

SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, CA
Board of Directors Engineering Workshop
Agenda
March 12, 2018 at 1:30 p.m.

- 1. Call to Order, Flag Salute and Roll Call**
- 2. Public Comment:**
Members of the public may address the Board at this time concerning items relating to any matter within the Agency's jurisdiction. To comment on specific agenda items, please complete a speaker's request form and hand it to the board secretary.
- 3. Demonstration of Groundwater Model by Inland Empire Resource Conservation District**
- 4. Update on Groundwater Quality Modeling for Beaumont Management Zone* (p. 2)**
- 5. Discussion of Proposition 68* (p. 21)**
- 6. Discussion of AB 2050* (p. 31)**
- 7. Announcements**
 - A. Regular Board Meeting, March 19, 2018 at 1:30 p.m.
 - B. Finance and Budget Workshop, March 26, 2018 at 1:30 p.m.
 - C. San Gorgonio Pass Regional Water Alliance, March 28, 2018 at 5:00 p.m. – Banning City Hall
- 8. Closed Session (3 Items)**
 - A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
(Paragraph (1) of subdivision (d) of Government Code Section 54956.9
Name of case: San Gorgonio Pass Water Agency vs. Beaumont Basin Watermaster
Case No. RIC 1716346
- 9. Adjournment**

***Information included in Agenda Packet**

(1) Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for Public inspection in the Agency's office at 1210 Beaumont Avenue, Beaumont during normal business hours. (2) Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Agency's office, located at 1210 Beaumont Avenue, Beaumont, California 92223, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Web site, accessible at <http://www.sgpwa.com>. (3) Any person with a disability who requires accommodation in order to participate in this meeting should telephone the Agency (951 845-2577) at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.



380 East Vanderbilt Way
San Bernardino, CA 92408
phone: 909.387.9200
fax: 909.387.9247
www.sbvmd.com

March 8, 2018

via email and US Mail

Cindy Li, Ph.D., P.G.
Chief of the Land Disposal and DoD Section
Regional Water Quality Control Board
Santa Ana Region 8
3737 Main Street, Suite 500
Riverside, CA 92501-3339
Cindy.Li@waterboards.ca.gov

Dear Mrs. Li,

REQUEST TO POSTPONE WATER QUALITY MODELING FOR THE BEAUMONT, YUCAIPA AND SAN TIMOTEO GROUNDWATER BASINS (RESOLUTION NUMBER R8-2008-0019)

San Bernardino Valley Municipal Water District (Valley District) is a signature party to the *Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin* (Agreement), and is responsible under the Agreement, and Regional Water Quality Control Board Resolution Number R8-2008-0019, to provide water quality analysis and reporting for any State Water Project (SWP) water that is used for groundwater recharge in Bunker Hill A, Bunker Hill B and portions of the Lytle Creek, Rialto, Yucaipa, San Timoteo, Colton and Riverside Basins Management Zones. A staggered reporting schedule was established for each management zone that generally requires a 20-year modeling projection of both TDS and Nitrogen every six years and a summary report every three years. The San Gorgonio Pass Water Agency (Agency) assumed the same responsibilities for the Beaumont Basin. This year, the 20-year modeling projection is required for the Beaumont, Yucaipa and San Timoteo Basins. Valley District and Agency have obtained a proposal from a qualified consultant to perform the required modeling by the July deadline.

The Agreement automatically renews every ten (10) years and all of the Parties continue in the Agreement unless they choose to be removed. This year is the first ten year anniversary which prompted a meeting by the Parties to discuss any changes to the Agreement. At that meeting, it was noted that the Total Dissolved Solids (TDS) in State Water Project Water varies but tends to be lowest when there is more water available to import. For example, Valley District set a new record for imported water in 2017 at almost 80,000 acre-feet and the TDS of SWP water dipped to almost 100 mg/l in 2017 (see attached). The net result is that the Watershed will end up importing more of the low TDS water from the SWP. Since the reporting, to date, has indicated that SWP recharge has not negatively impacted water quality in the Watershed, the Parties have begun discussing the possibility of changing the frequency of the reporting under the Agreement and possibly combining any reporting under this Agreement into the water quality report that is already being regularly prepared by the Basin Monitoring Program Task Force. The Parties also discussed the possibility of developing one water quality model from the upper watershed to the lower watershed that would streamline the

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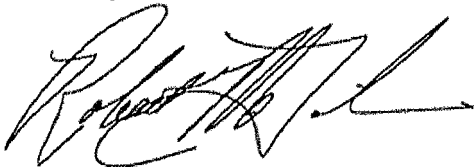
DOUGLAS D. HEADRICK
General Manager

modeling process by removing the need for the “cascading” modeling approach that works its way from the upper watershed to the lower watershed.

Given the possibility for changes to the requirements under the Agreement, Valley District and Agency respectfully request that our modeling for the Beaumont, Yucaipa and San Timoteo Basins be delayed pending the outcome of these discussions.

The State Water Project continues to be a valuable, high quality resource for the Santa Ana River Watershed. On behalf of the agencies that rely on this resource for groundwater recharge, we would like to express our continued appreciation for the cooperation of the Regional Water Quality Control Board, Santa Ana Region in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert M. Tincher". The signature is stylized and cursive, with a long horizontal stroke at the end.

Robert M. Tincher, M.S., P.E.
Deputy General Manager - Resources

Enclosure: State Water Project Total Dissolved Solids and Valley District Deliveries

Cc (via email):

Mark Norton, SAWPA

Jeff Davis, SGPWA

Jennifer Ares, Joe Zoba, YVWD

GEOSCIENCE



March 2, 2018

Bob Tincher
Deputy General Manager-Resources
San Bernardino Valley Municipal Water District
380 E. Vanderbilt Way
San Bernardino, CA 92408

RE: Request for Proposals—Prepare 20-Year Water Quality Modeling Projections for the Beaumont, San Timoteo, and Yucaipa Basins

Dear Mr. Tincher,

Please see the attached proposal to Prepare the 20-Year Water Quality Modeling Projections in the Beaumont, San Timoteo, and Yucaipa Basins. Per your request, we have provided a copy of our proposal via email. Additionally, our fee will remain fixed and valid for 60 days from the date of this proposal. If you have any questions, please feel free to contact me at (909) 451-6650, or via email at jyeh@gssiwater.com.

Regards,

A handwritten signature in black ink that reads 'Johnson Yeh'.

Johnson Yeh, PhD, PG, CHG
Principal

Request for Proposal:

**Prepare 20-Year Water Quality
Modeling Projections for the
Beaumont, San Timoteo, and
Yucaipa Basins**

**Prepared For:
San Bernardino Valley
Municipal Water
District**

**San Gorgonio Pass
Water Agency**

March 2, 2018

GEOSCIENCE



**GEOSCIENCE Support Services, Inc.
PO Box 220
Claremont, CA 91711
P. 909.451.6650
F. 909.451.6638
www.gssiwater.com**

Project Understanding

This project's purpose is to comply with the "Cooperative Agreement to Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basin." Per this Agreement, San Bernardino Valley Municipal Water District (Valley District) and San Geronimo Pass Water Agency (Agency) are required to submit a 20-year modeling projection for both total dissolved solids (TDS) and nitrogen for the Beaumont, San Timoteo, and Yucaipa Management Zones this year. The resulting water quality modeling results will be presented at the Santa Ana Watershed Project Authority (SAWPA) Imported Water Recharge Workgroup on June 18, 2018 at 10:30 AM, with the final report due on July 18, 2018. We recognize that an aggressive schedule will be required to meet project goals within the deadline. Therefore we will manage the project appropriately and help ensure effective ongoing communication with Valley District and the Agency to meet the deadlines of each deliverable.

Project Approach

We propose to develop 20-year projections for TDS and nitrate concentrations for the Beaumont, San Timoteo, and Yucaipa Management Zones using the Continuously Stirred Reaction Model (CSRM) approach. This lumped-parameter model approach is the same approach that our team successfully used for the previous report submitted in 2012. It assumes that the system is homogenous and closed and that system parameters remain constant throughout each management zone area. This approach will develop a spreadsheet model that includes (1) initial groundwater in storage, TDS concentrations, and nitrate-nitrogen concentrations for each management zone, and (2) the average amount of water and associated mass loading concentrations for each inflow and outflow term in each management zone. Our approach will update the hydrogeologic data in the existing spreadsheet models developed in 2012 for each management zone.

The following sections discuss our proposed scope of work and deliverables.

Task 1: Water Quality Modeling

Task 1.1: Collect and Review Geohydrologic Data

We will collect and review published and private reports, data, and information necessary for the CSRM approach. Information collected for the Beaumont, San Timoteo, and Yucaipa Management Zones will include, but not be limited to, the following:

- 2017 water levels
- Updated bedrock elevations developed by the USGS
- Updated ambient TDS and nitrate-nitrogen data (from the report entitled "Recomputation of Ambient Water Quality in the Santa Ana Watershed for the Period 1996 to 2015")
- TDS and nitrate-nitrogen for streamflow in each tributary of these management zones
- Relevant documents regarding TDS and nitrate-nitrogen concentrations for the deep percolation of precipitation and return flow from applied water
- Existing recharge projects and projects with a certified environmental document

Task 1.2: Update and Run Beaumont Management Zone Model for Predictive Model Scenarios (Assumes Three Scenarios for the Beaumont Management Zone)

We will update the existing spreadsheet model for the Beaumont Management Zone with the updated water level and water quality data collected in Task 1.1. We will then run the updated model to project future TDS and nitrate-nitrogen levels. Predictive model scenarios for a 20-year period will be simulated for various amounts of State Water Project (SWP) water recharge, including low, high and median projections for the available SWP. The model scenarios will also include all existing and reasonably foreseeable recharge projects (i.e., projects with a certified environmental document).

Task 1.3: Update and Run San Timoteo Management Zone Model for Predictive Model Scenarios (Assumes Three Scenarios for the San Timoteo Management Zone)

We will update the San Timoteo Management Zone Model and run predictive model scenarios following the same approach and scope of work proposed for the Beaumont Management Zone (Task 1.2).

Task 1.4: Update and Run Yucaipa Management Zone Model for Predictive Model Scenarios (Assumes Three Scenarios for the Yucaipa Management Zone)

We will update the Yucaipa Management Zone Model and run predictive model scenarios following the same approach and scope of work proposed for the Beaumont Management Zone (Task 1.2).

