

MANAGING REGIONAL WATER SUPPLIES

Are There Better Solutions?

SUMMARY

The 2016-17 Santa Barbara County Grand Jury (Jury) conducted an investigation into the serious problem of drought within the County. Historically, Santa Barbara County has been a drought-prone area of California. Although there was considerably above average rainfall this winter, Lake Cachuma is still only 51 percent full, which can seduce many into thinking that the drought is over.

The State Water Project was intended initially to provide a supplemental supply of water. The U.S. Bureau of Reclamation (USBR), part of the Department of the Interior, owns the dam and reservoir at Lake Cachuma (Lake), the heart of the system. The Cachuma Operation and Maintenance Board (COMB), a joint powers agency, was formed to operate the surface water distribution system from the Lake to the coastal communities and the upper Santa Ynez Valley.

While there are many sources of water available in the County, managed by a multiplicity of water purveyors, there is inadequate coordination among them.¹ The Jury advocates the designation of the Santa Barbara County Water Agency as the lead agency in implementing water policy throughout the County.

HISTORICAL BACKGROUND

Santa Barbara has a long history of droughts, building dams to protect against droughts and then growing past that water capacity.

In the early 1800s, when the Spanish missionaries arrived, they needed water for their crops. The seasonal water in the creeks was inadequate so they had the Chumash laborers build a rock dam above the mission. Throughout the 1800s, further growth in the area led to development of shallow wells, documented as initially being ten feet deep. By the end of the century, those wells had failed and the water table had dropped to a level unable to be accessed by digging by hand.

A prolonged drought in the County, which ended in 1864, caused herds of cattle numbering 200,000 to be reduced to 5,000. This decimation forced rancheros to subdivide and sell portions of their land to survive. Goleta was developed into farmland dependent upon individual wells and seasonal rains.

In 1873, Mr. William Stow built a small reservoir damming San Pedro Creek. The dam allowed La Patera ranch to thrive through drought years. The early twentieth century brought the railroad to Santa Barbara, creating a tourist haven and a commensurate population boom.

¹ See Appendix A for Acronym Glossary.

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An article chronicled in *The San Francisco Call*, January 28, 1904 stated “Drouth (sic) Hurts The Cattlemen in Santa Barbara” and called it the “*worst drouth in history*.”

To help stave off the dearth of water, Santa Barbara built a tunnel into the mountain on Cold Spring Canyon creating a “horizontal well.” That well dried up after several years. Additionally, the 3.7 mile-long Mission Tunnel construction was finished in 1911 allowing Santa Barbara to tap into the Santa Ynez River. This solved the water crisis, seasonally; therefore, the population grew again.

In 1920, to solve the water needs of the growing population, Santa Barbara built Gibraltar Dam. The captured water could be released, as needed, into Mission Tunnel to supply the south coast residents.

Throughout the “Roaring Twenties,” the population grew and again exceeded the water supply. The Juncal Dam was built in 1930. This dam captured Sana Ynez River water and formed Jameson Lake. The water was then delivered to Montecito via Doulton Tunnel. This additional source of water solved the crisis once again.

Post World War II, another boom in population and building began. Unfortunately, the late 40s also came with another *worst drought in history*. This drought motivated Santa Barbara to raise the height of Gibraltar Dam by 13 feet to increase capacity. The drought also gave rise to divisive election issues regarding the building of the U.S. Government-run and funded Bradbury Dam/Cachuma Lake project. The measure to build the dam narrowly passed. Bradbury Dam was completed in 1953 and the seven mile-long Tecolote Tunnel was finished in 1956. Once again the growing population’s water crisis was solved.

With new water storage capacity at Lake Cachuma, a large influx of industry, and the move of the University of California, Santa Barbara (UCSB) to Goleta, led to yet another building boom. Thousands of new tract homes were built to support UCSB and the industrial work force.

Droughts in the 1970s and 1980s led to a water meter moratorium which was eventually repealed in cases where people converted agricultural meters into smaller-use, domestic meters.

The next *worst drought ever* started in the mid-1980s and ended in March of 1991. This generated the search for additional water, which led to the State Water Project, building moratoriums and water conservation measures. By 1996, after several very wet years, development resumed in Goleta and conservation measures faded.

The next *worst drought ever* began in 2011, which was the last time Lake Cachuma spilled. By 2015, the lake was at historic lows and Santa Barbara actually began receiving State Water. This time, unlike past *worst droughts ever*, Goleta and Santa Barbara began issuing thousands of new water meters allowing large building projects during *the worst drought ever*².

² Jack Elliott's Santa Barbara Adventure. (2013, October 1) “Deluge and Drought In Santa Barbara County” Retrieved from, <https://yankeebareno.com/2013/10/01/deluge-and-drought-in-santa-barbara-county/>
Goleta History. (2017, February 16) “Goleta and Water” Retrieved from <http://goletahistory.com/goleta-and-water/>

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METHODOLOGY

In order to obtain the data in this report, the Jury interviewed key personnel from COMB, the County, six local water agencies and UCSB. In addition, the Jury studied available documentation, including the Local Urban Management Plans for those agencies that have filed them, and the 2015-16 Santa Barbara County Grand Jury Report, “Lake Cachuma – Protecting a Valuable Resource: You Can’t Drink Paper Water.” The Local Urban Management Plan³, prepared by the Central Coast Water Authority (see Appendix B) was particularly helpful. As a result, the Jury borrowed text from this document in several instances. Finally, the Jury studied the 2013 Integrated Regional Water Management Plan prepared by the “Cooperating Partners,” which was required by Proposition 50.

OBSERVATIONS

This report considers three topics:

- The adequacy and reliability of the present water delivery systems
- What steps can be taken to provide additional sources of supply
- Is there a better way to manage a regional supply system

The adequacy and reliability of the present water delivery system

The State Water Project (SWP) includes 34 storage facilities and over 700 miles of canals and pipelines. Water is delivered through this system from Northern California to Southern California, providing water for over 25 million Californians. In 1991, Santa Barbara voters approved a local extension of the SWP known as the “Coastal Branch,” (shown in red, to the west of Cachuma Lake in Figure 1) which serves Santa Barbara and San Luis Obispo Counties. The south coast water storage and distribution system is summarized in Figure 1.

³ 2015 Local Urban Water Management Plan, (2016, June) Central Coast Water Authority

