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June 16, 2017

Ms. Pamela Riss, Foreperson
2016-2017 Ventura County Grand Jury
800 South Victoria Avenue
Ventura, CA 93009

Re: Final Report, Water Conservation for Cities – May 8, 2017

Dear Ms. Riss,

On behalf of Calleguas Municipal Water District (Calleguas), I am writing in response to various facts, conclusions, and recommendations in the Grand Jury's Report entitled Water Conservation for Cities, dated May 8, 2017, as they pertain specifically to Calleguas and the six cities it serves: Camarillo, Moorpark, Oxnard, Port Hueneme, Simi Valley, and Thousand Oaks.

The voters in the areas that comprise these cities elected in the 1950s to form Calleguas and in the 1960s to join Metropolitan Water District of Southern California (Metropolitan) to improve their water supply reliability. In the ensuing years, the cities invested in water reliability projects and programs both through those suppliers and by individual efforts. As a result of these wise decisions, the cities have weathered two major earthquakes and several droughts, including the recent historic one, with minimal effect on the well-being of their residents and businesses.

I offer the following general and specific comments with attached exhibits and links for the Ventura County Grand Jury's (VCGJ's) consideration. In doing so, it is not Calleguas' intent to speak for the cities that are required to respond to the VCGJ's inquiry, but to provide expanded context and clarity on some of the issues raised in the report as well as foundational information upon which the six cities within Calleguas' service area may draw for their respective responses.

General Comments

Historical Perspective – How did we get here?

As alluded to in the report, matters involving Ventura County's water resources are complex. This largely stems from the diversity of resources available in the three major watersheds in the

County: Ventura River, Santa Clara River, and Calleguas Creek. As County water supplies were being developed in the mid-20th century, regional decision makers initially tried to establish a single, centralized water authority for the entire County. Ultimately, it was deemed most practical to form independent wholesale water agencies in each watershed: Casitas Municipal Water District (Casitas), United Water Conservation District (United), and Calleguas. Since then, each wholesale agency has managed its own supplies, served its own customers, and coordinated routinely with the other wholesale suppliers on matters of common interest.

In 1953, in response to deteriorating water supply conditions in southern Ventura County, voters elected to form Calleguas in order to secure a reliable supply of supplemental water. In 1960, voters elected to have Calleguas join Metropolitan Water District of Southern California (Metropolitan) and build the necessary infrastructure to transport and deliver that supplemental supply. Because southern Ventura County has limited natural water resources, as the population in Calleguas' service area grew to over 660,000, it came to depend on imported water for 75% of its supplies. In fact, some communities in the east County are entirely dependent on imported water. You may rest assured that this heavy reliance on imported supplies is not taken lightly by Calleguas' elected Board of Directors and staff.

Longstanding Regional Planning Collaboration

Calleguas itself is the result of collaboration of the interests in southern Ventura County who need supplemental supplies. Today Calleguas delivers water to 21 retail water agencies (referred to as purveyors), including cities, mutual water companies, investor owned water utilities, and County waterworks districts. These water suppliers coordinate with each other and, through Calleguas, with all of southern California with a goal of providing cost effective, reliable supplies to their customers.

Calleguas maintains active channels of communication with Metropolitan and its other member agencies, Calleguas' purveyors, other Ventura County water interests, and stakeholders through a variety of standing and ad-hoc meetings at which current information on both short-term (ex., drought and catastrophic) and long-term water reliability issues, programs, and projects are thoroughly vetted and debated. These communications often provide the foundation for decisions made by policymaking bodies on critical water supply and demand management programs throughout our service area and all of Southern California.

A leading example of local water agency coordination in our service area is the development of the Calleguas Salinity Management Pipeline (SMP) project which evolved following years of discussion amongst Calleguas, member purveyors, and the regulatory community. Just as Calleguas constructed the backbone potable water system required to deliver imported water throughout southern Ventura County over the past half century, through the SMP, Calleguas is building essential infrastructure to enable its member purveyors to develop groundwater desalination and potable reuse projects that otherwise could not be implemented (Exhibit 1).

Such projects will maximize use of local water resources and diversify the supply portfolio within the Calleguas service area.

Moreover, in recent months, cooperation between the three Ventura County water wholesalers has been demonstrated by the proposed water system interconnection and water wheeling program involving the City of Ventura, Casitas, United, and Calleguas (Exhibit 2). By expanding access to imported water to west Ventura County, this project will bolster regional water reliability for the cities of Ventura and Ojai through supply diversification. In addition, the six cities in the Calleguas service area will have access to a west county supply if imported supplies are unavailable.

Calleguas believes its joint efforts with other regional and local water agencies to address vital water resource concerns are well established, imperative for the region's economic and social vitality, and will continue in perpetuity. The all-encompassing objective of maintaining water reliability will forever remain at the top of our "to-do" list.

Supply Reliability in the Recent Drought

As you know, California has recently emerged from the depths of the driest four-year period in recorded history. Despite this unprecedented situation, the cities in Calleguas' service area were prepared for this event because, through Metropolitan, they had been investing for decades in storage and supply diversification. As a result, although the Governor called for a 25% cutback statewide, urban southern California would only have needed to cut back by 15% based on its available supplies.

In the quarter century leading up to the recent drought, Metropolitan built up a diverse portfolio of supplies to be drawn upon during dry periods. They paid to line canals in the Imperial Valley and stored the conserved water in Lake Mead. They built Diamond Valley Lake in Hemet and filled it with water, more than doubling their storage capacity in southern California. They paid to install aquifer storage and recovery wells in aquifers in the Central Valley and stored water in a groundwater bank. They purchased land and entered into fallowing agreements with farmers near Blythe so that they could use those farmers' water in urban southern California during dry years.

During the recent drought, Metropolitan was able to deliver water from all of these supplies. In addition, they reached out to water agencies and agricultural entities throughout the state to buy excess (so-called "transfer") water and move it to southern California to preserve as much water in storage as possible.

Although long-term water resource issues related to sustainable groundwater planning, competing needs of various water use sectors, and other matters of statewide concern will remain challenging in the decades ahead, with heavy precipitation this year, Metropolitan is

now replenishing key regional dry-year storage reserves, estimating an increase of up to 1.2 million acre feet by the end of 2017 – also a historic record.

These efforts were recently validated by the Public Policy Institute of California (PPIC), the preeminent public policy think tank in the state. In its June 2017 report, *Building Drought Resilience in California's Cities and Suburbs* (http://tinyurl.com/PPICJune17), the PPIC observed:

> *California's urban water supply system is complex and highly decentralized, with 400-plus utilities serving more than 90 percent of the state's residents. Following the hard lessons learned from the 1976–77 and 1987–92 droughts, these utilities made substantial investments in drought resilience. This included diversifying supplies with new surface and underground storage, interconnections with neighboring suppliers, recycled wastewater, and water transfer agreements, as well as freeing up supplies by reducing indoor water use.*

This statement certainly applies to the six cities in Ventura County that are within the Metropolitan service area. Without the varied supply reliability actions and programs implemented in recent years, mandatory water use restrictions during the recent drought cycle would have been considerably deeper and in effect over a much longer period of time.

Going Forward

There are certainly threats to our area's traditional water supplies, be they earthquake, drought, population growth, or regulation. However, the six cities in Ventura County that are within the Calleguas and Metropolitan service areas are well-prepared to implement creative solutions to maintain reliable water supplies in the face of these threats. They have proven their adaptability and willingness to invest in water supply reliability over the past 60 years, and they will continue to work collectively and individually to assure water supply reliability for their citizens in the future.

<u>Specific Comments</u>

- **Background, First paragraph**
  "…the drought hasn't gone away. The County remains in a moderate drought category."

