

QUARTERLY REPORT

CDZI

CADIZ, INC. | MARCH 2019



SENATE BILL 307

SERIOUS FLAWS
IN OPPONENT-FUNDED
PAPERS

**Protection of
the desert
is critical too**



Founded in 1983, Cadiz Inc. is a natural resources company headquartered in Los Angeles that owns over 70 square miles of property with significant water rights in Southern California. We are dedicated to pursuing sustainable projects through the responsible stewardship of our land and water resources.

Our properties, which are located at three sites in the eastern Mojave Desert portion of San Bernardino County, offer abundant and renewable sources of clean water, a nearly pest-free environment ideal for organic farming, and excellent possibilities for conservation. Our properties are situated in proximity to the Colorado River and the Colorado River Aqueduct, a major source of imported water for southern California.

OUR CURRENT PROJECTS INCLUDE:

The Cadiz Valley Water Conservation, Recovery and Storage Project – This innovative project will provide a much-needed, reliable water supply in Southern California by conserving water that otherwise would have been lost to evaporation. The Project also offers the ability to store groundwater supplies and imported surplus water in wet years. Our 35,000 acre Cadiz Valley property will be home to the Project.

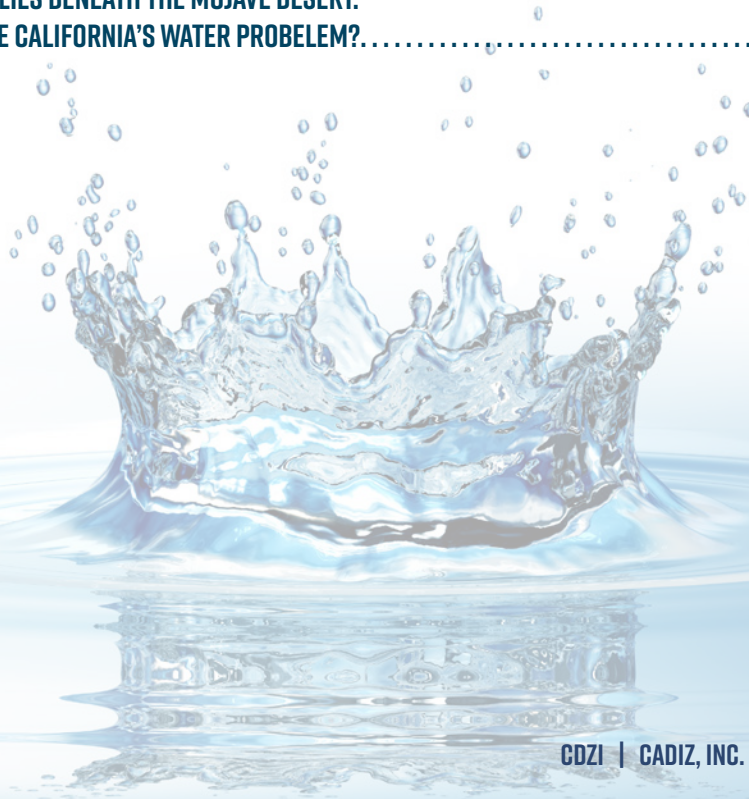
Organic agricultural operations – Our Cadiz Valley property is home to permanent crops, including lemons and certified-organic dried-on-the-vine raisins, and seasonal crops, which can include a variety of vegetables and fruits such as squash, melons, peppers, asparagus, and more. We maintain sustainable agricultural practices, including organic farming and drip irrigation.

Sustainable land use – We strongly believe in being a good steward of our land and water resources, always guided by the principle of sustainability. In addition to our water and agriculture projects, we are exploring additional surface uses at our properties, including permanent conservation and cultural activities.



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March 1, 2019

Dear Cadiz Shareholder:

Welcome to the first edition of CDZI, the Cadiz Inc. Quarterly newsletter. As I begin my 10th year with Cadiz, and sixth year as the Company's CEO, in response to requests from our long-dedicated shareholders, we wanted to increase and improve our communication.

The CDZI Quarterly will supplement our SEC filings and share a communication direct from me, in addition to an update on contextual industry developments and information pertinent to the Company over the prior quarter. We often speak about the macro-market indicators within the water industry and trends for land, water and agriculture and how that impacts our business. We expect to update those indicators here as well.

The aspirational objectives of the Cadiz Water Project is to innovatively contribute towards the resolution of the long-term water supply and demand imbalances in California in an environmentally benign way. California Governor Gavin Newsom has recently declared the urgent need for clean, reliable water for all Californians. Nevertheless, as the Company and its shareholders are well aware, the road towards addressing the Governor's concern is arduous.

Cadiz enjoys a unique strategic advantage unparalleled in the west. Now completely surrounded by a national monument, Cadiz owns 35,000 thousand acres at the base of the Fenner Valley watershed that overlie a prodigious groundwater basin with complete headwaters protection. Billions of gallons of fresh, potable groundwater evaporate under natural conditions and disappear into the atmosphere before they can be beneficially used. Cadiz, alone, has been granted the legal right to conserve this water and deliver it to its highest and best use. Once managed, the vast aquifer provides the opportunity to store 1 million acre-feet of water imported to the property as well.

In the past year, we have perfected our water treatment technology, substantially advanced the scientific knowledge of the underlying aquifer and acquired the rights to an additional 120 miles of existing pipeline that runs northwesterly from the property to its terminus in Kern County. However, following the successful judicial validation of entitlements and environmental review in 2016 our opponents have increasing dedicated substantial resources to impede progress of the Project. The U.S. federal government's evaluation that the use of a railroad right-of-for the project's pipeline is compliant with federal law was met with federal court litigation and calls for legislation in California.

We have been challenged with executing on a mission of defeating these delay efforts and also keep our shareholders informed in a way that does not undermine our strategies.

We do acknowledge however that silence is also not an answer. Therefore, I have pledged to communicate more about the marketplace, how it is impacting Cadiz and its position beginning with this initial installment in 2019.

Today's first edition includes an overview of economic trends for water and storage in California and its impact on the business Cadiz strives to become. As always, we appreciate your support and look forward to what's next.

Sincerely,



Scott Slater, Cadiz CEO



HOW WATER AND STORAGE ARE BEING VALUED BY CALIFORNIA WATER AGENCIES.

Water is a necessity, but in today's civilization, it requires significant investment to make it available for consumption and use. While the public sector is most often tasked with this responsibility, the private sector can play a supportive role in reducing risk for ratepayers and assuming the development risk for new supplies and infrastructure.

A metric used to evaluate private sector participation in the space has been the cost of water – how much will an agency pay to purchase new water to serve its customers, and how much will an agency invest in infrastructure to access, store and transfer water? Wholesale water rates in Southern California have increased 6% per annum compounded over the last 20 years. Increases are related to the ongoing need to update and maintain infrastructure – pipes, wells, and the higher cost of accessing the next increment of supply. Fixed costs do not change, so even when we human daily consumption is reduced, rates must still raise to cover the fixed costs and support the water supply agencies still must purchase.

With a clear and evident supply-demand imbalance in California, exacerbated by limits to traditional imports, Southern California agencies have innovated and sought new programs to access, store and distribute water supply. The examples below highlight the trends in water and storage over the last few months.





Orange County, CA Cost Study

In December 2018, the Municipal Water District of Orange County published the Orange County Water Reliability Study (2018 OC Study). The study analyzes available new supplies to the orange county region that can meet long-term demand for the growing area. The Cadiz Water Project was ranked among several projects that can provide the region supply reliability benefits based on cost-effectiveness criteria established by MWDOC. Of the 5 key projects evaluated in the study, including several alternative versions of these projects, Cadiz ranked second most cost-effective. A summary of the rankings is below.

