serve rural residences and agricultural uses. Since the depression enlarges, the reduced water in storage could result in increased inflow from Santa Maria Valley and decreased outflow to the ocean from the mesa and the valley. If the pumping depression on the mesa pulls in water from the Santa Maria Valley, the possibility

exists for the poorer quality groundwater of the valley, containing high concentrations of dissolved solids, to locally reduce the quality of the mesa's groundwater. Also, if, in the future, subsurface outflows to the ocean cease and the seaward hydraulic gradient is reversed, this condition could lead to sea water intrusion of the groundwater resources. Currently, there is no evidence of seawater intrusion.

A major source of recharge for the Nipomo Mesa is deep percolation of precipitation. This makes the groundwater basin vulnerable to protracted periods of below-average rainfall.

In 1998, a complaint was filed by agricultural pumpers in Santa Barbara County against the basin's water purveyors, including the City of Santa Maria, the NCS&D and Cal Cities Water Co.

Because of inconsistencies in the DWR study, the County commissioned an additional study by S.S. Papadopoulos & Associates (SSPA) to provide clarification of water issues on the Mesa. SSPA concluded that the data presented in the DWR study correctly identified overdraft conditions in the Nipomo Mesa area of the groundwater basin. Concurrently, the judge in the groundwater litigation issued a finding that the basin as a whole was not being overdrafted and that there was insufficient evidence to support the existence of sub-basins. The County's Water Resources Advisory Committee (WRAC) reviewed the SSPA study and the judge's decision and concluded that overdraft in the Nipomo Mesa area either exists currently or is imminent. In November 2004 the Board of Supervisors certified Level of Severity II and approved several actions intended to strengthen water conservation efforts in the Nipomo Mesa area. **The Woodlands Village Specific Plan and certification of its 20-year water supply have been approved by the Board of Supervisors through separate water verification under State law. Any change to water supply levels of severity for the Nipomo Mesa area do not apply to the Woodlands Specific Plan area.**



2005
UPDATE

Litigation of the basin has resulted in a settlement in which the stipulating parties have agreed to a "physical solution establishing a legal and practical means for ensuring the Basin's long-term sustainability". The physical solution establishes three management areas, creates a management entity for each area and directs each management entity to monitor groundwater conditions and prepare plans for dealing with water shortages. The agenda for the Nipomo Mesa Management Area (NMMA) also includes importation of at least 2,500 acre feet per year of supplemental water by the NCS D from the City of Santa Maria and an agreement of the major water purveyors in the area to purchase some of that water. New urban uses proposed by stipulating parties within the service area of a major water purveyor or within the Sphere of Influence of the NCS D must obtain water service from the local supplier. New urban uses proposed by stipulating parties outside these areas and within one quarter mile of a service area or NCS D Sphere of Influence must conduct good faith negotiations with the local supplier before forming a mutual water company to provide water service.

In May 2005 the Board of Supervisors revised the Growth Management Ordinance to further limit new residential development in the Nipomo Mesa Area from 2.3% to 1.8% per year. Also in May, the Board affirmed Level of Severity II for the Nipomo Mesa Area and directed staff to make the provision of supplemental water a condition of general plan amendments and land divisions that would result in an increased water demand. The Nipomo Community Services District is proceeding with plans to acquire supplemental water from the City of Santa Maria. #

Level of Severity: II (Nipomo Mesa area) (Certified by the Board of Supervisors)

Recommended Level of Severity: III

Recommended Actions:

1. Continue the limitation on the number of dwelling units allocated for the Nipomo Mesa area for the year 2005/06 through the County's Growth Management System to 1.8% of the number of units existing in that area as of December 31, 2005;
2. At this time, a building moratorium is not considered an appropriate action for the Nipomo Mesa area. The Board of Supervisors has specified other appropriate actions that are currently in the implementation process;
3. Complete the processing of planning area standards that would require new development to incorporate specific water conservation features and make the provision of supplemental water a condition of general plan amendments. Direct staff to return with an amendment to reduce the level of severity at such time as those planning area standards become effective;
4. Environmental determinations for development proposals on the Nipomo Mesa will continue to be made on a case-by-case basis. Do not require EIRs for projects that would not otherwise be required to prepare an EIR. Mitigation measures and project amendments may be available to lessen or avoid Class I water impacts in some circumstances.