  The reference for this statement is cited as the United States Drought Monitor, which has the following caveat on its web site (http://tinyurl.com/USDroughtMon) (underlining added for emphasis):

  > *The U.S. Drought Monitor provides a consistent big-picture look at drought conditions in the United States. Although it is based on many types of data, including observations from local experts across the country, <u>we don't</u>*

> *recommend using it to infer specifics about local conditions. It can certainly be used to identify likely areas of drought impacts, including water shortage, but decision-makers in many circumstances have successfully taken measures to reduce vulnerability to drought. Large urban water systems generally have diverse water supplies and can keep the water flowing in both dry and wet years. The U.S. Drought Monitor is in no way intended to replace assessments or guidance from local water systems as to whether residents should conserve water.*

In fact the supply conditions in Ventura County are quite different in the areas with and without access to imported water supplies. The six cities with access to imported water are not currently in a shortage condition. We believe an assessment of water supply availability is a more appropriate and useful measurement of a particular city's water resource condition than use of a broad, nationwide tool.

- **Facts, FA-03**

  "Without a significant increase in the amount of available water, MWD projects by 2040, there will be water restrictions in eight out of every 10 years. Without significant conservation, annual retail water demand within MWD will outstrip resources by approximately 1.3 million AF or 22%."

  The above referenced dire scenario is referred to as the "Do Nothing" case in Metropolitan's 2015 Integrated Resources Plan Update (IRP) (Exhibit 3). This scenario provides an assessment of what future water reliability would be with no additional actions or investments in water supply or demand management. The "Do Nothing" analysis determines whether additional developments that help to balance supplies and demands are needed to ensure reliability into the future. As stated on page 6.0 of the IRP, *"doing nothing is not an option."* It has never been, nor will it ever be, and to infer otherwise is an incorrect reading of the document. This scenario simply serves as a reference point for long-term resource planning purposes. At no time throughout Metropolitan's institutional history has a "do nothing" strategy been in practice. In fact a multitude of supply and demand management projects and programs are being or will be implemented, with varying degrees of certainty, to reliably meet future demands.

- **Facts, FA-04**

  The Cities' UWMPs indicate: "There are sufficient water supplies in the long term... The increased importation of water is reliant on new infrastructure which has neither been approved nor funded."

  It is the nature of water supply project development that approval and funding cannot be assured until a project has been fully analyzed and well-defined, often with environmental documents and certain permits complete. However, new water supplies could come from a variety of sources: highly treated wastewater converted for potable

use, groundwater treatment, agriculture to urban water transfers, or seawater desalination, to name a few. If one alternative proves infeasible, another can, and will, be implemented.

- **Facts, FA-05**

  "When drought conditions ease, some cities may choose to ease water restrictions."

  Actually, a variety of water use restrictions have been in effect for many years in Ventura County cities. Going forward, the cities will not have the option to ease water restrictions to pre-drought levels. In May 2016, Governor Brown issued Executive Order B-37-16 (http://tinyurl.com/EOB-37-16), *Making Conservation a California Way of Life.* This order permanently prohibited practices that waste potable water such as irrigating turf in public medians, hosing off driveways and sidewalks, or watering in a manner that causes runoff, among others. The legislature is working to enact another part of the Executive Order that will establish a water budget for each urban water supplier based on population and local climate. The water budget is expected to restrict water use to quantities used during the recent drought, an average of 25% below previous use levels.

- **Facts, FA-06**

  "All of the Cities' UWMPs predict having sufficient water to serve the 2035 or 2040 estimated population. These predictions do not include any consideration of a water constrained future of frequent and extensive periods of drought."

  As noted in the VCGJ's report, new water supplies are usually much more expensive than existing ones. Water agencies are stewards of public funds and must base their expenditures on conditions that can be quantified and reasonably anticipated, such as the multiple-dry year scenario in the Urban Water Management Plans (UWMPs). Based on Metropolitan's multiple dry-year supply forecast through 2040, developed as part of its 2015 UWMP update process (Exhibit 4), Metropolitan anticipates having adequate supplies available to meet Calleguas purveyors' imported water demands as described in Calleguas' 2015 UWMP.

  It should also be noted that, because of state actions to "make water conservation a way of life", the demand for water in the future will likely be lower than anticipated when the UWMPs were prepared in 2015, further improving the region's ability to sustain lengthy shortages.

- **Facts, FA-11**

  "…water imports from the State Water Project (via the Sacramento Delta) could be unavailable for a year."

  Loss of supply from the State Water Project as a result of multiple levee failures is a significant concern for Calleguas. Calleguas has advocated extensively in support of the

California WaterFix which would involve the installation of tunnels beneath the Sacramento San Joaquin Delta to eliminate the risk of a lengthy outage due to a seismic event in the Delta. Five of the six cities in Calleguas' service area and more than 20 other Ventura County agencies and community groups have also taken a stand to support the project (Exhibits 5 and 6).

Refer to the response to Recommendations, R-01, below for information on Calleguas' actions to manage emergency outages of imported supplies.

- **Facts, FA-12**

  "If an earthquake were to damage the aqueduct, Calleguas would run out of water in about a month."

  In fact, if there were damage to the California Aqueduct, Calleguas would be able to rely upon a six-month water supply maintained by Metropolitan in local storage facilities to meet emergency demands throughout its service area. Specifically, for southern Ventura County, Pyramid Lake is kept full and 40% of Lake Castaic's capacity is dedicated to emergency storage even during droughts so that the water will be available in the event of an emergency.

  However, if there were severe catastrophic failures of Metropolitan infrastructure in the San Fernando Valley or Calleguas infrastructure in Simi Valley, Calleguas could be isolated from its imported supply for as long as six months. The scenario that could cause such failures would be an earthquake larger than the Northridge Earthquake in 1994, which partially cut off imported supplies for three months. In that circumstance, the VCGJ is correct in stating that Calleguas has about one month of supply for normal use. In order to maintain supplies for the duration of the outage, residents and businesses would have to limit water use to that required for health and safety purposes, eliminating all outdoor irrigation.

  Calleguas is actively implementing an Emergency Water Supply Plan to expand its ability to meet water demands during a six month outage. See response to R-01.

- **Facts, FA-14**

  "Over the last 100 years, the amount of precipitation in parts of the Sierra has steadily declined. The snowpack is also reduced by rising temperatures in California over the last century."

  The Feather River Watershed in the northern Sierra serves as the headwaters for the California State Water Project. A review of historical data shows no significant trend of reduced precipitation or snowpack.

- Historical data for the Northern Sierra Precipitation 8-station Index – an aggregate measurement of rainfall and snowpack water content – reveals that since record keeping began in this critical region, the 20-year moving average precipitation level has actually increased by over 21% from 44.1 inches in 1940 to 53.5 inches in 2017 (Exhibit 7).

- The April 1 20-year moving average snowpack water content for nine snow courses in the Feather River Watershed for which annual data has been consistently recorded since 1930 has remained relatively steady. The most recent preceding 40-year average (27.8 inches) is 92 percent of the initial preceding 40-year average of 1969 (30.2 inches). The most recent 20-year moving average (27.3) is within one inch of the initial 20-year moving average of 1949 (28 inches) (Exhibit 8).

- **Facts, FA-15**

  "…This warming trend contributes to increased amounts of precipitation falling as rain, not snow, in the Northern Sierra. The State Water Project, which provides much of the water used in the County, depends upon precipitation falling as snow instead of rain. Most Sierra rainfall is not captured and thus not available for public use."

  We acknowledge that it is largely anticipated by climatologists that the Sierra snowpack is likely to diminish over time as temperatures are expected to rise. However, the State Water Project (SWP) and those agencies that receive water therefrom have the ability to deliver large quantities of water falling as rain into surface reservoirs and groundwater basins statewide: from north of Sacramento to the Mexican border. For example, over the winter months of 2017, SWP export pumps operated at full capacity for many weeks for the first time in nearly one-quarter century due to heavy rainfall – not snowfall – in the northern Sierra.