COST SUMMARY FOR ORANGE COUNTY WATER PROJECTS	Capital Cost in Initial Year (\$M)	Annual O&M Cost in Initial Year (\$M)	Total Unit Cost in Initial Year (\$/AF)	Total Unit Cost in Year 2050 (\$/AF)
Poseidon Desalination - OC Basin ⁽¹⁾⁽⁵⁾	\$1,041.1	\$34.9	\$2,197	\$3,519
Poseidon Desalination - SOC ⁽¹⁾⁽⁵⁾	\$433.4	\$15.7	\$2,132	\$3,485
Doheny Desalination - SCWD ⁽¹⁾⁽²⁾	\$107.2	\$6.2	\$1,622	\$3,225
Doheny Desalination - Regional ⁽¹⁾	\$133.1	\$13.9	\$1,712	\$3,296
San Juan Watershed Project ⁽¹⁾	\$148.5	\$10.3	\$1,521	\$3,257
Cadiz Water Bank - SMWD ⁽³⁾	N/A	N/A	\$1,276	\$3,236
Cadiz Water Bank - Retail ⁽³⁾	N/A	N/A	\$1,652	\$3,710
Strand Ranch Water Banking - Pilot ⁽³⁾	N/A	N/A	\$1,971	N/A
Expanded SOC Emergency Water ⁽⁴⁾	\$1,041.1	\$3.0	N/A	N/A

- (1) Capitol costs assumed to be financed at financing terms provided by project sponsors. Annual debt payments included in total unit costs. Eligible projects are assumed to get maximum LRP funding from MET, which is reflected in the total unit costs.
- (2) Capitol cost for project reduced by \$10 million of secured state grant monies.
- (3) Costs for water banking projects are based on terms which have fixed costs that are paid to recover capital cost or reserve the water supply, and variable costs that are paid when water is taken (including MET wheeling costs and MET/local water treatment); these costs are shown as a total unit cost. Note that SMWD gets a discounted cost for Cadiz Water Bank; and that Strand Ranch Water Banking is only a pilot program from 2019 to 2025 (with water assumed to be taken in years 2024 and 2025, with a 14% probability of need in those years).
- (4) Project only provides system reliability benefits during an unplanned outage, and thus making it impossible to calculate a unit cost in \$/AF. Cost shown is for a capacity of 9.7 MGD and assumes first unplanned outage in year 2023 for O&M cost.
- (5) Costs reflect a discount that Poseidon provides to City of Huntington Beach for locating treatment plant in its City. The stream of payments for the discounted water purchases are counted as revenue towards the Poseidon Project, with the remaining Poseidon costs spread over the remaining 52,640 AFY production from the plant.

The full study can be viewed at : https://www.mwdoc.com/wp-content/uploads/2017/12/9-7b-2018-OC-Study-Report_Final-Draft-with-Appendices_12-12-2018.pdf

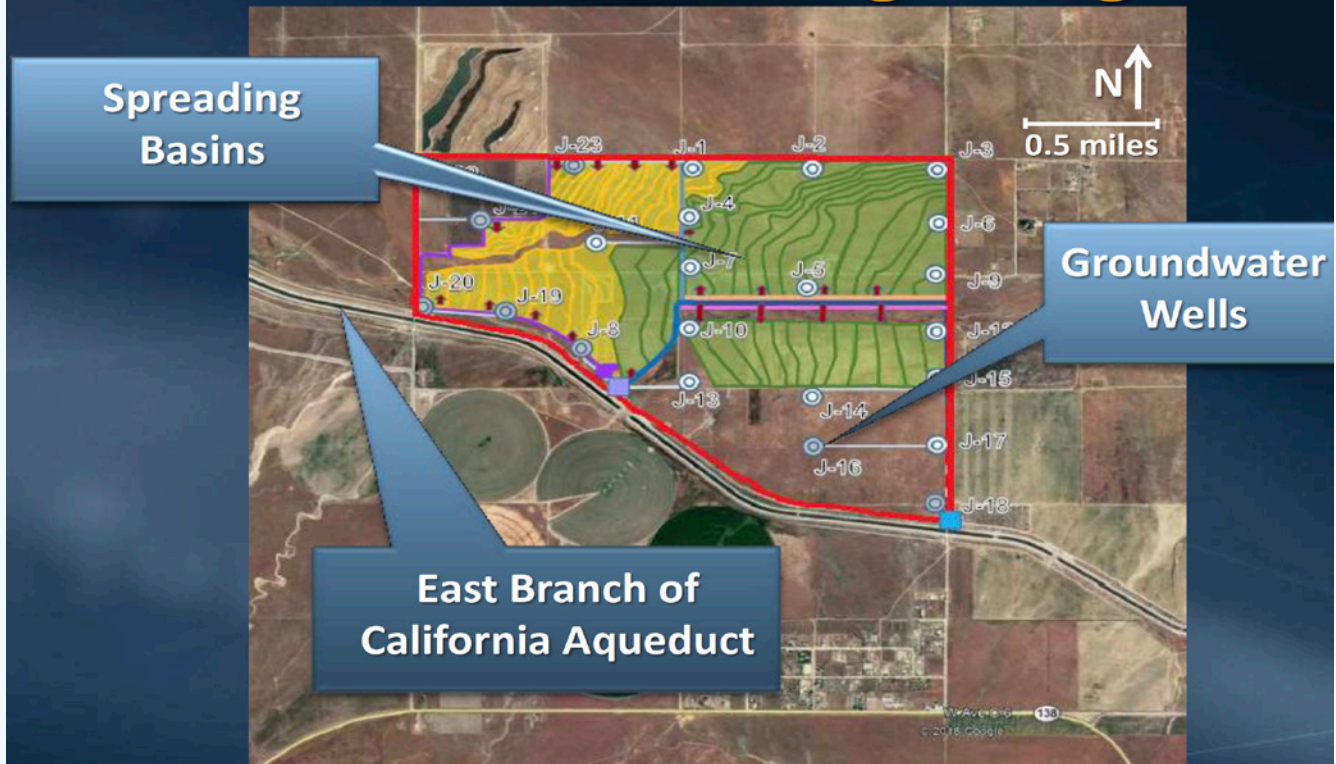
High Desert Water Bank

Metropolitan Water District of Southern California (MWD) is partnering with Antelope Valley East Kern Water District (AVEK) on a water bank project in southern California near the California Aqueduct/ State Water Project. AVEK and MWD are both State Water Project contractors and receive supplies from every year from this system. In surplus years, MWD would like to store excess supplies in the groundwater system at AVEK. The HD Water Bank has a 280,000 AF storage capacity and will be able to store and recover a maximum of 70,000 AF per year. MWD is currently considering participating in the bank by funding construction of its facilities under the following terms:

- Metropolitan would pay AVEK upfront for the capital costs of the project, which are now estimated at \$131 million.
- In addition, Metropolitan would pay for the actual operation, maintenance and power costs for the Water Bank facilities when used for Metropolitan's benefit. Metropolitan would pay AVEK a \$100/AF recovery usage fee on all the recovered water. The recovery usage fee would be escalated every year based on the Consumer Price Index (CPI) starting in 2018.
- Metropolitan would pay a minimum rolling average of \$2 million towards the recovery usage fee per year, starting after the project construction is complete. Any payments made in excess would be credited in future years to recovery usage fees.
- Contract end 2057, 22 years longer than all other MWD SWP storage projects.
- Met estimates this storage opportunity would cost approximately \$320/AF (present value) for water stored and subsequently recovered.



