

4 Responsible Entities, Major Infrastructure, and Water Supplies

In Santa Barbara County, a range of local agencies are responsible for various elements of water resource management. The discussion below provides an overview of current operations and responsibilities, as well as major infrastructure and water supplies.

4.1 Water Service Providers

Santa Barbara County water service providers, service areas, and sources of water are shown in Table 4-1; service areas also are shown on Figure 4-1.

TABLE 4-1
Water Service Providers in Santa Barbara County

Provider	Service Area and Water Source
Carpinteria Valley Water District	Service Area: City of Carpinteria and unincorporated areas in the Carpinteria Valley Source: Carpinteria Valley Groundwater Basin, Cachuma Project, and State Water Project
Casmalia Community Services District ^a	Service Area: Casmalia Source: Santa Maria Groundwater Basin
City of Buellton	Service Area: City of Buellton Source: Buellton Uplands and Santa Ynez Riparian groundwater basins and State Water Project
City of Guadalupe ^a	Service Area: City of Guadalupe Source: Santa Maria Valley Groundwater Basin and State Water Project
City of Lompoc	Service Area: City of Lompoc Source: Lompoc Groundwater Basin
City of Santa Barbara	Service Area: City of Santa Barbara Source: Cachuma Project, Gibraltar Reservoir, Devil's Canyon Creek, Mission Tunnel, Foothill Groundwater Basin, Santa Barbara Groundwater Basin, State Water Project, recycled wastewater, and desalination (during droughts and emergencies)
City of Santa Maria	Service Area: City of Santa Maria Source: Santa Maria Groundwater Basin, State Water Project, and Twitchell Reservoir recharge
City of Solvang	Service Area: City of Solvang and adjacent unincorporated areas Source: Santa Ynez Uplands Groundwater Basin, Santa Ynez River Riparian Basin, State Water Project (acquired through contract with Santa Ynez River Water Conservation District Improvement District No. 1)

TABLE 4-1
 Water Service Providers in Santa Barbara County

Provider	Service Area and Water Source
Cuyama Community Services District ^a	Service Area: Cuyama Valley Source: Cuyama Groundwater Basin.
Golden State Water Company	Service Area: Orcutt, Sisquoc, Lake Marie, and Tanglewood areas Source: Santa Maria Groundwater Basin and State Water Project water
Goleta Water District	Service Area: West of the Santa Barbara city limits to El Capitan State Beach Source: Goleta North/Central Groundwater Basin, Cachuma Project, and State Water Project. The Goleta Water District also treats and distributes reclaimed water to various golf courses, UCSB, and other sites for irrigation and agricultural purposes.
La Cumbre Mutual Water Company	Service Area: Hope Ranch and Hope Ranch Annex Source: Goleta North/Central Groundwater Basin, Foothill Groundwater Basin, and State Water Project.
Los Alamos Community Services District	Service Area: Los Alamos Source: San Antonio Groundwater Basin
Mission Hills Community Services District	Service Area: Mission Hills Source: Lompoc Groundwater Basin
Montecito Water District	Service Area: Montecito and Summerland Source: Montecito Groundwater Basin, the Cachuma Project, State Water Project, Jameson Lake, Fox and Alder creeks, and Doulton Tunnel
Santa Ynez River Water Conservation District Improvement District No. 1	Service Area: Santa Ynez, Chumash Indians' Santa Ynez Reservation, Los Olivos, and Ballard; also supplies domestic water to the City of Solvang Source: Cachuma Project, State Water Project, Santa Ynez Upland and Santa Ynez River Riparian Basins
Vandenberg Air Force Base	Service Area: Air Force Base and Lompoc Federal Correctional Complex Source: San Antonio Groundwater Basin and State Water Project
Vandenberg Village Community Services District	Service Area: Vandenberg Village Source: Lompoc Groundwater Basin

^aServes a disadvantaged community (DAC)