- **Conclusion, C-01**

  "Cities' water plans are based on historic water availability patterns which may no longer be applicable. Over the last 100 years, water availability from precipitation has been trending downward and may never return to what was considered average."

  See response to Facts, FA-14 above.

- **Conclusion, C-02**

  "Cities' plans address the minimum, state-required, three-year drought scenarios. None of the UWMPs address a long term drought, even though the current drought has lasted over five years."

  As noted in Calleguas' General Comments, Supply Reliability during the Recent Drought, cities with access to water from Metropolitan fared well during the recent five-year drought as a result of a quarter century of investment and planning.

See also the response to Recommendation, R-03 below.

- **Conclusion, C-03**

  "Long term city plans are based on the optimistic view there will be as much water available in 2035 or 2040, as there was in 2010. Additional future water resources are not well-defined other than being described as imported water or coming from recycling and conservation efforts."

  See response to Facts, FA-06 above.

- **Conclusion, C-05**

  "Since many of the cities in the County rely on MWD wholesale water, Cities should base UWMPs on the wholesalers' prediction that retail water demand will outstrip total reliable water resources by 2040."

  This comment is a misinterpretation of Metropolitan's "do nothing" scenario utilized for long-term resource planning purposes as a prediction or forecast of water supply availability. See response to Facts, FA-03 above.

- **Conclusion, C-07**

  "Cities' water plans do not appear to adequately address catastrophic failures or interruptions within the system…"

  See response to Recommendations, R-01 below for further details on Calleguas' planning efforts related to catastrophic system failures and service interruptions and coordination with its member purveyors regarding same.

- **Recommendation, R-01**

  "The Grand Jury recommends the 10 city councils collaborate with all the County water purveyors to develop long term plans to respond to catastrophic disruptions of water supplies."

  The cities within the Calleguas service area have a proven track record of working collaboratively with each other, Calleguas, and Metropolitan on both short- and long-term water reliability issues. With respect to planning for catastrophic interruptions in water supply, of particular note is Calleguas' Emergency Water Supply Plan (EWSP) as incorporated in Appendix G of Calleguas' Urban Water Management Plan (http://tinyurl.com/CMWDUWMP). Calleguas recognizes that its imported water supply is subject to a variety of interruptions from earthquakes in northern California to pipeline failures due to aging infrastructure. The EWSP describes existing vulnerabilities, their potential disruption of water service, and what could be done to improve reliability. The 2014 plan was developed jointly with Calleguas member purveyors

through a series of group workshops and meetings with individual agencies beginning in 2010. The EWSP provides a basis for the Calleguas' Board of Directors, staff, and member purveyors to determine the most appropriate courses of action to best safeguard water supply reliability service area-wide.

The EWSP describes two local supplies that Calleguas built to provide water in the event of a catastrophic disruption of imported supply: Lake Bard and the Las Posas Aquifer Storage and Recovery Project. Lake Bard is located on the border of Simi Valley and Thousand Oaks and, in conjunction with the Lake Bard Water Filtration Plant, provides water to Calleguas customers during outages of imported supplies. The Las Posas Aquifer Storage and Recovery Project is comprised of 18 dual purpose injection-extraction wells. Imported water is stored in Lake Bard and in the Las Posas Groundwater Basin so that it can be put to use during outages of imported supply. As noted by the VCGJ, these supplies can meet the normal demands of the Calleguas service area for approximately one month or health and safety demands for a longer period.

The goal of the EWSP is for the service area to be able to sustain an outage of six months' duration because, if California WaterFix is built, six months is the maximum expected duration. Most of the recommended actions outlined in the EWSP to improve emergency water supply reliability are either in place or under development including:

- Actively advocating for the Governor's California WaterFix proposal to improve State Water Project reliability.
- Working with Metropolitan, Las Virgenes MWD, and Los Angeles (LA) Department of Water and Power to develop infrastructure and agreements for delivery of higher volumes of Colorado River and LA Aqueduct water to Calleguas during emergency outages.
- Construction of additional Salinity Management Pipeline phases to enable further development of local groundwater desalters.
- Construction of system interconnections with Las Virgenes MWD, member purveyors, and City of Ventura.
- Construction of projects to reinforce critical "at risk" Calleguas supply pipelines.
- Construction of Grandsen Pump Station Phase 2 to enable delivery of Las Posas Wellfield water to upper zones (Conejo Valley and Simi Valley).
- Construction of Las Posas Wellfield standby generators.
- Preparation of a Water Supply Alternatives Study.

Furthermore, Calleguas, with support from its member purveyors, maintains an active infrastructure reliability program. In recent years, as many of our original facilities approach end-of-life, Calleguas has invested nearly $100 million on infrastructure rehabilitation and replacement projects (Exhibit 9). These new facilities are state-of the-art and constructed to meet current seismic standards.

- ***Recommendation, R-03***

  "The Grand Jury recommends the 10 city councils develop drought plans that extend at least 5 years."

  As noted in Calleguas' General Comments, Supply Reliability during the Recent Drought, cities with access to water from Metropolitan fared well during the recent five-year drought as a result of a quarter century of investment and planning. There is no need for additional planning to demonstrate that which has already been proven in a real-life situation.

  However, the state will likely require that water agencies prepare a five-year plan consistent with the VCGJ's recommendation. Governor Brown's May 2016 Executive Order B-37-16 (http://tinyurl.com/EOB-37-16), Action No. 8 specifies that:

  > *"These updated requirements shall include adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought."*

  In addition, the VCGJ should be aware of Metropolitan's Water Supply Allocation Plan (WSAP) which allocates supplies during Metropolitan-declared water shortages based on the needs of member agencies. The WSAP was initially approved in 2008 following an extensive working group process and subsequently reviewed through similar workgroup processes on two separate occasions. The workgroup sessions provided a forum for in-depth discussion of the objectives, methodology, and policy aspects of the different elements of the WSAP. The applicability of the WSAP is not tied to a specific duration of water shortage (ex., 3-year drought). It is implemented when a regional water shortage is declared by Metropolitan and intended to be adaptable, thereby allowing Metropolitan's Board of Directors to set appropriate allocation determinations based on real-time water supply conditions and forecasts.

  Implementation of the WSAP has proven effective in reducing the quantity of water used within Metropolitan's service area. In 2009/10, the WSAP mandated a 12 percent cut in deliveries across the Metropolitan region; water users responded by reducing water consumption by 26 percent. Such success demonstrates Metropolitan's and its member agencies' commitment to prudent and effective water shortage contingency planning without need for a statewide mandate.

  The WSAP was implemented again by Metropolitan and it member agencies in April 2015 due to worsening water conditions, with a mandate of 15%, but was superseded by the state's more stringent conservation standard mandate of up to 36%. However, in light of the previous success of the WSAP in 2009/10, we question the need for state intervention in those areas that have demonstrated sound water planning. We believe

that for virtually 50 percent of the state's population that resides within the Metropolitan service area, the state can and should "check the box," focusing its limited staff and funding resources instead on legitimate drought "hot spots" and areas of concern.

- ***Recommendation, R-04***
  "The Grand Jury recommends the 10 city councils extend drought conservation measures during non-drought years."

  See comments under Going Forward and response to Facts, FA-05 and Recommendation, R-03 above as it relates to Governor Brown's *Making Conservation a California Way of Life* long-term water use efficiency framework.

On behalf of Calleguas, I appreciate the effort by VCGJ to produce the May 8, 2017 Final Report, Water Conservation for Cities and the opportunity to provide comments. At your request, I am available to discuss any of the foregoing information in further detail. I can be reached at (805) 579-7115 or smulligan@calleguas.com.