Potential AVEK Storage Program



Metropolitan on storage and its need for additional SWP storage options -

“Metropolitan’s SWP groundwater storage programs provide the region with valuable benefits. The programs help Metropolitan manage surplus supplies and provide for dry year regional reliability. The programs also provide increased emergency reliability with direct pump-back of stored water into the California Aqueduct when needed. The SWP groundwater storage programs have performed well during the recent droughts, producing more than one million acre-feet of water in the last 24 years. The storage programs have been cost effective and provided Metropolitan with increased operational flexibility. However, Metropolitan’s SWP groundwater storage programs today contain some risks, that need to be managed. During the recent drought, the capacity to return water by exchange was significantly reduced during the low SWP allocations. Direct pump-back capacity is more reliable and valuable in low supply conditions or during an emergency when exchange supplies are not available. Water quality has also been an issue with some of Metropolitan’s groundwater storage programs. New and changing water quality standards can reduce the amount of water returned to Metropolitan. Lastly, none of the current SWP groundwater storage programs extend beyond 2035. For continued long-term regional reliability, these programs will need to be extended or new programs developed.”

Information on the High Desert Water Bank can be viewed: <http://edmsidm.mwdh2o.com/idmweb/cache/MWD%20EDMS/003739039-1.pdf>





Inland Empire Chino Basin Project

The Chino Basin Project, located at the Chino Basin groundwater system in Ontario, California, proposes to construct an advanced water treatment facility and distribution system that will treat and then store up to 15,000 acre feet per year of recycled water in the Chino Basin Water Bank, creating a new local water supply for 50 years. The total construction cost for the project is \$385,000,000. The California Water Commission granted the Chino Basin Project \$206.9 Million in state bond resources to fund a portion of the project. The project is still in the design and permitting phase with a scheduled launch in 2026.

<https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2018/07/Press-Release-IEUA-Receives-Prop-1-Funding-for-Chino-Basin-Project-.pdf>

<https://cwc.ca.gov/Water-Storage/WSIP-Project-Review-Portal/All-Projects/Chino-Basin-Conjunctive-Use-Environmental-Water-Storage-Exchange-Program>

Regional Recycled Water Advanced Purification Center – Carson

The Regional Recycled Water Program, a partnership between MWD and the Sanitation Districts of Los Angeles County, will recycle and purify for future reuse. The program aims to become one of the largest advanced water treatment plants in the world. After the wastewater has been cleaned and treated, and further purified, it will then replenish local groundwater basins. The stored recycled groundwater will eventually be pumped up, disinfected and used again.

The full scale program would produce up to 150 million gallons daily, or 165,000 AF/Year, enough to serve more than 335,000 homes. Delivery to local groundwater basins will require 60 miles of new pipelines in Los Angeles and Orange Counties.

MWD estimates the full-scale program will cost \$3.4 Billion to construct, \$129 M annually to operate, and 16 years to design and build. The estimated cost of treated water is \$1830/AF.

<http://www.mwdh2o.com/DocSvcsPubs/rwvp/index.html#home>

CADIZ RELEASES STATEMENT REGARDING CA DEPT OF FISH & WILDLIFE LETTER ON CADIZ WATER PROJECT

December 12, 2018 – Los Angeles – Yesterday, Senator Dianne Feinstein (D-Calif.) released to the media a copy of a letter sent from the California Department of Fish & Wildlife to the Company regarding permitting of the Cadiz Valley Water Conservation, Recovery and Storage Project (Water Project). Scott Slater, Cadiz CEO, gave the following statement regarding the letter:



“Yesterday, Senator Feinstein leaked a letter sent from the outgoing director of the California Department of Fish & Wildlife to the Company as part of an ongoing process of preparing applications for permits under the Department’s Land and Streambed Alteration program. It is anticipated that such permits will be required prior to construction of the Project’s 43-mile conveyance pipeline. We were disappointed that Senator Feinstein engaged in another political stunt at the Project’s expense today, which we suspect was an attempt to distract from the environmental community’s strong opposition to her support of legislation related to the movement of water to the Central Valley.

The letter, which should have been directed at the California Environmental Quality Act lead agency for the Project, unfortunately presented a one-sided view of ongoing study of springs in the watershed surrounding the project area by technical experts. As a result we are concerned about CDFW’s partiality in addressing the permits when they are filed in the future. We have provided the letter to Santa Margarita Water District, the CEQA Lead Agency, and other Responsible Agencies for review. We trust CDFW will abide by the CEQA process requirements and applicable law in any future review of stream channel crossing permits when applications are ultimately filed.”

The Company sent a letter in response to CDFW, a copy is available at <http://www.cadizinc.com/wp-content/uploads/2018/12/Cadiz-Letter-to-CD-FW-from-Cadiz-final-12-11-18-2.pdf>.



December 11, 2018

Charlton H. Bonham, Director
State of California Natural Resources Agency
Department of Fish & Wildlife
PO Box 944209
Sacramento, CA 94244-2090

RE: REGARDING CA DEPARTMENT OF FISH & WILDLIFE PROCESSING OF STREAMBED
PERMIT APPLICATIONS FOR CADIZ WATER PROJECT

Dear Director Bonham:

Thank you for your letter dated December 4, 2018 regarding the Cadiz Valley Water Conservation, Recovery and Storage Project ("Water Project"). We understand that preparers of the environmental review for the Water Project conducted a conference call with your staff in April 2018 to discuss future applications that may be filed with the California Department of Fish & Wildlife ("CDFW") under the Land and Streambed Alteration program ("LSA") program. This call was conducted as a customary courtesy well in advance of filing any application to prepare CDFW for any future application, but also to establish a line of communication in advance of the Fenner Valley Water Authority's ("FVWA") filing of such applications.

I appreciate you bringing to my attention your concerns about studies of the Mojave Desert environment that were initiated after the certification of the Final Environmental Impact Report ("FEIR"), the independent review and approval of the groundwater management plan for the Project by the County of San Bernardino¹ and the conclusion of six trials and appellate proceedings in California's Courts. Having failed to convince an independent judiciary of their claims, opponents have continued to fund studies, which you cite in your letter, that we believe are intended to cast doubt on the FEIR, the County approval and the judicial findings to further political objectives.

So that they are aware of your concerns, we have forwarded your letter to the FVWA, the Santa Margarita Water District ("SMWD"), which as you are aware is the Lead Agency for the Water Project, and the County of San Bernardino ("County"), which is the Responsible Agency that independently evaluated and conditioned groundwater withdrawals from the Water Project to avoid "undesirable results." However, the Courts expressly upheld the review and approvals of

¹ *Center for Biological Diversity v. County of San Bernardino* (Aug. 20, 2014) OCSC Case No. 30-2013-00633936, Statement of Decision at 5.

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LOCAL ROLE IN PROTECTION OF THE DESERT IS CRITICAL TOO

BY COURNEY DEGENER

California's Mojave Desert holds deep meaning for many people. For some, it's a place for refuge and recreation; for others, it's home. The Mojave is a vast, diverse landscape covering more than 25,000 square miles, dozens of cities and countless claims upon its resources, history and legacy.

It is also home to San Bernardino County's largest farm, the Cadiz Ranch, which has sustainably grown fruit and vegetables for over 30 years. Cadiz was founded in the early 1980s and we have grown to own and manage over 50 square miles in the Mojave, including Cadiz Ranch, which is run by locals who have lived in the area for decades.

Our neighbors include railroads, utility lines, mining, renewable energy, military installations, outdoor recreation areas and federal lands. Distant offices in Sacramento and Washington impose many layers of protection, but the true responsibility for protecting and understanding is borne by local entities.

The Mojave community has been our home for nearly four decades. In that time, in addition to farming, we've entered a Green Compact with the Natural Heritage Institute to manage our property holistically, support solar energy development, and manage groundwater sustainably; established the nation's largest land bank devoted to protecting desert tortoise habitat; and made plans for a tourist steam train operation and cultural center creating local tourism opportunities. Recently we also committed \$5 million to establish the Southern California Clean Water Fund, a private fund that will help finance water quality improvements for small water systems serving disadvantaged communities.