Task 1.5: Prepare a Draft, a Revised Draft, and a Final Technical Memorandum to Summarize Water Quality Modeling Results

We will prepare a draft Technical Memorandum (TM) for the Beaumont, San Timoteo, and Yucaipa Management Zones that summarizes water quality modeling results (i.e., Tasks 1.1 through 1.4) for Valley District and the Agency to review by May 18, 2018.

The contents of the draft TMs will follow the guideline listed in the “Memorandum of Understanding to Implement the Cooperative Agreement” dated January 14, 2009 and “Outline for Modeling Report Imported Water Recharge Cooperative Agreement (draft).” We will also compare the then-current water quality in each management zone and the 2012 water quality projections and evaluate the reason(s) for any differences identified.

A revised version of the draft TM incorporating comments from Valley District and the Agency will be submitted to SAWPA Imported Water Recharge Workgroup members to review by June 18, 2018. We will prepare a final version of the TM incorporating the comments provided by the SAWPA Imported Water Recharge Workgroup by July 18, 2018.

Deliverables for Task 1: A Draft TM of Water Quality Modeling Results (by May 18, 2018), a Revised Draft TM (by June 18, 2018), and a Final TM (by July 18, 2018)

Task 2: Prepare Final Reports
We will prepare a Final Report for each of the Beaumont, San Timoteo, and Yucaipa Management Zones. Each report will include the same elements presented in the 2012 Final Report for each Management Zone.

Deliverables for Task 2: Final Report for Each of the Beaumont, San Timoteo, and Yucaipa Management Zones (by July 18, 2018)

Task 3: Project Management and Meetings

This task includes the following four subtasks.

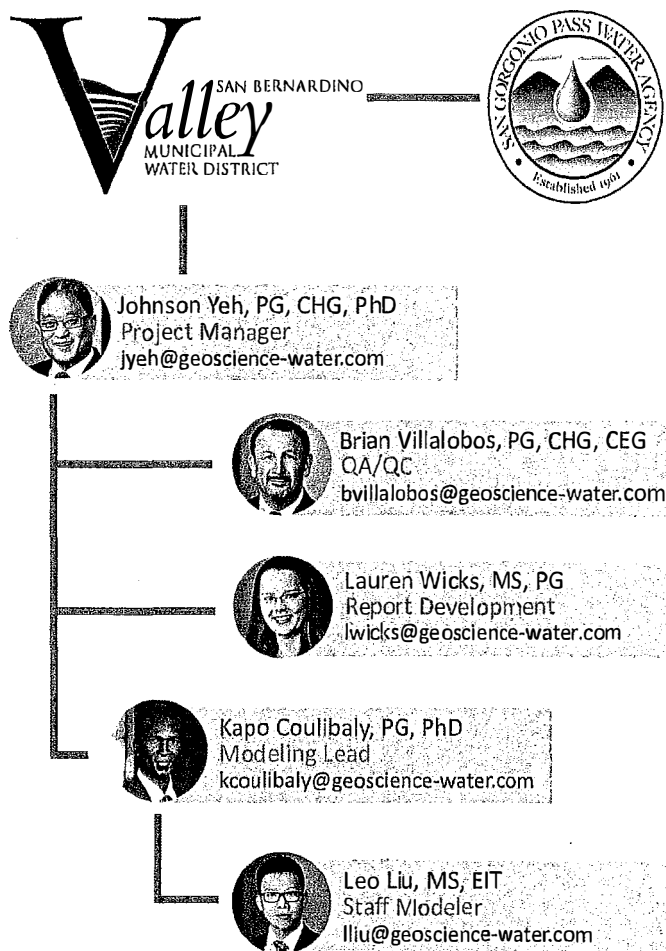
Task 3.1: Prepare for and Attend Kickoff Meeting (Conference Call)
We anticipate that a conference call will serve as the kickoff meeting. During the call we will discuss the project, goals, objectives, schedule, and other project issues. During the call we will verify the desired deliverables and chain of communication between project participants.

Task 3.2: Prepare for and Attend Status Update Conference Calls (Assumes Two Conference Calls)
We assume two conference calls during the project to review progress towards major milestones, issues that require attention, and discuss upcoming tasks.

Task 3.3: Prepare for and Attend SAWPA Imported Water Recharge Workgroup Meeting on June 18, 2018
Our team will prepare a presentation to be provided to the Santa Ana Watershed Project Authority Imported Water Recharge Workgroup on June 18, 2018 at 10:30 AM. Prior to the presentation we will confirm the requested content and format.

Task 3.4: Project Management
Our project manager, Johnson Yeh, will oversee our team’s day-to-day activities and track budget, schedule, and project deliverables. He will be available to the Valley District and San Geronio Pass Water Agency to answer questions or resolve issues as they arise.

Organization Chart



***All staff in the organization chart above are located at GEOSCIENCE’s office at:**

620 Arrow Highway, Suite 2000
La Verne, CA 91773

Phone: (909) 451-6650

Project Schedule

Proposed Project Schedule
Prepare 20-Year Water Quality Modeling Projections for the Beaumont, San Timoteo and Yucaipa Basins

		2018																		
Task	Description	11-Mar	25-Mar	1-Apr	1-Apr	8-Apr	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul
1.0	WATER QUALITY MODELING																			
1.1	Collect and Review Geohydrologic Data																			
1.2	Update and Run Beaumont Management Zone Model for Predictive Model Scenarios (Assumes Three Scenarios for the Beaumont Management Zone)																			
1.3	Update and Run San Timoteo Model for Predictive Model Scenarios (Assumes Three Scenarios for the San Timoteo Management Zones)																			
1.4	Update and Run Yucaipa Model for Predictive Model Scenarios (Assumes Three Scenarios for the Yucaipa Management Zone)																			
1.5	Prepare a Draft, a Revised Draft, and a Final Technical Memorandum to Summarize Water Quality Modeling Results																			
2.0	PREPARE FINAL REPORTS																			
3.0	PROJECT MANAGEMENT AND MEETINGS																			
3.1	Prepare for and Attend Kickoff Meeting (Conference Call)		◆																	
3.2	Prepare for and Attend Status Update Conference Calls (Assumes Two Conference Calls)								◆				◆							
3.3	Prepare for and Attend SAWPA Imported Water Recharge Workgroup Meeting on June 18, 2018																		◆	
3.4	Project Management																			

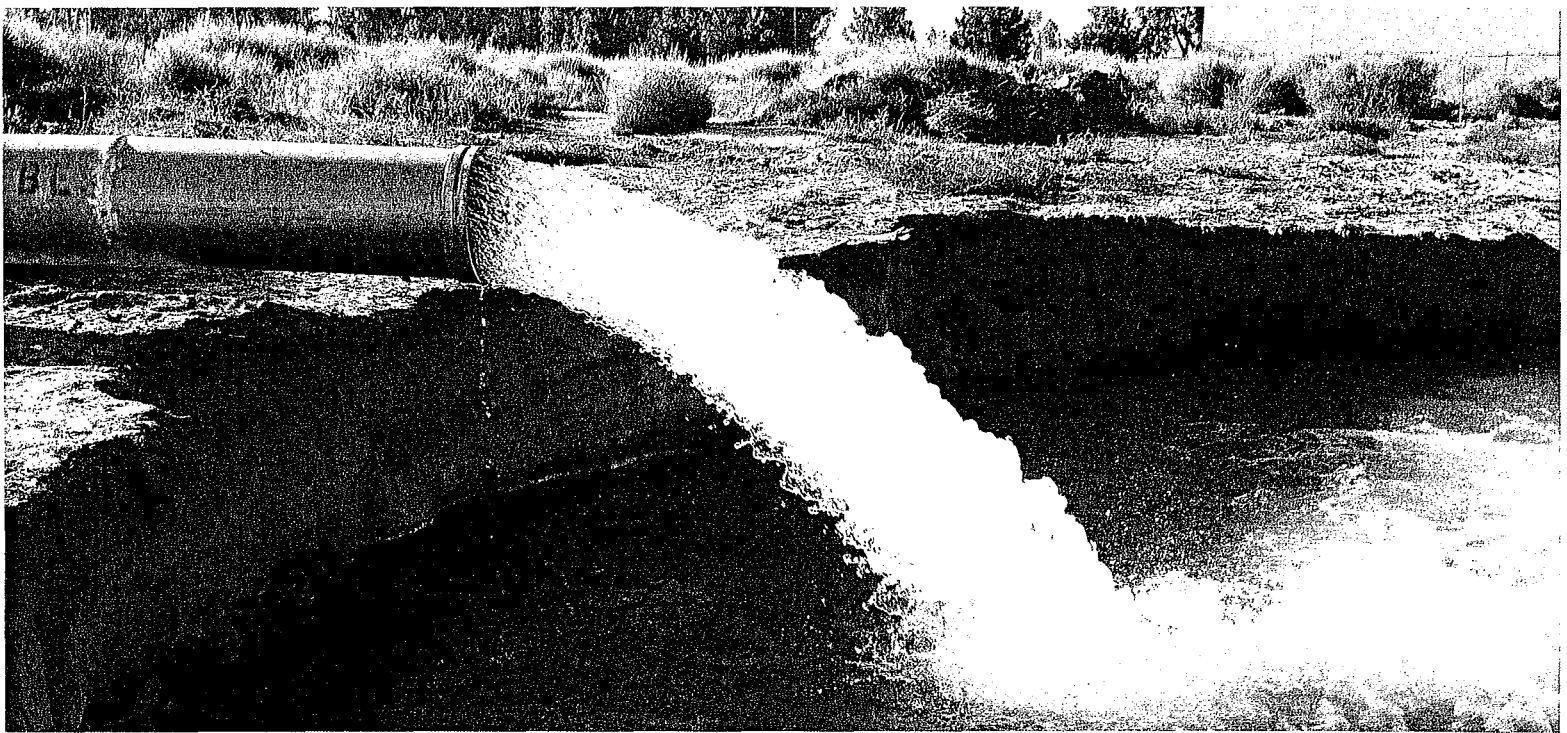
■ Working Period ◆ Meeting Date DTM - Draft TMs Deliverable Date RDTM - Revised Draft TMs Deliverable Date
 FTM - Final TMs Deliverable Date FR - Final Reports Deliverable Date

Proposed Fee

Cost Proposal for Professional Services
Prepare 20-Year Water Quality Modeling Projections for the Beaumont, San Timoteo and Yucaipa Basins

