

3 History of Water and Wastewater Management

This section provides an overview of the history of key water and wastewater milestones, as well as integrated regional water management efforts.

3.1 Key Water Management Milestones

Santa Barbara County has a long water development history, dating back to the founding of the Santa Barbara, La Purisima, and Santa Inés missions between 1786 and 1804. Extensive water supply systems, including aqueducts, cisterns, and gravity-fed fountains, were developed to serve the earliest non-native settlements. As the county's population increased, water supplies and treatment and delivery systems were expanded to meet the growing needs in a manner that was accounted for by the County's limited water supply. This section focuses on the development of the major regional water infrastructure, which led to the agreements and management practices that are in place today, as well as the importation of water from the State Water Project.

3.1.1 South Coast, Santa Ynez Valley, and Lompoc Valley

The history of Santa Ynez River water use is a contentious one, and issues raised by water rights holders downstream of the three Santa Ynez River dams have been addressed over the years by litigation, decisions by the State Water Resources Control Board (SWRCB), and by agreements reached between the parties involved. As described below, years of dissent culminated in the Cachuma Project Settlement Agreement, which uses the Bradbury Dam and the Santa Ynez Extension of the State Water Project to integrate surface and groundwater management strategies including surface storage, conjunctive use, groundwater recharge, groundwater quality improvement, flood protection, and habitat improvements. Existing infrastructure is managed cooperatively, creatively, and efficiently to maximize the use and improve the reliability of available water resources, as well as to provide environmental enhancements.

Early Need for Water in the South Coast

The Santa Barbara Mission was founded in 1786 and supported surrounding ranching and fruit-growing efforts. When water supplies became limited due to higher concentrations of people in more populated areas, plans were made to construct the South Coast's first large dam and reservoir, which was completed in 1807. After incorporation as a city in 1850, the population of Santa Barbara expanded, and the city continued to experience the pressures of limited water supplies. A report written in 1889 by the City Engineer concluded that the only feasible long-term source of water for Santa Barbara would have to come from the Santa Ynez River. He recommended land purchases for two possible dam and reservoir sites on the Santa Ynez River, but the city's initial bond proposal was defeated. Droughts in 1894 and from 1898 through 1900 re-emphasized the report's conclusions. While the Cold Spring

Tunnel (constructed in 1896) initially provided essentially a horizontal well producing approximately 290 acre-feet of water per year (AFY), its yield steadily decreased to about 100 AFY, and attention again turned to potential dam and reservoir sites on the Santa Ynez River.

Mission Tunnel

A 1905 report by the United States Geological Survey recommended the construction of a tunnel (the Mission Tunnel) from the Santa Ynez River to the coast side of the mountains, in conjunction with building a dam and reservoir at the Gibraltar site on the river (SBCWA, 2000). The main obstacle to this plan was that the tunnel would have to pass through lands held by the Santa Barbara Water Company, a private firm that owned extensive tracts of land encompassing all practicable reservoir sites on the headwaters of the Santa Ynez River. The City negotiated a contract with the Santa Barbara Water Company to allow construction of the tunnel in exchange for maintenance of flows in Mission Creek. The 3.7-mile-long Mission Tunnel was completed in 1912, the same year that the City purchased the holdings of the Santa Barbara Water Company. Mission Tunnel was designed to intercept groundwater flow and to later convey water from Gibraltar Reservoir to the City of Santa Barbara. Infiltration into Mission Tunnel varies with rainfall, but averages approximately 1,100 AFY.

Gibraltar Dam and Reservoir

The presence of major reservoirs in Santa Barbara County began in 1920 with the completion of Gibraltar Dam and Reservoir on the Santa Ynez River. By 1945, sedimentation had reduced storage in Gibraltar Reservoir from 14,500 acre-feet (AF) to approximately 7,800 AF. In 1948, the dam was raised 23 feet, and storage capacity was restored to approximately the original volume.

Juncal Dam, Jameson Lake, and Doulton Tunnel

The Montecito Water District completed construction of Juncal Dam and Jameson Lake in 1930. Water is diverted from the Santa Ynez River to the Montecito area through the Doulton Tunnel. Construction of Doulton Tunnel began in 1924 and initially penetrated only the first mile of the Santa Ynez Mountains due to substantial groundwater inflow. The tunnel was finally completed in 1928.

Gin Chow Judgment and Upper Santa Ynez River Operations Agreement

The storage and diversion of Santa Ynez River water by the City of Santa Barbara and Montecito Water District at Gibraltar and Juncal dams, respectively, was challenged in court by downstream interests in 1928. Gin Chow, a Lompoc farmer and local prophet, and over 30 others filed suit against Santa Barbara and Montecito, claiming that they were unlawfully diverting water from the Santa Ynez River. In 1933, the California Supreme Court upheld the rights of Santa Barbara and Montecito, setting limits on their ability to store and divert water, and decreeing that the City must release up to 616 AF of water per year from Gibraltar Reservoir for downstream water rights.