Sincerely,

Susan B. Mulligan
General Manager

Exhibits: 9

cc: Board of Directors, Calleguas MWD
Andrew Powers, City Manager, City of Thousand Oaks
Eric Levitt, City Manager, City of Simi Valley
Steven Kueny, City Manager, City of Moorpark
Dave Norman, City Manager, City of Camarillo
Greg Nyhoff, City Manager, City of Oxnard
Rod Butler, City Manager, City of Port Hueneme

Calleguas Municipal Water District Regional Salinity Management Pipeline

Project Benefits

Environmental

- ◊ Improves the quality of flows into creeks.
- ◊ Reduces greenhouse gas emissions by using local water resources instead of imported sources.
- ◊ Reduces dependence on imported water from sensitive Delta eco-system in Northern California.

Water Supply

- ◊ Improves region's water reliability.
- ◊ Enables water agencies to develop new local water from existing poor quality groundwater.
- ◊ Promotes pumping of shallow groundwater, providing space for stormwater capture.

Water Quality

- ◊ Protects resources for municipal, agricultural & environmental use.
- ◊ Safely removes salts to the ocean where they cause no harm.
- ◊ Helps local communities meet water quality standards for Calleguas Creek and its tributaries.

The Salinity Management Pipeline (SMP) collects salty water generated by groundwater desalting facilities and excess recycled water and conveys that water for safe discharge to the ocean, where natural salt levels are higher. In the future, it will facilitate the development of potable reuse projects to maximize the use of available water supplies.

Pipeline Construction

The SMP improves water supply reliability by facilitating development of more than 40,000 acre feet of new, local water supplies each year (one acre-foot is enough water for two households for one year) .

The SMP is vital to the region's water reliability as imported supplies from the State Water Project have become increasingly vulnerable to drought, catastrophic levee failures from flood and/or seismic events, and regulatory shut downs of pumping facilities to protect endangered species.

Berries need low salt water

The SMP improves water quality by moving salts out of the watershed. Salt is removed from groundwater and the concentrate from the treatment process sent to the SMP. Highly treated wastewater which is too saline for discharge to local streams is sent to the SMP during wet periods when it is not needed for irrigation.

Ventura County has abundant sources of groundwater, but much of it is too high in salts for municipal and agricultural use. Likewise, salt levels are increasing in surface water supplies which is harmful to the environment. By treating groundwater to remove salts and moving those salts away from surface waters and into the SMP, water agencies in Ventura County solve a water quality problem, while improving local water supply reliability.

Ocean Outfall Construction

Calleguas Regional Salinity Management Pipeline and Associated Desalters

Port Hueneme Brackish Water Facility

Camrosa Round Mountain Desalter

Drilling a test well for the Ventura County Waterworks Moorpark Desalter

Artist's rendering of the Oxnard Plain Brackish Groundwater Project

Exhibit 2

Ventura forum: State water costly but reliable

Arlene Martinez , amartinez@vcstar.com, 805-437-0262 5:50 p.m. PT March 22, 2017

(Photo: STAR FILE PHOTO)

It will be costly and the process complicated, but joining state water adds reliability to a system facing numerous pressures.

That was the consensus reached between the heads of five area water agencies, who on Wednesday took part in a forum focused on connecting to the State Water Project. Ventura County Supervisor Steve Bennett moderated the panel, which addressed issues including construction, environmental impacts and associated costs of the project.

Read more:

- **No easy answers left for water shortage (/story/news/special-reports/outdoors/2016/10/23/no-easy-answers-left-water-shortage-lake-casitas-drought/92389644/)**
- **Ventura moves to join state water (/story/news/local/communities/ventura/2017/01/24/ventura-moves-join-state-water/96980630/)**

“This is not our end-all, be-all solution,” Ventura Water General Manager Shana Epstein said. But it would put the city in a better position to deal with climate change and changes in environmental regulations and allow the city to pursue a large-scale project to reuse wastewater runoff, she said.

Ventura, the United Water Conservation District and the Calleguas and Casitas municipal water districts are exploring the possibility of a regional effort to connect to a new imported water source. Officials of those agencies were joined at the forum by Santa Barbara Water Resources Manager Joshua Haggmark, who spoke about the benefits his city has realized since joining the State Water Project in the late 1990s.

Each panelist stressed the importance of having another potential water supply available to the community.

“The big shining star there is reliability,” said Susan Mulligan, general manager for Calleguas.

Calleguas already uses imported water, but adding redundancy is important, she said. Thousand Oaks uses 100 percent imported water and Simi Valley uses 99 percent imported water, which Calleguas buys through the Metropolitan Water District in Los Angeles. That's not a good mix, she said.

United has lost capacity in recent years, as water must be diverted for protected fish and other wildlife, General Manager Mauricio Guardado Jr. said.

Saltwater intrusion and overpumping also continue to strain local water supplies.

Imported water, though, doesn’t come cheap.

Epstein estimates Ventura’s cost to be $2,000 per acre-foot, compared to the roughly $600 it pays now for local water. That includes construction-related costs, operational costs and what the city pays each year for rights to the water, she said.

Since 1971, Ventura has paid a portion of the maintenance costs for the system that provides imported water. That amount has fluctuated but last year was $1.5 million.

Agricultural, commercial and residential ratepayers of all the agencies will share in those costs.

“We spread the cost because we spread the benefits,” Mulligan said.

In January, the Ventura City Council voted to spend up to $653,000 to study what it would take to connect to state water, splitting the cost with Calleguas and United. Casitas could help with design and construction costs later, the city’s staff report notes.

Of the three locations cited as a possible connection point, the current top contender is near Springville Drive east of Highway 101 near Camarillo. It’s roughly eight miles to Ventura but would take the least amount of power because it doesn’t need pumping and offers good capacity, Epstein said.

Getting the water to Casitas is another matter. Ventura gets water from Casitas, but flipping the route – from its current west-east journey to one traveling east to west – could be a complicated, expensive capital project. Instead, the city could decide not to get its usual water allowance from Casitas and Casitas would help make up the difference in costs, as state water is more expensive.

Then the water could just stay in Lake Casitas, said the Casitas district's general manager, Steve Wickstrum.

Epstein hopes Ventura will be connected within the next three years.

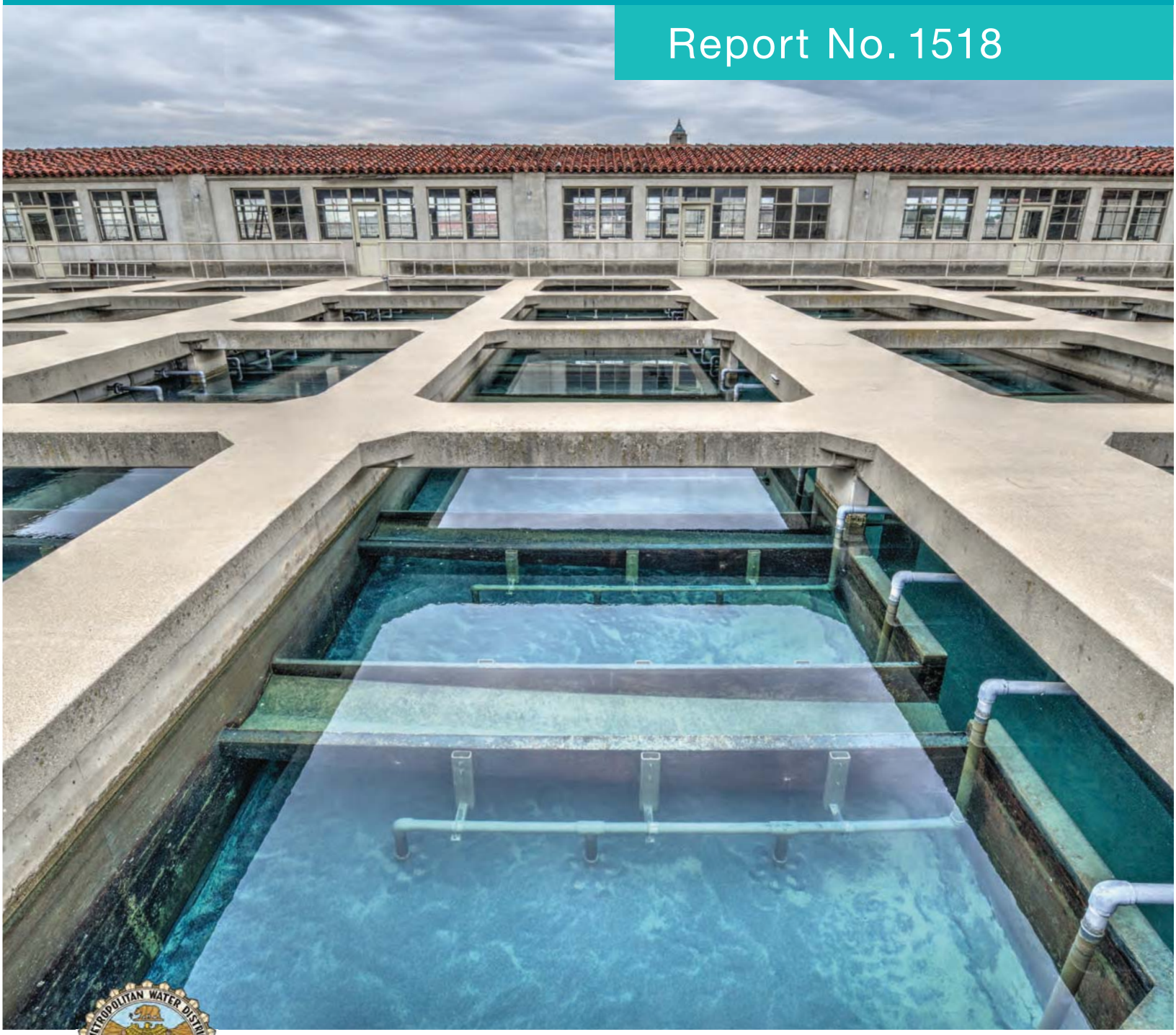
For Haggmark, the big benefits in having the state water connection have been the diversity in water sources and being able to leverage it to access other water supplies.

