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CASITAS MUNICIPAL WATER DISTRICT
a California special district

Exempt From Filing Fees Pursuant to Government Code §6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES, DISTRICT

SANTA BARBARA CHANNELKEEPER, a California non-profit corporation,

Petitioner,

vs.

STATE WATER RESOURCES CONTROL BOARD, a California State Agency; CITY OF SAN BUENA VENTURA, a California municipal corporation, incorrectly named as CITY OF BUENA VENTURA,

Respondents.

CITY OF SAN BUENA VENTURA, a California municipal corporation,

Cross-Complainant,

vs.

DUNCAN ABBOTT, et al.,

Cross-Defendant.

Case No. 19STCP01176

Assigned for all purposes to:
Hon. William F. Highberger; Dept. 10

CASITAS MUNICIPAL WATER DISTRICT'S MOTION IN LIMINE TO EXCLUDE EXPERT TESTIMONY AND OPINIONS OF DR. GREGORY SCHNAAR AND DR. AL PRESTON; DECLARATION OF JEREMY N. JUNGREIS IN SUPPORT THEREOF

Trial Date: March 16, 2022
Time: 8:30 a.m.
Dept: 10

Date Action Filed: September 19, 2014
Trial Date: March 18, 2022

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that on **March 16, 2022**, at **8:30 a.m.**, or as soon thereafter as the matter may be heard in Department 10 of the above-entitled Court, Cross-Defendant Casitas Municipal Water District, a California special district ("CMWD" or "Casitas") will bring this Motion

In Limine ("Motion") to exclude and/or limit from evidence testimony and opinions proposed to be offered by the State's designated expert witnesses, Dr. Al Preston ("Dr. Preston") and Dr. Gregory Schnaar ("Dr. Schnaar"). Dr. Preston and Dr. Schnaar are anticipated to testify at the Phase 1 trial in this case concerning opinions that are based entirely, or nearly entirely, on an incomplete *preliminary draft*[1] of an unfinished surface-water/groundwater model for the Ventura River Watershed (hereinafter the "VRW Model"), which was developed by Dr. Preston and Dr. Schnaar at the direction of the California State Water Resources Control Board ("State") and the Los Angeles Regional Water Quality Control Board ("RWQCB"). The VRW Model, importantly, as the State admits, is not finished, and the version of the model used has changed materially between September 2021 to the present, where the VRW Model is currently undergoing public review and comment. (*See* December 17, 2021 State Water Resources Control Board, Notice, Soliciting Comments on Draft Groundwater-Surface Water Model of the Ventura River Watershed and Model Documentation Report, available online at https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing/docs/ventura_river/notice-vrw_gsflow-report-draft.pdf; *see also* Draft Ventura River Watershed Groundwater-Surface Water Model and Report Webinar PowerPoint, dated Feb. 28, 2022 [Jungreis Decl., ¶ 6, Ex. E].)

Casitas has confirmed, through the deposition process, that the VRW Model is not only unfinished, but also suffers from significant errors that render it unreliable and unlikely to accurately predict the actual impact of groundwater pumping in the Ventura River Watershed. As explained more fully herein, the flaws in the unfinished VRW Model, and the flawed processes used by the

[1] The VRW Model was acknowledged to still be in **draft** form as of Dr. Preston's deposition testimony on February 8, 2022. (Jungreis Decl., Ex. B, Preston Depo., 71:10-11.) The VRW Model is importantly the *first* ever integrated surface-water/groundwater model created by Dr. Preston and Dr. Schnaar, which further evidences the need for thorough and complete scientific process. (Jungreis Decl., Ex. B, Preston Depo., 87:5-14; 88:8-15; Ex. C, Schnaar Depo., 18:15-25; 56:19-24; 93:12-14). The program manager for the VRW Model for the State Water Resources Control Board, Kevin Delano, referenced the model submitted to the other Parties in this Adjudication on September 24, 2021 as a "preliminary draft" model, and was hesitant to release files to CMWD related to the "preliminary draft" model because such model had the potential to be revised significantly between the September 2021 preliminary draft, and the December 2021 draft. (Jungreis Decl., ¶ 5 Ex. D [email correspondence dated December 17, between Kevin Delano and Kelley Dyer, AGM, Casitas MWD].)