In the 1980s, when the City of Santa Barbara initiated a seismic retrofit project at Gibraltar Dam, concern by downstream interests that this could lead to a second enlargement of the

dam (see “Gibraltar” above) led to the “Upper Santa Ynez River Operations Agreement.” This Agreement provides for diversions of water to the City of Santa Barbara (including a pass-through provision to protect against loss of capacity) and for downstream releases consistent with the Gin Chow judgment.

Cachuma Project

The Cachuma Project had its beginnings in 1939 when a study referred to as the Hill Report was submitted to the County Board of Supervisors recommending further development of the Santa Ynez River. This resulted in the formation of the Santa Ynez River Water Conservation District by people who felt that the interests of the residents of the Santa Ynez River watershed were not being adequately protected by individual water users, as evidenced by the Gin Chow litigation. The District called for a more extensive study by an impartial government agency. The County contracted with the U.S. Geological Survey (USGS) in 1940 to obtain basic data and with the U.S. Bureau of Reclamation (Reclamation) in 1941 to prepare a countywide water resources development plan. The Cachuma Project, among others, was recommended by Reclamation in 1944.

The Santa Barbara County Water Agency was formed in 1945 to act as a go-between, contracting with both the federal government and local water purveyors (the Cachuma Member Units). The Cachuma Member Units were to be the City of Santa Barbara, Montecito, Carpinteria, Goleta, and Summerland County Water Districts, and the Santa Ynez River Water Conservation District. The Cachuma Project was approved by these entities in 1947 and by the Secretary of the Interior in 1948. Contract negotiations resulted in a master contract, and Member Unit contracts were approved by all parties except for the Santa Ynez River Water Conservation District, which withheld approval pending the negotiation of a separate agreement with Reclamation to protect downstream water rights. The so-called “Live Stream Agreement” was subsequently agreed to, allowing elections to occur in 1949. The elections were successful, federal funding was ultimately forthcoming, and the Cachuma Project facilities were completed by 1956.

The Cachuma Project consists of the Bradbury Dam, which impounds Lake Cachuma; the Tecolote Tunnel, which diverts 90 percent of the Project’s yield to the South Coast; and the South Coast Conduit conveyance facilities, which consists of a pipeline and four regulating reservoirs to transport water from Goleta to Carpinteria along the South Coast. In 1957, the Cachuma Operation and Maintenance Board, then consisting of the South Coast Member Units and the Santa Ynez River Water Conservation District, was formed to operate and maintain Tecolote Tunnel and the South Coast Conduit system. Today, the South Coast Member Units consist of the City of Santa Barbara and the Goleta, Montecito, and Carpinteria Valley Water Districts. These entities serve both urban and agricultural users, and in 1973, they formed the Cachuma Conservation Release Board to represent their Cachuma Project water rights interests.

In 1963, the Santa Ynez River Water Conservation District formed Improvement District No. 1 to serve 10 percent of the Cachuma Project yield to urban and agricultural users in the more urbanized areas of the Santa Ynez Valley. In 1968, a separate Improvement District No. 1 Board of Trustees was established, and in 1993, the Santa Ynez River Water Conservation District assigned its interests in the Cachuma Project to Improvement

District No. 1. Today, Improvement District No. 1 and the four South Coast entities comprise the Cachuma Member Units.

Because, under federal law, Reclamation is required to comply with state water rights law, Reclamation filed application with the State Water Rights Board (precursor to the SWRCB) to appropriate Santa Ynez River water in 1946. Hearings did not occur until 1957, a year after the project was in operation. After a contested hearing in 1958, the State Water Rights Board issued the Cachuma Permits subject to the rights of downstream water users. The Board retained continuing jurisdiction for 15 years to ensure that the prescribed releases were adequate.

After prolonged and sometimes contentious negotiations between the South Coast Member Units (now represented by the Cachuma Conservation Release Board) and the Santa Ynez River Water Conservation District, the latter and Reclamation reached agreement on a stipulated modification of the 1958 permit conditions, with the concurrence of the Cachuma Conservation Release Board. These modifications resulted in establishing the Above and Below Narrows Accounts, and the credit water in these accounts is stored in Cachuma Reservoir. The credit water is released for the benefit of downstream water users for the area above the Lompoc Narrows and the Lompoc Plain. The SWRCB adopted these concepts in WR Order 73-37 in 1973. It again retained jurisdiction for 15 years.

Prior to 1989, negotiations between the parties led to agreement on stipulated modifications to WR 73-37. Experience indicated that adjustments were needed because the Lompoc Valley was not receiving the recharge water to which it was entitled. These modifications were adopted by the SWRCB in WR 89-18 in 1989. The Board extended its jurisdiction for another 5 years (1994), which was subsequently extended to 2000.