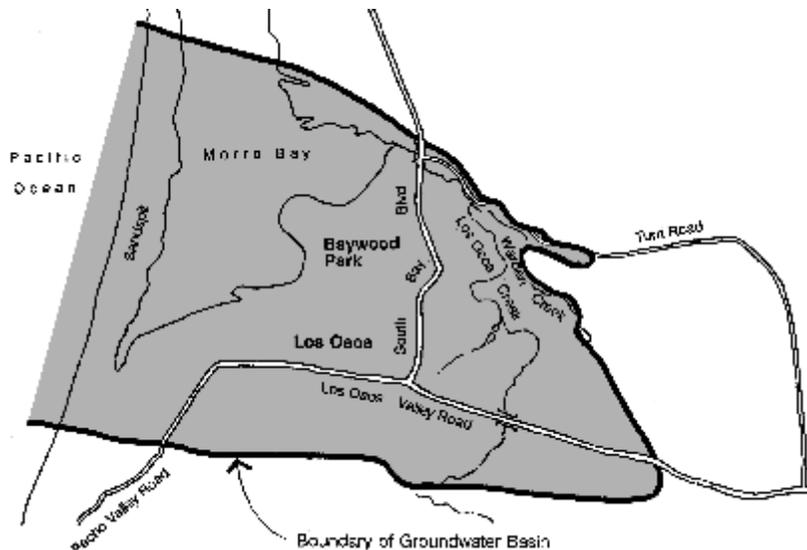
Los Osos Valley Groundwater Basin

The Estero Area Plan, adopted in 1988, identified a possible Level of Severity II for water supply in the South Bay Area because water consumption was approaching the estimated safe yield of the Los Osos Valley Groundwater Basin.

Since then, studies by The State Department of Water Resources (DWR) and the U.S. Geological Survey (USGS) have suggested that excessive pumping from portions of the basin adjacent to Morro Bay could be causing seawater intrusion.

Ground water production from the basin overall increased steadily from 1978 to 1988 when the Regional Water Quality Control Board imposed a prohibition on new septic system discharges. Since 1988, growth

of new residential units in Los Osos has been only about a quarter of a percent per year. Water production has remained stable since then, varying from year to year primarily in response to weather conditions rather than to urban growth.



The LOCSO Water Management Plan, completed in July 2005, provides an estimate of safe yield for the lower and upper aquifers - 1300 afy for the lower aquifer and 1150 afy for the upper aquifer. An additional 800 afy is available from the Los Osos Creek Valley, for a total basin safe yield of 3250 afy. Total basin demand is currently estimated at approximately 3,400 afy. Therefore, the demand exceeds safe yield with a current deficit of approximately 150 afy. Safe Yield in the lower aquifer is currently being exceeded by 650 afy, causing seawater intrusion in the lower aquifer.

The Management Plan also estimates the water demand at buildout for the combined service areas of the community's three principal water purveyors, compared to the estimated safe yield of the groundwater basin. Buildout demand is estimated to be 3,000 afy for the three purveyors compared to a safe yield of only 2250 afy without a wastewater system or 2630 afy with a wastewater system. Thus, assuming construction of a wastewater system, buildout demand would exceed the safe yield by 370 afy. This deficit would have to be made up by a combination of water conservation, wastewater reclamation and supplemental water. However, in the supply/demand comparison, agricultural demand and private domestic demand are held constant. These components of demand should be closely monitored to ensure that the expectation of the amount of water available for urban use remains realistic.

Los Osos Valley Groundwater Basin				
Allocation of Estimated Basin Yield by User Class v. Current and Future Demand				
User Class	2000 Demand (AFY)	Buildout Demand (AFY)	Production (AFY) without sewer	Production (AFY) with sewer
LOCSD, Golden State, S&T, golf course	2,400	3,000	2,250	2,630
Private Domestic	200	200	200	200
Agriculture	800	800	800	800
Total	3,400	4,000	3,250	3,630

Source: Los Osos Community Services District Water Management Plan, July 2005

Based on the findings of current overdraft and seawater intrusion, Level of Severity III is recommended for the Los Osos Valley Groundwater Basin.