State's experts to develop the VRW Model, undermine all of the opinions proposed to be offered at trial by Dr. Preston and Dr. Schnaar.

Accordingly, since all of Dr. Preston's and Dr. Schnaar's opinions are derived from the incomplete and flawed VRW Model, Casitas requests that the opinions proposed to be offered at trial by Dr. Preston and Dr. Schnaar, whether characterized as primary, supplemental or rebuttal, be excluded at trial, pursuant to the provisions of Evidence Code sections 352, 720, and 801-803.

This Motion is made on the following grounds:

1. Incomplete and Still Changing Model, not Complete Until 2023, that Continues to Change Since Service on the Other Parties: As discussed above, the Preliminary Draft VRW Model is not close to finished and has not undergone any of the normal independent review process that could perhaps have allowed the model developers to eliminate the systemic flaws that plague its reliability and perhaps facilitate its use in making watershed based decisions in the future. It is not credible, and it is not reliable in its current condition in that it greatly overestimates groundwater levels and the amount of groundwater discharge to surface water throughout the Ventura River watershed. It is therefore an improper tool for Dr. Preston and Dr. Schnaar to use as the basis for their opinions they intend to present at trial.

2. The Skipping of Steps in the Model Development Process Led to Systematic Errors and Structural Bias in the Model: The VRW Model proffered by Dr. Preston and Dr. Schnaar, two individuals who have never developed a model of this kind, is incomplete and not developed using any semblance of a proper scientific process. The State Water Board dictated the outcomes of the model in advance (e.g., that the modelers assume robust hydrologic connectivity between surface and groundwater throughout the watershed), and assigned the task of creating the VRW Model to two individuals that had never developed an integrated groundwater surface model before.[2] (Jungreis Decl., Ex. B, Preston Depo., 87:5-14; 88:8-15; Ex. C, Schnaar Depo., 18:15-25; 56:19-24; 93:12-

[2] Dr. Preston had developed surface water models, and Schnaar had developed groundwater models, primarily outside of coastal Southern California. Neither had ever developed an integrated surface water groundwater model before, and neither had used the U.S. Geological Survey "USGS" GSFLOW Model Framework before utilizing it for the first time with the VRW Model. (Jungreis Decl., Ex. B, Preston Depo., 87:5-14; 88:8-15; Ex. C, Schnaar Depo., 18:15-25; 56:19-24; 93:12-14.)

14.) The VRW Model has not been subject to peer review, as virtually every credible watershed model is, has not completed public comment, was not subject to any type of technical advisory committee ("TAC") process even though a TAC was created in 2017.[3] Meanwhile, the VRW Models was the subject of multiple "revisions" during the course of discovery (Jungreis Decl., Ex. B, Preston Depo., 127:7-15; 129: 6-23; Ex. C, Schnaar Depo., 40:10-19.) It is still considered a draft by its creators making it impossible to understand which version of the model supports the State's expert opinions offered at different times over the last six months, and what assumptions were being reviewed/utilized by the experts when forming those opinions. The VRW Model is incomplete, biased from the outset, and entirely unreliable. Therefore, according to industry standards, the VRW Model and the opinions of Dr. Preston and Dr. Schnaar that derive from this model would be misleading and confusing to a jury, and cannot be relied upon at trial. (See Evid. Code §§ 352, 720, and 801-803.)