An SWRCB hearing in 2000 was adjourned and reconvened in 2003. In 2002, the Santa Ynez River Water Conservation District and other downstream interests settled many long outstanding issues with the South Coast interests in the Cachuma Project Settlement Agreement. Although operative for the most part, portions of that Agreement, which are under the jurisdiction of the SWRCB, are pending a Decision of the Board.

Lower Santa Ynez River Fish Management Plan and the Cachuma Project Biological Opinion

During the Cachuma Project authorization process before Congress in the 1940s, the U.S. Fish and Wildlife Service and others suggested that instream flow should be considered for fish and wildlife needs; however, the Division of Water Resources recommended to the Secretary of the Interior that no water from Lake Cachuma be dedicated to the protection of fish because of the limited water supply available to provide for present and future needs of people. The U.S. Congress relied on this recommendation in its funding appropriation; Reclamation and the Member Units relied on it in the construction of the Cachuma Project; and the SWRCB relied on it to issue the Cachuma Project water rights permits. The permits eventually were challenged by fisheries interests, and in 1990, the SWRCB held hearings on fisheries and other issues relating to the Santa Ynez River system.

As a result of the 1990 hearings, beginning in 1993, Reclamation and the Member Units formed a working group seeking consensus on fisheries issues and began to make water

releases from Lake Cachuma to maintain fish habitat and to carry out various studies downstream of Bradbury Dam. The releases were made mandatory by the SWRCB in 1994. Additional studies led to the development of the Cachuma Project Biological Opinion issued by the National Marine Fisheries Service and the Lower Santa Ynez River Fish Management Plan issued by the Santa Ynez River Technical Advisory Committee (to comply with SWRCB Order WR 94-5) in 2000. These two documents contain essentially the same operations, which include enhanced habitat flows, passage flows, and various other actions to benefit the steelhead fishery.

Cachuma Project Settlement Agreement

The 2002 “Cachuma Project Settlement Agreement” resolves various differences between the South Coast Member Units and downstream interests pertaining to the operation of the Cachuma Project that existed for over 50 years. It provides the vehicle to manage Cachuma releases conjunctively downstream of the dam. The background and provisions of the Cachuma Project Settlement Agreement are summarized below.

- The parties support WR 89-18 and agree that releases pursuant to WR 89-18, as modified by the Agreement, will protect downstream water rights holders and will improve quality of water released for downstream uses. The parties agree to mutually support the National Marine Fisheries Service Biological Opinion and the Fish Management Plan for the Cachuma Project to address public trust (steelhead) issues. The parties further agree that WR 89-18 releases will operate conjunctively with fish water releases required to meet target flows in the Biological Opinion.
- In order to lower the salt (total dissolved solids) content of water rights releases for the lower Santa Ynez River downstream of Bradbury Dam, the parties agree to comingle State Water Project water with water from Cachuma in the outlet works of Bradbury Dam by maximizing deliveries of State Water Project water (consistent with the Biological Opinion) when water rights releases are made.
- Santa Ynez River flooding issues are addressed in the Agreement through winter storm operations of Bradbury Dam, including precautionary drawdowns and temporary surcharging, in order to reduce peak flows and provide some measure of flood control. Project water supply is protected by achieving a full reservoir following the peak flow events.
- The parties have requested the SWRCB to incorporate into WR 89-18 a provision involving conjunctive operation of the Below Narrows Account (water stored in Lake Cachuma) with the Lompoc Groundwater Basin. More water would be available for the Lompoc (Below Narrows) area in most years, although some Below Narrows Account water stored in Cachuma Reservoir would be made available to Cachuma contractors during shortage years.

Most of the provisions of the Cachuma Project Settlement Agreement were implemented in 2002. Some others are pending before the SWRCB. Approval of the remaining provisions and full implementation of the Agreement would provide the basis for further water management planning by individual water purveyors downstream of the dams in accordance with the objectives, water management strategies, and regional priorities in the IRWMP.

Wright Suit Settlement

The 1989 Wright Suit Settlement served to adjudicate the water resources of Goleta North/Central Basin and assigned quantities of the basin's safe yield to various parties, including the Goleta Water District and the La Cumbre Mutual Water Company. The judgment also ordered the Goleta Water District to bring the North/Central Basin into a state of hydrologic balance by 1998. The district has achieved compliance with this order through the importation of State Water Project water and the development of other supplemental supplies. These supplemental supplies have offset the court mandated reduction in pumpage from the basin. Given that the basin has been adjudicated and pumpage is controlled by the Court, overdraft is not foreseeable in the North/Central Basin.