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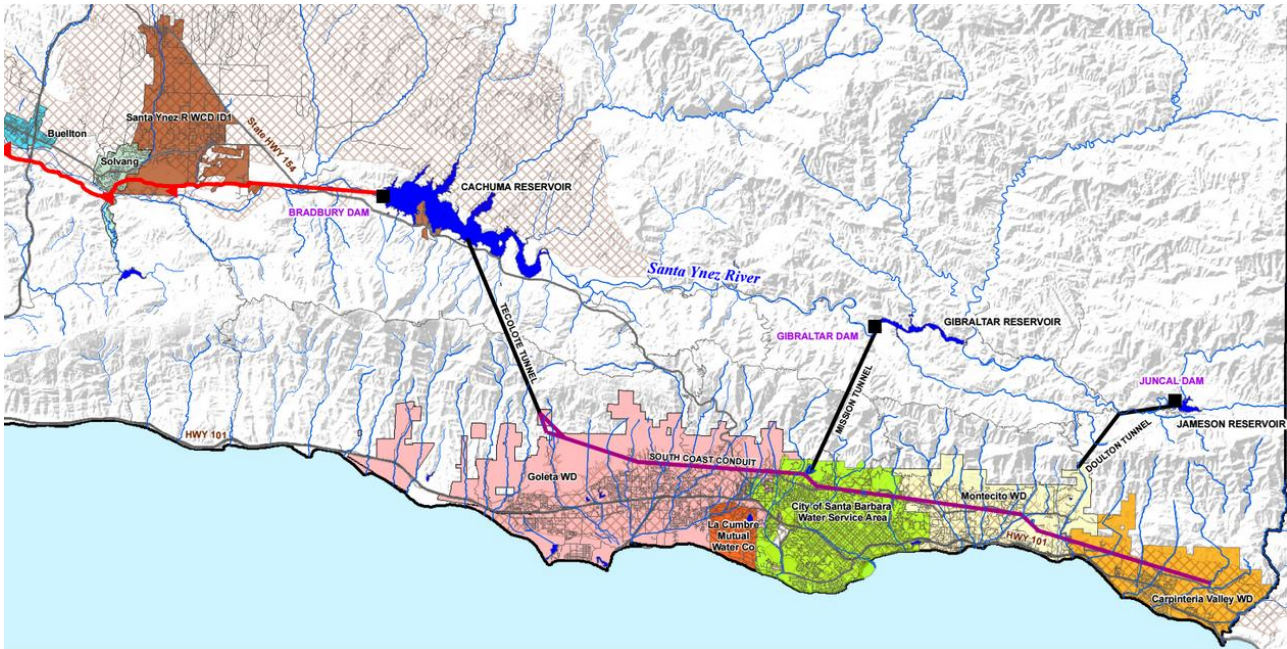


Figure 1 – South Coast Water Supply System

The south coast water supply is always threatened by prolonged droughts and is further threatened by the fragile infrastructure. The system is subject to single-point failures at several locations. The most critical of these is the Tecolote Tunnel, which connects Lake Cachuma and the South Coast Conduit. Over 40 percent of Goleta’s water supply passes through this tunnel, which also provides water to Santa Barbara, Montecito and Carpinteria. None of the water purveyors have capital replacement funds set aside or budgeted. The generally accepted assumption is that if a catastrophic failure should occur, funding from the Federal Emergency Management Agency (FEMA) or some other Federal agency would magically appear.

What steps can be taken to provide additional sources of supply?

Four possibilities are discussed:

- Increased use of desalination
- Recycled water treatment
- Improved Cachuma flow and storage management
- Implement Resource Management Strategies

Increased Use of Desalination

Desalination represents a significant potential opportunity to increase California’s available water supply. In May 2015, the State Water Resources Control Board approved an amendment to the State Water Quality Control Plan for Ocean Waters (Ocean Plan) that addresses desalination facilities. The intent of the amendment is to establish a uniform statewide approach for protecting the beneficial uses of ocean water from desalination-caused degradation.

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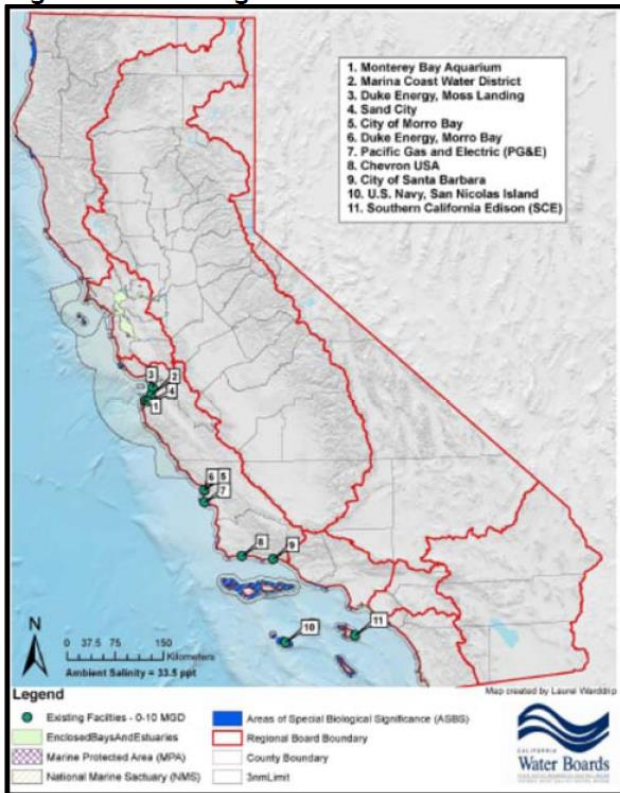


Figure 2 - Existing Desalination Facilities



Figure 3 - Proposed Desalination Facilities

Figure 2 shows the 11 existing desalination facilities in the final Ocean Plan staff report, issued in late 2014, and Figure 3 shows the 15 proposed desalination facilities on the California coast. Three of the existing desalination plants are located in San Luis Obispo County (SLO): City of Morro Bay, Diablo Canyon Nuclear Power Plant and Duke Energy in Morro Bay. Two of the existing plants are located in Santa Barbara County: Chevron near Gaviota, currently not operating; and the City of Santa Barbara.

Of these, the existing PG&E-owned Nuclear Power Plant in Diablo Canyon, Avila Beach and the Santa Barbara-owned desalination facility appear to offer the greatest potential for expansion. The Diablo Canyon facility is in the process of being decommissioned. A portion of the present infrastructure could be reusable as part of a desalination facility. Even so, this would be a major project. It would require approx. 7-8 miles of new pipe to join the existing State Water pipeline.

There are only two proposed projects located in San Luis Obispo County (Oceano and Cambria). With the exception of the City of Santa Barbara's system, all of the existing and proposed desalination facilities in Santa Barbara and San Luis Obispo Counties would produce less than 1,095 Acre Feet (AF) per year. The City of Santa Barbara system is planning to produce 3,125 AF per year but is permitted for larger production. The average household uses 0.5 AF per year.

On the governmental side, a regional water authority would have to be established (jointly with SLO County) for operation and maintenance of these facilities. Existing and proposed desalination plants are discussed in greater detail in Appendix C.

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Recycled Water as Source for Santa Barbara Desalination Plant

It is possible that mixing recycled water with seawater before filtering, and utilizing the desalination plant, would be more economical than processing seawater alone, as is done presently. It would also reduce the environmental impacts of fish-kill and localized salinity increase at the point of discharge. This possibility is being considered. Facility modifications would be required.

Recycled water treatment

Goleta Sanitary District is currently delivering 1,000 AF per year to the Goleta Water District (GWD) for recycling. GWD wants to increase that flow to 3,000 AF per year. This would constitute 21 percent of the GWD total water requirements per year; however, the infrastructure is lacking.

Improved Flow and Storage Management

More sophisticated flow and storage management could increase available supply. Better control over when and how much the Cachuma reservoir drafting occurs can improve the efficiency of the storage process. Here are two examples:

1. Well and Aquifer Recharging When Bradbury Dam is spilling, water is available at no charge to participating water districts. Both Goleta and Carpinteria are heavily dependent upon wells. Goleta derives about 48 percent of its supply from wells, and Carpinteria 71 percent. The City of Santa Barbara has diverse supply sources, of which well water is about 24 percent ⁴.

Increasing Cachuma drafting (drawing down) *while it is spilling*, and injecting the water into aquifers through the wells, would increase the volume stored there and reduce the probability of seawater intrusion in future dry years.

There are, of course, issues associated with reinjection. The most important are:

- Water being injected must be treated to drinkable standards before being reinjected.
- The well must be returned to the extraction mode to flush out mineral deposits (typically once each week for 24 hours) during the reinjection process.
- The reinjection technology is relatively new. Not all wells can accommodate reinjection.
- Water extracted during flushing is non-potable and must be discharged to either the storm drain or the sanitary sewer system.

These are the primary factors which show that potable reinjection is not an easy answer and has different ramifications for each purveyor. This technique is also costly.