We're also pursuing an environmentally sustainable water project overseen by San Bernardino County to manage the groundwater basin that supports our farming and provide a new source of water to Southern California. The Cadiz Valley Water Conservation, Recovery and Storage Project will conserve over 10 billion gallons of groundwater that is now lost to evaporation every year at nearby dry lakes and create groundwater storage capacity and a new water supply for 400,000 people.

The Cadiz Water Project will be built on private or already disturbed land, and Cadiz has worked closely with San Bernardino County, as the local public agency with authority over groundwater in the Cadiz area, on a groundwater monitoring and management plan to restrict Project operations and ensure sustainability. As a result, local communities can have confidence that the Cadiz Water Project will protect the environment and local resources, while providing water and creating jobs.

As with any new infrastructure project, the approval process for our project has been contentious. But, throughout the multi-year permitting process, public agencies and the courts have considered testimony, comments and studies from all sides as required by California's tough environmental laws. In every instance, the project has been found to be safe and sustainable. We look forward to implementing the project as soon as possible.

Protecting the Mojave starts at home. If we're serious about it, then we must engage collaboratively, recognize what all sides bring to the table, and stop playing politics focused on who sits at a desk in DC. With an open and constructive dialogue, we can honor the legacy of the Mojave and together build a more sustainable future for our community.



WATER CHEMISTRY EXPERT IDENTIFIES SERIOUS FLAWS IN OPPONENT-FUNDED PAPERS ON CADIZ WATER PROJECT AND MOJAVE DESERT SPRINGS

ANALYSIS PREPARED BY DR. DAVID KREAMER

Last week, the Fenner Valley Water Authority (FVWA), the public agency charged with operating the Cadiz Valley Water Conservation, Recovery and Storage Project (the Project), released new analysis by a water chemistry expert that critiques two opposition-funded papers published last year regarding springs in the watershed surrounding the Project area. The analysis presented to FVWA identified numerous methodological errors in the opposition-funded papers and concluded that allegations of a hydraulic connection between the aquifer system at Cadiz and desert springs based on water chemistry is “inconsistent and incompatible with the field evidence.”

The analysis was prepared for FVWA by Dr. David K. Creamer, a Professor of Hydrology & Geosciences at the University of Nevada, Las Vegas who specializes in research on groundwater quality and chemistry. His work reviews the following studies funded by Mojave Desert Land Trust, an organization opposed to the Project: (1) “Understanding the source of water for selected springs within the Mojave Trails National Monument, California” by Andy Zdon, M. Lee Davisson and Adam H. Love, published in *Environmental Forensics* and (2) “Use of Radiocarbon Ages to Narrow Groundwater Recharge Estimates in the Southeastern Mojave Desert, USA,” by Zdon and Love, published in *Hydrology*.

FVWA requested Dr. Kreamer's review because the Zdon studies are inconsistent with determinations in the Project's Environmental Impact Report, and with the findings of a January 2018 study by geologist Miles Kenney and hydrogeologist Terry Foreman related to Bonanza Spring, which is 11 miles from the Cadiz Project wellfield and 1,100 feet higher in elevation. The Kenney/Foreman study identified two geological faults that intersect at Bonanza Spring, creating an impermeable barrier that has caused an isolated groundwater catchment of 2,300 acres to form more than 1,000 feet above the Fenner Valley aquifer, while also blocking any direct connection to the spring from the aquifer below.

The Zdon reports rely on water chemistry tests to establish the hypothesis of a potential connection between springs in the upper elevation of mountains surrounding the Fenner Valley aquifer, and Project operations at the Valley floor, without regard for physical geology. In his analysis, Dr. Kreamer focuses on weaknesses in the water quality analysis conducted in the Zdon studies, finding in many instances that the data is unreliable and unsupported.

FVWA's staff report on the Kreamer presentation also states, "Dr. Kreamer's papers outline a number of factors contributing to the inconsistencies and deficiencies, including methodological errors, and conclude that the findings of the EIR and more recent work of Kenney/Foreman presents the more reasonable conclusion about area springs."

Dr. Kreamer also finds that the opponent-funded reports don't apply standard methodologies to conduct their data analysis and, more significantly, fail to present a credible model under which groundwater could move in the way the authors propose that it must in order to reach the spring. In addition, Dr. Kreamer highlights many flaws in the use of spring data to estimate groundwater recharge rates in the area, pointing out that the consensus view of scientists is that springs are poor locations to attempt to calculate average groundwater residence time.





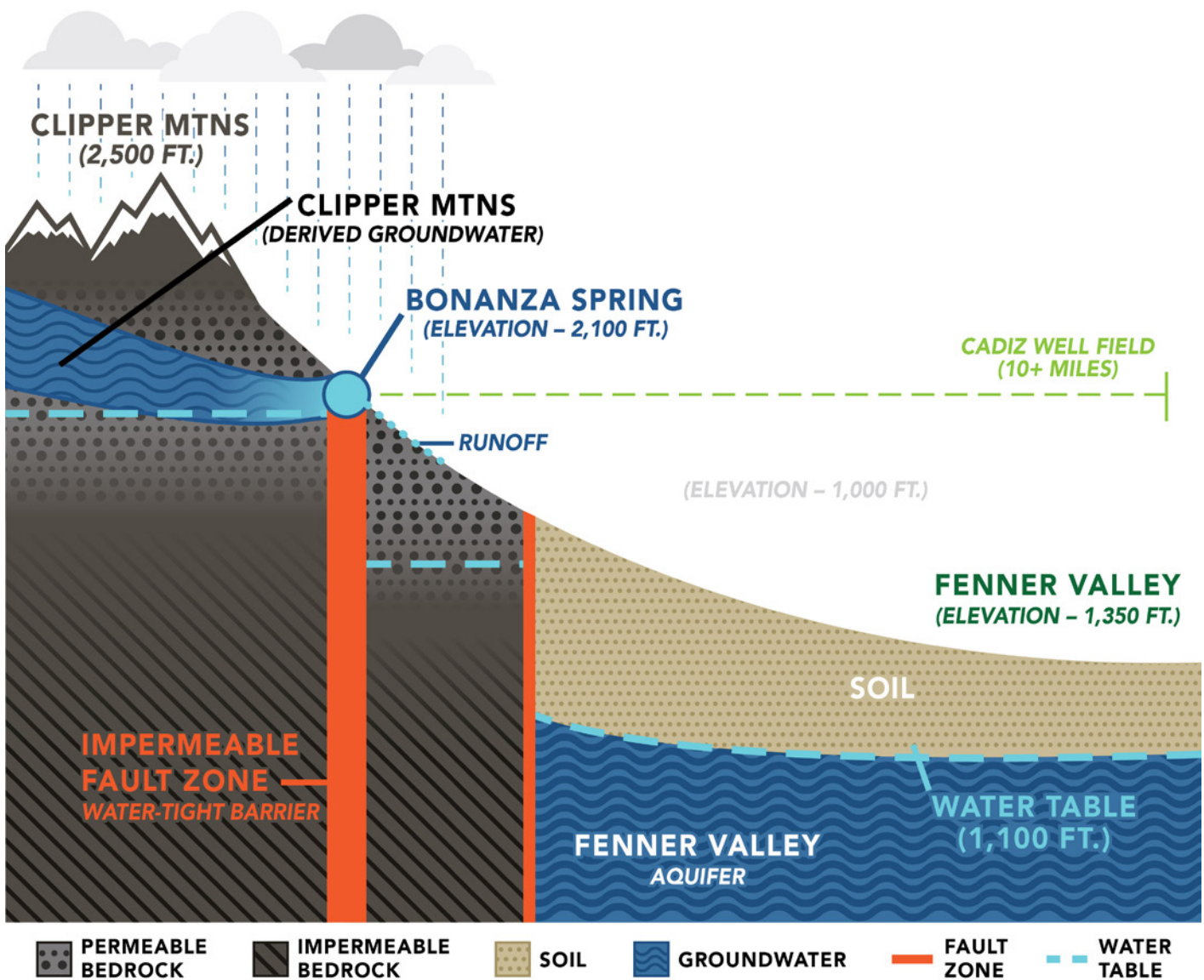
Key quotations from Dr. Kreamer's reports [emphasis added]:

- “Love and Zdon (2018) contains serious methodological omissions in interpretation of recharge and average groundwater residence time, which ultimately influence their interpretation for the hydrogeology of the study area.”
- “The questionable speculation . . . that recharge for springs like Bonanza occurs in the distant New York or Providence Mountains, then moves tens of miles through basin alluvium and then resurges upward over a thousand feet through undefined mechanisms, is inconsistent and incompatible with the field evidence.”
- One reason the authors assume Bonanza spring water is sourced from deep basin fill water (and not the upgradient Clipper Mountains directly above the spring) is the water’s temperature. ...This is based on the author’s reporting a temperature of 27.5 (or 81.5°F) for the water at Bonanza Spring in the manuscript, which they assume is geothermally influenced. This value, however, directly conflicts with a value of 14.2°C (57.6°F) reported by Andy Zdon and Associates (2016) for Bonanza Spring. Cool water documented at the spring by Andy Zdon and Associates (2016) is inconsistent with a deep source; rather this variation is indicative of a more local source, influenced by seasonal or diurnal variation.”

From the start, the Cadiz Water Project has been committed to environmental safety and sustainability, and we are proud of the numerous validations the Project has already received, including its approval under the California Environmental Quality Act, its permitting by San Bernardino County and its affirmation by California’s Courts. Moreover, the Project’s state-of-the-art Groundwater Management, Monitoring, and Mitigation Plan, which will be enforced by the County, protects the local environment through extensive monitoring, operating criteria – including a hard “floor” to operations – and immediate corrective measures to ensure the aquifer is managed sustainably before, during and after the life of the project.

Dr. Kreamer’s analysis of the two opponent-funded reports seriously undermines opponents’ theories about potential impacts to springs attributable to the Project and further validates the extensive body of work confirming that the Cadiz Water Project can deliver a new source of water to 400,000 people across Southern California in a safe and sustainable way.

**“...THE CADIZ WATER PROJECT CAN DELIVER
A NEW SOURCE OF WATER
TO 400,000 PEOPLE ACROSS SOUTHERN CALIFORNIA
IN A SAFE AND SUSTAINABLE WAY.”**





CADIZ COMMENTS ON GOV. GAVIN NEWSOM'S STATE OF THE STATE ADDRESS

During the first State of the State address of his administration, California Governor Gavin Newsom today remarked on California's water reliability challenges and urged a "... portfolio approach to building water infrastructure and meeting long-term demand." He also urged sustained funding to ensure all Californians have reliable access to safe, clean drinking water.

Cadiz, Inc. Chief Executive Officer Scott Slater issued the following statement in reaction to the speech:

"Governor Newsom is absolutely right: access to clean, safe and reliable drinking water for all Californians is a moral imperative and we must collectively do more to create and support tools that help ensure we can fulfill this promise.

"Together we can achieve this objective and Cadiz stands ready to do its part. We aspire to deliver clean reliable water to 400,000 Southern Californians by conserving water that currently evaporates into the atmosphere. We believe we can safely store vast quantities of water to further the cause.

"Cadiz is also proud to have already committed \$5 million in private supplemental funding to help small water systems in Southern California implement and maintain water treatment solutions that provide clean, affordable water in their communities. The private sector can play a vital stewardship role in fulfilling a State initiative to provide reliable safe drinking water for all.

"We credit and thank our Governor for inspiring creativity and renewing our commitment to this important objective."

The full text of Governor Newsom's State of the State Address is available here – <https://www.gov.ca.gov/2019/02/12/state-of-the-state-address/>





SB 307

CADIZ ISSUES STATEMENT ON INTRODUCTION OF SENATE BILL 307

FEB. 15, 2019 – Today, Senator Richard Roth (D-Riverside) introduced Senate Bill 307, a bill that seeks to create new, additional environmental review requirements for the Cadiz Water Project outside the California Environmental Quality Act (CEQA) and Sustainable Groundwater Management Act (SGMA) processes. Last year, Roth authored SB 120, with identical language as SB 307; SB 120 garnered strong opposition from nearly 80 organizations representing labor, business, community groups and local government and ultimately failed to pass out of the Legislature at the end of session.

Since that time, we have engaged in a dialogue with Senator Roth to address his questions about the long-term sustainability of the Project and the State's role in groundwater management in the vast Mojave Desert. We understand that Senator Roth intends to continue to engage with us and our opponents throughout the legislative session to ensure that the Project can be a part of the solution to California's long-term water challenge, while also protecting state desert resources. We appreciate the Senator's willingness to engage with us and welcome a continued dialogue with the Legislature and the bill's proponents.

Cadiz is and has always been committed to making reliable, clean drinking water available to Southern California in a safe, sustainable way. We have followed the law to develop a project that can be part of the solution to California's long-term water challenges and are proud of our plan to manage groundwater at our private property in San Bernardino County so it can provide new water for 400,000 people across Southern California as well as new groundwater storage for our growing State.



We agree with Senator Roth and his co-sponsor Assemblywoman Laura Friedman (D-Glendale) that thorough review of groundwater projects in desert ecosystems is important. Indeed, that's why Cadiz has worked with dozens of expert hydrologists and geologists from leading universities to evaluate the science behind this project and help design a project that will not harm the desert environment. It's also why Cadiz has followed California's stringent environmental laws to permit the project and worked with the County of San Bernardino on a detailed groundwater management plan to limit the project to safe and sustainable levels of operation. The project's numerous permits and approvals have been upheld by California's Courts, confirming this commitment.

We are also committed to providing Senator Roth the assurance he is seeking that our project is sustainable, but we disagree that SB 307 is the appropriate vehicle or solution given its laser focus on one specific project in one small section of the Mojave Desert instead of subjecting all groundwater use in the Mojave Desert to the same standards. Furthermore, as drafted, SB 307 proposes to subject court-approved decisions made under CEQA, and in accordance with local groundwater law, to new, undefined reviews. Were the Legislature to enact such a policy, it would be establishing a troubling precedent for infrastructure development and groundwater management across California.

Therefore, we will strongly oppose SB 307, unless amended to address our concerns, as we opposed its predecessors SB 120 and AB 1000. However, we look forward to continued good faith dialogue with the Legislature to substantiate our commitment to environmental sustainability.

SB 307 will be subject to regular order and cannot be amended or heard for at least 30 days. After 30 days, the measure will be eligible for amendment and can be heard by a policy committee in the Senate. Information about SB 307 will be available through the Legislature's website – <https://leginfo.legislature.ca.gov/faces/billSearchClient.xhtml>



MY TURN: TO FULFILL CLEAN WATER LAW, STATE MUST FOCUS ON L.A.'S SMALL SYSTEMS

By Nathaniel Logar, Special to CALmatters

In his first actions as governor, Gavin Newsom has focused on drinking water, in particular fulfilling the state's promise, enshrined as a human right in a 2012 law, to provide safe and affordable water to all Californians.

In his January budget address, and a surprise bus trip with all 11 cabinet members to Monterey Park Tract, a community of 240 individuals in Stanislaus County, the governor emphasized the challenges many Californians still face with high bills for water from contaminated sources.

This past week, he signed legislation in Parlier to provide \$20 million for clean water.