Exhibit 3

WATER TOMORROW

Integrated Water Resources Plan
2015 UPDATE

Report No. 1518



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

COLORADO RIVER AQUEDUCT SUPPLY FORECAST

In addition to its Fourth and Fifth Priority entitlements from the CRA, Metropolitan has access to a number of other supply and conservation programs; these programs are described earlier in this report. Programs such as the IID/Metropolitan Conservation Program provide supplies in all years, regardless of hydrology, and are considered base supply programs. Other programs such as the PVID program and Intentionally Created Surplus provide flexibility in different year types. These flexible programs work in conjunction with the base supply programs to manage water into storage in wet years, and provide additional supply in dry years. The following table shows the forecast of base CRA supply programs over the forecast period. Some of these supplies are expected to change over time, and these changes are reflected in the table. The flexible supplies are not shown in the table. Additional information on the specific CRA modeling studies and assumptions used in this analysis can be found in Appendix 10.

TABLE 3-8

Forecast of Colorado River Aqueduct Base Supplies and Adjustments (Acre-Feet)

CRA	2016	2020	2025	2030	2035	2040
Basic Apportionment	550,000	550,000	550,000	550,000	550,000	550,000
Present Perfected Rights	-2,000	-2,000	-2,000	-2,000	-2,000	-2,000
SNWA Return Obligations	0	0	0	0	-5,000	-10,000
IID-MWD Conservation Program	85,000	85,000	85,000	85,000	85,000	85,000
Palo Verde Program Minimum	30,000	30,000	30,000	30,000	30,000	30,000
IID-SDCWA Transfer and Exchange	100,000	193,000	200,000	200,000	200,000	200,000
Canal Lining Projects SDCWA	80,000	80,000	80,000	80,000	80,000	80,000
Canal Lining Projects	16,000	16,000	16,000	16,000	16,000	16,000
Lower Colorado Water Supply Project	8,000	8,000	7,000	6,000	5,000	4,000
Total Base Supply Programs	867,000	960,000	966,000	965,000	959,000	953,000

Remaining Need: The Regional Water Balance

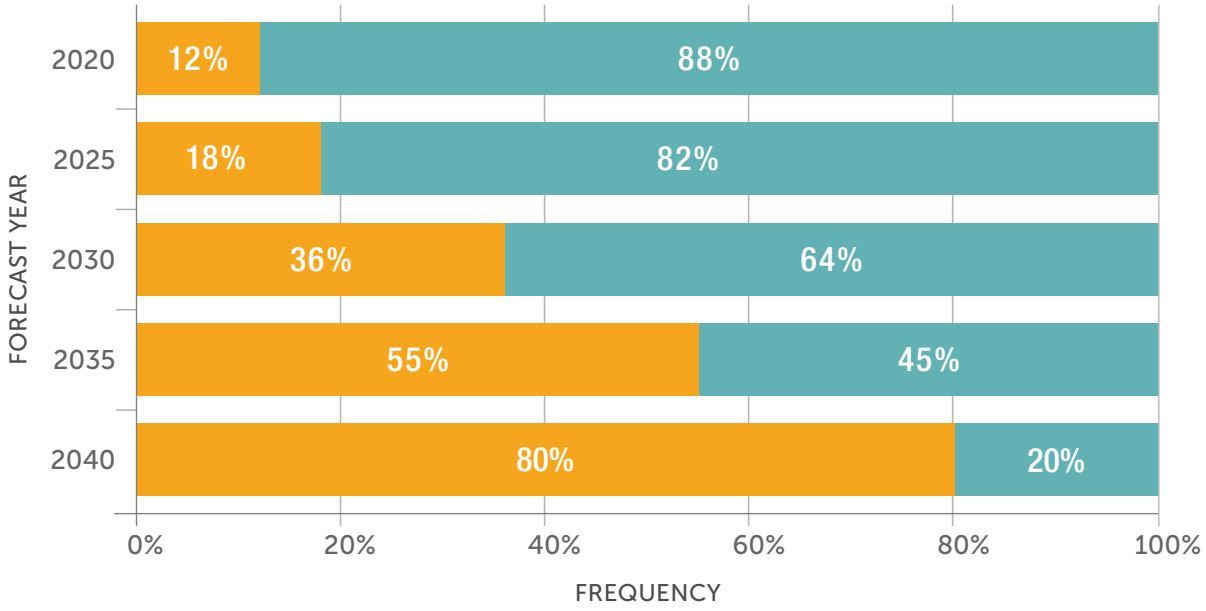
The first step in determining the remaining need is to evaluate the balance of existing levels of supplies against future projections of demands. Constructing a "Do Nothing" water balance provides a picture of what future reliability would look like with no additional actions or investments in water supply or demand management. The "Do Nothing" analysis determines whether additional developments that help to balance supplies and demands are needed to ensure reliability into the future. This look at the regional water balance incorporates all of the forecasts of demands and supplies described previously in this report.

about 75,000 acre-feet up to almost 4.5 million acre-feet. When evaluated against the metric of low storage, which is defined as regional dry-year storage levels below 1.0 million acre-feet, the results show that 12 percent of the time storage would be below the low storage metric. This equates to the region facing a 12 percent chance of implementing Metropolitan's WSAP in 2020.

In a similar fashion to the reliability results shown above, Figure 3-6 summarizes the probabilities of implementing supply allocations in 5 year increments. The shaded orange area in Figure 3-6 corresponds to the 12 percent chance of allocation shown below for the year 2020. These results show that the probability of supply allocation increases dramatically over time under the "Do Nothing" case, reaching an 80 percent likelihood in 2040.

FIGURE 3-6

Summary of Allocation Probabilities Under the "Do Nothing" Case[1]



[1]IRPSIM results represent 91 modeled outcomes based on weather/climate and hydrology from 1922-2012. This is intended to be an indicator of reliability.