The Carpinteria Water District extracts water from five wells, two of which are currently on standby status. All five wells have recharge capability. Carpinteria's potable reinjection permitting process is underway. The permit application and supporting information are completed, but will not be submitted until Bradbury Dam starts to spill. This is because the permit is only valid for 24 months, so it would be counter-productive to be permitted during a time when there is no water to reinject.

⁴ Santa Barbara County Public Works Department, (2014, October 14), "Water Supply." Retrieved from <http://cosb.countyofsb.org/pwd/pwwater.aspx?id=3726>

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Goleta Water District (GWD) owns 11 wells, 9 of which are currently operating. All of these wells have potable reinjection capability. The GWD intends to begin reinjection permitting discussions with the Regional Water Board as provided for under California Water Quality Order # 2012-0010.

The City of Santa Barbara operates eight wells, of which four can accommodate reinjection. The other four were drilled about 20 years ago, when reinjection was not yet a proven technology. Only two wells are currently being operated; the other six were shut down on March 1, 2017 to allow the groundwater basin to recharge. The Jury was informed that the City of Santa Barbara has started the permitting process to allow reinjection when Bradbury Dam spills. Because Santa Barbara receives only about a quarter of its supply from groundwater, they are less enthusiastic than some of the other water agencies about exploiting this potential source.

The Montecito Water District derives only 14 percent of its supply from groundwater and is heavily dependent on Lake Cachuma. If the Tecolote Tunnel were to fail, Montecito would be disproportionately affected in a negative manner. Montecito owns eight wells, four of which produce potable water. None of the Montecito wells are rechargeable.

2. Increase Lake Cachuma Useful Storage Capacity: Storage capacity of Lake Cachuma and all of the other reservoirs along the Santa Ynez River, Gibraltar Reservoir, and Jamison Reservoir, has been steadily diminishing over time due to siltation. The feasibility of removing the silt during periods when water levels are low has been investigated several times. The conclusion was the same each time. The number of trucks required was so large, and the time required would be so long, along with environmental concerns, that this approach is not feasible. This does not mean, however, that nothing can be done to increase the amount of stored water.

Prudent management indicates that Cachuma should be drafted (drawn down) heavily during the year *after* the dam spills. This action would lower the lake level, thereby allowing it to accept more inflow, increasing capacity during wet years for future dry years. There is, of course, a potential downside as well; in the final years of a prolonged drought, such as the County just experienced, available supply from the lake could be reduced.

Nevertheless, it appears that there are significant potential advantages in increasing drafting from Lake Cachuma while it is spilling and during the following year. The Jury learned that all of the water purveyors contacted are aware of this fact and are prepared to take the necessary steps to do so.

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Resource Management Strategies

The Santa Barbara County Integrated Regional Water Management Cooperating Partners (see Appendix D), comprises 35 city and County public works, water delivery and processing agencies, was established to satisfy the mandate of Proposition 50 for a more regionally oriented approach to water management issues. They issued a preliminary Integrated Regional Water Management Plan (*IRWMP*) in 2007, which was updated in 2013⁵.

Following are some examples that were designated as local Resource Management Strategies (RMS) in that plan:

Conjunctive Management and Groundwater Storage

Using and managing groundwater supplies to ensure sustainable groundwater yields while maintaining groundwater-dependent beneficial uses, including coordinating management of groundwater and surface water supplies (conjunctive use).

System reoperation was selected as a RMS by the IRWM Region. The Region is reliant on groundwater as a major source of water supply. The Region selected several groundwater management strategies that collectively will increase the supply of groundwater. For example, the City of Santa Maria uses treated wastewater to help recharge groundwater supplies. Those strategies include: Conjunctive Use and Groundwater Management, Efficiency and Conservation Measures, Groundwater Remediation/Aquifer Remediation, Prevention of Contamination and Salt Water Intrusion, and Recharge Area Protection.

Desalination

Developing potable water supplies through desalination of seawater, including disposal of waste brine.

Desalination was selected as a RMS by the IRWM Region. The City of Santa Barbara owns a desalination facility that was just brought into operation. The relatively high cost of desalination makes the desalination plant the last supply option to be used during drought periods.

Recycled Municipal Water

Recycled Municipal Water was selected as a RMS by the IRWM Region. The Region currently produces 4,177 AF per year⁶ of recycled water and plans on expanding production to 7,035 AF per year by 2035. Recycled water is distributed by Goleta Water District, the City of Santa Barbara, and Laguna County Sanitation District. The City of Lompoc also has a regional Reclamation Plant for treatment and disposal. The use of recycled water has the added benefit of reducing wastewater discharge into the ocean, which is a highly valued outcome in the Region.

⁵ Santa Barbara County Water Resources Division, (2013), "2013 Final IRWM Plan." Retrieved from <http://cosb.countyofsb.org/irwmp/irwmp.aspx?id=42010>

⁶ Average use of water in a Santa Barbara household is 0.5 AF per year.

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The Best Way to Manage a Regional Surface Water Supply System

Day-to-day operation of the Cachuma Project is currently the responsibility of the Cachuma Operation and Maintenance Board (COMB).

COMB is a Joint Powers Agency (JPA). It was formed with five members, identified as Cooperating Member Units (CMU) in Figure 4 found on page 12, consisting of Santa Ynez Improvement District 1 (ID1), Goleta Water District (GWD), Santa Barbara City (SBC) Montecito Water District (MWD) and Carpinteria Valley Water District (CVWD). GWD and SBC are larger than the other three districts. Therefore, GWD and SBC have two votes each and the remaining three districts have one vote for all matters before the COMB Board. Additionally, any project that will cost a million dollars or more requires a unanimous vote by the COMB Board, and ratification by the Boards of Directors of all the CMUs. ID1 unilaterally terminated their relationship with COMB last year after a dispute over finances and management of the Fish Management Plan. Whether the ID1 actually has the authority to do so has not been determined.

COMB is charged with operating and maintaining the infrastructure of surface water delivery from the North Portal, located at Lake Cachuma (where water enters the Tecolote Tunnel); the Tecolote Tunnel, and the South Coast Conduit (SCC), which is a single 26 mile pipe line from the South Portal near Glen Annie in Goleta, to Carpinteria. The SCC supplies water to GWD, SBC, MWD, and CVWD. During good rain years Lake Cachuma provides 80 percent of the water to the four south coast water districts. COMB does not maintain the Bradbury Dam. That function is performed by the United States Bureau of Reclamation, which also owns the Dam.

The COMB Board meets regularly once a month at 2:00 p.m. on the fourth Monday of each month. The meetings are noticed, agendas posted, and open to the public as required by the Brown Act. Unfortunately, because of the meeting time, members of the public that have regular jobs are often unable to attend. The meetings are audio taped and available to the public. However, the recording quality is poor, much detail is lost, and it is difficult to determine who is speaking. It would help the public to understand the unique facets of the COMB's management challenges if the meetings were televised for live broadcast and posted on the COMB website.

The 2015-16 Santa Barbara County Grand Jury wrote a report titled, *Lake Cachuma, Protecting a Valuable Resource*. Recommendation 8 for the member units of COMB was: "That the member units, in conjunction with the Santa Barbara County Water Agency, create consistent policies and procedures that govern conservation efforts especially during times of a severe drought and that these are documented in the subcontracts between the Santa Barbara County Water Agency and the member units."

All member units responded similarly to this recommendation. Basically, the responses all stated that each water district was unique. Their water sources, needs, conservation policies and interests are different. Therefore, they could not be governed by one set of guidelines that applied to all of the member units.