Task Description	GEOSCIENCE SUPPORT SERVICES, INC.								Reimbursable Expenses ¹	Total Cost	
	Principal Modeler	Principal Geohydrologist	Project Geohydrologist	Modeler III	Staff Geohydrologist III	Technical Illustrator	Clerical	Labor			
Hourly Rate:	\$270	\$250	\$195	\$189	\$155	\$110	\$100				
1.0 WATER QUALITY MODELING											
1.1 Collect and Review Geohydrologic Data	1	1	4	24					\$ 5,836	\$ -	\$ 5,836
1.2 Update and Run Beaumont Management Zone Model for Predictive Model Scenarios (Assumes Three Scenarios for the Beaumont Management Zone)	2	1	4	24					\$ 6,106	\$ -	\$ 6,106
1.3 Update and Run San Timoteo Model for Predictive Model Scenarios (Assumes Three Scenarios for the San Timoteo Management Zones)	2	1	4	24					\$ 6,106	\$ -	\$ 6,106
1.4 Update and Run Yucaipa Model for Predictive Model Scenarios (Assumes Three Scenarios for the Yucaipa Management Zone)	2	1	4	24					\$ 6,106	\$ -	\$ 6,106
1.5 Prepare a Draft, a Revised Draft, and a Final Technical Memorandum to Summarize Water Quality Modeling Results	6			20	40	24	3		\$ 14,756	\$ 200	\$ 14,956
Subtotal:	13	4	16	116	40	24	3		\$ 38,910	\$ 200	\$ 39,110
2.0 PREPARE FINAL REPORTS											
	3			6	24	3	1		\$ 6,121	\$ 150	\$ 6,271
3.0 PROJECT MANAGEMENT AND MEETINGS											
3.1 Prepare for and Attend Kickoff Meeting (Conference Call)	2		1	2					\$ 1,113	\$ -	\$ 1,113
3.2 Prepare for and Attend Status Update Conference Calls (Assumes Two Conference Calls)	2		2	8					\$ 2,442	\$ -	\$ 2,442
3.3 Prepare for and Attend SAWPA Imported Water Recharge Workgroup Meeting on June 18, 2018	8			4	4				\$ 3,536	\$ 100	\$ 3,636
3.4 Project Management	8			8					\$ 3,672	\$ -	\$ 3,672
Subtotal:	20	0	3	22	4	0	0		\$ 10,763	\$ 100	\$ 10,863
TOTAL HOURS AND COST (TASKS 1-3):	36	4	19	144	68	27	4		\$ 55,794	\$ 450	\$ 56,244

Notes:
 1. Reimbursable Expenses include Subcontractor Fees, Mileage, and report reproduction costs.
 2. GEOSCIENCE is aware of the requirements of California Labor Code Sections 1720 et seq. and 1770 et seq., which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. The work GEOSCIENCE performs does not fall under prevailing wage rate categories.



Appendix

Management Zone Experience

GEOSICENCE has been studied each management zone in this project and completed the last water quality report for the Beaumont, San Timoteo, and Yucaipa management Zones in 2012. Because of our past experience, we can efficiently complete the project within an aggressive schedule.

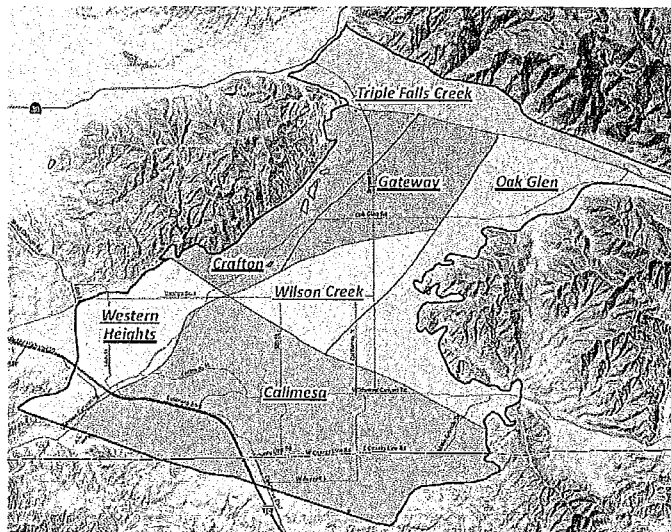
The table below details our experience completing 20-Year Water Quality Modeling Projections in several management zones in the Santa Ana River Watershed.

Management Zone	2009	2012	2015	2018
Beaumont		✓		
San Timoteo		✓		
Yucaipa	✓	✓		
Bunker Hill-A	✓		✓	
Bunker Hill-B	✓		✓	
Lytle	✓		✓	
Rialto	✓		✓	
Colton	✓		✓	
Riverside A				✓
Riverside B				✓
Riverside C				✓
Riverside D				✓
Riverside E				✓
Riverside F				✓
Arlington				✓

Recent Project Experience

San Bernardino Valley Municipal Water District Determination of the Usable Capacity and Safe Yield for each Sub-Basin within the Yucaipa Basin Area

GEOSCIENCE reviewed and re-determined the sub-basin boundaries within the Yucaipa Groundwater Basin to re-calculate each sub-basin's sustainable yield and usable capacity. To quantify inflow parameters to the basin, we constructed a watershed model using Hydrologic Simulation Program- Fortran (HSPF). The resulting HSPF model was then calibrated to San Bernardino County Flood Control District Gages located at the outflow points along Oak Glen Creek and Wildwood Creek. Our team then used the water balance method and compared calculated sustainable yield volume to the historical groundwater levels and pumping volumes.



Project Data

Client: San Bernardino Valley Municipal Water District
Client Contact: Bob Tincher, Deputy General Manager
Phone: (909) 387-9215
Email: btincher@sbvmwd.com
Project Date: 2014-Current

Team Members Assigned:

- Brian Villalobos
- Johnson Yeh
- Lauren Wicks
- Leo Liu

Western Municipal Water District Arlington Basin Well Siting

As part of the Arlington Recharge Project, our team was tasked with conducting a well siting evaluation for a new extraction well to capture recharge water from the Victoria recharge basin. Since the project has the potential to include recharging recycled water, any proposed extraction well site must account for current State regulatory guidelines for potable water reuse. The primary regulatory requirements include evaluating minimum residence time of project recycled water within the receiving aquifers and recycled water contribution to local municipal supply wells. To complete the well siting study, we used the existing Riverside-Arlington calibrated numerical groundwater models to help identify and evaluate sites for the proposed production well.



Project Data

Client: Western Municipal Water District
Client Contact: Fakhri Manghi, Sr. Water Resources Engineer
Phone: (951) 571-7290
Email: fmanghi@wmwd.com
Project Date: 2016 - 2017

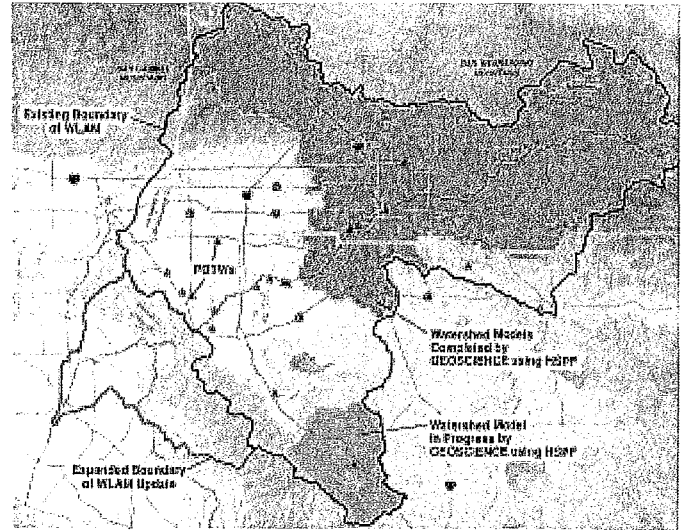
Team Members Assigned:

- Johnson Yeh
- Brian Villalobos
- Kapo Coulibaly

Santa Ana Watershed Project Authority Santa Ana River Wasteload Allocation Model Update

Our team is currently updating, calibrating, and applying the Waste Load Allocation Model (WLAM) to estimate projected total dissolved solids (TDS) and Nitrate-N concentrations for Santa Ana River recharge water and discharge at Prado Dam. This effort meets the monitoring and analysis requirements in the Water Quality Control Plan for the Santa Ana River Basin Plan.

To update the WLAM we are using the Hydrologic Simulation Program – Fortran (HSPF) computer code and associated pre- and post- processors such as WinHSPF, Watershed Data Management Utility (WDMUtil), and Better Assessment Science Integrating point and Non-point Sources (BASINS), GoldSim, and Excel Spreadsheet Runoff-Percolation Model.



Project Data

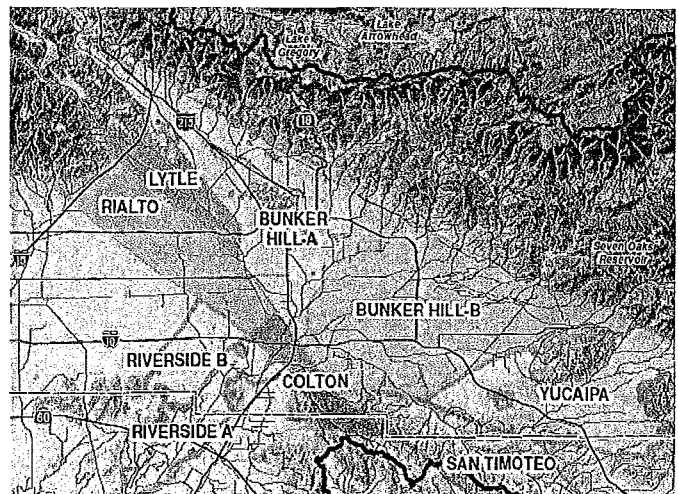
Client: Santa Ana Watershed Project Authority
Client Contact: Mark Norton, Water Resources/Planning Mgr.
Phone: (951) 354-4221
Email: mnorton@sawpa.org
Project Date: 2017-Present

Team Members Assigned:

- Johnson Yeh
- Kapo Coulibaly
- Lauren Wicks
- Leo Liu

San Bernardino Valley Municipal Water District Second Report of Recharge Parties Pursuant to RWQCB Resolution R8-2008-0019

Our team prepared water quality reports to meet the monitoring and reporting requirements contained in the cooperative agreement for the San Bernardino Valley Municipal Water District (Valley District) and confirm compliance with the Salinity Objectives in the basin. The Refined Basin Flow Model (RBFM) and water quality component was used as a predictive tool for the Bunker Hill-A, Bunker Hill-B and Lytle Management Zones. The Rialto Colton Groundwater Model developed by the USGS was used for the Rialto and Colton Management Zones, with a water quality component added to the model by our team. These models were used to create 20 year groundwater quality projections in the various management zones.