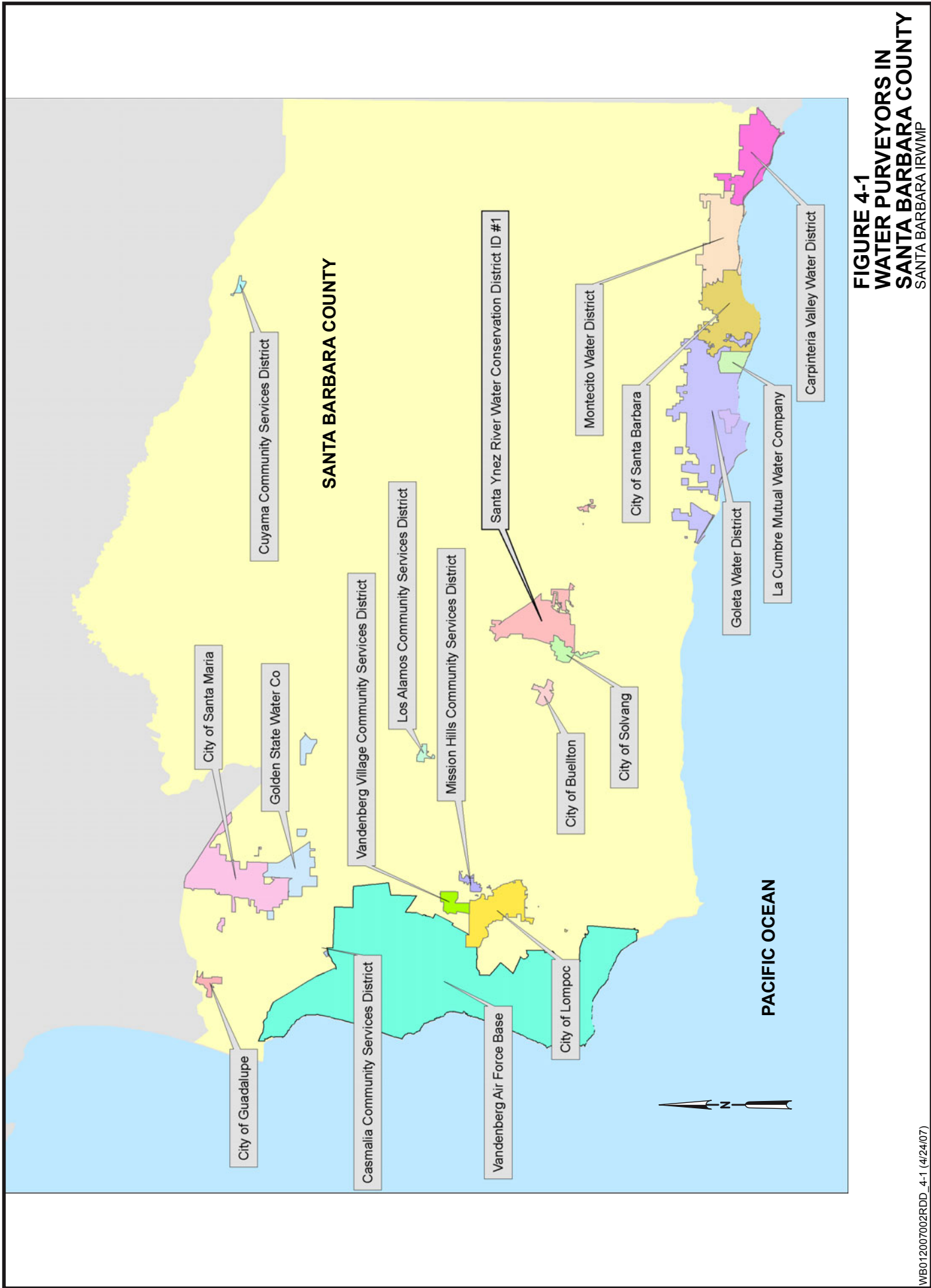


FIGURE 4-1
WATER PURVEYORS IN
SANTA BARBARA COUNTY
 SANTA BARBARA IRWMP

4.2 Other Water Management Agencies

This section describes other agencies that play key roles in managing water resources within Santa Barbara County, all of which are Cooperating Partners.

4.2.1 Cachuma Conservation Release Board

The Cachuma Conservation Release Board is a joint powers agency formed in January 1973 between the Carpinteria Valley Water District, Goleta Water District, the City of Santa Barbara, and Montecito Water District. The Board was established to jointly represent the respective parties in protecting the Cachuma water rights interests of the four South Coast entities and maximizing the amounts of water that they can obtain from the Cachuma Project or other sources that may be available to them. The Cachuma Conservation Release Board, partnering with the Santa Ynez River Water Conservation District Improvement District No. 1, conducts the long-term steelhead fishery program in the Lower Santa Ynez River in accordance with a Memorandum of Understanding with the U.S. Bureau of Reclamation (Reclamation) and other parties.

4.2.2 Cachuma Operation and Maintenance Board

The Cachuma Operation and Maintenance Board is a joint powers agency that includes the five Cachuma Project Member Units. Although Reclamation owns Bradbury Dam, the Tecolote Tunnel, and the South Coast Conduit and its four regulating reservoirs, the Board has operated and maintained the Cachuma Project facilities, other than Bradbury Dam, since 1957 when it was formed to take over these responsibilities from Reclamation.

4.2.3 Central Coast Water Authority

The Central Coast Water Authority was formed in 1991 to construct, manage, and operate Santa Barbara County's 42-mile portion of the State Water Project and a regional water treatment plant. It later secured agreements with the State of California Department of Water Resources (DWR) to operate and maintain an additional 101-mile portion of pipeline and associated facilities in Santa Barbara and San Luis Obispo counties. It is presently composed of eight public agencies: the cities of Buellton, Guadalupe, Santa Barbara, and Santa Maria, Carpinteria Valley Water District, Goleta Water District, Montecito Water District, and Santa Ynez River Water Conservation District Improvement District No. 1.

4.2.4 Santa Barbara County Water Agency

The Santa Barbara County Water Agency manages a number of regional programs, which include: (1) implementation and partial funding of operational programs such as the cloud seeding program, (2) implementation of the Regional Water Efficiency Program, (3) development of countywide hydrologic data and development of hydrologic models, and (4) development of a program to identify and implement solutions to creek and ocean water pollution on the South Coast of Santa Barbara County. Included in these programs are the compilation and publication of an annual report on groundwater conditions, sediment management studies, technical support to other public agencies, and public information. Major water projects involving the Water Agency include the State Water Project (Coastal Branch Extension), Cachuma Project, and the Twitchell Project. The Water Agency

administers development of the IRWMP supported by a number of local governments. The County Board of Supervisors adopted a Memorandum of Understanding with 28 local agencies in September 2006.