This uniqueness of interests makes the governance of COMB challenging. Smaller projects, less than \$1,000,000, require a simple majority. Larger projects require a unanimous vote. As an example, last year the issue of moving the barge in Lake Cachuma, which pumps water to the North Portal of the Tecolote Tunnel when the Lake water level drops, came to COMB Directors. One member, ID1, who

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was not benefited by the use of the barge, voted against the motion because ID1 was worried that the other CMUs would “steal” its water in the Lake. If not for some last minute legal maneuvers, the barge would not have moved. Without moving the barge, GWD, SBC, MWD, and CVWD would not have received *any* water during the past year from the State Water project.

Water in Lake Cachuma is not just rainwater or fed by the river and upper dam systems. It includes State Water; the Semitropic Water Storage District Groundwater Banking Program, located in Kern County (the Montecito Water District is the only Partner in this Program in Santa Barbara County), or any purchased from California delta rice farmers; and water stored at San Luis Reservoir in Monterey County. All are delivered through the State Water Pipeline. These are water sources for the four south coast water districts which require passage into Lake Cachuma then through the Tecolote Tunnel and to the South Coast Conduit for transport to the respective districts.

Additional water sources are the wells managed by the four south coast purveyors. The well systems used by three of the four CMUs are expected to last about five years before being exhausted if pumping continues at the current flow rate. Recharging wells will also be severely limited, should the Tunnel or the South Coast Conduit fail to function and no Lake water is delivered.

A failure of the Tunnel or the South Coast Conduit would shut down the supply of water from Lake Cachuma. No redundant (parallel) pipeline exists to convey water supplied through the Tecolote Tunnel or the SCC. One should be considered. Any repair of the existing line would not be easily accomplished: “When a section of the pipeline needs to be isolated for emergencies or repair there is no easy fix. In addition, dewatering a section of the Conduit is a lengthy process, greatly reducing its operational flexibility and reliability. Due to the age and material from which it is constructed, the pipe is inherently difficult to repair or modify.”⁷

The need for system redundancy has been studied several times throughout the years. The U.S. Bureau of Reclamation has a suitable easement, running the length of the SCC, which could be utilized for an additional pipeline or expansion of the existing pipe. Eventually a segmented plan was proffered and a second pipeline was initiated when the Modified Upper Reach Reliability Project began: “The purpose of the project is to increase the operational flexibility, reliability, and capacity of the Conduit, between the South Portal of Tecolote Tunnel and Corona Del Mar Water Treatment Plant. The increase in operational flexibility, reliability, and capacity are intended to accommodate peak demand levels and to allow maintenance of the pipeline.”⁸ The project was funded by Proposition 50 (Water Quality Supply and Safe Drinking Water Projects Act), which required a portion of matching funds from the CMUs. This was to be the first leg of a redundant system. However, Carpinteria Valley Water District did not feel the project was to its benefit and refused to contribute any more funds. The project was defunded and truncated prior to completion. The pipe does connect to the aged SCC but only extends part way to the Corona del Mar Treatment plant and accomplishes little of the original desired outcome.

⁷ United States Bureau of Reclamation, (2010, November) “South Coast Conduit Modified Upper Reach Reliability Project.” .” Retrieved from https://www.google.com/search?q=footnote+website&rlz=1C1QJDB_enUS639US650&oq=foo&aqs=chrome.1.69i57j69i59j35i39j0l3.5786j0j8&sourceid=chrome&ie=UTF-8#q=footnote+website+apa.

⁸ *ibid*

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A second pipeline is needed to ensure uninterrupted provision of water to all consumers on the south coast through their various water purveyors.

Are there other management alternatives that should be investigated?

The Central Coast Water Authority (CCWA) was formed to design, construct and operate the facilities needed to bring SWP water to the agencies that contracted to receive that water as a supplemental source. Since the SWP is considered an interruptible supply, all CCWA participants have other sources of water. There are 12 CCWA project participants in Santa Barbara County. They are discussed in Appendix C. The Jury is not aware of any current plans to expand the charter of CCWA to include the management and/or distribution of recycled water or local groundwater.

Since its establishment, the Santa Barbara County Cooperating Partners (Partners) has been very successful in attracting grants from Proposition 50 and Proposition 84 (the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006). Through calendar year 2013, more than \$30 million was obtained. Proposition 84 stipulates that \$52 million must be awarded to the Central Coast Region (which includes Santa Barbara County). The Central Coast Region is also included in Proposition 1-E (The Disaster Preparedness and Flood Protection Bond Act of 2006), which totaled \$800 million statewide. Matching funds of 50 percent are required of project proponents in order to obtain Proposition 1-E funding. The Jury finds that the management structure of the Partners is not suitable to operate as the lead management agency.

The Santa Barbara County Water Agency (SBCWA) has been functioning as the Lead Agency (Program Manager) of the Integrated Regional Water Management Program since its inception. The SBCWA has the technical expertise to set priorities and manage overall water resources, but not the mandate. The County usually acts as the grantee with the State for grant contracts, utilizing sub-grant agreements with Partners which is successful in receiving funding for its nominated projects. The U.S. Bureau of Reclamation has expressed the desire that the new contract in 2020 remain with the County and that the Integrated Water Management Plan designate the SBCWA as “single contracting entity” for this contract.

Figure 4 shows the interrelationships between the various County water purveyors, regulatory agencies, and constituent groups associated with managing the south coast surface water supply.

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Appendix A: State Water Project (SWP) & Santa Ynez River (SYR) Organizational/Surface Water Supply Flow Chart