Project Data

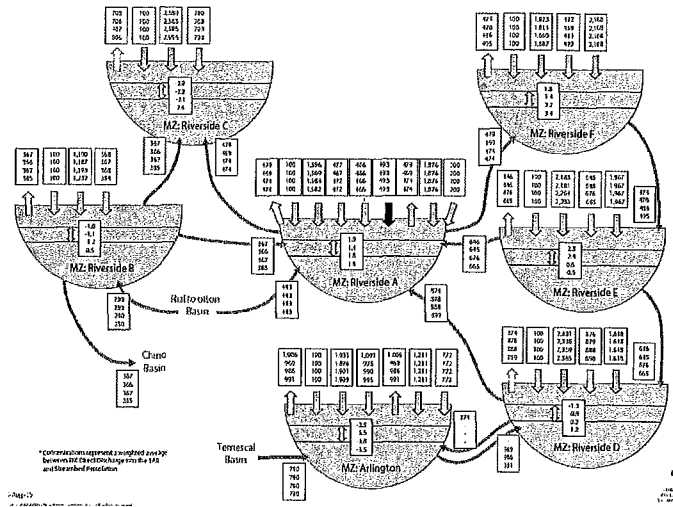
Client: San Bernardino Valley Municipal Water District
Client Contact: Sam Fuller (retired)
Project Date: 2013

Team Members Assigned:

- Johnson Yeh
- Lauren Wicks

Western MWD/ San Bernardino Valley MWD/ City of Riverside/City of San Bernardino Development of a TDS and Nitrate Lumped- Parameter Model for the Riverside and Arlington GW Basins

Since long-term conjunctive water use within the Santa Ana River Region could affect groundwater quality, the California Regional Water Quality Control Board, Santa Ana Region (RWQCB) requires that groundwater quality be managed to meet the water quality objectives for total dissolved solids (TDS) and nitrogen. GEOSCIENCE developed a TDS and nitrate lumped-parameter model for the Riverside-Arlington Management Zones to meet the cooperative agreement's monitoring and reporting requirements and to assess compliance with the Salinity Objectives projected for a 20-year predictive period. Due to the complex interactions of the fluxes in the seven management zones, GEOSCIENCE used the existing Riverside-Arlington Groundwater Flow Model (RAGFM) to determine the underflow fluxes between the Basins and management zones as input to the RALPSBM for historical and predictive simulations.



Project Data

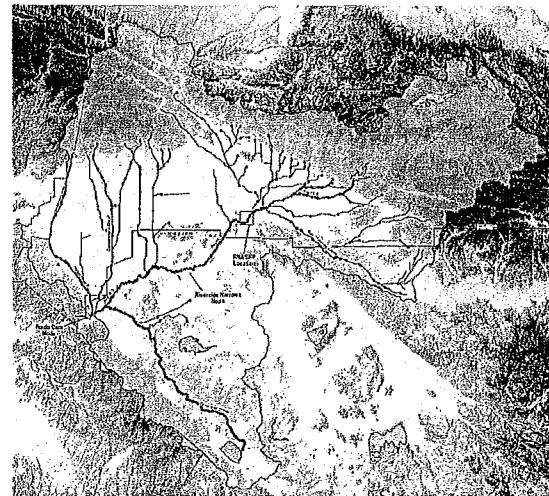
Client: Western Municipal Water District
Client Contact: Fakhri Manghi, Sr. Water Resources Engineer
Phone: (951) 571-7290
Email: fmanghi@wmwd.com
Project Date: 2015

Team Members Assigned:

- Johnson Yeh
- Lauren Wicks
- Leo Liu

Riverside Public Utilities Assessment of Downstream Surface Water Quality Impacts from the Riverside North Aquifer Storage and Recovery Project

The Riverside North Aquifer Storage and Recovery Project (RNASRP) is proposed to prepare for potential significant increases in potable water demand and potential reduced water supply from the State Water Project. The RNASRP plans to divert storm water from the Santa Ana River (SAR) into artificial recharge basins to recharge the underlying aquifer in the Riverside North Groundwater Basin. Our team evaluated the impact on downstream surface water quality due to diversion at the RNASRP on the SAR. The Waste Load Allocation Model (WLAM) developed by Wildermuth Environmental, Inc. (WEI) was used to conduct this study and determine surface water quality for project planning scenarios inside the watershed. The water quality constituents simulated with the WLAM include concentrations or mass of TDS and TIN. The WLAM was further modified to simulate diversion for the proposed RNASRP on-channel and off-channel spreading basins. The modification added nodes and links to route the proposed diversion for the RNASRP away from the SAR, resulting in a reduction of simulated surface water flow down stream from the RNASRP. The WLAM simulated the reduced SAR flow, due to RNASRP diversions, for the model hydrologic period from 1949 through 1999.



Project Data

Client: City of Riverside
Client Contact: Michael Plinski, Senior Water Engineer
Phone: (951) 571-7290
Email: mplinski@riversideca.gov
Project Date: 2011

Team Members Assigned:

- Johnson Yeh
- Brian Villalobos

Resumes



Johnson Yeh, PhD, PG, CHG
Project Manager

Years of Experience: 28
Years with GEOSCIENCE: 28

Education:

BS, Geology, National Taiwan University

MS, Geology, National Taiwan University

PhD, Sedimentology, University of Southern California

Professional Registrations:

California Professional Geologist (No. 6371)

Certified California Hydrogeologist (No. 422)

What Johnson brings to the project...

- Extensive groundwater modeling experience—will accurately perform the analysis with sufficient detail to inform future decisions
- Experienced with the Yucaipa, Beaumont, and San Timoteo Groundwater Basins—more accurate and thorough analysis that takes existing basin conditions into account
- Understands how to combine multiple models and data sources—provide a clear picture of the current groundwater conditions and allow for accurate predictions and estimates



28

Years of groundwater modeling experience

For more than 26 years, Johnson has managed ground water modeling efforts, hydrogeologic investigations, ground water basin and water quality studies, and artificial recharge projects. He performs detailed statistical analysis of various types of data and has been the lead modeler on many high profile projects—in fact, he was instrumental in helping to resolve one of the largest groundwater rights cases in California, and developed models that helped a nearby water district to successfully avoid costly litigation. Johnson teaches a graduate level ground water modeling class at the University of Southern California and his experience and knowledge will provide detailed and thorough analyses that help inform future strategies and projects.

Selected Project Experience

San Bernardino Valley Municipal Water District: Santa Ana River Integrated Model

Johnson is leading our team in an effort to use existing groundwater and surface water models to develop an integrated watershed model for the upper Santa Ana River. The resulting Upper SAR Integrated Model (or Integrated SAR Model), will be used to determine what factors may contribute to declines SAR flows, and assess cumulative effects on SAR surface flows and groundwater levels.

Yucaipa Valley Water District: Recycled Water Use Evaluation using the Gateway Sub-basin Focused Groundwater Model

Johnson was the senior modeler overseeing the construction of a groundwater model used to predict the impacts of recycled water spreading on groundwater quality and to downstream municipal wells.

San Bernardino Valley Municipal Water District: Remediation Strategies for Ground Water Contamination
Johnson was the project manager and lead ground water modeler to refine previous USGS models to better understand, analyze, and evaluate remediation alternatives related to ground water contamination problems.

Rancho California Water District: Integrated Water Resources Plan

Johnson led efforts to determine the natural safe yield from the Murrieta-Temecula Ground Water Basin and developed groundwater flow models to determine recharge capabilities from surface and imported water supplies.

Western Municipal Water District: Impact of Recharge on Contaminant Plumes and Modeling
Johnson was the project manager and lead ground water modeler to assess and model the area around the Riverside-Corona Feeder, to show the potential future impact of an initial operation scenario on the ground water levels and ground water quality in the San Bernardino Basin Area.

Jurupa Community Services District: Chino Basin Artificial Recharge Evaluation

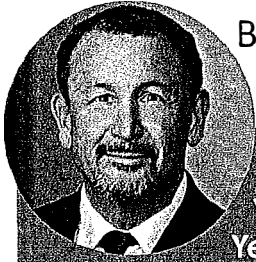
Johnson led modeling efforts to modify a previously established groundwater flow model of the Chino Basin to incorporate solute transport and assess the impact of artificial recharge operations planned by the Chino Basin Watermaster on Nitrate and TDS concentrations in the southern Chino Basin.

Rancho California Water District: Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin

Johnson was the lead modeler to create an Integrated Ground Water and Streamflow Model of RCWD. Johnson worked with a technical panel that included, RCWD, USGS, U.S. Marines, Camp Pendleton, Stetson Engineers, Santa Margarita Watermaster, and GEOSCIENCE. The technical was formed to avoid litigation between RCWD and the Camp Pendleton Marine Base. Johnson is responsible for preparation of the model and analysis of the results.

Santa Ana Watershed Project Authority: Chino Desalter System Projects

Johnson developed a detailed analysis of the Chino Ground Water Basin that included a three-dimensional numerical ground water flow model (MODFLOW). A separate analysis was also conducted to assess potential water quality changes in project and existing wells as a result of the project.



**Brian Villalobos, PG, CHG, CEG
QA/QC**

**Years of Experience: 28
Years with GEOSCIENCE: 9**

Education:

BS, Geology, California State University, Los Angeles

Professional Registrations:

California Professional Geologist (No. 4153)

Certified California Hydrogeologist (No. 794)

California Certified Engineering Geologist (No. 1298)

What Brian brings to the project...

- Brian has worked heavily on projects within the San Bernardino area, including multiple groundwater models and recharge studies. Additionally, he helped identify potential recharge locations within the basin
- 28+ years of groundwater resource studies and reports including conjunctive use and storage infiltration calculations
- Specializes in groundwater recharge and water reuse



28+
Years of groundwater modeling and well experience

Brian has more than 28 years of professional experience in geohydrology and environmental geology throughout the Southern California region. His specific areas of expertise are in hydrogeologic investigations to support groundwater recharge, sustainability, safe yield, and indirect potable reuse. He has studied and modeled the Yucaipa, Beaumont, and San Timoteo Groundwater Basins including, determining usable capacity and safe yield, evaluating recycled water and stormwater use for recharge, and identifying potential recharge locations.