4.2.5 Santa Maria Valley Water Conservation District

The Santa Maria Valley Water Conservation District operates Twitchell Dam and Reservoir and supports water conservation projects within the Santa Maria Valley.

4.2.6 Santa Ynez River Water Conservation District

The Santa Ynez River Water Conservation District was formed in 1939 to protect the water rights and supplies of its constituents in the Santa Ynez River watershed with respect to diversions by South Coast agencies. It also manages releases of water from Bradbury Dam to replenish the Santa Ynez River Riparian Basin and the Lompoc Groundwater Basin and provides groundwater management planning and related activities on the uplands adjacent to the river throughout the watershed.

4.3 Wastewater Service Providers

Santa Barbara County's wastewater providers locations are shown in Figure 4-2; providers and their service areas described in Table 4-2. All are Cooperating Partners with the exception of the Santa Ynez Community Services District.

4.4 Major Infrastructure

This section describes major surface reservoirs, water distribution systems, desalination, and water and wastewater treatment facilities. Much of the county's infrastructure is more than 40 years old and needs to be upgraded or replaced in order to meet increasingly stringent regulatory requirements, including drinking water quality standards for disinfection by-products that require expensive new treatment components. As an example, increasing the reliability of wells in the Santa Ynez River alluvium requires development of a regional water treatment plant to comply with the Surface Water Treatment Rule. Infrastructure also must meet the needs of a growing population, and upgrades are needed to reduce water loss, prevent increased inflow and infiltration during storms, and improve performance.