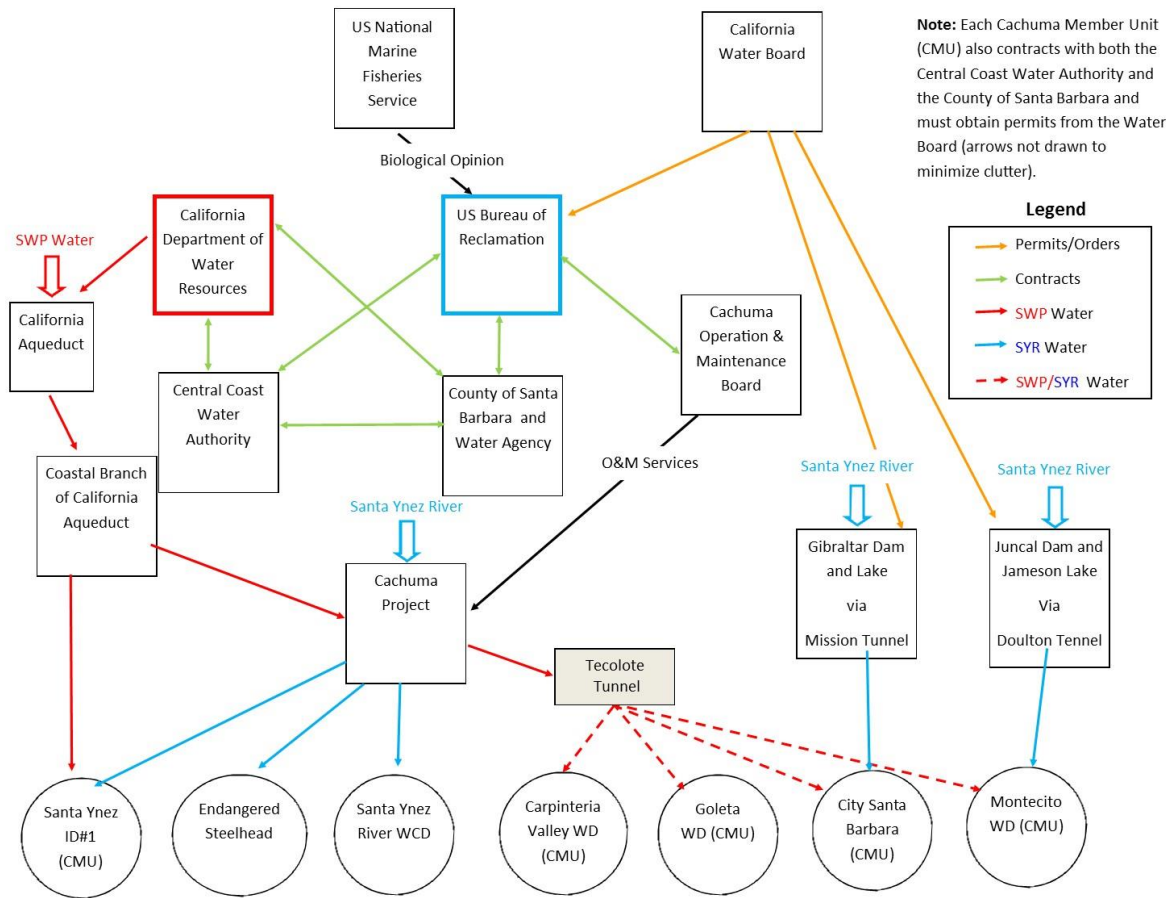


Figure 4 – Surface Water Management and Operation Structure in Santa Barbara County

During a December 2016 meeting sponsored by the Governor’s Drought Task Force, the California Office of Emergency Management (OEM) indicated that state funding could be made available for water distribution system improvements IF there is greater cooperation and coordination between the water purveyors within the County.⁹ It is unclear whether these would be Proposition 50 funds, Proposition 84 funds, or funding from some other source. This action appears to be a recognition by the State that the present water management system is problematic.

The meeting purpose was to begin development of a prioritized list of water projects for State funding. The OEM established an “Action Working Group” and directed them to prepare a proposal that the Santa Barbara County Board of Supervisors (BOS) could submit to the State to implement the highest priority items for funding. This proposal was presented to the BOS on February 11, 2017.

The recommended project list included seven items, as follows:

⁹ See Board of Supervisors Agenda Letter 4/11/2017 and attachments

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“Additional Water Supplies

- Reacquisition of Suspended Table “A” Water^[10]
- Recommissioning and Expansion of Regional Desalination Facility
- Water Reuse – Goleta
- Water Reuse – Carpinteria

Protection of Existing Resources

- Treatment Facilities for Removal of Hexavalent Chromium from Groundwater
- Temporary Emergency Pumping System at Lake Cachuma
- Interagency Intertie Project Between Goleta and Santa Barbara”

The Jury was told by every person interviewed that no budget or plan currently exists for major repairs to our 70-year-old surface water distribution system within the south coast and some segments are older, some are newer.

Critical for the more effective operation of Lake Cachuma and its water distribution system is who will manage and operate it under the new contract with the U.S. Bureau of Reclamation (USBR). Neither COMB, CCWA nor the SBCWA currently have authority over the independent water purveyors on the south coast. Chapter 2 of the IRWMP designates the SBCWA as the Lead Agency (Project Manager). It also designated the SBCWA as the “single eligible contracting entity” for the new contract with the USBR. However, the SBCWA does not appear to have any enforcement and/or prioritization authority. According to a Memorandum of Understanding (MOU) executed in 2006, the key IRWMP implementation organization is the Cooperating Partners Steering Committee. Decisions are made by majority vote of the Cooperating Partners participating in the meeting, with each signatory of the MOU having one vote.

In summary, the Jury found there are several steps that can be taken to improve the efficiency of the water distribution system. The Resource Management Strategy listing in the IRWMP is a good first step.

Regarding water supply governance and recognition of the need for a more regional emphasis, the IRWMP group led by the SBCWA appears to be the logical management entity, if the SBCWA acts more proactively than it has in the past.

¹⁰ An annual fixed percentage of State Water allocated to each member unit of COMB.

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CONCLUSION

Santa Barbara County has a long history of building past its available water resources. Although the immediate threat of not having sufficient water available from Lake Cachuma has been averted because of the recent rains, another sustained drought occurring remains just a matter of time.

The State Water Pipeline does not carry an adequate supply for the needs of the south county. It was always intended as a supplemental source. The 2016-17 Santa Barbara County Grand Jury finds that additional water sources could be developed. The 2013 Integrated Regional Water Management Plan confirmed this. However, the implementation of its vision to use additional desalination projects and new infrastructures for using recycled water, among other things, is not being pursued aggressively because currently there is no entity with the authority to mandate implementation.

Further, the Jury finds that the self-interests of individual water purveyors have hampered efforts to secure a more sustainable regional supply.

Therefore, there must be an independent, impartial and forward-thinking agency (and not a water purveyor) with the authority to fulfill three objectives:

1. Assist all water agencies throughout the County to secure Federal and State grants that enable these purveyors to generate additional sources and employ more efficient systems for delivery;
2. Manage the Lake Cachuma water supplies to the south coast and secure the long-term reliable delivery of that water to purveyors;
3. Set priorities for management for all water resources in the County.

The Santa Barbara County Water Agency comes closest to being that independent, impartial, forward-thinking agency capable of achieving these three objectives. The Santa Barbara County Cooperating Partners already recognizes the SBCWA as the lead agency.

The Santa Barbara County Board of Supervisors must aggressively encourage the United States Bureau of Reclamation to designate the Santa Barbara County Water as the agency to manage Lake Cachuma's water supplies when the Lake Cachuma contract is renewed in 2020.

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FINDINGS AND RECOMMENDATIONS

Finding 1

No single entity has decision or enforcement power within Santa Barbara County to lead regional planning.

Recommendation 1

That the Santa Barbara County Water Agency be designated as the permanent lead agency of the Santa Barbara County Cooperating Partners and granted enforcement power to ensure reliability of Santa Barbara County water supplies.

Finding 2

Additional supply sources such as desalination and recycled water are available to localized agencies but there is no concerted effort to develop them regionally.

Recommendation 2a

That Santa Barbara County Board of Supervisors, in conjunction with San Luis Obispo County, explore the Diablo Canyon desalination plant as a source of water.

Recommendation 2b

That the Montecito Water District and Carpinteria Valley Water District develop more cooperation in water recycling efforts.

Finding 3

The South Coast Conduit pipeline system is unable to accommodate peak water demand levels and is susceptible to single point failure.

Recommendation 3

That a redundant (parallel) pipeline system be built from the existing South Portal of the Tecolote Tunnel through Carpinteria to minimize the possibility of single point failure.

Finding 4

The Upper Reach Reliability Project portion of the South Coast Conduit pipeline was not completed as originally planned.

Recommendation 4

That the Upper Reach Reliability Project portion of the South Coast Conduit pipeline be completed.

Finding 5

Critical pipeline infrastructure, including redundancy, has not been developed throughout southern Santa Barbara County.

Recommendation 5

That critical pipeline infrastructure, including redundancy, be developed throughout southern Santa Barbara County.

MANAGING REGIONAL WATER SUPPLIES

Finding 6

Funding under Propositions 50, 84 and 1E has not yet been granted to the County of Santa Barbara for the Cooperating Partners of Santa Barbara County Integrated Regional Water Management's prioritized list of water supply projects.

Recommendation 6

That the funding applied for by the County of Santa Barbara on behalf of the Cooperating Partners of Santa Barbara County Integrated Regional Water Management is actively pursued.

Finding 7

The meetings of the Cachuma Operations and Maintenance Board do not adequately reveal to the public the competing and conflicting objectives.

Recommendation 7a

That all Cachuma Operations and Maintenance Board meetings be telecast live on community channels.

Recommendation 7b

That Cachuma Operations and Maintenance Board meetings be digitally recorded and posted on their website for greater transparency.