Selected Project Experience

San Bernardino Valley Municipal Water District and Partners: Determination of the Usable Capacity and Safe Yield for each Sub-basin within the Yucaipa Basin Area
Brian led efforts to reevaluate sub-basin boundaries in the Yucaipa Groundwater Basin to assess the "safe yield" and storage capacity of each sub-basin. He developed a watershed model of the Yucaipa Valley to determine water balance terms previously not calculated. The "safe yield" was calculated using three separate methods to validate values and compared to historical calculations performed by other parties.

Yucaipa Valley Water District: Recycled Water Use Evaluation using the Gateway Sub-basin Focused Groundwater Model

Brian managed efforts to develop a geologic and hydrologic conceptual model and a groundwater flow and solute transport model for a 10 square mile area of the Gateway sub-basin and portions of five additional sub-basins. The model is being used to evaluate potential movement of recycled water from the Wilson Creek Spreading Basin.

San Bernardino County: Active Recharge Project from Tributaries of the Santa Ana River

Brian led our team to develop a watershed model to estimate potential stormwater capture from 13 tributary Creeks to the Santa Ana River in the San Bernardino Valley. The project included preparing conceptual designs for stormwater capture facilities and estimating potential new conservation water added to the ground water system from urban run-off capture.

San Bernardino Valley Municipal Water District: Recharge Investigation of the Yucaipa Groundwater Basin

Brian led efforts to complete a hydrogeologic investigation at eleven potential sites within the Yucaipa Groundwater Basin for potential artificial recharge. Recommendations for subsequent phases of investigation were provided for each site.

Riverside County: Hydrogeologic Evaluation of the Riverside Aquifer Storage and Recovery Project
Brian identified available Santa Ana River surface flows to use in On-Channel and Off-Channel recharge basins and evaluated recharge impacts on the ground water surface.

Riverside County: Evaluation of Potential Locations for Ground Water Recharge at the East and West Dam Sites, Diamond Valley Lake
Brian assessed water quality and water level trends and other considerations to evaluate impacts from proposed recharge scenarios.

City of Banning: 2010 Urban Water Management Plan
Brian prepared the City of Banning 2010 Urban Water Management Plan (UWMP) to comply with the Urban Water Management Planning Act requiring urban water suppliers to assess the reliability of its water sources over a 20-year planning horizon considering normal, dry, and multiple-dry years. Amendments to the UWMPA since the 2005 UWMPA include the Water Conservation Act of 2009 or 20x2020 Plan, to reduce per capita water use by 20% by December 31, 2020.

City of Moreno Valley: Ground Water Basin Assessment for the Box Springs Mutual Water Company Service Area Rezoning
Brian helped evaluate available long-term water supplies from the San Jacinto Ground Water Basin to support future City development plans.

City of Banning: Update of Safe Yield Estimates for the Banning Ground Water Storage Unit
Brian assessed current data and re-evaluated safe yield estimates for the ground water basin as a potential source of water supply for a proposed future development.

City of Oceanside/RMS: Mission Basin Model Update and Evaluation of Indirect Potable Reuse
Brian developed a geologic and hydrologic conceptual model and a groundwater flow and solute transport model for a 22 square mile area covering the entire Mission Groundwater Basin near Oceanside California. The model is being used to evaluate potential movement of recycled water from the Wilson Creek Spreading Basin.

Olivenhain Municipal Water District: Groundwater Supply and Brine Management Program
Olivenhain Municipal Water District (OMWD) relies almost entirely on imported water from the California and Colorado Aqueducts. To reduce independence on imported water, Brian is leading our team's efforts to determine the safe yield and increment water available in the San Dieguito basin; and determine locations for well fields, treatment facilities, pipelines, and brine discharge facilities. Currently our team is collection data, completing a hydrological investigation and updating the current groundwater model. We are also developing preliminary well designs, recommending brine management activities, supporting community outreach, and completing desk-top environmental reviews.



Lauren Wicks, MS, PG Geologist/Report Development

Years of Experience: 6
Years with GEOSCIENCE: 5

Education:

BS, Geology, Cal Poly Pomona

BS, Integrated Earth Studies, Cal Poly Pomona

MS, Hydrology, University of Idaho

Professional Registrations:

California Professional Geologist (No. 9531)

What Lauren brings to the project...

- Experience supporting groundwater models, sustainable yield studies, and calculating water budgets—help provide more accurate and thorough models and studies to inform options
- Detail oriented—help provide accurate data and high-quality deliverables

Lauren has experience with groundwater and environmental investigations performed for numerous municipalities, state agencies, and private clients throughout the Southern California region. She performs groundwater flow and transport modeling, hydrogeologic investigations, groundwater basin and water quality studies, artificial recharge projects, and has experience in GIS mapping, watershed management, database development and management. Lauren also supports our team by developing accurate and complete written reports and documents, and by performing quality reviews on data.

Selected Project Experience

San Bernardino Valley Municipal Water District: Santa Ana River Integrated Model

Lauren is working with our team to use existing groundwater and surface water models to develop an integrated watershed model for the upper Santa Ana River. The resulting Upper SAR Integrated Model (or Integrated SAR Model), will be used to determine what factors may contribute to declines SAR flows, and assess cumulative effects on SAR surface flows and groundwater levels.

San Bernardino Municipal Water District: Joint Groundwater Model for the Rialto-Colton Groundwater Basin

Lauren prepared a technical memorandum comparing previous groundwater models of the Rialto-Colton area

and identifying the strengths and weaknesses of each and helped with subsequent reports regarding model construction and calibration. She helped compile a well database with locations, construction information, lithologic information and water level/water quality data availability. Support for modeling and reporting activities, and assisted with the preparation of technical memoranda summarizing model construction, calibration, and predictive scenarios.

Rancho California Water District: Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin

Lauren helped evaluate and report on a systematic model update and refinement process.

Riverside Public Utilities: North Orange Well Field Evaluation, Well Siting, and Non-Potable Water Supply Assessment

Lauren helped interpret model results and prepared a technical memorandum summarizing the impacts of new potable and non-potable wells on the current North Orange well field wells.

Chino Basin Desalter Authority: Chino Basin Ground Water Model Update

Lauren helped refine the Chino Basin Ground Water Model to evaluate impacts from proposed CDA wells. She also compiled data, updated model files, created model datasets, and calibrated the groundwater model.

Western Municipal Water District: TDS and Nitrate Lumped-Parameter Model for the Riverside and Arlington Groundwater Basins

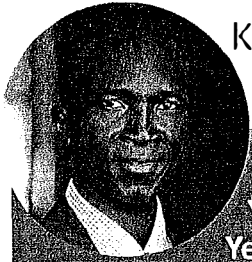
Lauren helped create a lumped-parameter model to meet monitoring and reporting requirements of the groundwater basins and assess compliance under various scenarios. She also helped prepare various technical memorandums throughout the modeling process.

East Valley Water District: Wastewater Reclamation Plant Engineering Report

Lauren helped produce technical memorandums summarizing the predicted impacts of recharging recycled water at various recharge sites as part of the proposed Sterling Natural Resource Center. The analysis included determining the amount of underflow available as diluent water, and calculating travel times for recycled water recharge and recycled water contribution at nearby production wells.

Rancho California Water District: Santa Margarita River Watershed Groundwater Model Runs & Evaluation

Lauren helped conduct GSFLOW, soluble transport, and sustainable yield model runs to prepare a groundwater model plan.



Kapo Coulibaly, PhD, PG Hydrogeologist/Groundwater Modeling

Years of Experience: 15
Years with GEOSCIENCE: 2

Education:

BS, Geology, National University of the Ivory Coast, Abidjan, Ivory Coast

MS, Environmental Science, National University of the Ivory Coast, Abidjan, Ivory Coast

PhD, Hydrogeology, North Carolina State University, Raleigh, NC

Professional Registrations:

Florida Professional Geologist
(No. 2766)

What Kapo brings to the project...

- Experience with groundwater modeling in the local area—help develop more accurate models and assumptions
- Helped complete similar studies withing the Santa Ana River Basin—familiarity with the local hydrogeology will help improve project efficiency and model accuracy



15

Years of groundwater modeling
and well supervision

Dr. Kapo Coulibaly has 15 years of focused experience with geologic and hydrogeologic investigations and groundwater modeling. His expertise spans the spectrum of assignments from water resource management to investigating salt and nutrients, mining planning and impact studies, injection well feasibility and salt water intrusion studies. Kapo's background also includes supervising well construction and serving as an expert witness in litigation cases. He had direct experience performing groundwater modeling in the Riverside area.

Selected Project Experience

San Bernardino Valley Municipal Water District: Santa Ana River Integrated Model

Kapo is supporting to use existing groundwater and surface water models to develop an integrated watershed model for the upper Santa Ana River. The resulting Upper SAR Integrated Model (or Integrated SAR Model), will be used to determine what factors may contribute to declines SAR flows, and assess cumulative effects on SAR surface flows and groundwater levels.

Riverside Public Utilities: Flume 2 Replacement Well

Kapo supported modeling efforts to update and refine the focused model for the Flume 2 Replacement Well.

Santa Ana Watershed Project Authority: Santa Ana River Waste Load Allocation Model Update

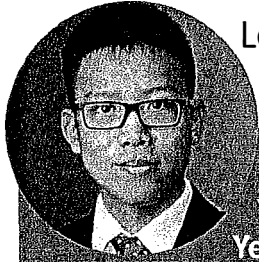
Kapo helped our team update the Santa Ana River Waste Load Allocation Model. He updated the historical precipitation data for the region and then updated and recalibrated the model. Kapo updated surface water runoff and stream flow estimates in major stream segments, and then update the estimated TIM concentrations.

Western Municipal Water District: TDS and Nitrate Lumped-Parameter Model for the Riverside and Arlington Groundwater Basins

Kapo updated Groundwater Flow Model input packages to incorporate recharge and discharge components (i.e., flux terms) measured during the period from January 1965 through December 2007. He also developed a lumped-parameter model for the period from 1965 to 2007 and calibrated through varying the anthropogenic return flow mass loading and initial TDS and nitrate concentration. Kapo then ran predictive model runs for the period of 2015 through 2034 under four different scenarios.

Olivenhain Municipal Water District: San Dieguito Valley Brackish Groundwater Desal Study

Kapo supported modeling efforts to study brackish groundwater desalination feasibility and location. He helped collect data, complete a hydrogeologic investigation, and performed well field and raw water collection.



Leo Liu, MS, EIT
Staff Hydrogeologist/Groundwater Modeling

Years of Experience: 5
Years with GEOSCIENCE: 3

Education:

BS, Environmental Engineering, Tianjin Institute of Urban Construction, China

MS, Environmental Engineering, University of Southern California

Professional Registrations:

Engineer-in-Training

What Leo brings to the project...