Recommended Level of Severity: III

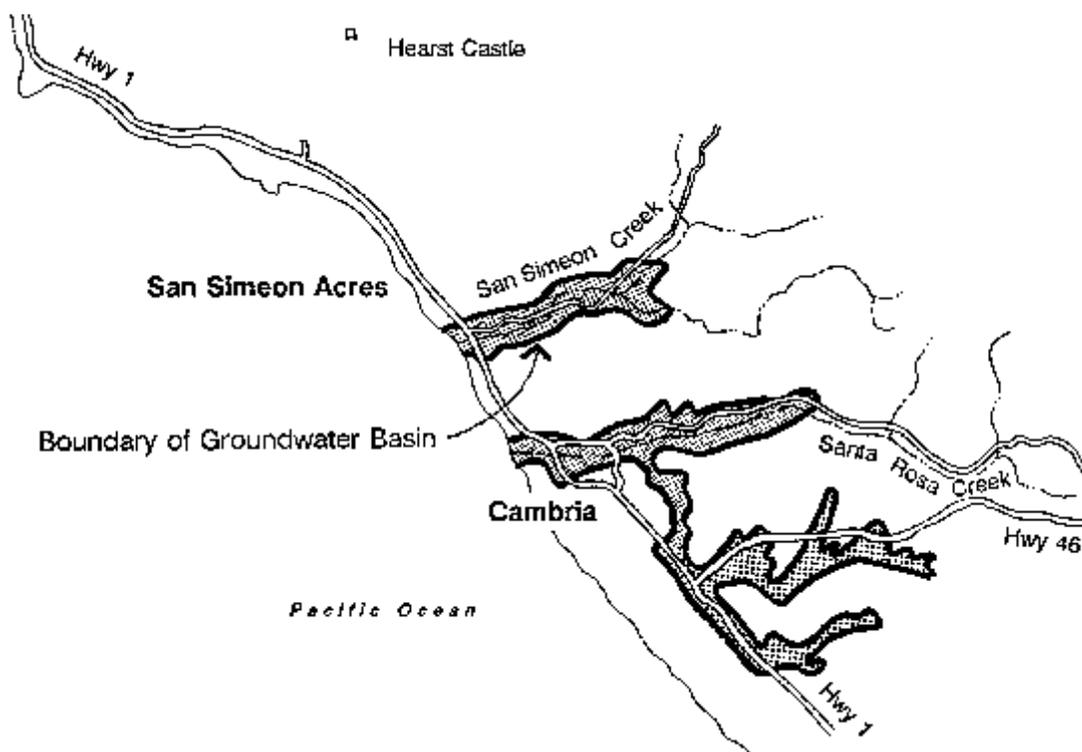
- Recommended Actions:***
1. Water purveyors should pursue water recycling programs.
 2. Water purveyors should implement **all feasible** conservation measures.
 3. Water purveyors should periodically update estimates of agricultural and private domestic demand, as well as urban demand, to confirm water use estimates.
 4. Water purveyors should implement changes in pumping patterns and monitor coastal wells **to confirm that seawater intrusion is being slowed and, ultimately, halted.**
 5. **Coordinate with LOCSD and other water purveyors to prepare a resource capacity study for the Los Osos Valley Groundwater Basin, to incorporate the findings and recommendations of the 2005 LOCSD Water Management Plan.**

North Coast Area Groundwater

Groundwater in the North Coast area is supplied by the basins associated with five small creeks. Water consumption in San Simeon Acres in the mid-1980s approached or exceeded the basins' safe yield, and a building moratorium initiated by the CSD Board in 1986 is still in effect. Cambria experiences periods of water shortage annually toward the end of the dry season. Customers of the Cambria Community Services District were under a mandatory conservation program from early in the summer of 1990 until the end of the drought in 1993. The conservation program resulted in reduced consumption of approximately 28 percent compared to 1989. This reduced consumption allowed the community's usage to remain within the limits of its dependable supply.

A 1998 report by the U.S. Geologic Survey (USGS) reiterated the findings of previous studies, that the water supply for the Cambria area is vulnerable to drought because the ground-water basins provide the only supply of water during the dry season and because ground-water storage capacity is small relative to the demand for water. The following excerpts from the study explain the conditions that give rise to concern about the area's water supply:

Both creeks stop flowing during the summer dry season, and most of the pumpage during that time is derived from ground water storage. Annual pumpage (has) increased substantially during (the) 1956-88 period, and is now a large fraction of basin storage capacity. Consequently, dry-season water levels are lower and the water supply is more vulnerable to drought. Brief occurrences of seawater intrusion have been measured in the Santa Rosa and the Pico Basins. In the latter case, the intrusion almost certainly was caused by ground-water overdraft.



Occurrence and Effects of Drought. The water supply for the Cambria area is vulnerable to drought because the ground-water basins provide the only supply of water during the dry season and because ground-water storage capacity is small relative to the demand for water.