3.1.2 Santa Maria Valley

Santa Maria Project

Prior to the construction of Twitchell Reservoir, large portions of the Santa Maria Valley were subject to periodic flooding. In an effort to provide relief from flooding disasters, the Santa Maria Valley Water Conservation District, the Santa Barbara County Water Agency, and Reclamation evaluated a number of potential dam sites on the Santa Maria River in the 1940s and 1950s. In the late 1950s, Reclamation constructed the Twitchell Dam as part of the Santa Maria Project. The dam was intended to provide water for beneficial uses within the District that otherwise would rely on the groundwater supplies underlying the Santa Maria Valley, as well as to protect urbanized and agricultural areas from flood damage. The project provides recharge to the groundwater basin underlying the Santa Maria Valley and provides for flood protection. Twitchell Reservoir is operated and maintained by the Santa Maria Valley Water Conservation District. 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 annually.

Santa Maria Groundwater Adjudication

In 1997, the Santa Maria Valley Water Conservation District filed a lawsuit to adjudicate water rights in the Santa Maria Valley Groundwater Basin (*Santa Maria Valley Water Conservation District vs. City of Santa Maria, et al.*, commonly known as the "Santa Maria Groundwater Adjudication." The court divided the trial of the case into phases. In January 2001, the Court issued the Phase 1 Order, which established the Outermost Boundaries of the Basin. In December 2001, the Court issued the Phase 2 Order, which established the area constituting the Basin for purposes of the adjudication. In May 2004, the Court issued a Partial Statement of Decision on Phase 3 issue regarding the hydrologic conditions in the Basin. As part of its Phase 3 Partial Statement of Decision, the court reserved jurisdiction over remaining water rights issues and management of the Basin.

Subsequent to the Phase 3 trial, the majority of the parties to the lawsuit, including the original plaintiff, the Santa Maria Valley Water Conservation District, negotiated a Settlement Agreement ("Stipulation") that set forth terms and conditions for a physical solution concerning the overall management of Basin water resources, including rights to use groundwater, State Water Project water and associated return flows, the developed groundwater yield resulting from the operation of Twitchell and Lopez reservoirs (located

in San Luis Obispo County), use of Basin storage space, and the ongoing monitoring and management of these resources, consistent with common law water rights priorities and Article X, Section 2 of the California Constitution. The majority of the parties actively participating in the litigation have signed the stipulation.

The Stipulation also subdivides the Basin into three Management Areas: the Northern Cities Management Area, Nipomo Mesa Management Area, and the Santa Maria Valley Management Area. The delineation of these areas was based on historical development and use of Basin water resources, as further delineated in the Stipulation and the court record. As noted above, the Stipulation provides the City of Santa Maria certain rights to water in the Basin. These rights include: a recognition of the City's highest historical use of groundwater from the Basin; the right to recapture a preset portion of the return flows from the City's use of State Water Project in the Basin; and a 14,300 AFY share of the developed groundwater yield resulting from Twitchell Reservoir operations. In addition, the City may access additional supplies through the transfer of Twitchell Yield. Also, return flows from State Water Project water are assignable in whole or part, subject to accounting. The Stipulation also establishes certain preset water shortage response measures in anticipation of reduced availability of groundwater.

Although the court has approved the Stipulation as between those who have signed it, not all parties to the adjudication have agreed to it. Phase 4 proceeded to trial in early 2006 as between the public water suppliers, including the City, and a small number of landowners who opposed the Stipulation. The Phase 4 tentative decision issued by the Court stated that the City and Golden State Water Company met the burden of showing a prescriptive right during various time periods prior to the time the Twitchell Project began recharging the Basin. Phase 5 occurred in July of 2006. The scope of the Phase 5 trial was to allow the remaining landowners to show that they had engaged in self-help during the applicable prescriptive periods and to determine whether, and in what form, the Court should impose a physical solution on the parties' collective future use of the Basin. The Phase 5 tentative decision reaffirms the prescriptive rights obtained by the City and Golden State Water Company, states that those rights are correlative to the rights of the overlying landowners, and provides that the City and Golden State Water Company are entitled to those specific quantities of water in the Basin, the same as any overlying landowner, so long as there is a surplus of water in the Basin. The tentative decision also states that the physical solution contained in the Stipulation will be incorporated into the Court's final judgment and will be binding on all parties to the litigation. Further, the Phase 5 tentative decision provides that the Court will retain jurisdiction to enforce the judgment and to implement the physical solution as necessary. The Phase 5 tentative decision further confirms the ability of the Santa Maria Valley Water Conservation District to allocate Twitchell Yield in the manner provided in the Stipulation. The Court will hold a hearing on the Phases 4 and 5 tentative decisions in January 2007. It is anticipated that a final judgment and physical solution will be entered in early 2007.

The Santa Maria Groundwater Adjudication will determine the manner by which Twitchell Reservoir and the groundwater basin are managed; any projects included in the IRWMP that could affect the Santa Maria Valley Groundwater Basin or Twitchell Reservoir will need to be consistent with the terms of the adjudication.