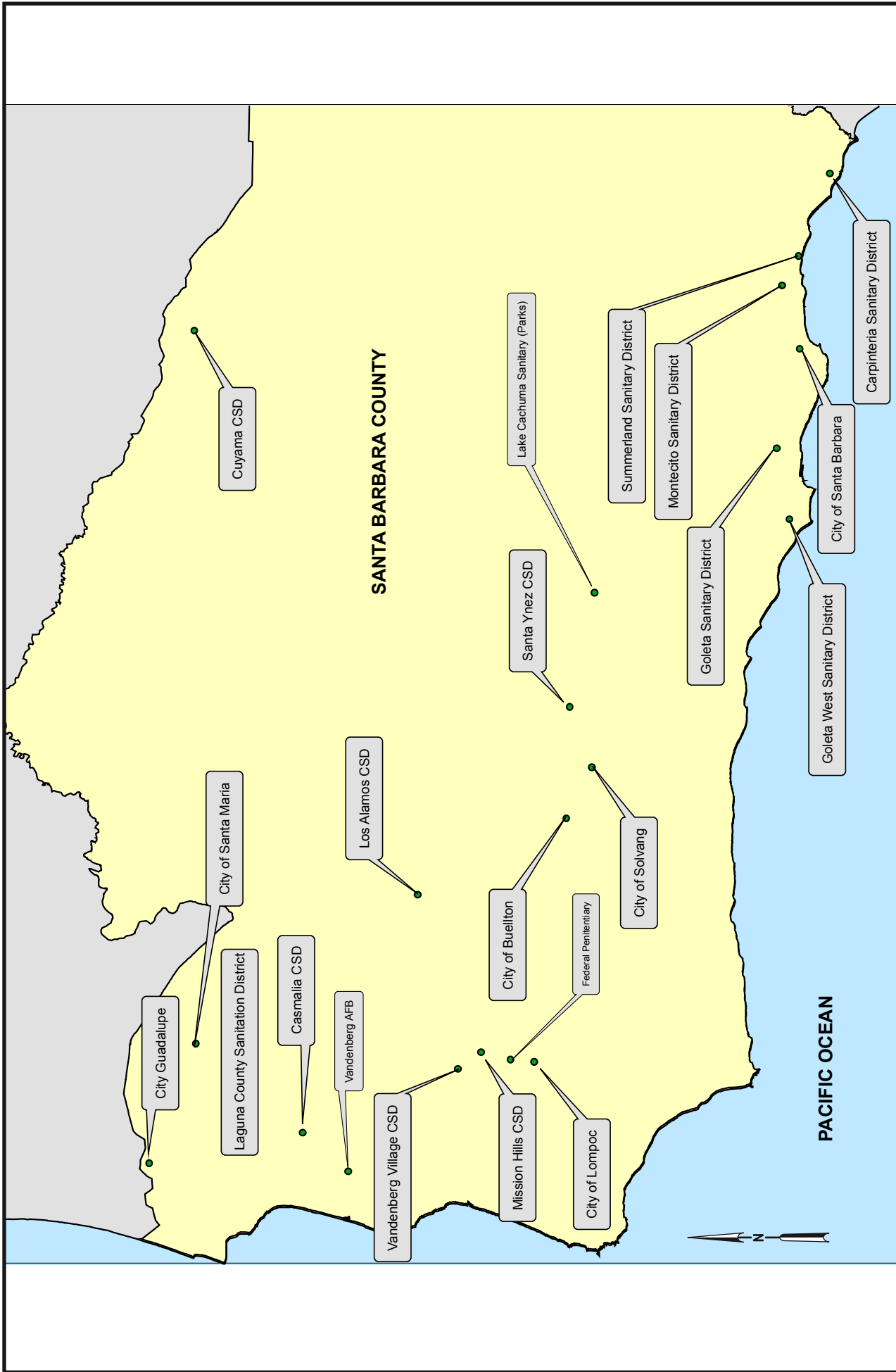


FIGURE 4-2
WASTEWATER SERVICE PROVIDERS
IN SANTA BARBARA COUNTY
 SANTA BARBARA IRWMP

TABLE 4-2
Wastewater Service Providers in Santa Barbara County

Wastewater Service Provider	Service Area
Carpinteria Sanitary District	City of Carpinteria and unincorporated areas in the Carpinteria Valley
Casmalia Community Services District ^a	Casmalia
City of Lompoc	City of Lompoc, Vandenberg Air Force Base, Vandenberg Village Community Services District
City of Buellton	City of Buellton
City of Guadalupe ^a	City of Guadalupe
City of Santa Barbara	City of Santa Barbara
City of Santa Maria	City of Santa Maria
City of Solvang	City of Solvang and portions of the Santa Ynez Valley
Cuyama Community Services District ^a	Cuyama Valley
Goleta Sanitary District	Goleta Valley (excluding the western portion)
Goleta West Sanitary District	Western portion of Goleta Valley
Laguna County Sanitation District	Orcutt and portions of unincorporated southern Santa Maria
Federal Bureau of Prisons	Lompoc Federal Correctional Complex
Los Alamos Community Services District	Los Alamos
Mission Hills Community Services District	Mission Hills
Montecito Sanitary District	Montecito
Santa Barbara County Parks Department	Cachuma Lake Recreation Area
Summerland Sanitary District	Summerland
Santa Ynez Community Services District	Portions of Santa Ynez (collection and conveyance to Solvang Wastewater Treatment Plant); also manages, operates, and maintains the Chumash Wastewater Treatment Plant
Vandenberg Village Community Services District	Vandenberg Village
Vandenberg Air Force Base	Vandenberg Air Force Base

^aServes a disadvantaged community (DAC)

4.4.1 Surface Storage Reservoirs and Associated Distribution Systems

The county's four major reservoirs, discussed above, are managed for various uses, including water supply, groundwater recharge, flood control, recreation, and ecological benefits. Lake Cachuma is owned and operated by the federal government. Twitchell Reservoir is owned by the federal government and operated by the Santa Maria Water Conservation District. Gibraltar Reservoir is owned and operated by the City of Santa Barbara. Jameson Lake is owned and operated by the Montecito Water District. Lake Cachuma, Gibraltar Reservoir, and Jameson Lake are all located in the Santa Ynez River Watershed. The three reservoirs that were constructed on the Santa Ynez River supply most of the water used in the South Coast area of Santa Barbara County. The largest of these is Lake Cachuma, followed by Gibraltar and Jameson reservoirs, which are located upstream. Twitchell Reservoir is located on the Cuyama River 6 miles above its junction with the Sisquoc River and lies within the Santa Maria River Watershed. Twitchell, Jameson, and Gibraltar reservoirs, and to a lesser extent Lake Cachuma, are being filled with sediment, reducing their storage capacity and making it increasingly important to enhance local water supply reliability through conservation and other methods.

The storage capacity of Gibraltar Reservoir is now approximately 7,000 acre-feet (AF); sedimentation has continued to decrease the storage capacity of the reservoir by an average of 150 acre-feet per year (AFY). This reservoir is the source of about one-third of the City of Santa Barbara's water supply. Loss of storage capacity is mitigated by the pass-through provision of the Upper Santa Ynez River Operations Agreement.

The storage capacity of Jameson Lake was originally 7,500 AF and is now approximately 5,290 AF. The unincorporated community of Montecito receives 45 percent of its water supply from Jameson Lake, Fox and Alder creeks via the Doulton Tunnel, so loss of storage capacity is an issue of concern.

Lake Cachuma was created with a storage capacity of about 205,000 AF, but its capacity has been reduced to about 189,000 AF due to sedimentation. The principal features of the Cachuma Project are Bradbury Dam, Lake Cachuma, Tecolote Tunnel and the South Coast Conduit distribution systems. Included in the main conduit system are four regulating reservoirs and Sheffield Tunnel. The South Coast Conduit is constricted between Tecolote Tunnel and Cater Treatment Plant due to decreased pipeline capacity since other facilities were added to that reach of the conduit. Additionally, the aging conduit now requires significant levels of maintenance, which could require that sections of the South Coast Conduit be taken out of service for days or weeks at a time and affect the reliability of the South Coast water supply.

Since its completion, Twitchell Reservoir has been trapping sediments from the 1,140-square mile Cuyama River watershed. Original studies estimated that 40,000 AF of sediment would accumulate in the reservoir during the first 100 years of operation. In 1981, a study found that the rate of sedimentation was about 70 percent greater than the original estimate. As of 1998, the accumulated sediment had reached an estimated 44,000 AF. The reservoir capacity is approximately 198,339 AF. Because of this, the Santa Barbara County Water Agency and the Santa Maria Valley Water Conservation District are preparing a sediment management plan that will help to ensure the continued safe operation of the reservoir's water release works and also extend the usable life of the reservoir.