The USGS study evaluated three drought scenarios:

1) Single Long Dry Season. If the dry season were exceptionally long and pumping continued unabated, wells could go dry or subsidence or seawater intrusion could occur before recharge begins the following winter. Partly for these reasons, there are (regulatory) limitations on annual and seasonal quantities of municipal pumpage for both basins. The longest dry season on record for San Simeon Creek (269 days in 1977) has an estimated recurrence interval of about 20 years. The longest dry season on record for Santa Rosa Creek (289 days in 1977) has an estimated recurrence interval of about 52 years.

2) Single Winter with Incomplete Recharge. *If streamflow is insufficient during winter, ground-water recharge will be incomplete and water levels will not return to the levels of the preceding winter. The consequences become evident toward the end of the succeeding dry season, when upstream wells in the Santa Rosa Creek basin are likely to go dry and subsidence is likely. In the San Simeon Basin, water levels in the CCSD sprayfield are likely to decline below sea level, resulting in seawater intrusion. Many wells are likely to go dry or to experience a decline in yield. Crop losses in the upper part of the valley would be significant. A year with less than the minimum amount of stream discharge necessary to completely recharge the ground-water basin is likely to occur once in 18 years in the Santa Rosa Basin and once in 25 years in the San Simeon Basin. A winter as dry as 1976 or 1977, when basin recharge did appear to be incomplete, is likely to occur once in about 25 to 26 years. Even allowing for uncertainty, the recurrence interval of incomplete recharge is clearly short enough to warrant consideration during water-supply planning.*

3) Successive Winters with Incomplete Recharge. *Given that the consequences of even a single winter with incomplete recharge can be fairly severe, the consequences of two successive winters with incomplete recharge could be devastating.*

The CCSD has been investigating ways to increase its water supply since the 1980's. Initial investigations focused on storage dams, but these were judged too costly and damaging to the environment. Desalination appeared as a more realistic alternative in the early 1990's, and a project was programmed for completion in 1996. However, bids for construction exceeded preliminary cost estimates and the project was abandoned. Efforts to redesign the project and lower its cost have continued. Desalination continues to be a preferred solution, and has recently been recommended in the CCSD's Water Master Plan Update.

The effectiveness of the CCSD's retrofit and conservation programs was reviewed in a 1999 study by Boyle engineering. The study recommended continuation of a modified retrofit program, adoption of a more steeply tiered rate structure to encourage lower water use, establishment of leak detection and meter replacement programs and increasing the promotion of water conservation.

Now, with over 700 additional residential connections, the community is less able to endure a drought similar to the drought of the late 80's and early 90's. Also, conversion of some agricultural operations to high-investment crops has reduced the potential for diverting agricultural water supplies to urban use in the event of a prolonged drought.

Pursuant to its Periodic Review of the San Luis Obispo County Local Coastal Plan, the California Coastal Commission adopted the following recommendation in July, 2001:

Recommendation 2.13. *Continue implementation of the 1% growth rate in Cambria until 1/1/02, after which time coastal development permits for new development that would require a new water connection or that would otherwise create additional*

water withdrawals from Santa Rosa or San Simeon Creeks should not be approved unless the Board of Supervisors can make findings that:

- 1) water withdrawals are limited to assure protection of instream flows that support sensitive species and habitats;*
- 2) there is adequate water supply reserved for the Coastal Act priority uses of agricultural production and increased visitors and new visitor-serving development;*
- 3) a water management implementation plan is incorporated into the Local Coastal Plan, including measures for water conservation, reuse of wastewater, alternative water supplies, etc. that will assure adequate water supply for the planned build-out of Cambria or that will guarantee no net increase in water usage through new water connections (e.g. by actual retrofitting or retirement of existing water use);*
- 4) substantial progress has been made by the County and the CCSD on achieving implementation of a buildout reduction plan for Cambria;*
- 5) there is adequate water supply and distribution capacity to provide emergency response for existing development.*

In 2001 the CCSD Board of Directors voted to declare the existence of a water shortage emergency. This declaration was based on the Baseline Water Supply Analysis, previous estimates of water availability during dry years, and a preliminary estimate that there is insufficient water to provide the community with adequate fire protection.

District staff reported to the Board that *“It is estimated that the District has sufficient water resources to serve its current customers and existing commitments, under normal climatic conditions, as long as there is no significant reduction in conservation efforts by the community. However, the District is not prepared for the level of conservation that would be required during a multiple year drought condition as was experienced in 1989, 90 and 91. Therefore, it appears that the District has reached the point where it can no longer offer service to additional customers until such time as a dependable water supply can be secured.”*

In addition to declaring the water shortage emergency, the CCSD Board:

- * suspended the issuance of any additional Intent to Serve letters until such time as the Board has found that sufficient water is available to serve current and future demands;
- * directed district staff to investigate additional opportunities to implement water saving measures;
- * directed district staff to aggressively pursue additional water supplies.