3.1.3 State Water Project

The increasing population of Santa Barbara (mainly in the county's South Coast), as well as problems associated with rapid siltation of reservoirs, which led to diminished storage capacities, required the development of additional water supplies, including State Water Project water. In 1963, the Santa Barbara County Flood Control and Water Conservation District contracted with the State of California Department of Water Resources (DWR) to deliver State Water Project water to Santa Barbara County. At that time, the County began payments to DWR to retain a share of the State Water Project yield ("Table A Amount"¹) for 57,700 AFY, but funds were not allocated to construct the necessary local facilities to deliver water within the county. In 1981, the original contract was amended to reduce the County's State Water Table A Amount to 45,486 AFY. In 1994, this amount was further modified by the project participants of the Central Coast Water Authority to include 39,078 AFY of Table A Amount; 3,908 AFY of drought buffer; and 2,500 AFY of a special drought buffer for the Goleta Water District.

In 1991, after 4 years of extremely dry conditions, voters in several service areas in Santa Barbara County voted to import State Water Project water. This included the communities of Carpinteria, Summerland, Montecito, Santa Barbara, Hope Ranch, Goleta, Buellton, Solvang, Santa Ynez, Orcutt, and Guadalupe. The Santa Maria City Council and Vandenberg Air Force Base also decided to participate in the State Water Project. The communities of Lompoc, Vandenberg Village, and Mission Hills voted not to participate in the State Water Project. Beginning in 1997, the Central Coast Water Authority began to deliver State Water Project water to Lake Cachuma, where it is mixed with Cachuma Project water and delivered through Tecolote Tunnel to the contractors on the South Coast. South Coast Member Units also receive Cachuma water that was exchanged for State Water Project water with Santa Ynez River Water Conservation District Improvement District No. 1. The Santa Ynez Pipeline, which delivered water to Improvement District No. 1 from Lake Cachuma, was owned by the District until 1996, when it was sold to the Central Coast Water Authority in anticipation of State Water Project deliveries.

3.2 History of Wastewater Management

Efforts to manage wastewater within the county have been underway for more than a century. This section describes the history of the larger wastewater providers in order to give an overview of how systems have evolved over time in responding to population growth and regulatory requirements.

¹ "Table A" is a term used in SWP Water Supply Contracts. The "Table A Amount" is the annual maximum amount of water to which an SWP Contractor has a contract right to request delivery, and is specified in Table A of each Contractor's Water Supply Contract. (Prior to the Settlement Agreement arising out of a legal challenge to the Monterey Amendment to the State Water Project contracts, the Table A Amount was referred to as "entitlement.") The amount of water actually available for delivery in any year may be an amount less than the Contractor's Table A Amount due to a number of factors, including hydrologic conditions.

3.2.1 South Coast

City of Santa Barbara

The City of Santa Barbara's first sewers were installed in the 1870s. In 1925, the City constructed a "screening plant" and ocean discharge outfall. The City's growing population and increasing environmental awareness led to the construction of the first treatment plant in 1951. The El Estero Treatment Plant as it exists today was built to comply with the 1972 Federal Water Pollution Control Act. The City continues to update and upgrade the treatment facility each year. Investment in the treatment plant ensures it remains a state-of-the-art, modern facility.

Carpinteria Sanitary District

The Carpinteria Sanitary District was formed in 1928. During the 1930s and 1940s, wastewater was collected and discharged to the ocean without the benefit of treatment. It was during this period that the bulk of the sewer system serving the downtown area was constructed. The District's first wastewater treatment plant, designed to treat 500,000 gallons per day (gpd), was completed and put into operation in 1951. Treated effluent was discharged directly into the Pacific Ocean via an 18-inch outfall pipe that ran along the eastern bank of Carpinteria Creek. As the community grew, so did the sewer collection system and the treatment plant. In 1961, the treatment plant was expanded and upgraded to a capacity of 2.0 million gallons per day (mgd) which included a new, longer outfall pipe, primary clarification, trickling filters, final clarification, and anaerobic sludge digestion. This facility served the community for over 30 years. In 1993, the District completed another major upgrade to its wastewater treatment plant that involved replacement of the majority of the process infrastructure. The current treatment plant includes preliminary screening and grit removal, primary clarification, extended aeration biological treatment, final clarification, chemical disinfection, aerobic digestion, and odor control systems.