Finding 8

The Tecolote Tunnel is a single point failure location that is in urgent need of maintenance and reinforcement.

Recommendation 8

That Cachuma Operations and Maintenance Board develop and implement a plan to maintain and reinforce the Tecolote Tunnel.

Finding 9

None of the Santa Barbara County south coast water purveyors has established capital replacement accounts.

Recommendation 9

That each Santa Barbara County south coast water purveyor establish and fund a restricted capital replacement account.

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REQUEST FOR RESPONSE

Pursuant to California Penal Code Section 933 and 933.05, the Santa Barbara County Grand Jury requests each entity or individual named below to respond to the enumerated findings and recommendations within the specified statutory time limit:

Responses to Findings shall be either:

- Agree
- Disagree wholly
- Disagree partially with an explanation

Responses to Recommendations shall be one of the following:

- Has been implemented, with brief summary of implementation actions taken
- Will be implemented, with an implementation schedule
- Requires further analysis, with analysis completion date of no more than six months after the issuance of the report
- Will not be implemented, with an explanation of why

Santa Barbara County Board of Supervisors– 90 days

Findings 1, 2, and 6

Recommendations 1, 2a, and 6

Montecito Water District Board of Directors– 90 days

Findings 1, 2, 4, 5 and 9

Recommendations 1, 2b, 4, 5, and 9

Carpinteria Valley Water District Board of Directors– 90 days

Findings 1, 2, 4, 5 and 9

Recommendations 1, 2b, 4, 5 and 9

City of Santa Barbara – 90 days

Findings 1, 4, 5 and 9

Recommendations 1, 4, 5 and 9

Goleta Water District– 90 days

Findings 1, 4, 5 and 9

Recommendations 1, 4, 5 and 9

City of Buellton– 90 days

Finding 1

La Cumbre Mutual Water Company– 90 days

Finding 1

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City of Santa Maria– 90 days

Finding 1

Santa Ynez Valley River Water Conservation District, Improvement District No. 1– 90 days

Finding 1 and 9

Recommendation 9

Santa Barbara County Water Agency– 90 days

Finding 1, 5, 6 and 9

Recommendations 1, 5, 6 and 9

Cachuma Operation and Maintenance Board– 90 days

Findings 3, 5, 7, and 8

Recommendations 3, 5, 7a, 7b, and 8

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APPENDIX A ACRONYMS

AF/DAY	Acre Feet per Day
CCWA	Central Coast Water Agency
CMU	Cachuma Member Units
COMB	Cachuma Operations and Maintenance Board
CVWD	Carpinteria Valley Water District
FEMA	Federal Emergency Management Agency
GWD	Goleta Water District
ID1	Santa Ynez River Water District, Improvement District No. 1
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
JPA	Joint Powers Agency
MOU	Memorandum of Understanding
MWD	Montecito Water District
OCEAN PLAN	State Water Quality Control Plan for Ocean Waters
OEM	California Office of Emergency Management
PG&E	Pacific Gas & Electric
RMS	Resource Management Strategy
SBC	Santa Barbara City
SBCWA	Santa Barbara County Water Agency
SCC	South Coast Conduit

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APPENDIX B CENTRAL COAST WATER AUTHORITY PARTICIPANT WATER SOURCES CCWA Participant Water Sources

The central coast water authority (CCWA) was formed for the sole purpose of designing, constructing and operating the facilities needed to bring SWP water to the agencies that contracted to receive that water. The following text is extracted from the CCWA's excellent 2015 urban water management plan (UWMP).

Since the SWP is considered an interruptible supply, all CCWA participants have other sources of water supply. The following is a brief summary of the portfolio of water supplies maintained by the twelve CCWA project participants in Santa Barbara County:

City of Buellton

The City of Buellton's service area is approximately 1,025 acres and potable water is provided to residential, commercial and industrial customers. There are no agricultural irrigated lands within city limits. Currently, the City of Buellton relies upon two sources of water for domestic supply. They are as follows:

- State Water Project: the City of Buellton has a SWP allotment of 578 AF per year with an additional 57.8 AF per year drought buffer.
- Groundwater: the City of Buellton has four active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from The Buellton Uplands Groundwater Basin and the Santa Ynez River Riparian Basin.

Carpinteria Valley Water District

The Carpinteria Valley Water District's service area is approximately 11,300 acres. Domestic water service is provided to a population of about 18,500 and approximately 3,883 acres of irrigated crops, ranging from lemons and avocados to various nursery products. Currently, Carpinteria Valley Water District relies on three sources of supply to meet water demand in its service area. They are as follows:

- Cachuma Project: Carpinteria Valley Water District is one of five water purveyors that have a water supply agreement with the Santa Barbara County Water Agency for use of the Lake Cachuma as a source of water supply. The water agency, in turn, has the master water supply contract with the USBR. Carpinteria valley water district's project water allocation for the Cachuma Project is 10.94%. The annual Cachuma Project yield has been determined to be 25,714 AF, which translates to roughly 2,813 AF per year for the Carpinteria Valley Water District. However, Carpinteria Valley Water District also receives as much as 400 AF per year from exchanges with other member units.
- State Water Project: Carpinteria Valley Water District has an SWP allotment of 2,000 AF per year with an additional 200 AF per year drought buffer.
- Groundwater: Carpinteria Valley Water District has three active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Carpinteria groundwater basin. This basin has not been adjudicated, but is managed pursuant to an AB 3030 Groundwater Basin Management Plan.

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Goleta Water District

The Goleta Water District provides water to approximately 85,000 customers in Goleta and parts of Santa Barbara. The Goleta Water District spans 29,000 acres and extends from the Santa Barbara County south coast area west to Santa Barbara's city limits at El Capitan. It is bounded on the south by the ocean and on the north by the foothills of the Santa Ynez Mountains. Currently, the Goleta Water District relies on four sources of supply to meet water demand in its service area. They are as follows:

- **Cachuma Project:** Goleta Water District is one of five water purveyors that have a water supply agreement with the Santa Barbara County Water Agency for use of Lake Cachuma as a source of water supply. Goleta's project water allocation for the Cachuma Project is 36.25%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 9,321 AF per year for the Goleta Water District.
- **State Water Project:** Goleta Water District has a SWP allotment of 4,500 AF per year with an additional 450 AF per year drought buffer. In addition, Goleta Water District has a contract for 2,500 AF of special drought buffer.
- **Groundwater:** Goleta Water District has eight active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Goleta Valley groundwater basin. The north-central portion of this basin was adjudicated via the "wright judgment" (Martha H. Wright et al. V. Goleta Water District et al., 1989, amended judgment, Superior Court of Santa Barbara County Case No. Sm57969). To proactively manage the Goleta groundwater basin, Goleta Water District customers enacted the voter-approved safe water supplies ordinance in 1991 (amended 1994) to ensure the basin is effectively managed.

An additional measure implemented by Goleta Water District, in coordination with the La Cumbre Mutual Water Company, includes the preparation of the Goleta Groundwater Basin Groundwater Management Plan. This plan addresses groundwater issues, adopts basin management objectives, and outlines management strategies for the basin.

- **Recycled Water:** Goleta Water District receives tertiary disinfected recycled water from the Goleta Sanitation District for distribution within its service area. Goleta sanitation district has a permitted capacity to produce tertiary disinfected recycled water at a rate of 3.0 MGD (about 3360 AF/Y).