4.4.2 Flood Control Infrastructure

Santa Barbara County dams are discussed in the preceding section. Other flood control infrastructure in the IRWMP planning area includes:

- 24 miles of levees along the Santa Maria River
- 42 miles of closed conduits
- 22 miles of lined channels
- 50 miles of improved earth channels
- 150 miles of unimproved earth channels
- 34 retarding and recharge basins
- 31 debris basins

4.4.3 State Water Project Facilities

The Central Coast Water Authority was formed to finance, construct, manage, and operate Santa Barbara's State Water Project facilities. Construction of the facilities to import State Water Project water to the county began in 1994, including a 42-mile extension of the State Water Project water pipeline, pumping plants, and a regional treatment plant to treat the water for both San Luis Obispo and Santa Barbara counties (Figure 4-3). The Coastal Branch portion of the State Water Project brings water 117 miles from the California Aqueduct in Kern County, through San Luis Obispo County and the Santa Maria Valley, continuing to the northerly portion of Vandenberg Air Force Base. At Vandenberg Air Force Base, the Coastal Branch connects to the 42-mile pipeline comprising the Mission Hills and the Santa Ynez Extensions. The Santa Ynez section ends at Lake Cachuma. Water is then delivered through existing facilities to the South Coast of Santa Barbara County. The Authority also constructed and operates the Polonio Pass Water Treatment Plant, located in northern San Luis Obispo County and described below. In addition, under a joint powers agreement with DWR, the Authority operates all of the Coastal Branch facilities downstream of the treatment plant.

4.4.4 Desalination Plant

The City of Santa Barbara owns a reverse osmosis desalination plant, which is adjacent to the El Estero Wastewater Treatment Plant. This plant was constructed in 1991 to 1992 by the City of Santa Barbara, Goleta Water District, and Montecito Water District as an emergency water supply in response to the severe drought lasting from 1986 to 1991. The latter two agencies are no longer participants in the desalination plant, which is currently decommissioned due to ample quantities of less expensive supplies. The desalination facility can, however, be brought into operation within 6 to 12 months if needed during drought or water shortage conditions. Just over half of the prefiltration capacity and reverse osmosis treatment modules were sold, leaving sufficient capacity to meet the City's anticipated need for approximately 3,000 AFY of production in future droughts.

4.4.5 Water Treatment Facilities

Communities in Santa Barbara County rely on different types of water supplies. As a result, a wide variety of treatment processes are in use. The following provides a description of selected treatment facilities and processes used in several communities within the county and used in San Luis Obispo County to treat State Water Project water that is delivered to Santa Barbara County. Purveyors routinely monitor water supplies for constituents in accordance with federal and state laws. The Safe Drinking Water Act is the main federal law that ensures the quality of drinking water. Under the Safe Drinking Water Act, the U.S. Environmental Protection Agency sets standards for drinking water quality and oversees the states, localities, and water suppliers that implement those standards. Maximum Contaminant Levels (MCLs) are enforceable regulatory standards under this Act and must be met by all public drinking water systems to which they apply. The California Safe Drinking Water Act was passed to build on and strengthen its federal counterpart. It authorizes the state's Department of Health Services to protect the public from contaminants in drinking water by establishing MCLs that are at least as stringent as those developed by the U.S. Environmental Protection Agency.

Montecito Water District

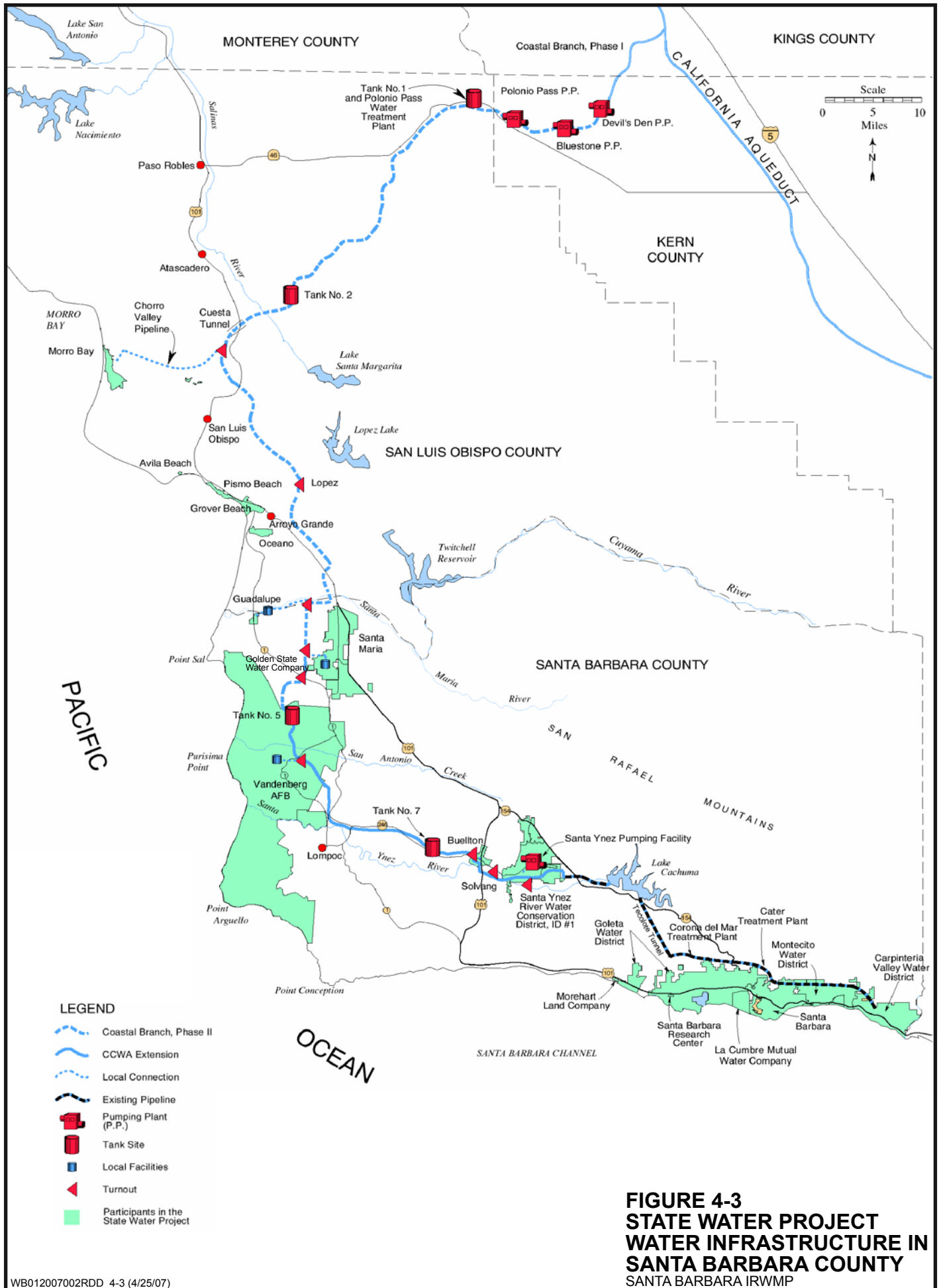
The Montecito Water District's Lake Cachuma water supply is treated by the City of Santa Barbara at the City's Cater Water Treatment Plant. Its Jameson Lake water supply is treated at the District's Bella Vista and Douulton water treatment plants. Jameson Lake is an open reservoir situated high in the Santa Ynez Mountains. With the completion of the new 2.2-million-gallons-per-day (mgd) Bella Vista Treatment Plant in 1993, and its smaller 150,000-gallons-per-day (gpd) companion, Douulton Treatment Plant, the District has come into full compliance with the 1993 government-mandated standards.