Goleta Sanitary District

The Goleta Sanitary District was formed in 1942 to serve the rural agricultural area called Goleta. Only 1,500 people lived within the District. In those years, sewage wastes were disposed of through individual cesspools and septic tanks. With the ending of World War II, the fledgling District applied to the Navy Department to connect its sewer lines to the Marine Air Base, located on the site of today's Municipal Airport. Plans were drawn to build a sewer system and treatment plant. In 1988, Goleta Sanitary District enlarged and improved its treatment system to meet the discharge requirements of a 301(h) National Pollutant Discharge Elimination System (NPDES) permit, whereby primary and secondary effluent is blended, disinfected, and discharged into the Pacific Ocean. The Goleta Sanitary District owns and operates the treatment facility and serves under contract four public agencies: Goleta West Sanitary District, City of Santa Barbara Municipal Airport, University of California at Santa Barbara (UCSB), and certain facilities of Santa Barbara County. In 1991, in cooperation with the Goleta Water District, a water reclamation facility was constructed. The reclaimed water produced at the sanitary district is distributed throughout the community and used as landscape irrigation. The Goleta Sanitary District is required to upgrade its treatment facilities to achieve full secondary effluent treatment by 2014.

Goleta West Sanitary District

The Goleta West Sanitary District was formed as the Isla Vista Sanitary District in 1954 to serve the needs of the growing area of Isla Vista. The organization established a five member Board of Directors and hired a General Manager. The District changed its name to Goleta West Sanitary District in January 1990 to reflect the areawide aspects of the District's service area. In the late 1950s, over 5 miles of sewer lines were installed in the Isla Vista area using assessment bonds. The balance of the system, force main, pump station, and trunk sewers, was financed by issuing general obligation bonds. Through a joint use agreement the District connected to the Goleta Sanitary District treatment plant for treatment and disposal. The District owned only 5 percent of the plant capacity in the 1950s, but has expanded its ownership to over 40 percent to meet District needs.

3.2.2 North County

City of Santa Maria

The City of Santa Maria has treated and disposed of wastewater at the present site off of Black Road since 1910. The original facilities were expanded in several phases beginning in the mid-1930s through 1962. The 1962 expansion resulted in a capacity to handle 5 mgd of wastewater. During peak months of 1975, flows to the treatment plant reached its capacity of 5 mgd. An expansion to treat present and future flow was needed. Also, much of the original plant was 40 years old and had reached its useful life. The City completed a study in 1977 evaluating alternative means of increasing wastewater treatment and disposal capacity. The recommended plan consisted of expanding the existing plant with similar types of processes and equipment. Many of the existing structures were to be rehabilitated and incorporated into the treatment scheme to reduce construction costs. The treated effluent was to be applied to percolation ponds and irrigated pasture. This land application achieves additional treatment at a low cost. Construction of the recommended expansion began early in 1980 and was completed by mid-1982.

Laguna County Sanitation District

Laguna County Sanitation District was formed by the Santa Barbara County Board of Supervisors on December 29, 1958, pursuant to the provision of the County Sanitation District Act (Health & Safety Code Section 5700 et seq.). At that time Lompoc and Santa Maria were experiencing tremendous growth as a result of activities at Camp Cook (renamed Vandenberg Air Force Base in 1958). Housing development occurred in the areas south of the Santa Maria Public Airport District. Septic systems were proposed initially, but the soil was found to be incompatible. The original plant had a capacity of 1.6 mgd. Effluent was recycled for use in growing sugar beets that were processed at the Union Sugar (later Holly Sugar) processing plant constructed in 1898. The district absorbed the Orcutt Sanitary District (formed in 1926) in 1961, as well as two county collection system districts in 1975. The wastewater treatment plant capacity was increased to 2.4 mgd in 1975, to 3.2 mgd in 1987, and to 3.7 mgd in 2003. The most recent upgrade modified the plant to Class IV due to full tertiary treatment using membranes including reverse osmosis for the portion of flow containing high salt levels from water softener discharge.

Santa Ynez Community Services District

The Santa Ynez Community Services District provides wastewater collection for urban uses in the Santa Ynez Township and was formed in 1971. The District owns 0.29 mgd capacity in the City of Solvang 1.5-mgd wastewater treatment plant, and the main trunk line carries an average of 175,000 gpd to Solvang's treatment plant.

The Chumash Indians have a contract for 88,000 gpd of the District's capacity and constructed a wastewater treatment plant with a capacity of 200,000 gpd that was brought online in May 2004. This plant serves the Chumash Casino, hotel, administration buildings, and approximately 350 residents on the reservation. Treatment includes head works, extended aeration, filtration, and ultraviolet disinfection prior to discharge to Zanja de Cota Creek. The discharge meets California Title 22, tertiary 2.2 standards. Some of this tertiary water is being utilized in the irrigation throughout the reservation and for water to flush the toilets. The Santa Ynez Community Services District is under contract to maintain the Chumash wastewater plant and collection system.