Newsom's proposed budget includes a new tax that would provide funding for safe drinking water in disadvantaged communities.

Whether Newsom is successful, the repeated proposal for such a tax highlights the need for new and creative ideas on how to manage and fund water systems in California, where the problem of failing or mismanaged systems is a significant one.

In his visit to Monterey Park Tract, the governor was correct to focus on small water systems. Systems with the smallest number of customers face the greatest challenges in providing cheap, drinkable tap water.

This is as true in the state's urban centers as it is in rural communities, and as true in L.A County as it is in Stanislaus County.

The majority of L.A. County water systems serve fewer than 10,000 customers. Taken together, small water systems reach more than 250,000 L.A. County residents.

As my co-authors and I detail in a new UCLA Law report, the two greatest challenges these systems face are contaminated groundwater sources and underfunding.

Across L.A. County, more than 900,000 people depend on groundwater that has been contaminated by industrial pollutants, agricultural products, or naturally occurring elements before it is treated.

This is a problem for large providers, but they have easier access to capital for treatment infrastructure and can tap surface water sources. The majority of the smallest systems are wholly reliant on groundwater.

These systems either must pay the high costs for treating contaminated groundwater or import water at almost double the price of treated groundwater and pass those costs on to overburdened ratepayers.

With small numbers of ratepayers, small water systems often do not benefit from the economies of scale available to large systems like Los Angeles Department of Water & Power. As a result, infrastructure costs can be three times higher per person for small systems than for large systems.

In low-income communities, small water systems are often unable to offer rate-assistance programs. Small systems often have fewer paid staff to maintain operations and less standby equipment to manage emergencies. The net result is that many small water systems' ratepayers get lower quality service despite high bills.



A close-up photograph of water being poured from a glass pitcher into a clear glass. The water is captured in motion, creating a dynamic splash and ripples. The background is blurred, showing what appears to be an indoor setting with lights and possibly a window. The overall color palette is cool, dominated by blues and greys.

THE STATE SHOULD TAKE SEVERAL STEPS TO STRENGTHEN SMALL WATER SYSTEMS' ABILITY TO PROVIDE CLEAN, AFFORDABLE WATER TO CUSTOMERS:

In 2014, voters approved Proposition 1, a \$7.1 billion bond for water improvements. Some of that money has funded projects that benefit L.A. County small water systems in communities such as Maywood and Cudahy.

Yet many small systems have trouble accessing money for ongoing operations and maintenance, for which funding is often unavailable.

The state should take several steps to strengthen small water systems' ability to provide clean, affordable water to customers:

- First, the state should improve data collection on the water quality as well as water pricing and customer income levels in small water systems. Better data will make it easier to assess the magnitude of water quality risk, and therefore easier to develop solutions.
- The State Water Board should make greater use of its authority for water system consolidations, in which struggling water systems can be combined with more successful ones. To date, only one L.A. County consolidation has occurred in the past forty years, a shockingly low number given the potential benefits and the number of small systems in the county. The Legislature has authorized the Water Board to mandate consolidations and should grant the Water Board even greater authority and resources to support consolidation.
- The state must expand funding for small water system operations and maintenance, infrastructural improvements, and disaster planning. More funding could come from Gov. Newsom's proposed tax, or other means. Given the limited capacity of small systems, the funding must be accessible and the application process user-friendly.

To be clear, most small water systems in L.A. County—and statewide—provide safe and affordable drinking water. The problem is that some do not. If we take the human right to water seriously, the place to start is with small water systems.

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NEWSOM DOWNGRADES BROWN'S PET PROJECTS

By DAN WALTERS CALMATTERS

When Gavin Newsom was running for governor last year, he adopted “courage for a change” as his slogan.

It could be – and was – interpreted two ways: that he wanted to change the direction of California, or that he was disparaging outgoing Gov. Jerry Brown’s reluctance to confront the state’s pithiest issues.

Newsom seemingly embraced both versions Tuesday in his first State of the State address, a very long and detailed laundry list of the state’s ills and how he intends to deal with them that directly and indirectly refuted Brown.

Most starkly, Newsom downgraded two of his predecessor’s pet legacy projects, twin tunnels to carry water beneath the Sacramento-San Joaquin Delta and a statewide bullet train system.

He rejected WaterFix, as it’s been dubbed, and instead offered support for one tunnel while seeking compromise among California’s perpetually warring water factions. However, shrinking the project would require starting over on many years of planning twin tunnels, thus giving opponents of diverting water from the Delta new opportunities to kill it. Moreover, it’s questionable whether lowering the project’s capacity would make it pencil out for its sponsors, principally Southern California’s Metropolitan Water District.

Newsom also hit the pause button for compelling farmers south of the Delta to cede more water by calling for a compromise agreement and changing the chairmanship of the State Water Resources Control Board, whose water diversion plans had angered farmers.

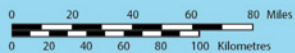
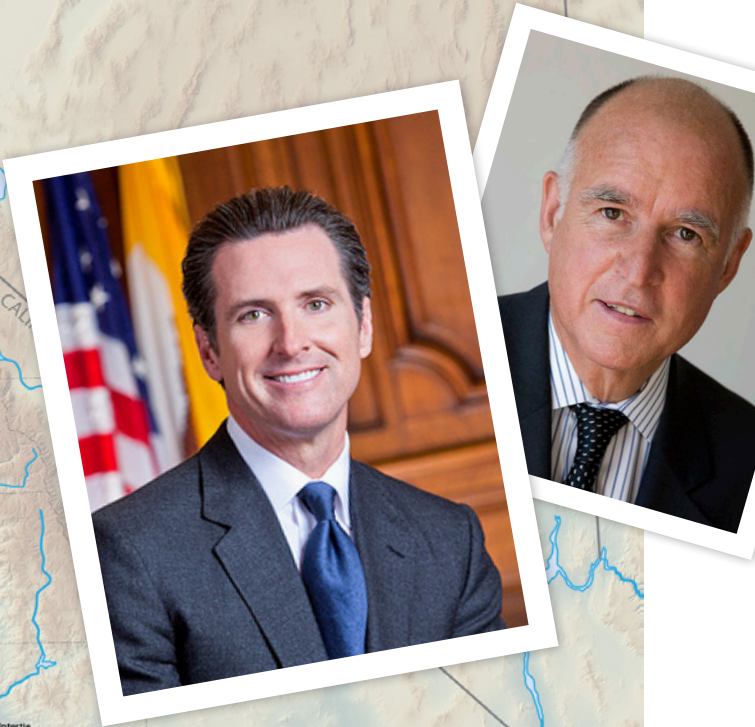
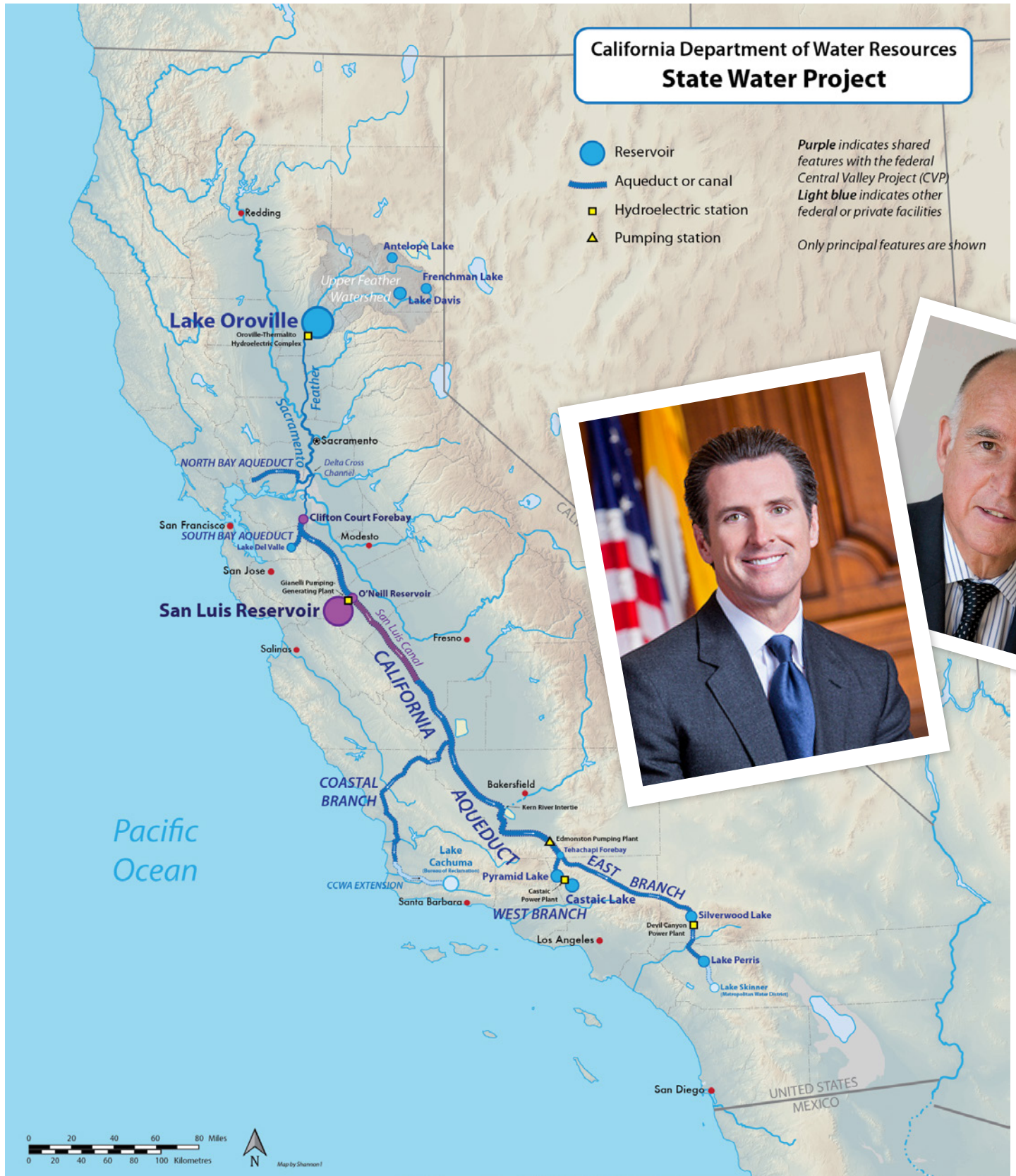