WATER BALANCE CONCLUSIONS: NEED TO TAKE ACTION

The "Do Nothing" water balance clearly illustrates how if Southern California stopped adapting and relied only upon on its existing supply assets and current achievements in conservation, shortages and implementation of Metropolitan's WSAP would likely occur in an unacceptable level of frequency in the years ahead. This finding is a reminder that working to maintain a reliable water system is never done. In this case, "doing nothing" and making no further investments in water supply and demand management would impose a huge cost on all Southern Californians. The same shortage conditions facing the region in the early 1990s, in 2009-2010, and this year, with imposed fines and penalties for exceeding water use limits, would occur a large percentage of the time. That potential threat of unreliability is too great to ignore; in order to achieve levels of high reliability, significant water supply and conservation investments will be needed.

6.

Findings and Conclusions

Metropolitan's tradition of providing reliable supplies to a growing, dynamic region will be put to the test with the challenges that undoubtedly lie ahead. Yet Metropolitan's ability to make key investments at the right time, and to adapt to ever-changing circumstances, provide confidence that a reliable water portfolio will continue to be maintained as events unfold.

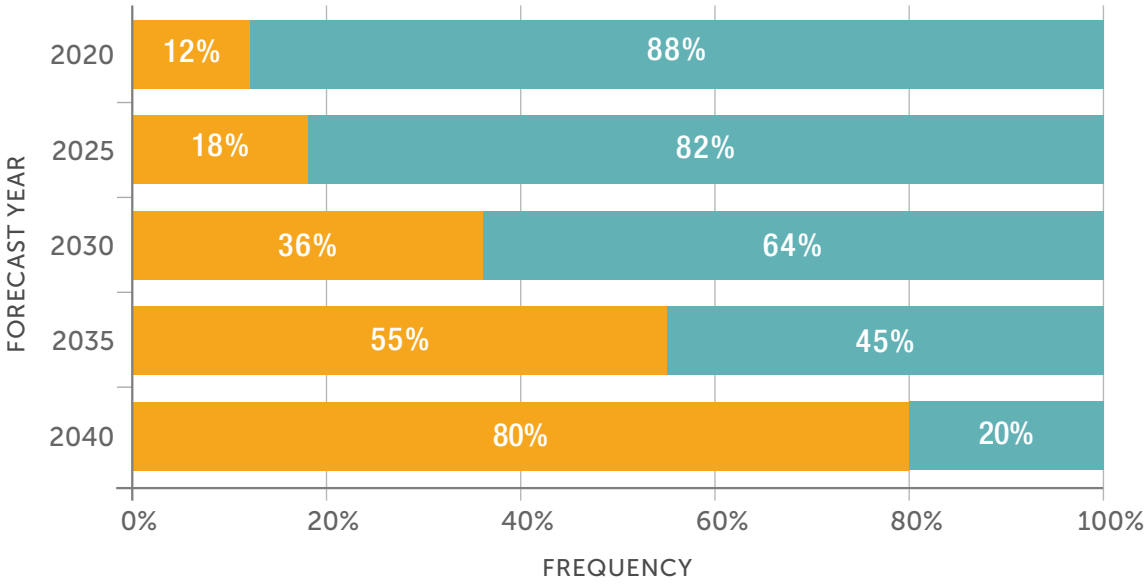
Several findings and conclusions have emerged as particularly important in this 2015 IRP Update process.

Action is Needed

Without the investments in conservation, local supplies and the California WaterFix targeted in the 2015 IRP Update, shortages and implementation of Metropolitan's WSAP would likely occur in an unacceptable level of frequency in the years ahead. Modeling results show that under a "Do Nothing" case, the probability of supply allocation increases dramatically over time, reaching an 80 percent likelihood in 2040. Doing nothing is not an option.

FIGURE 6-1

Summary of Allocation Probabilities Under the "Do Nothing" Case[1]



[1]IRPSIM results represent 91 modeled outcomes based on weather/climate and hydrology from 1922-2012. This is intended to be an indicator of reliability.

Photo by Paul Hames, Courtesy of the CA Department of Water Resources

Table 2-5
Multiple Dry-Year
Supply Capability[1] and Projected Demands
Repeat of 1990-1992 Hydrology
(Acre-feet per year)

Forecast Year	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	239,000	272,000	303,000	346,000	364,000
California Aqueduct[2]	664,000	682,000	687,000	696,000	696,000
Colorado River Aqueduct					
Total Supply Available[3]	1,403,000	1,691,000	1,690,000	1,689,000	1,605,000
Aqueduct Capacity Limit[4]	*1,200,000*	*1,200,000*	*1,200,000*	*1,200,000*	*1,200,000*
Colorado River Aqueduct Capability	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Capability of Current Programs	**2,103,000**	**2,154,000**	**2,190,000**	**2,242,000**	**2,260,000**
Demands					
Total Demands on Metropolitan	1,727,000	1,836,000	1,889,000	1,934,000	1,976,000
IID-SDCWA Transfers and Canal Linings	274,000	282,000	282,000	282,000	282,000
Total Metropolitan Deliveries[5]	**2,001,000**	**2,118,000**	**2,171,000**	**2,216,000**	**2,258,000**
Surplus	**102,000**	**36,000**	**19,000**	**26,000**	**2,000**
Programs Under Development					
In-Region Supplies and Programs	36,000	73,000	110,000	151,000	192,000
California Aqueduct	7,000	7,000	94,000	94,000	94,000
Colorado River Aqueduct					
Total Supply Available[3]	80,000	75,000	50,000	25,000	25,000
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**43,000**	**80,000**	**204,000**	**245,000**	**286,000**
Potential Surplus	**145,000**	**116,000**	**223,000**	**271,000**	**288,000**

[1] Represents Supply Capability for resource programs under listed year type.

[2] California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[3] Colorado River Aqueduct includes programs, IID-SDCWA transfer and exchange and canal linings conveyed by the aqueduct.

[4] Maximum CRA deliveries limited to 1.20 MAF including IID-SDCWA transfer and exchange and canal linings.

[5] Total demands are adjusted to include IID-SDCWA transfer and exchange and canal linings. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

July 25, 2014

Bay Delta Conservation Plan Comments
Ryan Wulff, National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

RE: Draft Bay Delta Conservation Plan – Public Comments

Dear Mr. Wulff:

The agencies and organizations referenced below, representing a diverse coalition of governmental, business, and agricultural interests in Ventura County, California, offer the following comments on the draft Bay Delta Conservation Plan (BDCP) as released on December 13, 2013.

The State Water Project (SWP) is a vital component of Southern California's water system, providing roughly 30 percent of the region's water needs. However, nearly three-quarters of the annual water demand for an estimated 630,000 water users in southern Ventura County is met with about 110,000 acre feet per year of state water supplies. While many efforts are underway to reduce our service area's imported water demand, including groundwater desalination, recycled water, and conservation programs, state project water will remain an essential water source for our region. It will continue to serve as a primary source for our drinking water supply

and recycled water projects. It is also the single largest recharge component of our groundwater basins following treatment and discharge from local municipal wastewater facilities. Moreover, given its comparatively high quality, it allows greater use of our native groundwater that must be blended with imported water to meet state and federal water quality standards. As such, a reliable supply of imported state water is critical for the future social and economic vitality of Ventura County.

In recent years, both state and federal project deliveries have been repeatedly interrupted and reduced due to operational conflicts with threatened and endangered Delta species. Since 2007, it is estimated that nearly 3.5 million acre feet of water that normally would have been delivered by the SWP was lost due to these conflicts.

Additionally, both projects risk complete failure given the vulnerability of the Delta levee system to catastrophic earthquake and flood events - threatening water supplies for Southern California, the Bay Area, the Central Coast and the Central Valley for many years. These risks are clearly unacceptable, and conditions are expected to worsen with climate change unless steps are taken now to mitigate these concerns.