Los Alamos Community Services District

The Los Alamos Community Services District was formed on October 29, 1956. Phase I of the Los Alamos Wastewater Collection and Treatment Plant was built in 1988, and Phase II was completed in 1994, increasing the capacity of the treatment facilities to allow a maximum discharge of 176,000 gpd, averaged over each month. In 2005, the Central Coast RWQCB established new waste discharge requirements for the Phase III expansion, allowing the District to discharge a maximum of 225,000 gpd, averaged over each month and to allow for build out of the town as defined in the Community Plan. Phase III was completed in 2006.

City of Lompoc

The City of Lompoc owns the Lompoc Regional Wastewater Treatment Plant. In 1974, the City of Lompoc entered into long-term agreements with Vandenberg Air Force Base and Park Water Company (a private water company that served Vandenberg Village) to construct the Lompoc Regional Wastewater Reclamation Plant. This plant, built in 1975 to 1977, utilizes secondary treatment technology and is the City of Lompoc's fourth plant in its 87-year commitment to protect the environment. The plant has a design capacity of just over 5 mgd and an instantaneous wet weather flow of 16 mgd. The City of Lompoc, Vandenberg Village Community Services District, and Vandenberg Air Force Base contribute flows to the plant. Vandenberg Village Community Services District has contractual rights to 0.89 mgd of the plant capacity. Vandenberg Air Force Base is a contract customer for wastewater treatment. The base's contract is not to exceed an average of 1.3 mgd during the dry weather flow and not to exceed 3.4 mgd for the wet-weather flow. The treatment process incorporates systems to reduce oxygen-demanding organics by at least 85 percent. This keeps the water discharged to the Santa Ynez River from creating a nuisance. Ammonia (nitrogen), which is toxic to fish, is converted to nontoxic nitrate (nitrification). Methane gas is a by-product of the natural digestion of wastewater solids; this gas is burned in internal combustion engines to provide the energy for nitrification and biosolids stabilization. Anaerobically digested, stabilized biosolids are utilized as a soil amendment. Each year, 1.5 billion gallons of water and 1,000 dry weight tons of biosolids are made safe

for return to the environment. The plant will be upgraded in 2007 through 2010 to improve reliability, meet more stringent discharge requirements, and increase treatment level from secondary to tertiary.

Mission Hills Community Services District

Mission Hills Community Services District was formed in 1979 and provides water and wastewater services through 1,200 service connections to the community of Mission Hills. The District operates a primary wastewater treatment plant.

Vandenberg Village Community Services District

Vandenberg Village Community Services District was established in 1983 and provides water and wastewater services through 2,400 service connections to the community of Vandenberg Village. The District acquired wastewater infrastructure and a 17.8 percent capacity right in the Lompoc Regional Wastewater Reclamation Plant from Park Water Company.

3.3 History of Integrated Regional Water Resource Management

Countywide integrated water resource planning has occurred over the past several decades through interagency planning, development of shared water supplies, joint management of resources and operational systems for multiple purposes, and interagency adaptive management responses to changing circumstances.

3.3.1 Interagency Planning and Integrated Water Supply Development

Significant water resources projects have been developed within the Santa Barbara County region. Each new project in the last half century has been characterized by close cooperation among the communities in need and their local agencies. These projects include:

- Cachuma Project (five Cachuma Member Units, Cachuma Operation and Maintenance Board, Cachuma Conservation Release Board, Reclamation, and the Santa Barbara County Water Agency)
- Twitchell Project (Reclamation, Santa Maria Valley Water Conservation District, and Santa Barbara County Water Agency)
- State Water Project (12 local agencies, four private parties, Santa Barbara County Flood Control District, Central Coast Water Authority, and DWR)
- Goleta Valley water recycling project (Goleta Water District and Goleta Sanitary District)
- City of Santa Barbara desalination project (City of Santa Barbara, Goleta Water District, Montecito Water District)
- Interconnections between South County water districts (Goleta Water District, City of Santa Barbara, Montecito Water District, Carpinteria Valley Water District)

- Interconnections between Central County water districts (City of Solvang, Santa Ynez River Water Conservation District Improvement District No. 1)
- Interconnections between North County water districts (City of Santa Maria, Golden State Water Company)

In each case, local agencies evaluated their service area needs, identified opportunities for addressing those needs and, with community support and cross-agency integration and coordination, successfully implemented the above projects.

3.3.2 Integrated Management of Resources and Operational Systems

Several noteworthy examples of integrated management of water resources and operational systems exist in Santa Barbara County. The delivery of Cachuma water to the South Coast area is provided through close cooperation with Reclamation and an interagency agreement that established the Cachuma Operation and Maintenance Board, which operates a key distribution system. The South Coast Conduit's functionality and flexibility are essential to meeting both the day-to-day needs and future demand of the South Coast. The nature and operation of the South Coast Conduit allows the South Coast Cachuma Member Units to integrate their various sources of water allowing conjunctive use of several groundwater basins and water exchanges among water users along its length. The South Coast Conduit is also integrated with water treatment plant operations at the City of Santa Barbara Cater Water Treatment Plant, which provides treated water to the city, the Montecito Water District, the Carpinteria Valley Water District, and the Goleta Water District Corona Del Mar Water Treatment Plant, which provides treated water to the Goleta Valley. A series of integrated projects to protect the South Coast Conduit's integrity and increase its utility, reliability, and flexibility are an important part of this IRWMP.