California Department of Water Resources State Water Project

- Reservoir
- Aqueduct or canal
- Hydroelectric station
- ▲ Pumping station

*Purple indicates shared features with the federal Central Valley Project (CVP)
Light blue indicates other federal or private facilities*

Only principal features are shown



The bullet train project fared even worse in Newsom's declaration that "as currently planned (it) would cost too much and take too long."

Casting aside Brown's obvious love for a statewide system linking Sacramento and San Francisco in the north to Los Angeles and San Diego in the south, Newsom called for completing just the roughly 100-mile-long initial San Joaquin Valley segment, from Merced to near Bakersfield, and making it a high-speed system.

However, electrifying the track now under construction and buying high-speed trains to run on it would be an enormously expensive gesture for such short service. More likely, the stretch of track, when completed, will be folded into the region's existing Amtrak service.

Newsom's declarations on the water tunnels and the bullet train were the biggest nuggets of news in his speech, most of which was devoted to issues he had raised in the campaign, in his inaugural address and in his first budget.

He hit all the big bullet points, from California's housing crisis to the increasing threat of wildfires and the bankruptcy of utility giant Pacific Gas and Electric, and pronounced that all could be solved by collaboration and new thinking. And, of course, he took the obligatory potshots that the governor of a deep blue state is expected to take at President Donald Trump, particularly on Trump's insistence on building a wall along the U.S.-Mexico border.

"The border 'emergency' is a manufactured crisis," Newsom declared – quite accurately. "And California will not be part of this political theater."

A day earlier, he had announced that he would withdraw most of the National Guard troops that Brown, albeit reluctantly, had committed to guarding the border.

All in all, Newsom set an ambitious agenda for his governorship, the sort of multi-point plan that Brown had often denigrated. And in doing so, the new governor set a high mark for his political future.

Achieving all he seeks would propel him into White House contention sometime after 2020. Failing, for whatever reason, would make him a footnote in California's political history.



“HE REJECTED WATERFIX, AS IT’S BEEN DUBBED, AND INSTEAD OFFERED SUPPORT FOR ONE TUNNEL WHILE SEEKING COMPROMISE AMONG CALIFORNIA’S PERPETUALLY WARRING WATER FACTIONS. HOWEVER, SHRINKING THE PROJECT WOULD REQUIRE STARTING OVER ON MANY YEARS OF PLANNING TWIN TUNNELS, THUS GIVING OPPONENTS OF DIVERTING WATER FROM THE DELTA NEW OPPORTUNITIES TO KILL IT.” AND USE SOME IMAGERY OF BAY DELTA AREA, OR THE OCEAN?



A MASSIVE AQUIFER LIES BENEATH THE MOJAVE DESERT. COULD IT HELP SOLVE CALIFORNIA'S WATER PROBLEM?

By SCOTT WILSON | THE WASHINGTON POST | MARCH 3, 2019

CADIZ VALLEY, Calif. — The landscape here is more Martian than Earthly, rust and tan plains that rise in the distance to form the Old Woman Mountains to the east and the Bristols and Marbles to the north and west.

Almost everything here is protected by the federal government. The opportunity or threat, depending on your point of view, lies beneath the dusty surface that, after a recent rain, blooms with sprays of yellow desert dandelion.

There is water here in the Mojave Desert. A lot of it.

Whether to tap it on a commercial scale or leave it alone is a decades-old question the Trump administration has revived and the California legislature is revisiting anew. The debate will help resolve whether private enterprise can effectively manage a public necessity in a state where who gets water and where it originates endures as the most volatile political issue.

It also is among several critical decisions on water policy facing the new Democratic governor, Gavin Newsom, who in his first State of the State address in February highlighted what he called California's "massive water challenges." He already has scaled back one major water project — turning a proposed twin-tunnel pipeline to run beneath the Sacramento-San Joaquin River Delta into a single tunnel — and will soon consider changes in river-water allocations for urban and agricultural users. "Our water supply is becoming less reliable because of climate change, and our population is growing because of a strong economy," Newsom said. "That means a lot of demand on an unpredictable supply."





Newsom said this state of 40 million people, many living in near-desert climates, must “get past the old binaries like farmers versus environmentalists or North versus South.”

“Our approach can’t be either/or,” he said. “It must be yes/and.”

His message will be tested here with a long-standing proposal to draw water from the desert — a new source that would add billions of gallons a year to the state’s overall supply but also potentially prompt new development and demand.

The fraught legacy of the state’s water wars goes back to 1913, when the Owens River was diverted to drive the growth of Los Angeles — killing Owens Lake and the agricultural economy of the Owens Valley — and it haunts the project to this day.

“This is an extremely difficult space in which to do business in this state,” said Scott Slater, chief executive of Cadiz, a publicly traded water company with a huge interest in the Mojave. “These legacies shadow everything we do, and so we have to make sure what we are doing is right.”

Cadiz has been seeking since 1997 to tap into the Fenner Basin, an aquifer that sits beneath a portion of the 35,000 acres of private property that the company owns within the boundaries of the Mojave Trails National Monument. President Barack Obama created the preserve in his final year in office.