- Experience and familiarity with the local groundwater basins—help provide more accurate and thorough models and studies
- Helped complete similar studies withing the Santa Ana River Basin—familiarity with the local hydrogeology will help improve project efficiency and model accuracy

Mr. Liu has more than five years of experience with ground water and environmental investigations performed for numerous municipalities, state agencies, and private clients throughout the Southern California region. Scope of responsibilities include: ground water flow and solute transport modeling, hydrogeologic investigations, ground water basin and water quality studies, watershed modeling and management, artificial recharge projects, and experience in the fields of GIS applications, database development and management, and well design.

Selected Project Experience

San Bernardino Valley Municipal Water District: Santa Ana River Integrated Model

Leo is supporting efforts to use existing groundwater and surface water models to develop an integrated watershed model for the upper Santa Ana River. The resulting Upper SAR Integrated Model (or Integrated SAR Model), will be used to determine what factors may contribute to declines SAR flows, and assess cumulative effects on SAR surface flows and groundwater levels.

San Bernardino Valley Municipal Water District: Yucaipa Groundwater Basin Annual Storage Change Calculation
Leo measured ground water level and collected pumping, spreading data, and climatological data annually. He also digitized water level data from 2005 to 2013 for the Yucaipa

area using GIS software. Leo then used groundwater elevation contours from each year to calculate groundwater storage capacity.

City of San Bernardino: US EPA Model

Leo prepared the SBBA HSPF watershed model input data including land use, channel type and evapotranspiration data and run model.

San Bernardino Valley Municipal Water District: Rialto Colton Model

Leo collected and digitized water data from 1945, and 2011 using GIS software. He calculated the water budget including underflow from Lytle Basin, underflow from Bunker Hill Basin, artificial recharge of imported water, ungedaged runoff and subsurface inflow from the San Gabriel Mountains and Badlands, streambed percolation from the Santa Ana River and Warm Creek, groundwater pumping, and evapotranspiration.

Los Angeles County: Raymond Basin Ground Water Flow Model

Leo performed a regression analysis on Arroyo Seco spreading based on annual and monthly flow data from City of Pasadena, Devils' Gate Dam, and precipitation.

Castaic Lake Water Agency: Santa Clara River Valley East Sub-basin Salt and Nutrient Management Plan

Leo developed and calibrated for the salt loading model for the period from 2001 to 2011. He provided assistant with determining surface water, groundwater and salt balance and incorporating proposed mitigation projects for the salt and nutrient management plant. Leo then ran predictive model runs for the period of 2012 through 2035, and analyzed modeling results under No Project, Single Project and, All Project conditions.

Western Municipal Water District: TDS and Nitrate Lumped-Parameter Model for the Riverside and Arlington Groundwater Basins

Leo updated Groundwater Flow Model input packages to incorporate recharge and discharge components (i.e., flux terms) measured during the period from January 1965 through December 2007. He developed a lumped-parameter model for the period from 1965 to 2007 and calibrated through varying the anthropogenic return flow mass loading and initial TDS and nitrate concentration. Leo then developed and ran predictive model runs for the period of 2015 through 2034 under four different scenarios.



GEOSCIENCE



Funding Categories in Senate Bill 5

Environmental & Social Equity Investments	\$725 million
Regional and Local Parks	\$285 million
State Parks, Natural & Cultural Legacy	\$218 million
Trails & Greenway Programs	\$30 million
Rural Recreation, Tourism, & Economic Enrichment	\$25 million
Rivers, Creeks, & Waterways	\$162 million
Ocean & Coastal Protection	\$175 million
Groundwater Sustainability	\$80 million
Clean Drinking Water & Drought Preparedness	\$250 million
Conservancies & Wildlife	\$772 million
Climate Preparedness & Habitat Resiliency	\$443 million
Flood Protection & Repair	\$550 million
Regional Water Sustainability	\$390 million

California Proposition 68, Parks, Environment, and Water Bond (June 2018)

Following California's 2018 initiative process?

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Get weekly updates from Ballotpedia on: actions by the state legislature, new filings, related lawsuits, breaking news emails & more.

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California Proposition 68, the Parks, Environment, and Water Bond, is on the ballot in California as a legislatively-referred bond act on June 5, 2018.^[1]

A "yes" vote supports this measure to authorize \$4 billion in general obligation bonds for state and local parks, environmental protection projects, water infrastructure projects, and flood protection projects.

A "no" vote opposes this measure to authorize \$4 billion in general obligation bonds for state and local parks, environmental protection projects, water infrastructure projects, and flood protection projects.

Overview

Measure design

Proposition 68 would authorize \$4 billion in general obligation bonds for state and local parks, environmental protection and restoration projects, water infrastructure projects, and flood protection projects. Assuming a 3.5 percent interest rate over a 30-year period, the bond issue would generate \$2.53 billion in interest, meaning the state would spend \$6.53 billion to pay off the bond issue.^[1]

The measure would require that between 15 and 20 percent of the bond's funds, depending on the type of project, be dedicated to projects in communities with median household incomes less than 60 percent of the statewide average; that 60 percent threshold amounted to about \$39,980 in 2016. The largest amount of bond revenue—\$725 million—would go toward neighborhood parks in *park-poor neighborhoods* in accordance with the Statewide Park Development and Community Revitalization Act of 2008's competitive grant program. The measure would also reallocate \$100 million in unissued bonds that voters approved via Proposition 1 (2014), Proposition 84 (2006), and Proposition 40 (2002). The measure would distribute bond revenue as follows:^[1]

Click *show* to expand the bond revenue table.

Proposition 68 (2018)	[show]
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Bonds on the ballot in California

In California, the state sells general obligation bonds to investors, who are in effect providing funds to the state

California Proposition 68: California Parks, Environment, and Water Bond



Election date

June 5, 2018

Topic

Bond issues and
Forests and parks

Status

On the ballot

Type	Origin
Bond issue	State Legislature

that the state repays the investors with interest over a period of time. The state repays bondholders through revenue in the General Fund.^[2] The California Constitution requires that general obligation bond issues of \$300,000 or more be referred to voters for approval or rejection. Between 1993 and 2018, voters of California cast ballots on 39 bond issues, approving 31 of them.

State of ballot measure campaigns

As of February 1, 2018, there were five committees registered to support Proposition 68. The committees in support of the measure had raised a combined \$1.35 million. The top contributors included the Peninsula Open Space Trust (\$300,000), The Wildlands Conservancy (\$200,000), and the Save The Redwoods League (\$200,000). There were no committees registered to oppose the ballot proposition.^[3]

Text of the measure

Full text

The full text of the measure is as follows:^[1]

SB 5, De León. California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018.

SECTION 1. Section 5096.611 is added to the Public Resources Code, to read:

5096.611. Notwithstanding any other law, two million five hundred fifty-seven thousand dollars (\$2,557,000) of the unissued bonds authorized for the purposes of subdivision (b) of Section 5096.610, and eight hundred thousand dollars (\$800,000) of the unissued bonds authorized for the purposes of subdivisions (b) and (c) of Section 5096.652 from the amount allocated pursuant to subdivision (d) of Section 5096.610 are reallocated to finance the purposes of, and shall be authorized, issued, and appropriated in accordance with, Division 45 (commencing with Section 80000).

SEC. 2. Section 75089.5 is added to the Public Resources Code, to read:

75089.5. Notwithstanding any other law, twelve million dollars (\$12,000,000) of the unissued bonds authorized for the purposes of subdivision (a) of Section 75089.2

Support

Senate President Kevin de León (D-24), a candidate for the U.S. Senate in 2018, was the lead author of the bond measure in the California State Legislature.^[1]

Supporters

Officials

- Sen. Kevin de León (D-24)^[1]
- Sen. Anthony Portantino (D-25)^[4]
- Rep. Eduardo Garcia (D-56)^[4]

Organizations

- California Chamber of Commerce^[5]
- Association of California Water Agencies^[6]
- The Trust for Public Land^[7]

Arguments

Susana Reyes, vice president of the Sierra Club, and **Sen. Anthony Portantino** (D-25) wrote an opinion article advocating for the measure in the *Los Angeles Daily News*. Reyes and Sen. Portantino stated:^[4]

“ California has always been an environmental leader, and our public spaces, forests, lakes and beaches are recreational destinations for millions. Five years of severe drought followed by heavy rains have magnified the lingering aftermath of the 2008 economic downturn, leaving our state with a substantial need to invest in deteriorating local and regional parks and aging water infrastructure, dams, reservoirs, and flood protection.^[8] ”

Senate President Kevin de León (D-24), lead author of the bond measure, said:^[9]

“ Clean and reliable water resources, including secure flood control systems, and access to parks and recreational space, are vital to our economy and wellbeing as a state. This bond allows us to invest in critical priorities that have been neglected for years, while lifting people up with good jobs and livable, healthy communities.^[8] ”

Mary Creasman, California Director of Government Affairs for The Trust for Public Land, stated:^[7]

“ Most importantly, it is a win for millions of California children and families, who will soon have access to a quality park within a 10-minute walk of their home. Park access should not be considered a luxury. It is a right, along with the clean air, clean water, and protection from climate impacts that result from these investments.^[8] ”

Opposition

Arguments

- **David Wolfe**, legislative director of the Howard Jarvis Taxpayers Association, said the state should use the general fund to maintain parks, not bonds. He stated, "If you are using bond money to fill potholes, you are paying the interest off for 30 years."^[10]



Campaign finance

See also: *Campaign finance requirements for California ballot measures*

As of February 1, 2018, there were five ballot measure committees registered in support of the measure. The committee *Conservation Action Fund for Clean Water and Parks, Sponsored by Environmental Organizations* had raised the most funds at \$605,000. Together, the five committees received \$1.35 million and expended \$304,993.^[3]

The largest contributor to the committees was Peninsula Open Space Trust (POST), a nonprofit organization that acquires land for conservation in the San Francisco Peninsula area.^[13] The organization donated \$300,000.^[3]

As of February 1, 2018, there were no committees registered in opposition to the initiative.^[3]

Total campaign contributions ^[11] as of February 1, 2018 ^[12]	
 Support:	\$1,352,755.82
 Opposition:	\$0.00

Support

The contribution and expenditure totals for the committees in support of the initiative were current as of February 1, 2018.^[3]