In 2003, the Board resolved to provide increased supply to serve the existing customers plus those on the district’s waiting list. Estimates of demand will assume water use per dwelling unit at a somewhat higher level than actual current use. This will afford customers a respite from the effects of perpetual water shortage regulations and will create a contingency factor, allowing a flexible

response to future droughts.

Recommended Level of Severity: III

- Recommended Actions:**
1. Direct the Planning Department, in cooperation with the Cambria Community Services District, to prepare a Resource Capacity Study to be based on the findings of the USGS study, the CCSD's Baseline Water Supply Analysis, and other information available from the CCSD.
 2. Encourage continued implementation of water conservation measures in Cambria and San Simeon Acres.
 3. **Review new proposed landscaping plans for inclusion of water-efficient design elements.**
 4. **Encourage voluntary lot mergers and other actions to support the CCSD buildout reduction program.**
 5. Encourage continuation of efforts to acquire alternative water supplies.
 6. **Facilitate and expedite, whenever possible, future permitting of CCSD water projects.**

**2005
UPDATE**

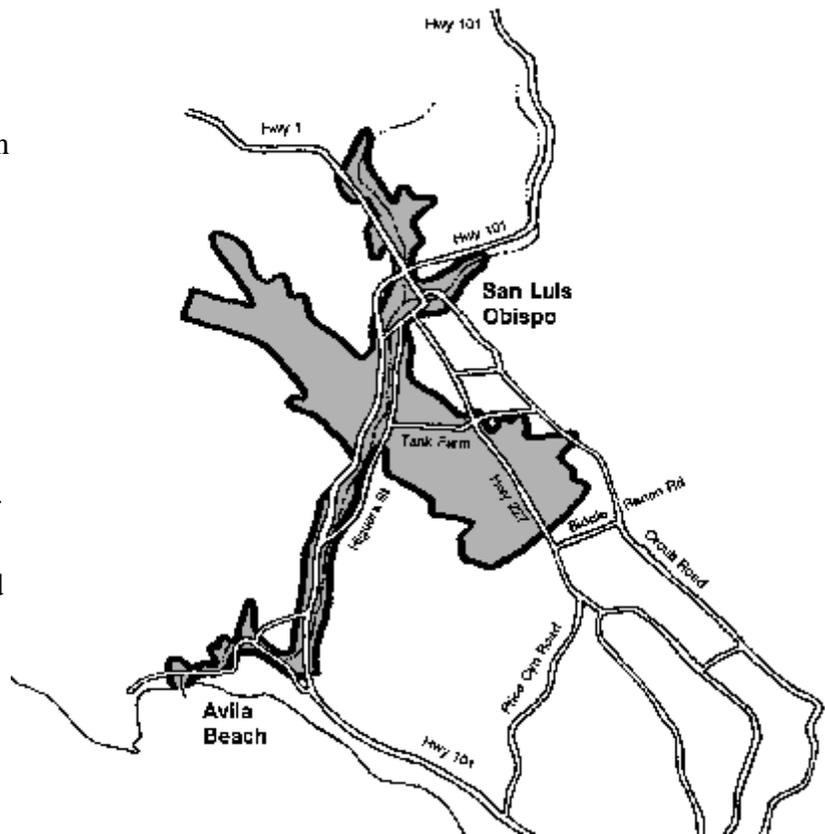
Since the 1999 Boyle report, the CCSD has developed a drought surcharge rate that is implemented during summer periods. The CCSD is also completing the replacement of its entire water meter inventory with remote-read meters that have the ability to sense and report leaks. The district has also adopted statewide Best Management Practices by joining the California Urban Water Conservation Council. To achieve additional conservation, the CCSD is also providing rebates for replacing regenerative water softeners, offers hot water circulating pumps to its customers and continues to manage its water conservation retrofit program.