William B. Cater Water Treatment Plant

The City of Santa Barbara constructed the William B. Cater Filtration Plant in 1964. The 1978 Joint Exercise of Powers Agreement provided for the expansion and operation of the Cater Water Treatment Plant to also treat all Cachuma water delivered to the Montecito and Carpinteria Valley water districts. The plant was expanded to its current 37-mgd capacity in 1982. The water treated at the plant may be drawn directly from the South Coast Conduit or from Lauro Reservoir. The water in the South Coast Conduit comes directly from Lake Cachuma (via the Tecolote Tunnel). The water in Lauro Reservoir is a combination of water from Gibraltar Reservoir (via the Mission Tunnel into the Penstock pipeline) and water from the South Coast Conduit. Normal operation is for Cater to draw the water from Lauro Reservoir.

Corona Del Mar Water Treatment Plant

The Goleta Water District began operating the Corona Del Mar Water Treatment Plant in 1974. Due to the plant elevation of 615 feet, water can move through the plant by gravity flow and be delivered to the vast majority of district customers without pumping. The rated nominal capacity of the plant is about 24 mgd) with a peak capacity of 36 mgd. The "raw water" received from Lake Cachuma is directed to the plant for removal of suspended matter, such as clay particles and algae, in order to meet state health standards.



City of Lompoc Water Treatment Plant

The City of Lompoc operates nine wells of varying capacities between 250 and 2,500 gallons per minute. Groundwater is pumped from the wells to the water treatment plant for demineralization and softening. The City of Lompoc Water Treatment Plant has a peak capacity of 10 mgd with a reservoir capacity of approximately 12 million gallons of usable storage.

Polonio Pass Water Treatment Plant

State Water Project water provided to Santa Barbara County is treated at the 43-mgd Polonio Pass Water Treatment Plant in San Luis Obispo County. This treatment plant disinfects water through chloramination. Chloramines are removed from the water before it is discharged to Lake Cachuma. The detreated State Water Project water is mixed with Cachuma Project water and delivered through Tecolote Tunnel to the contractors on the South Coast. Water treated at Polonio Pass is provided directly to Santa Maria, Guadalupe, Buellton, Solvang, Santa Ynez River Water Conservation District Improvement District No. 1, and Vandenberg Air Force Base.

4.4.6 Wastewater Treatment

Wastewater service providers must address increasingly strict discharge limits for wastewater treatment plants requiring increasing costs for wastewater agencies. SWRCB General Waste Discharge Requirement for Sanitary Sewer Systems (SWRCB Order No. 2006-0003) also requires wastewater agencies to evaluate and rehabilitate sewer systems with a target of zero sewer overflows.

There are several steps to the wastewater treatment process. Wastewater enters sewers and is then transported to the wastewater treatment plant, where it receives "primary treatment." This involves removing solids that settle to the bottom, as well as floating materials.

Next the water undergoes "secondary treatment," which removes solids that are suspended or dissolved in the water. During this treatment process, chemicals are added to disinfect the water before it is released into the ocean, adjacent river, or stream, either directly or indirectly by percolation ponds or upland spreading areas. Most wastewater in Santa Barbara County is treated to this secondary level.

Finally, some treatment plants use "tertiary treatment," which filters and disinfects the water. If treated to this advanced level, wastewater (or "effluent") can be reused for such purposes as irrigation of pasture grasses, landscaping, and even some crops. Such reclaimed water is used for several purposes within the County of Santa Barbara.