Committees in support of Proposition 68				Totals in support	
<i>Updated as of February 1, 2018</i>				Total raised:	\$1,352,755.82
Supporting committees	Cash contributions	In-kind services	Cash expenditures	Total spent:	\$304,992.54
Conservation Action Fund for Clean Water and Parks, Sponsored by Environmental Organizations	\$605,000.00	\$0.00	\$203,834.99		
Committee for Clean Water Natural Resources and Parks	\$128,400.00	\$29,530.42	\$19,723.23		
California Park & Recreation Society Inc. Supporting Clean Water, Natural Resources & Parks	\$9,825.40	\$0.00	\$7,723.59		
Californians for Clean Water and Safe Parks, Sponsored by Conservation Groups	\$530,000.00	\$0.00	\$41,344.35		
Fund for a Better Future, Committee for 2018 Clean Water and Safe Parks Bond	\$50,000.00	\$0.00	\$2,835.96		
Total	\$1,323,225.40	\$29,530.42	\$275,462.12		

Donors

The following were the top six donors who contributed to the support committees as of February 1, 2018.^[3]

Donor	Cash	In-kind	Total
Peninsula Open Space Trust	\$300,000.00	\$0.00	\$300,000.00
The Wildlands Conservancy	\$200,000.00	\$0.00	\$200,000.00
Save The Redwoods League	\$200,000.00	\$0.00	\$200,000.00
The Big Sur Land Trust	\$125,000.00	\$0.00	\$125,000.00
Sempervirens Fund	\$80,000.00	\$0.00	\$80,000.00
Los Angeles Waterkeeper	\$80,000.00	\$0.00	\$80,000.00

Reporting dates

In California, ballot measure committees file a total of four campaign finance reports in 2018. The filing dates for reports are as follows:^[14]

Campaign finance reporting dates for June 2018 ballot [\[show\]](#)

Methodology

Ballotpedia calculates campaign finance based on the political committees registered to support or oppose a measure and independent expenditures, when relevant and available. When a committee is registered to support or oppose multiple measures it is impossible to distinguish between funds used for one measure and funds used for the other.

In calculating campaign finance for supporting and opposing committees, Ballotpedia does not count donations or expenditures from one ballot measure committee to another since that would amount to counting the same money twice. This method is used to give the most accurate information concerning how much funding was actually provided to and spent by the opposing and supporting campaigns.

Ballotpedia subtracts out committee-to-committee contributions—both cash donations and in-kind contributions. Because of this, it is possible for certain committees to have negative contributions. Negative contributions mean that a committee has provided more contributions to other committees than it has received. If expenditures exceed contributions, it means the committee has accrued unpaid bills, has unpaid or unforgiven loans, or has contributed a certain amount of in-kind services to another committee.

Ballotpedia provides information about all reported in-kind donations. In-kind contributions are also counted toward total expenditures since, with in-kind gifts, the contribution and services or goods are provided simultaneously. Ballotpedia does this to provide the most accurate information about the cash-on-hand of supporting and opposing campaigns.

Background

Bond issues on the ballot in California

See also: *Bond issues on the ballot*

Voters of California cast ballots on 39 bond issues, totaling \$154.829 billion in value, from January 1, 1993, through January 1, 2018. Voters approved 31 (79.49 percent) of the bond measures—a total of \$143.409 billion. Six of the measures were citizen's initiatives; four of six were approved. Thirty-three of the measures were legislative referrals; 25 of 33 were approved. The most common purposes bond measures during the 25 years between 1993 and 2018 were water infrastructure and public education, for which there were seven bond measures each. There were four bond measures related to parks or environmental conservation between 1993 and 2018, for which three of four were approved.

Prior to the election on June 5, 2018, the most recent bond issue that citizens voted on was a \$9 billion public education bond titled Proposition 51.

Click **show** to expand the bond revenue table.

Year [show]	Measure	Amount	Primary purpose	Origin	Outcome
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Bond debt in California

As of December 1, 2017, California had \$73.33 billion in debt from general obligation bonds. The state had \$31.09 billion in unissued bonds, including \$2.19 billion for natural resources and environment-related bonds.^[15]

Budgets

The state budget for fiscal year 2017-2018, which was signed into law on June 27, 2017, included \$183.3 billion in state funds. Most—\$125.1 billion—came from the General Fund and less than two percent—\$3.3 billion—came from bond funds. The 2017-2018 budget included \$3.2 billion for the state's Environmental Protection Agency and \$5.2 billion for the state's Natural Resources Agency.^[16]

On January 10, 2018, Gov. Brown (D) released a \$190.3 billion budget plan for the state's fiscal year 2018-2019.^[17] Around \$2.5 billion of the proposed spending would be derived from bonds. The proposed 2018-2019 budget would include \$2.9 billion for the state's Environmental Protection Agency, a 9.4 percent decrease from the prior budget, and \$4.7 billion for the state's Natural Resources Agency, a 9.6 percent decrease from the prior budget.^[18] The budget requires the approval of the California State Legislature, which votes on amendments and other changes to the budget.

Gov. Brown's proposed budget would allocate \$1.02 billion of the Parks, Environment, and Water Bond in fiscal year 2018-2019.^[19] As the proposed budget included allocations from the Parks, Environment, and Water Bond, rejecting the bond measure would decrease the spending on natural resources in the 2018-2019 budget, unless the budget is amended before enactment to increase spending.

Path to the ballot

See also: *Authorizing bonds in California*

Section 1 of Article XVI of the California Constitution requires that general obligation bond issues of \$300,000 or more be referred to voters for approval or rejection. The California State Legislature is required to pass bond acts by a two-thirds vote of all the members in both legislative chambers. The governor must also sign the bond act.

The bond act was introduced into the legislature as Senate Bill 5 (SB 5) on December 5, 2016. On May 30, 2017, the California Senate passed the bill 31 to 9. The bill was amended in the California State Assembly, increasing the bond amount from \$3.832 billion to \$4 billion.

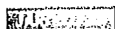
On September 15, 2017, the state Assembly voted 56 to 21, with two members not voting, to pass the bill. Three Republicans voted with 53 Democrats to approve the bill. As one Democrat abstained from voting, at least one Republican vote was needed to pass SB 5. On September 16, 2017, the state Senate voted 27 to 9, with four members not voting, to pass the final version of SB 5. In the state Senate, the bill received just enough votes to pass as Democrats supported SB 5 and Republicans either voted against SB 5 or abstained.^[1] September 15, 2017, was the last day of the 2017 regular legislative session that the state Legislature was allowed to pass bills.

On October 15, 2017, Gov. Jerry Brown (D) signed the bill, certifying the measure for the ballot in 2018.^[1]

Vote in the California State Assembly September 15, 2017				Vote in the California State Senate September 16, 2017		
<i>Requirement: Two-thirds (66.67 percent) vote of all members in each chamber</i>				<i>Requirement: Two-thirds (66.67 percent) vote of all members in each chamber</i>		
Number of yes votes required: 54 ✓				Number of yes votes required: 27 ✓		
	Yes	No	Not voting		Yes	No
Total	56	21	2	Total	27	9
Total percent	70.00%	26.25%	2.50%	Total percent	67.50%	22.50%
Democrat	53	0	1	Democrat	27	0
Republican	3	21	1	Republican	0	9

See also

2018 measures



- 2018 ballot measures
- Bond issues on the ballot
- Environment on the ballot
- 2018 legislative sessions

California



- California ballot measures
- California ballot measure laws
- Environmental policy in California

News and analysis



- Ballot measure lawsuits
- Ballot measure readability
- Ballot measure polls

External links

- California Senate Bill 5

Everything You Need To Know About...

Prop 68

(de León) California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018

June 2018

The Basics

- ▶ On the June 2018 ballot, voters will decide whether to approve a **\$4.1 billion bond** that will provide funding for parks, drought preparedness, water investments and flood protection throughout the state.
- ▶ Authored by Senate Pro Tem Kevin de León, this bond places a high priority on funding for low-income communities.
- ▶ At least **20 percent of the funds** in each of the eleven chapters must be allocated to projects serving severely disadvantaged communities.



\$1.47 Billion

Parks

\$725 MILLION for the creation and expansion of safe parks in park-poor communities

\$290 MILLION to local and regional outdoor spaces

\$218 MILLION to existing state parks facilities

\$180 MILLION to state conservancies

\$30 MILLION for trail maintenance and development

\$25 MILLION for rural areas



\$1.47 Billion

Water

\$550 MILLION for flood protection and repair

\$290 MILLION for regional sustainability

\$250 MILLION for clean drinking water & drought preparedness

\$200 MILLION to the Salton Sea

\$100 MILLION for water recycling

\$80 MILLION for groundwater sustainability



\$1.12 Billion

Environment

\$320 MILLION for wildlife conservation and habitat restoration

\$300 MILLION to the California Natural Resources Agency and California Conservation Corps

\$215 MILLION for coastal protection

\$162 MILLION for river and urban stream restoration

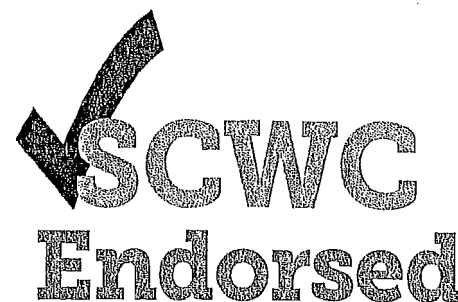
\$60 MILLION for watershed restoration

\$50 MILLION to the Department of Forestry

\$30 MILLION for climate resiliency

Supported by

- ▶ League of California Cities
- ▶ League of Women Voters
- ▶ Association of California Water Agencies
- ▶ California Chamber of Commerce
- ▶ California State Parks Foundation
- ▶ TreePeople
- ▶ The Nature Conservancy
- ▶ Audubon California
- ▶ American Heart Association
- ▶ The Wildlands Conservancy



"Proposition 68 will provide the funding to protect, enhance and secure California's most valuable resource: water."

-Charles Wilson, Executive Director



SOUTHERN CALIFORNIA WATER COALITION

28 / 35



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@SocalWaterComm

January 2018

Jeff Davis

From: Yes on Prop. 68 <ianderson=fionahuttonassoc.com@mail236.atl171.mcdlv.net> on behalf of Yes on Prop. 68 <ianderson@fionahuttonassoc.com>
Sent: Friday, March 2, 2018 11:02 AM
To: Jeff Davis
Subject: RELEASE: Key Endorsements Roll in for Prop. 68

<<https://gallery.mailchimp.com/29640478d8b51849b21907ac0/images/c3756710-2dad-45f6-a4c3-3066b468230f.png>>
KEY ENDORSEMENTS ROLL IN FOR PROP. 68
CDP, State Building Trades and More Announce Support for Critical Ballot Measure to Fund Clean Drinking Water & Safeguard California's Natural Resources

Los Angeles, CA – The California Clean Water & Safe Parks Act campaign (Yes on Proposition 68 <<https://socalwater.us12.list-manage.com/track/click?u=29640478d8b51849b21907ac0&id=4e2e8bf62f&e=4a19926da7>>) today announced a suite of major endorsements from leaders and organizations across California including support from the California Democratic Party, the State Building & Construction Trades Council of California, the American Lung Association, the Los Angeles Neighborhood Land Trust and many, many more.