As part of the North Coast Area Plan Update, community plans for Cambria and San Simeon have recently been considered by the Planning Commission. The update includes provisions that would significantly reduce Cambria's residential buildout potential. Concurrently, the CCSD is completing a buildout reduction program for retiring vacant residential lots. These initiatives will reduce the requirement for additional water, although water from desalination or some other source will be needed to serve Cambria's existing waiting list and provide long-term drought protection for existing customers. Also, the CCSD is currently seeking permits to allow its engineering consultant to complete an investigation to determine the feasibility of a subterranean beach well intake system for a future desalination plant. #

San Luis Obispo Creek Groundwater Basin

The San Luis Obispo Creek Groundwater Basin supplies water for the Los Ranchos/Edna Valley area, some rural residential areas and agricultural uses. The city of San Luis Obispo receives water primarily from the Salinas and Whale Rock reservoirs. Until 1989, the city relied completely on its

allocation of surface water and did not extract any groundwater. In response to the drought of the late 80's, the City drilled new wells and extracted approximately 1,950 afy in 1990 and 1991 to supplement the dwindling water supplies at the reservoirs. Use of these wells was discontinued in 1992 and 1993 because of high nitrate levels. The remaining wells, that are not impacted by contamination, can pump approximately 150 acre feet per year. Current city policy assumes groundwater extractions of 500 afy maximum. Agricultural irrigation accounted for an estimated 5,200 acre feet in 1990, while rural residential uses pumped an estimated 978 acre feet. From 1980 through 1989, extractions from the basin averaged about 5,800 afy.



The Department of Water Resources (DWR) has estimated the basin's maximum safe yield at 2,250 acre feet per year. Thus, for 1990, there was an apparent overdraft of about 5,700 acre feet. Despite the fact that these calculations indicate a substantial overdraft, the absence of any persistent supply problems during the last ten years has caused some doubt that an overdraft condition really exists.

A study conducted by a consultant to the City of San Luis Obispo was completed in 1991. It suggests that there may be some justification for increasing the estimate of the basin's safe annual yield, based upon the observation that well levels in the area are not meaningfully lower, even after a decade when extractions exceeded 2,250 acre feet per year. However, these findings must be reconciled with reports that some well levels are, in fact, lower in some parts of the Los Ranchos/Edna Village area.

The City has considered a variety of projects to increase its water supply. The Lake Nacimiento water study currently includes several potential contractors in the San Luis Obispo basin, representing a possible 5,000 acre-feet of supplemental water (3380 AFY to the City, 1100 AFY to the airport area and 1000 to the Edna Valley). The City has also proposed the expansion of the Salinas Reservoir by about 70 percent as an additional way to address its long-term water requirements. However, escalating cost estimates and concerns about seismic stability have caused

the Salinas reservoir project to be accorded a lower priority. If the cost of water for other alternatives increases, desalination may become a more competitive option. Possibilities include a cooperative agreement with the City of Morro Bay and a facility near the Whale Rock reservoir, which could connect to the existing pipeline to San Luis Obispo.

In 2002, the San Luis Obispo city council voted to eliminate a "reliability reserve" from its calculation of future water demand, thus reducing the city's requirement for additional supplies to serve its buildout population of 56,000. It appears that it may be possible to account for the additional 1800 acre-feet per year required for buildout through a combination of water re-use, conservation and increased groundwater withdrawals.

In 2004, the city completed the first phase of a study to evaluate the yield of the groundwater basin according to alternative pumping scenarios which would involve coordination with withdrawals from the reservoir in years that are wetter or dryer than average. Preliminary estimates indicated that it may be possible to pump more than 500 afy under certain circumstances, without causing subsidence or significant reduction in stream flow. However, with the recent decision for City participation in the Nacimiento Project and the cost and uncertainty of additional studies needed to determine impacts to stream flows, the City Council has deferred additional phases of the groundwater investigation.

Recommended Level of Severity: II

Recommended Actions: 1. The city should continue its efforts to secure supplemental water. 2. **The County should consider retaining a consultant to provide an estimate of the groundwater basin's sustainable yield.**