3. The Projected Outcomes of the VRW Model are Based on a Scenario that Does not Exist, and Could Never Exist: The VRW Model, and Preston and Schnaar's use of it for purposes of the opinions they propose to provide at trial, are inherently flawed, and too "leaky" (e.g., predicting too much communication between the aquifer and streams). This is so because its projected outcomes regarding the impacts of pumping on surface water are: (a) based on the artificial (and arguably impossible) construct of eliminating all wells in the Ojai Basin for purposes of creating alleged "baseline conditions," and then "refilling" the Ojai Basin to a point where it is overflowing, and then turning all the wells back on to determine the impact of the withdrawals from an overflowing aquifer on surface water—a fantastical scenario disconnected from actual hydrologic conditions in the Ojai Basin. Such a scenario (e.g., turning a losing stream into a gaining stream via the VRW Model), the basis upon which Preston and Schnaar predict massive impacts to downstream surface water flows from pumping in the Ojai Basin, would take decades to occur if "refilling" the Basin is possible at all; (b) the analysis of renowned experts in hydrogeology, Dr. James McCord, and Mr. Randall Hanson, indicate that the VRW Model's outcomes are inconsistent with measured

[3] This "ghost" TAC never met after 2017 until the State Water Board sent out an email to TAC members in February of 2022 after the lack of TAC review became an issue at the depositions of Dr. Preston and Dr. Schnaar. (Jungreis Decl. ¶ 8.)

real world data and measurements in the Ojai Basin and the Ventura River Watershed (e.g., not properly calibrated), and the State's experts dismiss tangible evidence that doesn't fit into the VRW Model's predefined conditions and assumptions. (E.g., Jungreis Decl. ¶ 7, Ex. F.) This is not proper. (See Evid. Code §§ 352, 801-803.)

4. Opinions Based Upon the VR Model are Unreliable Because the Model Is not Properly Calibrated and Doesn't Align with Groundwater and Surface Water Measurements in the Watershed: The expert opinions of Dr. Preston and Dr. Schnaar which are derived directly from the VRW Model are based on assumptions of fact, and conjectural and speculative matters without evidentiary support which have no evidentiary value and should be properly excluded from evidence. (See Evid. Code § 801.) Dr. Preston nor Dr. Schnaar, neither of whom have developed a groundwater/surface water model using the USGS GSFLOW framework before, should be permitted to opine on speculative model results based upon flawed assumptions and incomplete data. Additionally, Dr. Preston should be precluded from opining on surface water impacts from groundwater pumping because he is self-admittedly not an expert on groundwater modeling or geologic structures and transmissivity between aquifer layers, and otherwise relies on incompetent and speculative data stemming from the opinions of Dr. Schnaar and flawed data derived from the VRW Model, which was created based on significant limitations[4] imposed by the State and its Request for Proposal ("RFP"). (See Evid. Code §§ 352, 720, & 801-803.) Dr. Preston and Dr. Schnaar, as the creators of the VRW Model, acknowledge that additional testing and on the ground measurements to better calibrate the VR Model could have been performed, such as conducting additional aquifer tests (piezometers), conductivity soil transmissivity tests, measuring stream depth and width, and conducting other pertinent sampling of materials in the Ojai Basin to test the degree of transmissivity of the aquitard known to exist in the southwestern portion of the Ojai Basin, but instead, to save money, they used pre-model assumptions about transmissivity between aquifer layers that are prejudicially pre-built-in to the model's runs and projected the impact of the confining

[4] For example, the VRW Model was limited by mandates imposed by the State, which precluded the use of other more detailed (and perhaps more accurate) proprietary models. (Jungreis Decl., Ex. B, Preston Depo., at 105:8-106:7.)

clay layer that are orders of magnitude too low.[5] The VRW Model also projected groundwater levels and pressure that were too high compared to actual aquifer measurements in the Ojai Basin, and also the presence of more surface water in the streams than was actually observed in the Ventura River and tributaries during the calibration period. (Jungreis Decl. ¶ 7, Ex. F [McCord Deposition Exhibit 26 and associated deposition excerpts].) Thus, the VRW Model did not rely on the best science available, and its projected outcomes therefore did not match up with measured observations in the real world. Instead, the VRW Model relied on old data—cherry picked to meet the outcomes which the State Water Board directed the modelers to obtain—and ignored compelling new data that might negatively impact the State's desired outcome of dedicating all water in the Ojai Basin and Ventura River Watershed to non-consumptive uses. Such is not a proper basis for expert testimony. (Evid. Code § 352.)