The City of Santa Barbara and public agencies with interest in the operation of Gibraltar Dam have cooperated to establish the "Upper Santa Ynez River Operations Agreement." The members of the Cachuma Conservation Release Board, the Santa Ynez River Water Conservation District Improvement District No. 1, the Santa Ynez River Water Conservation District, and the City of Lompoc established the "Cachuma Project Settlement Agreement." These documents establish cooperative operation of two of the three reservoirs on the Santa Ynez River to account for:

- Loss of capacity due to siltation (Gibraltar Reservoir)
- Downstream releases consistent with the Gin Chow Judgment (Gibraltar)
- Reservoir operations to moderate peak storm flows (Cachuma)
- Reservoir releases for downstream water rights under SWRCB orders (Cachuma)
- Reservoir releases for downstream steelhead in accordance with the Cachuma Project Biological Opinion
- Conjunctive use of water rights releases and releases for the steelhead fishery
- Downstream water quality improvement based on mixing State Water Project water with Cachuma water at Bradbury Dam

- Conjunctive use of Below Narrows Account water in Cachuma Reservoir with the Lompoc Plain groundwater basin (pending approval to modified WR 89-18 by the SWRCB)

These agreements establish a high degree of integration of facilities planning and Cachuma Project operations affecting the Santa Ynez River, and minimize legal processes that could otherwise frustrate effective regional water management.

The Santa Ynez River/State Water Exchange Agreement was executed in 1993 between Santa Ynez River Water Conservation District Improvement District No. 1, Central Coast Water Authority, Carpinteria Valley Water District, Goleta Water District, La Cumbre Mutual Water Company, Montecito Water District, Summerland County Water District (merged with Montecito Water District in 1995), and the City of Santa Barbara for the purpose of the long-term exchange of all or a portion of Cachuma Project water available to Improvement District No. 1 for an equal amount of State Water Project water available to the South Coast Cachuma Project/ State Water Project contractors. Through this mechanism, Improvement District No. 1 avoids construction, operation, and maintenance of a water treatment facility, and the South Coast Cachuma Project/ State Water Project contractors avoid certain costs of pumping and retreating the State Water Project water and construction of a separate pipeline to Cachuma through the Central Coast Water Authority's acquisition of the Santa Ynez pipeline.

The Coastal Branch of the State Water Project is operated by the Central Coast Water Authority on behalf of 12 public agencies, the U.S. Air Force, three private interests, and San Luis Obispo County. This project and its operation integrate treated water supply operations along its 110-mile length, delivering water to 23 separate entities. In addition to its direct delivery function, the Coastal Branch is the vehicle for intra- and interregional water exchanges and sales. This integration of supply and delivery capacity is an essential part of meeting the region's long-term supply needs and allowing effective response in emergency circumstances, including prolonged drought. The Coastal Branch is also integrated with the Cachuma Project and relies upon Cachuma Project facilities, such as the South Coast Conduit, Tecolote Tunnel, and Lake Cachuma, for deliveries to the South Coast. The coordinated use of these facilities eliminated the need to construct a costly separate delivery system for State Water Project water.

3.3.3 Integrated Management of Emergency Operations

Agencies preparing Urban Water Management Plans (UWMPs) include a section describing a "Water Shortage Contingency Plan" with elements such as water shortage emergency response, supplemental water supplies, long-term additional water supply options and irrigation and/or urban water shortage policies.

Emergency Response Plans include provisions for interruptions to water and wastewater services.

3.3.4 Interagency Adaptive Management Response to Changing Circumstances

Water related projects now incorporate an adaptive management approach. Southern California steelhead management issues were addressed beginning in the early 1990s through an interagency "consensus group" focusing on the Santa Ynez River, which

resulted in a comprehensive Fish Management Plan for the lower river and a federal Biological Opinion for Cachuma operations. Fisheries management is addressed in the Santa Barbara, San Luis Obispo, and Ventura counties region through the “Tri-Counties Funding for Improved Salmonid Habitat (FISH) Team.” Despite explicit Congressional acknowledgement of the loss of fish resources when Congress approved the Cachuma Project in the mid-20th century, local water agencies understood the need to address protection of public trust resources and changing community values in a proactive, constructive manner decades later.

Storm water and other nonpoint source pollution issues continue to be addressed through a regional “interagency committee” begun several years before the adoption of the state’s Phase II regulations. Communities throughout the region developed a template for addressing the state’s “General Permit.”