Southern California ratepayers have been investing in the SWP for more than four decades, and have additionally invested billions of dollars in regional storage and conveyance to allow Southern California to capture water when it is plentiful and reduce demands on imported supplies during dry and critically dry years. These investments are effectively stranded if water deliveries from the SWP continue to degrade.

The proposed BDCP, being developed under provisions of the state and federal endangered species protection laws, is the most promising plan developed to date to solve these challenges and resolve decades of conflicts among agricultural, urban, and environmental water users with a comprehensive solution that achieves California's co-equal goals of a reliable water supply and a restored Delta ecosystem for the benefit of all water users.

The release of the public draft BDCP represents an important milestone in this eight-year stakeholder process. In exhaustive detail, the draft BDCP illustrates the complexity of the problems and the need for a comprehensive approach to resolve conflicts in the Delta through a multi-species habitat conservation plan that protects the state's water resources and infrastructure.

We are supportive of the BDCP's proposed twin-tunnel conveyance system that isolates and protects drinking water supplies and helps restore natural flow patterns in the Delta for the benefit of native species, as well as the complementary habitat restoration, water quality, and predator control measures outlined in the BDCP. We also support the plan's recognition that changing conditions in the Delta will require ongoing scientific review and real-time monitoring so the plan can effectively adapt over time to emerging science and the evolving ecosystem. The draft plan also provides an important framework for a range of operational outcomes and level of certainty necessary for a final plan to merit investment by participating public water agencies and by the state and federal governments.

While key decisions remain relating to specifics on cost allocations, operations, outflow range, financing, and other issues; the current draft details a workable solution to the challenges facing California's water resources and the Delta. The proposed BDCP is the most comprehensive effort ever undertaken to address the chronic water challenges facing the state and federal

water projects in a manner that is protective of the Delta environment. We remain supportive of the efforts of state and federal water contractors in the development of the BDCP and urge the state to move forward with the draft plan and focus on resolving those remaining issues needed to provide assurances that the plan will achieve California's co-equal goals of water supply reliability and ecosystem restoration in a cost-effective manner.

Thank you for the opportunity to comment on this historic draft plan.

Sincerely,

Bob Huber, Mayor
City of Simi Valley

Tim Flynn, Mayor
City of Oxnard

Jonathan Sharkey, Mayor
City of Port Hueneme

Kevin Kildee, Mayor
City of Camarillo

Janice Parvin, Mayor
City of Moorpark

Jan McDonald, Chair
Ventura Council of Governments

Scott Quady, President
Calleguas Municipal Water District

Lynn Maulhardt, President
United Water Conservation District

Bryan MacDonald, President
Association of Water Agencies of Ventura County

Eugene West, President
Camrosa Water District

Ed Simon, Vice President of Operations
California American Water Company

Steven Iceland, Chair
Triunfo Sanitation District

Sol Chooljian, President
Crestview Mutual Water Company

James Graham, President
Pleasant Valley Mutual Water Company

Craig Underwood, President
Zone Mutual Water Company

Jane Donlon Waters, President
Berylwood Mutual Water Company

Andy Waters, President
Thermic Mutual Water Company

Lynn Gray Jensen, Executive Director
VC Coalition of Labor Agriculture and Business

Ellen Brown, Chair
Ventura County Economic Development Association

Gary Cushing, President/CEO
Camarillo Chamber of Commerce

Nancy Lindholm, President/CEO
Oxnard Chamber of Commerce

Leigh Nixon, President/CEO
Simi Valley Chamber of Commerce

Jill Lederer, President/CEO
Greater Conejo Valley Chamber of Commerce

Dale Parvin, President/CEO
Moorpark Chamber of Commerce

Tracy Sisson Phillips, President/CEO
Port Hueneme Chamber of Commerce

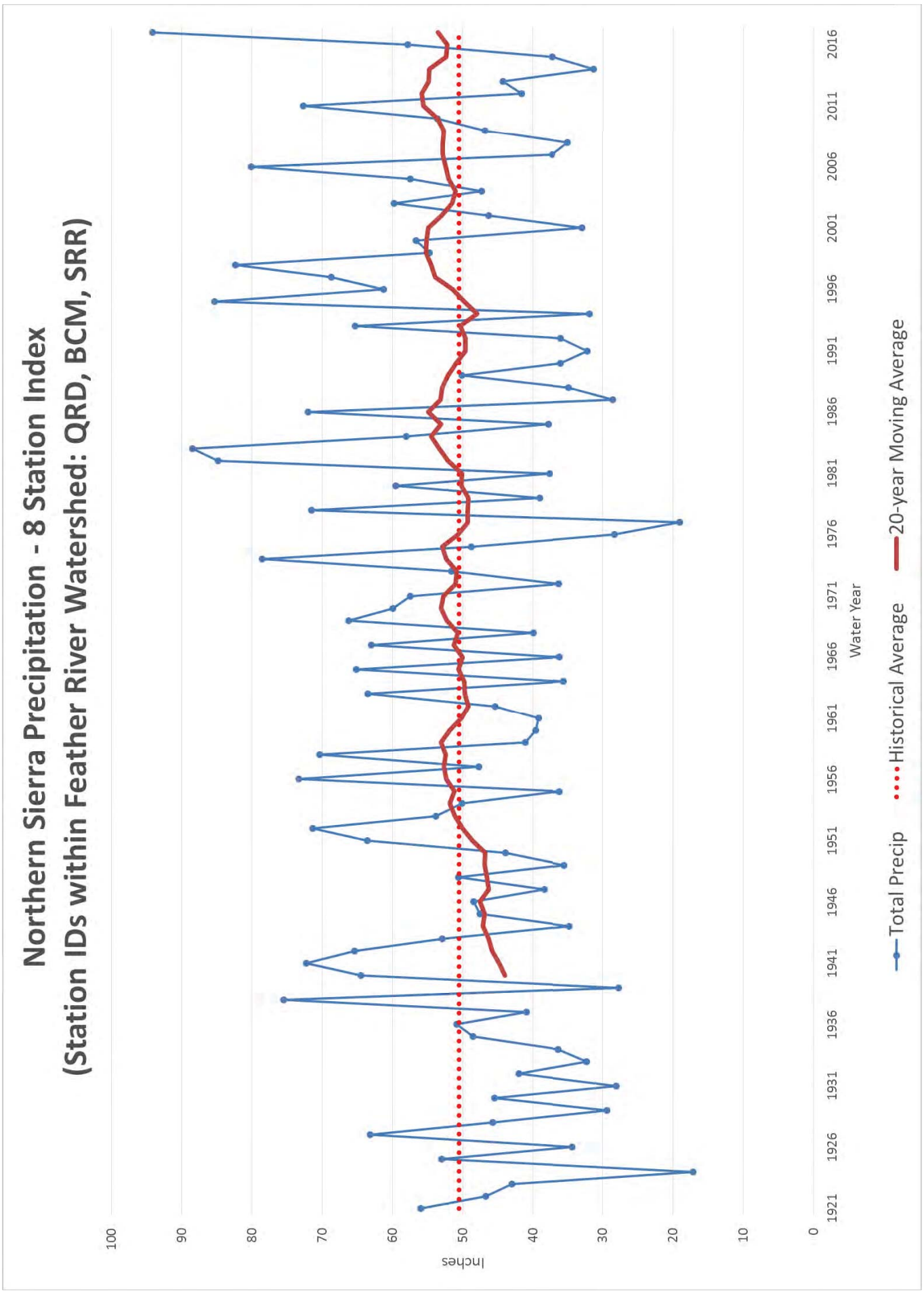
Scott Eicher, President
Chambers of Commerce Alliance – Ventura & Santa Barbara

cc: Governor Edmund G. Brown Jr.
Congress Member Julia Brownley
Senator Fran Pavley
Senator Hannah-Beth Jackson
Assembly Member Jeff Gorell
Assembly Member Scott Wilk
Ventura County Board of Supervisors
Mayor Bob Huber, City of Simi Valley
Mayor Janice Parvin, City of Moorpark
Mayor Kevin Kildee, City of Camarillo
Mayor Tim Flynn, City of Oxnard
Mayor Jonathan Sharkey, City of Port Hueneme
Mayor Andy Fox, City of Thousand Oaks
Randy Record, Board Chair, Metropolitan Water District of Southern California
Jeffrey Kightlinger, General Manager, Metropolitan Water District of Southern California