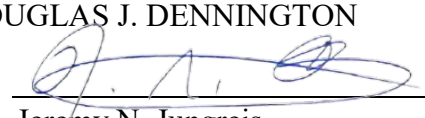
5. Dr. Preston and Dr. Schnaar Admitted they Intended to Offer "New" Opinions not Contained in Their Expert Reports at Trial::Dr. Preston and Dr. Schnaar both indicated at deposition that they intended to offer "new" opinions not contained in their expert reports at trial. However, with four different opportunities to provide expert opinions prior to trial, the most recent opportunity occurring on February 7, 2022, it is hard to envision what "new" facts came to light so as to justify "new" opinions that were not previously disclosed per the Court's discovery order. This is impermissible. Any "new" opinions that could have been addressed in the four different expert reports submitted by Preston and Schnaar in this case should be excluded from trial. (See Evid. Code § 352.)

This Motion is based on this Notice, Evidence Code sections 352, 720, and 801-803, the accompanying Memorandum of Points and Authorities, the supporting Declaration of Jeremy N. Jungreis, the attached exhibits, all pleadings, records and files in this action, and on such oral and documentary evidence as may be presented at the hearing.

[5] *See* Jungreis Decl. ¶ 7, Ex. F (McCord Rough Deposition Transcript at 11;48 P.M. ["I think that aquitard in the Ojai Basin, when you read the driller's log descriptions, they're talking that it's hard and mostly dry. It should be adjusted by a factor of 100 or 1,000 or 10,000. And when I'm saying 1,000, I'm not exaggerating. I mean, really, that -- and what they would need to do . . what they did is they adjusted the model with a factor of 10."].)

Dated: March 2, 2022

RUTAN & TUCKER, LLP
JEREMY N. JUNGREIS
DOUGLAS J. DENNINGTON

By: 

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DISTRICT a California special district

MEMORANDUM OF POINTS AND AUTHORITIES

I. SUMMARY OF ARGUMENT

Trial judges have a substantial gatekeeping responsibility when it comes to expert testimony. (Evid. Code §§ 801, 802; *Sargon Enterprises, Inc. v. University of Southern California* (2012) 55 Cal.4th 747, 769.) In particular, courts are to ensure that opinions are not speculative, based on unconventional matters, or grounded in unsupported reasoning. (*Id.* at 771-772.) Even when the witness qualifies as an expert, he or she does not possess carte blanche to express any opinion within his or her area of expertise, especially where such opinions are based on assumptions of fact without actual scientific support, or on speculative or conjectural factors with no evidentiary value. (*Jennings v. Palomar Pomerado Health Systems, Inc.* (2003) 114 Cal.App.4th 1108, 1117.) Assumptions which are not grounded in fact cannot serve as the basis for an expert's opinion. (*People v. Chavez* (2021) 69 Cal.App.5th 159, 167.) Such is the case here, where the testimony of the State's retained experts are largely (if not entirely) predicated on an incomplete, non-reviewed, *preliminary draft* model that contradicts actual scientific data and hydrogeological testing in the Ventura River Watershed.