La Cumbre Mutual Water Company

The La Cumbre Mutual Water Company was formed in 1925 to serve water to land owners in hope ranch and the area between Hollister Avenue and hope ranch, totaling approximately 2,000 acres. The La Cumbre Mutual Water Company provides water to its shareholders on a non-profit mutual-benefit basis. Every landowner within the service area is an owner of this company. The ownership is attached to the land and the amount of ownership is proportional to acreage. Currently, the La Cumbre Mutual Water Company relies on two sources of supply to meet water demand in its service area. They are as follows:

- **State Water Project:** the La Cumbre Mutual Water Company has a SWP allotment of 1,000 AF per year with an additional 100 AF per year drought buffer. SWP water is treated at the PPWTP in northern San Luis Obispo County and is conveyed to the Santa Ynez Valley pumping plant where the water is dechlorinated before it is pumped to Lake Cachuma. The water is subsequently delivered from Lake Cachuma to the Cater Surface Water Treatment Plant, operated by the City of Santa Barbara, for treatment. La Cumbre Mutual Water Company then receives water from the City of Santa Barbara.
- **Groundwater:** the La Cumbre Mutual Water Company has five active groundwater

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production wells that are permitted by the California DPH. These groundwater wells draw water from the Goleta Valley groundwater basin. This basin has not been adjudicated, but is managed pursuant to an ab 3030 groundwater basin management plan.

Montecito Water District

The Montecito Water District encompasses an area of 9,888 acres, of which approximately 6,883 acres are developed (about 98% as residential and 2% as commercial) and approximately 849 acres are used for agriculture. The Montecito Water District relies on three sources of supply to meet water demand in its service area and they are as follows:

- **Cachuma Project:** Montecito Water District is one of five water purveyors that have a water supply agreement with the Santa Barbara County Water Agency for use of Lake Cachuma as a source of water supply. Montecito's project water allocation for the Cachuma Project is 10.31%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 2,651af per year for the Montecito Water District.
- **Jameson Lake, Fox and Alder Creeks:** the Montecito Water District receives approximately 20% to 45% of its supply from these sources.
- **State Water Project:** the Montecito Water District has a SWP allotment of 3,000 AF per year with an additional 300 AF per year drought buffer.
- **Groundwater:** the Montecito Water District has four active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Montecito basin. This basin has not been adjudicated, but efforts are underway to manage it through an AB 3030 Groundwater Basin Management Plan.

Morehart Land Company

Morehart Land Company is a privately held California corporation owned by the Morehart family. Its primary business is real estate investment and ranching. In 1977, the Morehart Land Company acquired the majority of lots within the Townsite of Naples, which is located along the ocean, 12 miles north of Santa Barbara, California. The Townsite of Naples consists of 415 largely undeveloped lots which have a combined area of approximately 605 acres. Lot sizes range from 5,036 square feet to 3.7 acres. Six blocks have been developed and contain 23 homes, the last two of which were built in the mid-1980s. The Morehart Land Company has developed water rights, groundwater wells and a water treatment plant and storage facility to serve the Townsite and possibly nearby properties. Negotiations are underway with Goleta Water District to obtain a water transfer agreement by which Goleta Water District will transfer the Morehart Land Company's state water allotment through its existing facilities to the company's distribution connection. Currently, the Morehart Land Company has 200 AF in SWP water, with an additional 20 AF of drought buffer.

City of Santa Barbara

The City of Santa Barbara encompasses 21 square miles and currently provides water to approximately 82,000 municipal and industrial customers. The City of Santa Barbara relies on seven sources of supply to meet water demand in its service area and they are as follows:

- **Gibraltar reservoir:** this reservoir is owned by the City of Santa Barbara and is located on the Santa Ynez River. The current reservoir capacity is 7,264 AF, with an annual yield of approximately 4,600 AF per year. Water from this reservoir is delivered through the Santa

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- Ynez Mountains to Santa Barbara via Mission Tunnel.
- Devil's Canyon Creek: the City of Santa Barbara maintains a small diversion works on devil's canyon creek below Gibraltar dam which diverts water from devil's canyon creek into mission tunnel. The range of annual yield is 24 to 557 AF per year, with an average of 115 AF per year.
- Cachuma Project: the City of Santa Barbara is one of five water purveyors that have a water supply agreement with the Santa Barbara county water agency for use of Lake Cachuma as a source of water supply. The city's project water allocation for the Cachuma Project is 32.19%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 8,277af per year for the City of Santa Barbara.
- Mission Tunnel: this structure is a 3.7 mile tunnel through the Santa Ynez Mountains running from the north portal, located approximately 1,700 feet downstream of Gibraltar Dam to the south portal, located on mission creek approximately 3 miles north of downtown Santa Barbara. Annual infiltration for the period 1976 through 2000 ranged from 520 AFY to 2,172 AFY, with an average of 1,348 AFY.
- Groundwater: the City of Santa Barbara has seven active groundwater production wells that are permitted by the California DPH. Groundwater is produced from three groundwater basins: Storage Unit 1 (located in the vicinity of downtown), the foothill basin (located in the upper State Street area), and Storage Unit 3 (located generally in the Westside area).
- State Water Project: the City of Santa Barbara has a SWP allotment of 3,000 AF per year with an additional 300 AF per year drought buffer.
- Desalination: the City of Santa Barbara constructed a reverse osmosis seawater desalination facility as an emergency water supply during the drought of 1990. The facility has since been incorporated into the city of Santa Barbara's long-term supply plan as a way of reducing shortages due to depleted surface supplies during drought. Due to the on-going drought, the city pursued the reactivation of this system. The city currently anticipates the systems to become fully operational during the first half of 2017, with a capacity of 3,125 AF.

Raytheon

In 2015, the Raytheon Company employed approximately 1,450 people at its primary facility in Goleta, and approximately 150 people at its branch facility in Santa Maria. It owns approximately 9.4 acres of land in Goleta and owns or rents 14 buildings with a total of approximately 640,000 square feet of space in Goleta and owns approximately 75 acres of land and one building of approximately 121,000 square feet of space in Santa Maria.

Raytheon has contracted for 50 AF of water from the state water project. This water will be used primarily as a supplemental supply for system reliability.

City of Santa Maria

The City of Santa Maria encompasses an area of approximately 14,361 acres (22.44 Square miles). The city lies along the Santa Maria River and within the Santa Maria Valley. The City expects that the undeveloped land within its boundaries will continue to be developed and that the city's estimated population at build out, in the year 2030, will be approximately 115,000 persons. Currently,

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the City of Santa Maria relies upon two sources of water for domestic supply and they are as follows:

- State water project: the City of Santa Maria has a SWP allotment of 16,200 AF per year with an additional 1,620 AF per year of drought buffer.
- Groundwater; The City of Santa Maria has nine active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Santa Maria groundwater basin. This basin is adjudicated and part of the settlement, the city participates in the management and operation of the Twitchell reservoir, which is operated for the purposes of groundwater recharge within the Santa Maria basin.

Santa Ynez River Water Conservation District, Improvement District #1.

Located in the central portion Of Santa Barbara County, SYRWCD ID#1 serves the communities of Santa Ynez, Los Olivos, Ballard and the City of Solvang. It covers about 10,850 acres. Currently, SYRWCD ID #1 relies on four sources of supply to meet water demand in its service area and they are as follows:

- Cachuma Project: SYRWCD ID #1 is one of five water purveyors that have a water supply agreement with the Santa Barbara County Water Agency for use of the Lake Cachuma as a source of water supply. , SYRWCD ID #1's project water allocation for the Cachuma Project is 10.31%. The annual yield of the Cachuma Project has been determined to be 25,714 AF, which translates to roughly 2,651 AF per year for the, SYRWCD ID #1. However, SYRWCD ID #1 has entered into an exchange agreement with the other four Cachuma Project participants where SYRWCD ID #1 receives SWP water rather than Cachuma water on a one-for-one basis.
- State Water Project: SYRWCD ID #1 has a SWP allotment of 2,000 AF per year with an additional 200 AF per year drought buffer.
- Groundwater: SYRWCD ID #1 has seventeen active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Santa Ynez Uplands Groundwater Basin and the Santa Ynez River Alluvium.