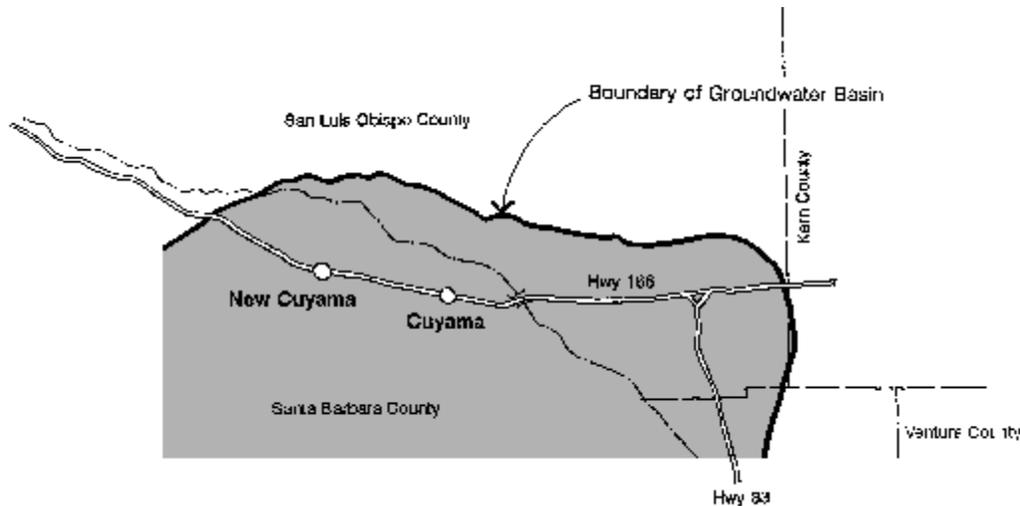
**2005
UPDATE**

The City of San Luis Obispo has made a formal commitment to participate in the Nacimiento water project for 3,380 afy. A 1,000 afy water re-use project is scheduled for completion in 2006. #

Cuyama Valley Groundwater Basin

The Cuyama Valley Groundwater Basin underlies portions of Kern, San Luis Obispo, Santa Barbara, and Ventura counties. The majority of the basin lies beneath Santa Barbara county. Portions of the basin underlie the Shandon-Carrizo Planning Area along the southern boundary of San Luis Obispo County. In a 1980 report to the State Legislature, the state Department of Water Resources (DWR) concludes that this basin is in a "critical condition of overdraft." DWR defines critical condition of overdraft as that condition when "... continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." Net pumpage in the late 1980's was about twice the estimated safe yield of 26,500 acre-feet per year. Irrigation is expected to decline as growers make individual decisions to

remove land from production because of rising pumping costs. The decline in irrigated acreage will continue for 30 years or so until acreage reductions eliminate the overdraft and stabilize ground water levels. Total irrigated cropland will drop from the current peak of about 23,000 acres to



about 12,000 acres when an equilibrium condition is reached and the basin's safe yield is no longer being exceeded.

The U.S. Department of Agriculture-Soil Conservation Service (SCS) conducted an Irrigation Water Management program in the Cuyama Valley beginning in 1985 and concluding in 1990. As part of that program, property owners were introduced to various alternative water management scenarios, including a "no management" scenario. Although some changes in cropping patterns have occurred, the producers did not adopt the recommended management alternative.

Santa Barbara County Resource Management Department staff has indicated that groundwater management measures would not be likely to be supported by the farmers in the area and that, since the area is predominantly agricultural, with no substantial population living in an established community, it is more difficult to demonstrate that groundwater management would serve a useful public purpose.

The Santa Barbara County 1996 Groundwater Resources Report indicates an estimated net overdraft in excess of 28,000 AFY. The overdraft condition is confirmed by water level declines of more than 100 feet since the 1940's.

Recommended Level of Severity: III

- Recommended Actions:**
1. Until such time as a groundwater management plan is in effect, discretionary projects should be carefully reviewed to ensure the inclusion of efficient water-use practices for agricultural and domestic uses.
 2. Coordinate with adjoining counties on land use and water issues in the Cuyama Basin.

SUMMARY AND GENERAL RECOMMENDATIONS / GROUNDWATER BASINS

The drought of 1987-92 brought about increased awareness of the value of our county's groundwater resources. Groundwater is the primary source of water in the county and it is relied upon even more heavily as surface water supplies dwindle during periods of drought. Since the drought, studies have been conducted to reassess the sustainable yield of the Paso Robles, Nipomo Mesa and coastal basins. Reassessments were also made of the sustainable yield of the Salinas, Whale Rock, Nacimiento and Lopez reservoirs. The City of San Luis Obispo and the Atascadero Mutual Water Company have implemented comprehensive water conservation programs which include reclamation, retrofitting and water-wise landscape programs. The City of Paso Robles and the Nipomo CSD expanded their conservation programs in 2004. More communities are likely to model these programs in the future as demand increases. Also in response to the drought, several communities contracted to receive water from the State Water Project. Actual deliveries began in 1997. **The EIR for the Nacimiento Water Project was certified in February 2004. Interagency contracts were executed in August 2004 and the project is now in the implementation phase, which includes design, right-of-way acquisition and environmental permitting. Water delivery is anticipated in late 2010.**

California water law provides no mandate for comprehensive groundwater management nor for a permit process to regulate groundwater withdrawals. None of the county's groundwater basins are currently subject to regulatory management under groundwater ordinances. The potential for implementation of future management programs for the Santa Maria and Paso Robles basins is complicated by the fact that both basins cross county lines. Threats to both of these basins in the form of increased withdrawals by pumpers in this and neighboring counties may have significant implications to the long-term health of the basins and, certainly, on the effectiveness of local management of the resource.