By way of this motion *in limine*, Casitas seeks to exclude the testimony of the State's retained experts, Preston and Schnaar, pursuant to Evid. Code sections 352, 720, and 801-803 on the grounds that: (1) the State's preliminary draft groundwater-surface model (e.g., the "VRW Model") developed by Dr. Preston and Dr. Schnaar was not developed using a proper scientific process, is still in *draft* form, has not undergone public comment or review by a technical advisory committee ("TAC"), and is a continually moving target for the parties' experts to review and assess (because it simply isn't finished); (2) the VRW Model projects outcomes of pumping impacts on surface water that are based on fantastical scenarios that cannot exist (and which contradict actual measured stream data), and are otherwise inconsistent with real world data and tangible scientific evidence; (3) the VRW model lacks proper scientific testing, which Dr. Preston and Dr. Schnaar elected to forego, instead injecting biased assumptions about transmissivity between aquifer layers to fit the State's desired goals; (4) the speculative and conjectural opinions of Dr. Preston and Dr. Schnaar which are derived from the VRW Model are likewise improper, misleading, and should be excluded;

and (5) any "new" opinions offered by Dr. Preston and Dr. Schnaar that are not contained in their expert reports should be properly excluded at trial.

II. LEGAL STANDARD

A motion *in limine* is a motion 'at the threshold of trial to *exclude* evidence deemed inadmissible and prejudicial to the moving party. (*FMC Corp. v. Plaisted & Cos.* (1998) 61 Cal.App.4th 1132, 1168.) A trial court has the inherent power to entertain and grant a motion *in limine* in order to prevent objectionable evidence or testimony from coming before the trier of fact. (*Ganey v. Doran* (1987) 191 Cal.App.3d 901, 907.) "The advantage of such motions is to avoid the obviously futile attempt to 'unring the bell' in the event a motion to strike is granted in the proceedings before the [trier of fact]." (*Hyatt v. Sierra Boat Co.* (1978) 79 Cal.App.3d 325, 337.) This Motion *in Limine* seeks to exclude such inadmissible evidence.

The trial court acts a gatekeeper to exclude speculative or irrelevant expert opinion. (Evid. Code § 801; *Property California SCJLW One Corp. v. Leamy* (2018) 25 Cal.App.5th 1155, 1163, citing *Sargon Enterprises, Inc. v. University of Southern California* (2012) 55 Cal.4th 747, 770.) Courts must be cautious where an expert offers legal conclusions as to ultimate facts in the guise of an expert opinion. (*Benavidez v. San Jose Police Dept.* (1999) 71 Cal.App.4th 853, 865.) Where experts are advocating as opposed to testifying, and therefore reaching ultimate conclusions of law, expert testimony is not allowed. (*West v. Sundown Little League of Stockton, Inc.* (2002) 96 Cal.App.4th 351, 358-359.) An expert's opinion that something could be true if certain assumed facts are true, without any foundation for concluding those assumed facts exist in the case, does not provide assistance to the factfinder because the factfinder is charged with determining what occurred in the case before it, not hypothetical possibilities. (*Cooper v. Takeda Pharmaceuticals America, Inc.* (2015) 239 Cal.App.4th 555, 577, citing *Jennings v. Palomar Health Systems, Inc.* (2003) 114 Cal.App.4th 1108, 1117.)

Evidence Code section 801 sets a "threshold requirement of reliability" for expert testimony. (*People v. Gardeley* (1996) 14 Ca1.4th 605, 618.) Evidence Code section 801, subdivision (b), limits expert testimony "to such an opinion as is: [¶] Based on matter . . . whether or not admissible, that is of a type that reasonably may be relied upon by an expert in forming an opinion upon the subject

to which his [or her] testimony relates . . .” (Evid. Code § 801.) It is well-established that a trial court’s examination of the foundation for expert testimony reaches beyond an initial inquiry into the mere categories of material upon which an expert relies. Thus, the trial court’s analysis of the reliability of expert testimony may include an assessment of the reliability of the data and conclusions contained in the foundational material itself. (*People v. Boyette* (2002) 29 Ca1.4th 381, 449 [“Of course, any material that forms the basis of an expert’s opinion testimony must be reliable.”].) Indeed, upon objection, a trial court is statutorily *required* to “exclude [expert] testimony in the form of an opinion that is based in whole or in significant part on matter that is not a proper basis for such an opinion.” (Evid. Code, § 803; see also, *Young v. Bates Valve Bag Corp*. (1942) 52 Cal.App.2d 86, 96.)