The county's primary wastewater treatment plants, their capacities, level of treatment, and uses for recycled water are shown in Table 4-3. The Lompoc Federal Correctional Complex also provides its own wastewater service. Wastewater collected from the Main Cantonment Area at Vandenberg Air Force Base is conveyed to the Lompoc Wastewater Treatment Plant. Other areas in the North Base and South Base are served by leach fields, septic tanks, and package treatment plants.

TABLE 4-3
Wastewater Treatment Facilities within Santa Barbara County

Treatment Plant	Permitted Capacity (MGD)	Level of Treatment	Recycled Water Uses
Buellton	0.65	secondary	groundwater recharge
Carpinteria Sanitary District	2.0	secondary	treatment plant landscape irrigation
City of Santa Maria	9.0	secondary	groundwater recharge
El Estero (City of Santa Barbara)	11.0	secondary/ tertiary	landscape irrigation; toilet flushing
Goleta Sanitary District and Goleta West Sanitary District	10.64	primary/blended secondary	landscape irrigation; toilet flushing
Laguna County Sanitation District	3.7	tertiary	agricultural; landscaping; industrial
Lake Cachuma County Park	0.22	secondary	none
La Purisima ^a	0.40	primary	groundwater recharge; pasture/crop irrigation
Lompoc Regional Wastewater Reclamation Plant	5.0	advanced secondary	sewer line cleaning; dust control & compaction; city street tree irrigation
Mission Hills	0.57	secondary	groundwater recharge
Montecito Sanitary District	1.5	secondary	none
Santa Ynez Band of Chumash Indians	0.2	tertiary	none
Solvang Wastewater Treatment Plant	1.0	secondary	groundwater recharge
Summerland Sanitary District	0.30	tertiary	none

Source: Family of Santa Barbara Water Providers, 2006; Cooperating Partners, 2007.

^aLocated at La Purisima State Park

4.5 Water Supplies

Water supplies include groundwater, surface water, imported State Water Project water, and recycled water; water supplies also are enhanced by the conjunctive use of surface and groundwater supplies and cloud seeding. The current average annual water supplies for Santa Barbara County total about 223,000 AFY, plus about 90,000 AFY in return flows to useable groundwater basins.

4.5.1 Groundwater

Groundwater basins are the major source of water in the county, supplying about 77 percent of Santa Barbara County's domestic, commercial, industrial, and agricultural water. The

regional groundwater basins are described in Section 2. In the South County, water purveyors use groundwater as a secondary source of potable water. However, the North County is largely supported by groundwater and/or shallow, riparian basin water, both of which are recharged by surface flows.

4.5.2 Surface Water

Surface water refers to water resources that flow or are stored in surface channels (streams and rivers or lakes and reservoirs). Surface water reservoirs are an important part of the regional water supply so the loss of storage capacity is of significant concern. Gibraltar Reservoir is the source of about one-third of the City of Santa Barbara's water supply. The unincorporated community of Montecito receives 45 percent of its water supply from Jameson Lake, Fox and Alder creeks via the Doulton Tunnel. On an average annual basis, Lake Cachuma provides approximately 65 percent of the South Coast's water supply. Twitchell Reservoir is important to both the water supply and the flood protection of the Santa Maria Valley. The reservoir supplies about 20,000 AF of recharge to the Santa Maria Groundwater Basin on an average annual basis.

4.5.3 Imported Water (State Water Project)

Table 4-4 shows the amount of water to which each Santa Barbara County participant in the State Water Project has a contractual right, referred to as Table A Amount. Actual deliveries may be less than shown in Table 4-4. The primary factors affecting the amount of Table A deliveries are the availability of State Water Project supplies and the State Water Project Contractors' demands for this water. Climatic conditions and other factors can significantly alter the availability of State Water Project water in any year; a topic of growing concern for water planners and managers is global warming and the potential impacts it could have on California's future water supplies, including State Water Project supplies. The amount of water DWR determines is available and allocates for delivery in a given year is based on that year's hydrologic conditions, the amount of water in storage in the State Water Project system, current regulatory and operational constraints, and Contractors' requests for State Water Project supplies. Even in years when additional Table A supplies are available, the amount of water DWR allocates is limited to Contractors' requests.

State Water Project water has helped reduce the use of groundwater in all major basins, except the Cuyama Basin, which does not have a water purveyor that receives State Water Project water. It also has improved water quality in areas that directly receive State Water Project water and has increased the overall water supply in Santa Barbara County.

4.5.4 Water Conservation

Water conservation addresses the "demand side" of water management, and thereby constitutes an important part of stretching the county's water supplies. Through water conservation programs implemented at the regional and water purveyor level, additional water supplies become available for use within the county, reducing pressures on other water resources. Water conservation activities occur countywide through the Regional Water Efficiency Program (RWEF), in which water purveyors work cooperatively to implement conservation in the areas of residential, commercial, agricultural, and landscape programs. Additionally, regional education and public information programs help change

behavior to decrease water use. Regional programs have been in place since 1990 and are staffed and funded by a multiagency team of conservation staff from the Santa Barbara County Water Agency and local water purveyors. Water purveyors also implement individual programs of particular interest within their service areas. Programs are discussed in greater detail in Section 5. Water savings through conservation programs are calculated on an annual basis by those agencies who are members of the California Urban Water Conservation Council. Council Signatories, who have committed to best management practices for water conservation by signing the Council Memorandum of Understanding, plus the conservation activities of nonmembers in the County, have resulted in the conservation of 86,660 AF during the period from 1991 to 2006. Not all water purveyors report their savings and therefore, savings may be significantly higher.