In the early 1990s, the county's Water Resource Advisory Committee (WRAC) established a subcommittee to study the issue of county-wide water resources management. A final report was submitted to the Board of Supervisors in 1992. The recommendations of the WRAC report were in the form of specific tasks which constituted an agenda for achieving a sustainable balance between water resources and water use within the County. These tasks, listed below, are reviewed and updated each year to reflect progress toward their completion, revision and/or deletion, as appropriate.

- 1 **Update the data base** for each of the county's major groundwater basins.

**2005
UPDATE**

The study of the Arroyo Grande - Nipomo Mesa Area was completed in 2004. The study of the Paso Robles Groundwater Basin was completed in 2005, as described elsewhere in this report. ■

- 2 **Drought Assumptions.** This task has been completed. Estimates of sustainable yield

for groundwater basins in San Luis Obispo county should be based on rainfall data dating from the late 1800's. Water purveyors' drought contingency plans should acknowledge the possibility of significantly longer periods of below-average rainfall. **The WRAC also recommends that water purveyors should avoid allocating all available water to new development. Instead, they should include an "emergency reserve" in the supply/demand calculation.**

- 3 **Best Management Practice.** Define "Best Water Management Practice" for municipal, industrial and agricultural water uses. Educate all user groups in the implementation of Best Management Practice (BMP). Implement BMP for all county-operated water systems.
- 4 **Groundwater Recharge.** This task has been completed. Examination of geology throughout the County as documented in the 1998 Master Water Plan Update, Phase 1, revealed that recharge is limited to the areas immediately adjacent to the stream and river systems. These areas are protected as riparian and flood corridors and no additional protection or enhancement is warranted.
- 5 **Conjunctive Use.** Develop strategies for using groundwater basins for storage purposes.

2005
UPDATE

Proposition 50 Integrated Regional Water Management Planning grant application was submitted to evaluate the feasibility of groundwater banking in the Paso Robles Basin with emphasis on utilizing water from the State Water Project. Banking of Nacimiento Water may also be a long-term possibility. ■

- 6 **Riparian Impacts.** Assess the impacts of groundwater pumping on the riparian environment. Progress: The City of San Luis Obispo has completed a habitat study of San Luis Obispo Creek. Ongoing studies of the feasibility of increasing extractions from the groundwater basin will include assessment of impacts on the riparian environment. Morro Bay has monitored the influence of the Chorro well field on surface flow. The Habitat Conservation Plan for Arroyo Grande Creek also includes riparian considerations. **Until actual environmental demand has been quantified, demand estimates should include a "place-holder" for environmental demand.**

2005
UPDATE

A Proposition 50 Integrated Regional Water Management Planning grant application has been submitted to evaluate regional environmental permitting processes and may help address riparian impacts. ■

- 7 **Groundwater Management.** Survey existing water management organizations to determine which form, if any, might be appropriate for San Luis Obispo County.

- 8 **Well-Monitoring.** Improve and expand the county's existing program for monitoring private wells. Examine the existing program and take advantage of opportunities to gather data that is most representative of basin conditions. Consider the establishment of monitoring wells to assess water quality and quantity in critical areas.

2005
UPDATE

SLOFC&WCD is upgrading data systems and a Proposition 50 Integrated Regional Water Management Planning grant application has been submitted to provide funding to identify additional data collection needs. ■

- 9 **General Plan / Conservation Element.** Update the Conservation Element of the County's General Plan.

2005
UPDATE

The Conservation Element Update has been included in the Planning Department work program for 2006-2007. ■

In 1997, the SLOFC&WCD Board approved the consultant contract for Phase I of the Master Water Plan Update. The consultant, working under the direction of the WRAC, completed the first phase of the three-phase update in 1998. The objective of Phase I was to *“clarify our water situation by collecting existing sources of data and assessing their validity; and, to identify water management strategies and issues to provide the tools and options to project and protect our water use into the future”*.

2005
UPDATE

Development of a new Master Water Plan will be initiated as part of the 2006/07 budget request and will be coordinated with the update of the Conservation Element of the General Plan. ■