These leaders join a robust coalition of water experts, conservation groups, local government organizations, park advocates, public health organizations and business groups who all recognize the need to authorize critical investments in our state's water and natural resources.

"Yes on 68 protects California's unique resources and helps ensure all Californians have access to clean, safe drinking water and parks," said Dr. Michael Ong, M.D., American Lung Association in California. "Yes on 68 helps protect air quality and preserve California's most treasured resources for future generations by restoring natural areas, implementing critical wildfire prevention measures and preventing toxic air pollution."

Proposition 68 is a general obligation bond – approved by Governor Jerry Brown and the California State Legislature (SB 5 de León) – that will appear on the June 2018 statewide ballot and will invest \$4 billion in the coming years to address some of the state's most important water, park and natural resource needs.

"Several California communities have water so contaminated that residents cannot turn on the tap and drink the water in their own homes," said Dan Howells-Schafroth, California State Director, Clean Water Action. "Yes on 68 cleans up severely contaminated local water supplies and makes long-overdue investments in local parks where they are needed most."

Proposition 68 will fund projects to ensure clean drinking water throughout California, protect communities from floods, safeguard our state's oceans, rivers, lakes and streams and build new outdoor spaces in neighborhoods with the greatest need.

"Yes on 68 makes critical investments in California's natural resources, water and our economy by tackling problems at the source before they become more expensive to address," said Helen Hutchison, President, League of Women Voters of California. "Prop 68 specifically funds parks in every California city and county and 68 takes a comprehensive approach to California's resources."

California is facing increased threats from droughts and wildfires with the impacts of climate change. Proposition 68 will prepare California to weather these challenges, while also investing in underserved communities that currently lack access to safe drinking water and safe parks for kids to play.

"Yes on 68 will benefit every region of California by helping local communities improve their parks," Carolyn Coleman, Executive Director, League of California Cities.

"Yes on 68 is critical to the health of our food supply, land and water," Craig McNamara, Past President, California Board of Food and Agriculture.

"Yes on 68 means safer drinking water for California families," Wade Crowfoot, Chief Executive Officer, Water Foundation.

"All children should have safe places to play and access to clean air and water, Yes on 68," Dr. Richard Jackson, M.D., Professor Emeritus, UCLA Fielding School of Public Health.

Proposition 68 is supported by a wide range of stakeholders and organizations, including the Association of California Water Agencies, The Trust for Public Land, The Nature Conservancy, Peninsula Open Space Trust, California Chamber of Commerce, League of California Cities, California State Parks Foundation, Save the Redwoods League, Sempervirens Fund, Southern California Water Coalition, League of Women Voters of California, PolicyLink, TreePeople, The Wildlands Conservancy, Audubon California, Heal the Bay, Clean Water Action and many more.

For more information on the initiative, please visit the Prop 68 campaign website <<https://socalwater.us12.list-manage.com/track/click?u=29640478d8b51849b21907ac0&id=7506bfa3c2&e=4a19926da7>> , check out our fact sheet <<https://socalwater.us12.list-manage.com/track/click?u=29640478d8b51849b21907ac0&id=bfb0429d45&e=4a19926da7>> , endorse <<https://socalwater.us12.list-manage.com/track/click?u=29640478d8b51849b21907ac0&id=d5b3c4527f&e=4a19926da7>> the measure, or explore the bond's investment priorities <<https://socalwater.us12.list-manage.com/track/click?u=29640478d8b51849b21907ac0&id=f7954f9f60&e=4a19926da7>> .

Questions? Contact:

Ian Anderson

ianderson@fionahuttonassoc.com

818-760-2121

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ASSEMBLY BILL

No. 2050

Introduced by Assembly Member Caballero

February 6, 2018

An act to add Division 23 (commencing with Section 78000) to the Water Code, relating to small system water authorities.

LEGISLATIVE COUNSEL'S DIGEST

AB 2050, as introduced, Caballero. Small System Water Authority Act of 2018.

Existing law, the California Safe Drinking Water Act, provides for the operation of public water systems and imposes on the State Water Resources Control Board various responsibilities and duties. The act authorizes the state board to order consolidation with a receiving water system where a public water system or a state small water system, serving a disadvantaged community, as defined, consistently fails to provide an adequate supply of safe drinking water. The act, if consolidation is either not appropriate or not technically and economically feasible, authorizes the state board to contract with an administrator to provide administrative and managerial services to designated public water systems and to order the designated public water system to accept administrative and managerial services, as specified.

Existing law, the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, provides the exclusive authority and procedure for the initiation, conduct, and completion of changes of organization and reorganization for cities and districts, except as specified.

This bill would create the Small System Water Authority Act of 2018 and state legislative findings and declarations relating to authorizing the creation of small system water authorities that will have powers to absorb, improve, and competently operate noncompliant public water systems. The bill would define various terms and require a change in organization to be carried out as set forth in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. The bill would state the intent of the Legislature to enact legislation to protect public health that would require the board to provide notice to a water agency that is chronically providing contaminated drinking water, require the agency to develop a plan, as specified, and would subject to a merger with other agencies serving contaminated water an agency that is not able to develop a plan to correct the serving of contaminated water, the merger of which would create a small system water authority. The bill would state the intent of the Legislature to enact legislation that would subject a small system water authority to oversight by the appropriate local agency formation commission and the board’s Division of Drinking Water, and that would require the Treasurer to create and submit to the Legislature an oversight report.

Vote: majority. Appropriation: no. Fiscal committee: no.
 State-mandated local program: no.

The people of the State of California do enact as follows:

1 SECTION 1. Division 23 (commencing with Section 78000)
 2 is added to the Water Code, to read:

3
 4 DIVISION 23. SMALL SYSTEM WATER AUTHORITY
 5 ACT OF 2018

6
 7 PART 1. SHORT TITLE

8
 9 78000. This division shall be known, and may be cited as, the
 10 Small System Water Authority Act of 2018.

11
 12 PART 2. FINDINGS AND DECLARATIONS

13
 14 78001. The Legislature finds and declares all of the following:
 15 (a) As of November 2017, according to the state board, there
 16 are 329 public water systems in the State of California that are

1 chronically serving contaminated water to their customers and are
2 operationally deficient in violation of public health regulations.

3 (b) The vast majority of those systems are small, only serving
4 a population of less than 10,000 people, with deficiencies that
5 range from natural contaminants, man-made contaminants, and
6 failing infrastructure. These systems are located throughout
7 California, with a greater percentage of these failing systems
8 primarily located in economically distressed or rural counties.

9 (c) These chronically out of compliance systems lack the
10 financial, managerial, and technical resources to adequately serve
11 their communities and face higher costs per customer to provide
12 adequate service because of their small size, rural location, and
13 aging infrastructure.

14 (d) There is an inefficient deployment of existing local system
15 financial resources and potential funding shortfalls, largely due to
16 duplication of overhead and the inability to access state and other
17 funding streams necessary for modern water service.

18 (e) A new category of public water agency is needed to absorb
19 and consolidate failing small public water systems to provide
20 technical, managerial, and financial capabilities to ensure the
21 provision of safe, clean, affordable, and accessible water and local
22 governance.

23 (f) This act authorizes the creation of small system water
24 authorities that will have unique powers to absorb, improve, and
25 competently operate currently noncompliant public water systems
26 with either contiguous or noncontiguous boundaries.

27 (g) Existing public water systems, whether public agencies,
28 investor-owned utilities, or private mutual water companies, that
29 are currently providing adequate water service but that are located
30 in a county where an authority may be formed will have the option
31 of voluntarily consolidating with a new authority.

32
33 PART 3. DEFINITIONS
34

35 78010. Unless the context otherwise requires, the provisions
36 of this part govern the construction of this division.

37 78011. "Affected county" means any county in which the land
38 of a proposed authority is situated.

39 78012. "Authority" means a small system water authority
40 formed pursuant to this division.

- 1 78013. "Board" means the board of directors of an authority.
- 2 78014. "City" means any chartered or general law city.
- 3 78015. "Local agency formation commission" means a local
- 4 agency formation commission of the principal county in which
- 5 the proposed authority is located.
- 6 78016. "President" means the president of the board of directors
- 7 of an authority.
- 8 78017. "Principal county" means the county in which the
- 9 greater portion of the land of a proposed authority is situated.
- 10 78018. "Secretary" means the secretary of an authority.
- 11 78019. "State board" means the State Water Resources Control
- 12 Board.
- 13 78020. "Voter" means a voter as defined in Section 359 of the
- 14 Elections Code.

15
16 PART 4. WRITTEN NOTIFICATION TO CURE

- 17
- 18 78030. It is the intent of the Legislature to enact legislation to
- 19 protect public health that would do the following:
- 20 (a) Require the state board to provide notice to a water agency
- 21 that is chronically providing contaminated drinking water.
- 22 (b) Require a water agency provided notice to develop a plan
- 23 to stop serving contaminated water to its customers.
- 24 (c) Require a plan developed to stop serving contaminated water
- 25 to be reported to the state board by July 1, 2019.
- 26 (d) Subject to a merger with other agencies that are serving
- 27 contaminated water within the same county or an adjacent county
- 28 through the local agency formation commission process any water
- 29 agency not able to develop a plan to correct the serving of
- 30 contaminated water, thereby creating a larger public water agency
- 31 known as a small system water authority that will have an improved
- 32 economy of scale and that will, through the composition of its
- 33 governing board, be responsive to the needs of local residents.
- 34 (e) Subject a small system water authority to oversight by the
- 35 appropriate local agency formation commission and the state
- 36 board's Division of Drinking Water.
- 37 (f) Require the Treasurer to create and submit to the Legislature
- 38 an oversight report.

PART 5. CHANGES IN ORGANIZATION

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2
3
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7

78035. Provided that a change in organization is consistent with this division, a change in organization shall be carried out as set forth in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Division 3 (commencing with Section 56000) of Title 5 of the Government Code).

O