TABLE 4-4
State Water Project Table A Amounts in Santa Barbara County

State Water Project Participant	Drought Buffer (AFY) ^a	Table A Amount (AFY)
Carpinteria Valley Water District (includes Summerland)	200	2,000
City of Buellton	58	578
City of Guadalupe	55	550
City of Santa Barbara	300	3,000
City of Santa Maria	1,620	16,200
Golden State Water Company (Orcutt area)	50	500
Goleta Water District	450	4,500
La Cumbre Mutual Water Company	100	1,000
Montecito Water District	300	3,000
Morehart Land Company	20	200
Santa Barbara Research Center	5	50
Santa Ynez River Water Conservation District Improvement District No. 1	200	500
City of Solvang	0	1,550
Vandenberg Air Force Base	550	5,500
Total	3,908	39,078
Goleta Water District Additional Drought Buffer ^b	2,500	

Source: SBCWA, 2000

^aThe drought buffer entitlement of 3,908 AF increases the reliability of each project participant's Table A Amount. This can be stored for future use and/or requested in dry years when cutbacks are expected to State Water Project allocations. By storing this water and/or increasing the Central Coast Water Authority's water request in dry years, even after a percentage cutback by DWR, the project participants can reduce shortages in their entitlement deliveries.

^bGoleta has 2,500 AFY of drought buffer, in addition to its 450 AFY, that does not have pipeline or treatment plant capacity (i.e., it is for increased reliability only).

4.5.5 Recycled Water

Recycled water must meet rigorous water quality standards before it can be reused. The type of reuse varies depending upon the level of treatment. In addition, other constituents, such as total dissolved solids (TDS), in the treated wastewater sometimes limit the use for landscape irrigation and groundwater recharge. Presently, there are two agencies in the county that treat all of their effluent to full tertiary levels. These are the Laguna County Sanitation District and the Summerland Sanitary District. The Laguna County Sanitation District produces approximately 2,400 AFY, which is used for agricultural, landscaping, and industrial purposes with recycling as its only discharge mechanism. Reverse osmosis is used to reduce TDS to improve water quality. The Summerland Sanitary District treats approximately 168 AFY, which is discharged to the Pacific Ocean.

Two other agencies treat some of their flow to tertiary levels for reuse landscape irrigation. These include the City of Santa Barbara and the Goleta Sanitary District. The City of Santa Barbara El Estero Wastewater Treatment Plant has the capacity to treat up to 1,200 AFY of tertiary effluent and currently treats 800 AFY. The Goleta Sanitary District recycled water system is operated jointly with the Goleta Water District as the purveyor and can treat up to 1,500 AFY of tertiary effluent and currently has a demand of 1,000 AFY. The City of Lompoc utilizes approximately 5 AFY of its secondary treated effluent for reuse and discharges to the Santa Ynez River. The Los Alamos Community Services District discharges all of its approximately 130 AFY of secondary effluent for pasture irrigation. Many of these agencies, as well as others not discussed, discharge to percolation ponds, the Pacific Ocean, or other water bodies.

4.5.6 Desalted Water

The City of Santa Barbara's desalination plant is discussed in Section 4.4.4.

4.5.7 Conjunctive Use

Santa Barbara's water purveyors practice the conjunctive use of surface and groundwater supplies when excess water is available to recharge groundwater basins for later withdrawal when supplies are short. Some purveyors use State Water Project water, when available, and rely on groundwater to supplement when demand is higher. Purveyors may also purchase a "drought buffer" of additional State Water Project water or bank water in a groundwater basin. Similarly, some purveyors may manage, possibly in accordance with an AB 3030 Groundwater Management Plan, the groundwater pumped and stored in groundwater basins in order to optimize the basin's overall long-term working yield. The City of Santa Barbara maintains a water well system capable of extracting up to 4,500 AFY. Most of this potential supply is kept in reserve in case of drought, since a majority of its water supply is from surface water sources outside of the watershed area. During normal years, the City's groundwater basins are allowed to recharge, with groundwater extraction generally reserved for periods of drought or other supply shortages. Pumping occurs in Storage Unit No. 1 (downtown area) and the Foothill Basin (outer State Street area). The City of Santa Barbara conducts conjunctive use water supply management activities by injecting and storing surface water in the basins.

4.5.8 Cloud Seeding

Since as early as 1948, Santa Barbara County has participated in weather modification activities in order to augment local water supplies. The County cloud seeding program is only conducted in the upper Santa Ynez and Twitchell Reservoir watersheds. The effectiveness of cloud seeding has been evaluated to demonstrate its benefits. Recent statistical studies suggest that seeding results in a maximum increase in precipitation of about 15 percent over one rain season. This translates to thousands of acre-feet of additional water captured for storage in local reservoirs. For example, in a wet year such as 1992 to 1993, approximately 20,000 AF of water was generated through cloud seeding, and this figure does not include infiltration into groundwater basins (SBCWA, 2000). The local cloud seeding program is operated between December 1 and March 30 of most years. The cost of the annual cloud seeding program is shared among the County and the water districts that receive a benefit from it.