The aquifer is roughly the size of Rhode Island. Cadiz would draw water from the ground, pump it east through a proposed 43-mile pipeline to the Colorado River Aqueduct, then sell it to water districts as far as 200 miles away. An estimated 100,000 households could be customers during the project’s initial 50-year term, which would generate billions of dollars in revenue for the company.

High hurdles remain, including a new legislative effort to slow the project and sort out the science behind it.

The company still needs a permit to join the aqueduct, operated by the Metropolitan Water District of Southern California, the largest wholesale supplier in the United States. The state Department of Fish and Wildlife also recently challenged Cadiz’s environmental assessment of the project, though the company does not believe it needs the agency’s permission to move ahead — except for its plans to alter streambeds along the pipeline’s proposed route, which runs mostly within a railroad right of way.

But if Cadiz can clear those obstacles, the project could be up and running within a year.



“This will not provide enough water to be the solution to the state’s water problems,” Slater said. “But it is certainly part of the solution.”

The opposition has argued that the Cadiz plan would threaten fragile desert springs and deplete the groundwater far faster than seasonal rain and snow can replenish it, threatening flora and rare wildlife. Opponents also are newly concerned about how the environmental review process has played out.

“What’s at stake here now is the state of California’s ability to hold off against the Trump administration’s environmental rollbacks,” said David Lamfrom, director of the California Desert program for the nonprofit National Parks Conservation Association. “They have tried unsuccessfully for years to take this water and move it to market. Now the threat has taken a new shape given how advantageously Cadiz has been treated by the Trump administration.”

Soon after the 2016 election, the Trump transition team included Cadiz as No. 15 on its priority list of “emergency and national security” projects, drawing sharp protest from critics including Sen. Dianne Feinstein (D-Calif.). Less than a year later, the administration exempted the project from a federal review that the Obama administration required because of the federal land involved in the pipeline construction. The current acting Interior Department secretary, David Bernhardt, then the department’s second in charge, had worked with Cadiz as a partner in the law firm handling the company’s legal and lobbying efforts before entering the administration. Bernhardt served on Trump’s transition team, but he had formally recused himself from issues involving Cadiz when the administration waived the federal review.

The project has emerged as a cause celebre. The Leonardo DiCaprio Foundation has urged state lawmakers to block it. So has the musician and record producer Moby and the pop star Sia, who has enlisted her nearly 4 million Twitter followers in the cause.



Newsom has yet to weigh in on the issue as governor. But his aides pointed to the comments he made during last year's campaign, when he stated his opposition to the project and criticized Cadiz. The company had donated to the election effort of one of his Democratic primary opponents, former Los Angeles mayor Antonio Villaraigosa, who worked for Cadiz for a year after leaving that office.

"I don't like people buying influence," Newsom said then. "I don't like money determining the fate of even good ideas, let alone bad ideas. I don't like the way this whole thing has played out."

A QUESTION OF SCIENCE

Water has bubbled in caverns under this desert for thousands of years.

From the New York and Providence mountain ranges, rain and snowmelt wend down through porous ground, skirting less permeable volcanic rock on its way. Here on the flats, marked in places by old salt mines operating in dry lake beds, the earth-warmed water fills underground caves.

That is where Cadiz intends to capture — and eventually store — the water in what Slater calls a "picket fence" of more than a dozen wells. On a chilly wind-swept morning, water frothed to the surface on company land, filling a basin the size of a few tennis courts in a hint of the bounty beneath.

That — plus a few wells — is about all that exists of the project so far.

Some of the water is being used to irrigate Cadiz-owned citrus orchards — vast green groves of lemons, including a variety that is pink inside and sells for a premium in Japan. Slater grabbed a few to take home to his children.

“We are going to use this water,” he said. “It is the signature feature of the property.”

The hydrology of the Mojave is at the center of the debate, specifically within this system of faults and springs, ranges and valleys split by historic Route 66, its faded roadside attractions still visible as it passes from Amboy to Chambless and into the Piute Mountains Wilderness.

The two main questions: How quickly will the aquifer recharge with water if drawn down? And is the aquifer connected to other sources of groundwater, namely a spring that serves as an important watering ground for wandering bighorn sheep, the threatened desert tortoise and migratory birds?

Cadiz hopes to pump 16.3 billion gallons of water from the desert each year, equivalent to 50,000 acre-feet. A required environmental assessment, paid for by the company, found that 32,000 acre-feet of water would naturally recharge the aquifer each year, an 18,000-acre-foot annual deficit that Cadiz acknowledges would last for the project’s 50-year life. The assessment has withstood a number of court challenges.

“A lot of this is tied up in the perception that the desert is just a wasteland,” said Jessica Dacey, communications director for the Mojave Desert Land Trust, a nonprofit conservation group. “In fact, it is a very fragile ecosystem.”

“This is not simply about the best research you can buy,” Dacey said. “That is not how this works.”

The Cadiz-funded assessment was accepted by the Santa Margarita Water District and San Bernardino County, both potential future customers. The water district, which serves 56,000 homes in Orange County, has signed on to buy 5,000 acre-feet of Cadiz water each year at a cost of about \$5.8 million.

“What we’ve seen over the last 10 years is that the climate is changing and so, too, is the water,” said Daniel Ferons, general manager of the Santa Margarita Water District, which lies 200 miles south of here. Ferons said the district’s local water supply is too high in salt, and, like investors, California water districts are increasingly looking to diversify their sources, for safety reasons.

Most of the district's water is imported at a time when the threat of earthquakes to the aqueducts and pipes that constitute California's elaborate water circulatory system is a major concern to state officials responsible for the supply.

“We believe the water from Cadiz is reliable and environmentally safe,” Ferons said. “It would be part of a portfolio approach.”

With both sides claiming science on their side, the California legislature has stepped in.

State Sen. Richard Roth, a Democrat from neighboring Riverside County, introduced legislation in February that, in his words, would “push the pause button to reconcile the science that has been submitted for and against the project.” A similar measure failed last year, largely for procedural reasons.

“I’m not trying to prevent the pumping of water from this aquifer,” Roth said. “But we must make sure that it is done in an environmentally sustainable way and in a way that is sustainable for the 400,000 people it is expected to serve once the first 50 years of the project end.”

A SPRING IN THE EVENING

In the twilight, the thin crescent of green sweeping down from the foothills of the Clipper Mountains stands in stark contrast to the sere glowing landscape around it. This half-mile stretch of mesquite, cottonwoods, cattails and mossy, shallow water is Bonanza Spring, the largest in the Mojave.

“What this spring is is a miracle,” said Sean Milanovich, 49, a member of the Agua Caliente band of the Cahuilla tribe, which makes its home in the Old Woman Mountains southeast of the spring. “Water is life to people here, and this spring connects us not only to nature but to the Earth itself.”

The tribe and its environmentalist allies worry that Cadiz will be drawing water from an aquifer shared by Bonanza Spring, which is about 10 miles north of the project site and a quarter-mile higher in elevation. The company insists there is no connection between the two water sources, arguing in part that the impermeable rock in the Fenner Gap separates the two systems.

But in a December letter to Cadiz, the state Department of Fish and Wildlife cited recent studies, dismissed by the company as paid for by environmentalists, that show the same chemical signatures in the spring water and in water drawn from the Fenner Basin.

The sun falls behind the hills, and, suddenly, the air turns sharply cold. The mountains are cutouts against the indigo sky, and there is nothing to be seen beyond the railroad tracks — a flat vastness, a place that has remained much the same for millennia but could be the next frontier in a dry state’s water supply.

“The way that we handle this case will be the story we tell the next generation about our public lands,” said Frazier Haney, the associate Southern California director for the nonprofit Conservation Lands Foundation. “And it will determine what becomes of our long tradition of stewardship of the desert.”