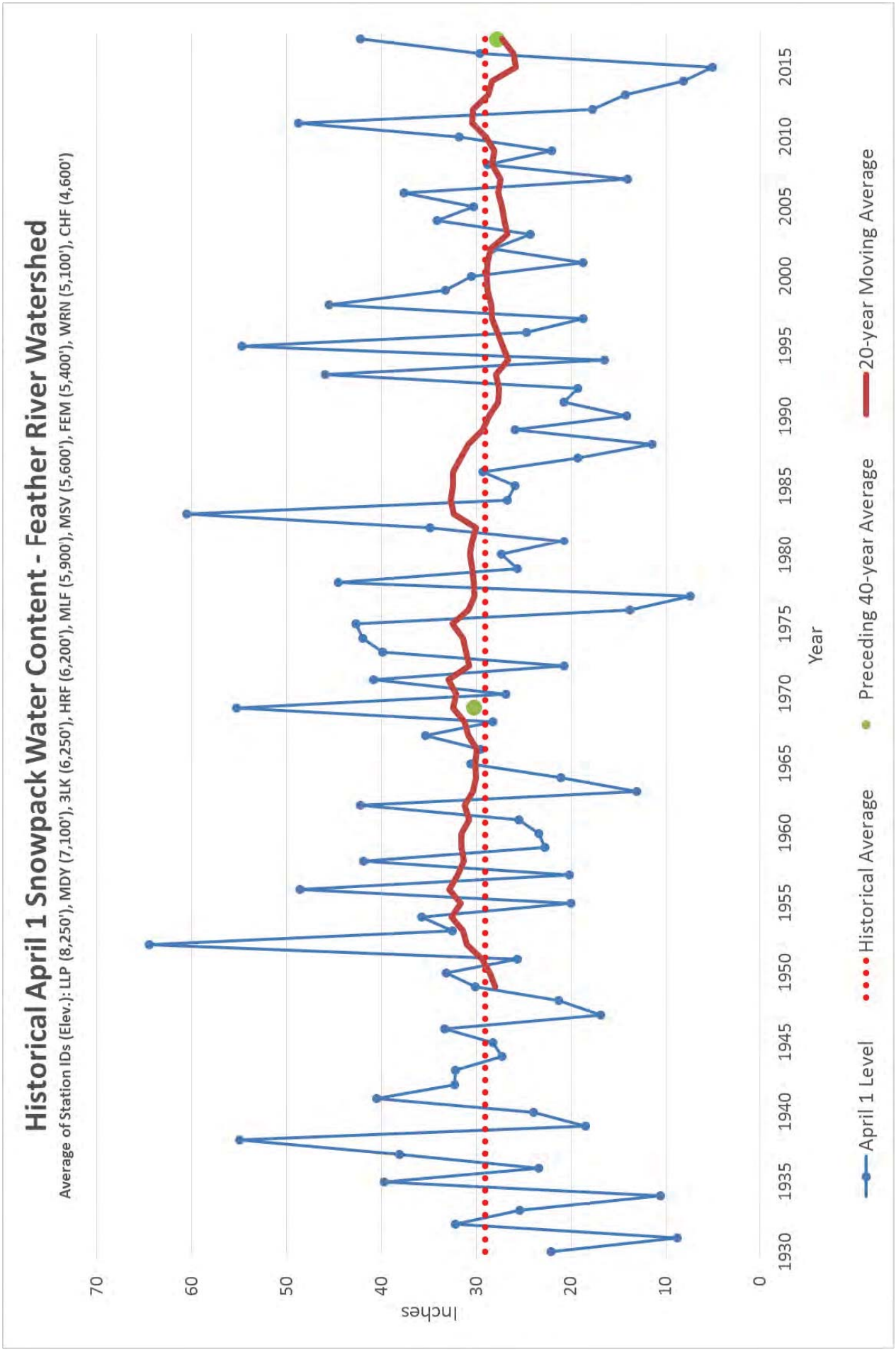
Californians for Water Security
www.watersecurityca.com

Ventura County Supports California WaterFix
The Plan to Repair California's Aging Water Distribution System

Calleguas Municipal Water District
Ventura County Taxpayers Association
Democratic Club of Camarillo
Democratic Club of Moorpark
Ventura County Economic Development Association
Association of Water Agencies of Ventura County
Ventura County CoLAB
Camarillo Chamber of Commerce
Chambers of Commerce Alliance of Ventura & Santa Barbara Counties
Greater Conejo Valley Chamber of Commerce
Port Hueneme Chamber of Commerce
International Brotherhood of Electrical Workers Local 952
Oxnard Chamber of Commerce
Simi Valley Chamber of Commerce
Tri Counties Building & Construction Trades Council
United Association of Plumbers & Steamfitters Local 484



Source: http://cdec.water.ca.gov/cgi-progs/precip1/8STATIONHIST



Sources: Sean DeGuzman, Water Resources Engineer, CA Dept. of Water Resources, Snow Surveys
http://cdec.water.ca.gov/cgi-progs/queryWY

Infrastructure Reliability Program

(Expenditures through 2016)

	Year Completed	Cost	
Reservoirs			
Springville Reservoir Slope Stabilization	1999	$256,000	
Newbury Park Tank Replacement	2002	2,254,000	
Westlake Reservoir Replacement	2008	14,396,000	
Thousand Oaks Reservoir Replacement	2013	20,172,000	
Springville Reservoir Seismic Rehabilitation	2013	9,727,000	
Steel Tank Recoating	2013	874,000	
			$47,679,000
Pipelines			
Emergency Pipe Procurement	2000	$646,000	
Calleguas Conduit North Branch Pipe Replacement	2000	1,107,000	
Calleguas Conduit North Branch Steel Liners, Phase 1	2000	3,040,000	
Pipeline Erosion Protection	2001	371,000	
Calleguas Conduit North Branch Steel Liners, Phase 2	2001	4,213,000	
Calleguas Conduit North Branch Carbon Fiber Lining, Phase 1	2002	310,000	
Calleguas Conduit Cathodic Protection	2004	155,000	
Calleguas Conduit Blow-Off Replacement	2004	1,017,000	
Calleguas Conduit North Branch Carbon Fiber Repair	2006	261,000	
Calleguas Conduit North Branch Steel Liners	2006	3,163,000	
Oak Park North Ranch Recycled Water Pipe Rehabilitation	2010	4,083,000	
Mesa Feeder Relocation at Conejo Creek	2010	3,403,000	
Calleguas Conduits Slide Gate Replacement	2011	3,187,000	
Las Posas Feeder & Mesa Feeder Anode Well Replacement	2012	953,000	
Emergency Pipe Procurement	2013	9,249,000	
Carbon Fiber Lining at CCNB Sta 554+84	2014	311,000	
CCSB Broken Back Prevention and Rehabilitation, Phase 2	2016	1,300,000	
CCSB/CCNB Broken Back Prevention and Rehabilitation, Phase 1	2016	600,000	
			37,369,000
Other			
Lindero Pump Station Surge Tank Recoating	1999	$181,000	
Wood Ranch Dam Piezometer Replacement	2008	$31,000	
Conejo Chlorine Scrubber Replacement	2012	825,000	
Clearwell Curtain Replacement	2013	440,000	
Ozone Generator Replacement	2013	749,000	
Lake Bard Water Filtration Plant Sulfuric Acid System Rehabilitation	2013	50,000	
Miscellaneous Wellfield Improvements	2015	5,400,000	
			7,676,000
	Total Expenditures		**$92,724,000**