Golden State Water Company

The golden state water company is regulated by the California Public Utility Commission and is a private investor-owned utility company. The golden state water company has grouped five individual water systems within the Santa Maria Valley into one customer service area. The five systems are known as (1) Orcutt, (2) Tanglewood, (3) Lake Marie, (4) Sisquoc and (5) Nipomo. All five systems share common management and the same operations crew. All water rates are based on the golden state water company's investments and pass-through costs for these five water systems as a group. In terms of supplying SWP water to the golden state water company, there is one turnout on the CCWA system that provides water to the Tanglewood system. Golden state water company also obtains access to SWP deliveries for its Orcutt system through wheeling SWP through the city of Santa Maria turnout and accepting water from the city of Santa Maria through one of three system interconnections. The sources of water supply for the Tanglewood and Orcutt system are as follows:

- State Water Project: the golden state water company has a SWP allotment of 500 AF per year with an additional 50 AF per year of drought buffer.
- Groundwater: the golden state water company has two active groundwater production wells in its Tanglewood system and twelve active production wells in

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its Orcutt system that are permitted by the California DPH. These groundwater wells draw water from the Santa Maria groundwater basin. This basin is adjudicated and part of the settlement. The company participates in the management and operation of the Twitchell reservoir, which is operated for the purposes of groundwater recharge within the Santa Maria basin.

Vandenberg Air Force Base

Vandenberg Air Force Base consists of 86,000 acres of open lands in the Lompoc-Guadalupe-Santa Maria triangle. The base is operated by air force space command's 30th space wing. Population is approximately 12,500 to 15,000 people. Currently, Vandenberg Air Force Base relies on two sources of supply to meet water demand in its service area, they are as follows:

- State Water Project: Vandenberg Air Force Base has a SWP allotment of 5,500 AF per year with an additional 550 AF per year of drought buffer.
- Groundwater: Vandenberg Air Force Base has four active groundwater production wells that are permitted by the California DPH. These groundwater wells draw water from the Lompoc groundwater basin.

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APPENDIX C DESALINATED WATER OPPORTUNITIES

Desalinated Water Opportunities

Desalination represents a significant potential opportunity to increase the available water supplies in California. In May 2015, the State Water Resources Control Board approved an amendment to the State Water Quality Control Plan for Ocean Waters (Ocean Plan) that would address desalination facilities. The intention of the amendment is to establish a uniform statewide approach for protecting the beneficial uses of ocean water from degradation due to seawater intake and discharge of brine waste from desalination facilities. The new amendment contains four primary components intended to control potential adverse impacts to marine life associated with the construction and operation of desalination facilities and they are:

- Clarify the State Water Board's authority over desalination facility intakes and discharges.
- Provide direction to the regional water boards regarding the determination required by Water Code section 13142.5, subdivision (b) for the evaluations of the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life at new or expanded desalination facilities.
- A narrative receiving water limitation for salinity applicable to all desalination facilities to ensure that brine discharges to marine waters meet the biological characteristics narrative water quality objective and do not cause adverse effects to aquatic life beneficial uses.
- Monitoring and reporting requirements that include effluent monitoring, as well as monitoring of the water column bottom sediments and affects on community health to ensure that the effluent plume is not harming aquatic life beyond the brine mixing zone.

The final staff report for the Ocean Plan documented eleven existing and fifteen proposed desalination facilities on the California Coast, as of late 2014. Three of the existing desalination plants were located in San Luis Obispo County (City of Morro Bay, Diablo Nuclear Power Plant and Duke Energy in Morro Bay) and two of the existing plants are located in Santa Barbara County (Chevron near Gaviota and the City of Santa Barbara). There are only two proposed projects located in San Luis Obispo County (Oceano and Cambria). With the exception of the City of Santa Barbara's system, all of the existing and proposed desalination facilities in Santa Barbara and San Luis Obispo Counties were well below 1 MGD. The City of Santa Barbara system was reported at 2.8 to 8.9 MGD.

Diablo Canyon Nuclear Power Plant Desalination Facility.

The Diablo Canyon Nuclear Power Plant is operated by Pacific Gas and Electric Company. Due to the Plant's needs for ultra-pure water, the power plant is equipped with a seawater desalination facility. The system is not currently operated at its full treatment capacity. The capacity is currently estimated at 500 AFY without modification and 1,300 AFY with some improvements to the treatment facility. In order to receive water produced from this plant, a seven mile pipeline will need to be constructed to connect to the end of the Lopez Lake pipeline in Avila Beach, California. This option is currently under consideration by a number of water agencies in San Luis Obispo County.

(See Figure 2 Existing Desalination Facilities and Figure 3 Proposed Desalination Facilities.)

The approved Ocean Plan will be implemented through the National Pollutant Elimination System (NPDES) permits or Waste Discharge Requirements issued by the applicable Regional Water Quality

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Control Board, in consultation with the State Water Resources Control Board. Specific discharge requirements would apply to all desalination facilities and intake-related requirements would apply to all new or expanded seawater desalination facilities.

Recycled Water and Local Groundwater

CCWA was formed for the specific purpose of designing, building and operating the Coastal Branch of the SWP. There are no current plans to expand the charter of CCWA to include the management and/or distribution of recycled water or local groundwater.

Drought Planning

CCWA is a joint powers agency that was formed by its member agencies for the sole purpose of building and operating the Coastal Branch of the SWP to provide supplemental imported water. CCWA defers the creation of water shortage action plans to its member retail agencies that have the ability to rely on other water sources, participate in demand management measures and institute voluntary and mandatory conservation. These shortage contingency plans are contained in their individual agency UWMPs and Master Water Plans. CCWA has no ability to reduce water consumption during a water shortage event. In fact, during a water shortage event, CCWA is called upon by its member agencies to increase and maximize deliveries if possible.

CCWA's charge is to assure that the delivery of the SWP to retail agencies is as reliable as possible each and every year. To that end, CCWA will respond to the need of its participants when additional sources of water, beyond that provided by the annual SBCWA Table A allocation process. During one of the driest periods on record (late 2013 and 2014), the CCWA Board of Directors established two important goals for CCWA staff to pursue: (1) establish a program to identify and secure supplemental water during times of drought and (2) investigate the options for a groundwater banking partnership for storing excess water, when it is available.

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APPENDIX D COOPERATING PARTNERS Santa Barbara County Integrated Regional Water Management

City of Buellton	Montecito Sanitary District
Carpinteria Sanitary District	Montecito Water District
Carpinteria Valley Water District	City of Santa Barbara
City of Carpinteria	Santa Barbara County Agricultural Commissioner
Casmalia Community Service District	Santa Barbara County Water Agency
Cachuma Resource Conservation District	Santa Barbara County Flood Control
Cachuma Operation Maintenance Board	Santa Barbara County Laguna Sanitation District
Central Coast Water Agency	Santa Barbara County Parks
Cuyama Community Service District	City of Santa Maria
City of Guadalupe	Santa Maria Valley Water Conservation District
Golden State Water Company	Santa Ynez Community Services District
City of Goleta	Santa Ynez River Water Conservation District, Improvement District No. 1
Goleta Sanitary District	City of Solvang
Goleta Water District	Summerland Sanitary District
Goleta West Sanitary District	Vandenberg Village Community Services District
Heal the Ocean	
La Cumbre Mutual Water Company	
City of Lompoc	
Los Alamos Community Services District	