III. ARGUMENT

A. The VRW Model Was Not Developed Using Proper Scientific Process

Both Dr. Preston and Dr. Schnaar have continually referred to the VRW Model as a “draft”—e.g., has not been peer reviewed, has not passed the period for public comments (e.g., ***April 1, 2022***), was not subject to any type of meaningful technical advisory committee (“TAC”) process—and up until December 17, 2021, the VRW Model was still in *preliminary* draft form where the calibration was not yet finalized. (Jungreis Decl., Ex. B, Preston Depo., at 52:4-14; 60:9-61:18; Ex. C, Schnaar Depo., 129:13-23.) Of note, neither expert has created this specific type of model before and both testified that there is a general lack of availability of integrated hydrology models, particularly using the USGS GSFLOW approach. (Jungreis Decl., Ex. B, Preston Depo., at 40:21-41:12; 88:8-15; 98:16-23; Ex. C, Schnaar Depo.,18:15-25; 56:19-24; 93:12-14.) The general lack of guidance available to both experts in creating this “new” model to meet and intendedly exceed “industry standards” is further reason to ensure proper objective advisory and review processes are undertaken *and completed* prior to reliance on the model’s outcomes at trial. Both experts testified that *to date*, they continue to run simulations on the model based on additional data accumulated, but have not yet had a chance to incorporate feedback from public comment, meet with the TAC created in 2017 (but never used), or have the model peer-reviewed (set to take place *after* public comment in late 2022), which makes the model an ever-moving target aimed to prejudice the opposing parties’

experts' ability to meaningfully understand and, if appropriate, rebut. Put simply, the State's VRW model is incomplete, half-baked, and entirely unreliable until it is finished. It has no place being used at trial while bugs are still being worked out in the middle of the model development process.

Dr. Preston testified at his deposition on February 8, 2022, that as of December 17, 2021, "the model . . . was in process, progress, and we calibrated a lot," that "[t]he metrics were *more or less* within the goals that we set out, but there were a few things in the model that we were still working on," and "there were still aspects of the model that we were trying to improve." (Jungreis Decl., Ex. B, Preston Depo. at 69:13-70:7.) Dr. Preston further testified, "You know, we're kind of continually improving upon the model" (Jungreis Decl., Ex. B, Preston Depo., 71:10-11) and "when we wrote the September report, we knew the model wasn't finished." (Jungreis Decl., Ex. B, Preston Depo., 78:24-79:4.). In other words, according to the project lead for the VRW Model, the VRW Model remains a work in progress, with extensive work left to go.

When asked about public comments prepared by expert consultants for Casitas that the State received on an earlier draft version of the report stemming from a webinar that occurred on June 9, 2021, Dr. Preston admitted that he never responded in writing to the "extensive comments," and "there's a lot of comments coming in (at present) that will need to be integrated moving forward." (Jungreis Decl., Ex. B, Preston Depo., 128:1-129:23.) When asked during deposition whether its normal during the review process for the model to include opportunity for public comment, time for the modeler to evaluate the comments, and time for the modeler to respond to the comments, and where merited, to make revisions to the model, Dr. Preston agreed that "Yes," that would be the proper approach, and "I still think it's a draft model." (Jungreis Decl., Ex. B, Preston Depo., 129:11-23.) Dr. Preston further acknowledged that while trial in this matter is set to occur on March 16, "it's possible" that comments received up through April 1 might make it necessary to revise the model, or to perform "significant additional calibration." (Jungreis Decl., Ex. B, Preston Depo., 130:6-14.) When asked if it would have been helpful to have the model reviewed by a technical advisory committee ("TAC") *prior to* using the model in Court, Dr. Preston acknowledged, "We didn't (receive input from TAC on the entire model)" and "I believe that's still part of our scope." (Jungreis Decl., Ex. B, Preston Depo., 137:16-138:8.)

There is no dispute that the VRW Model has not passed the period of public comment (which ends on April 1, 2022, see Jungreis Decl. ¶ 6, Ex. E), has not been reviewed by the TAC constituted to help design and test the model, and has not been peer reviewed by a separate independent and objective advisory body to provide necessary feedback and comments that may be essential to adjust and calibrate the model to achieve more accurate and realistic results. (Jungreis Decl., Ex. B, Preston Depo., 122:9-25.) The State's own experts' admission that the VRW Model is a "draft model" is prima facie evidence that it is not complete, nor reliable, for use at trial. Until the model has "weathered the storm," so to speak, and passed completion of proper scientific processes required to evaluate its application and accuracy, the VRW Model is not appropriate for use at trial.

B. <u>The VRW Model Is Inherently Flawed Because Its Projected Outcomes Are Based On Artificial And Built-In Bias Constructs And Fantastical Scenarios That Are Inconsistent With Real World Data And Measured Conditions</u>

It is well-settled that experts cannot base their opinions on speculation or conjecture, unproven facts, insufficient data, or on facts that are contrary to the evidence and/or ignore the evidence. (Evid. Code §§ 801-803.) Yet this is precisely the type of testimony proffered by Dr. Preston and Dr. Schnaar, which hinges entirely on model run outcomes that fail to demonstrate any credible basis in reality. Both Dr. Preston and Dr. Schnaar testified that the baseline scenario for the VRW Model was an artificially constructed hypothetical where all wells in the Ojai Basin are modeled as being eliminated and groundwater pumping reduced to zero. (Jungreis Decl., Ex. C, Schnaar Depo., 197:16-198:14; 203:3-25; Ex. B, Preston Depo., 52:4-24; 53:3-15.) Dr. Schnaar admitted that certain simulations where all groundwater pumping was eliminated would "probably be fair to say was a condition that's never occurred." (Jungreis Decl., Ex. C, Schnaar Depo., 203:15-25.) But that "condition that's never occurred" is essential to the Model's projected finding of significant and material impacts of pumping in the Ojai Basin and the Ventura River. San Antonio Creek, except in the southwestern portion where the aquitard is located, is a losing stream (e.g., the surface water leaves the stream and replenishes the groundwater). By the device of the model artificially "refilling" the Ojai Basin to a point where it is overflowing (it is not clear whether this is even physically possible in the Ojai Basin) by turning all pumping off for decades via the VRW

Model, Preston and Schnaar seek to artificially transform large stretches of San Antonio Creek from a losing stream to a gaining stream. Once it becomes a gaining stream under the VRW Model, it is hardly surprising that resumed pumping, when the groundwater is modeled to be at or near the surface, is projected by the model to have a substantial impact on discharge to the stream. But that is not the real world, and most of the Ojai Basin will never be a gaining stream as it would take decades to occur if "refilling" the Basin is possible at all through non-pumpage. As their opinions regarding the impact of groundwater pumping on surface water depend on the precondition of a "full" groundwater basin, and such condition can never occur while human beings inhabit the Ojai Basin, such opinions are speculative and unreliable and should not be considered by this Court.

Additionally, as mentioned, in order to calibrate the VRW model, the model had to be run with a certain set of predetermined assumptions. (Jungreis Decl., Ex. C, Schnaar Depo., at 89:11-17.) One of these assumptions was as to how much pumping exists. (Jungreis Decl., Ex. B, Preston Depo., 53:3-15.) Another major built-in assumption was that groundwater in the basin is materially connected to surface water. (Jungreis Decl., Ex. B, Preston Depo., 108:6-21; 197:20-198:14.) Thus, the VRW Model, and opinions based upon it, in order to align with their built in bias, crossed the line from real science into advocacy, and are exactly the kind of speculative opinions based on unrealistic hypotheticals that must be excluded at trial. (Evid. Code § 801; *Property California SCJLW One Corp. v. Leamy* (2018) 25 Cal.App.5th 1155, 1163.)

C. <u>The VRW Model Lacks Proper Testing And Fails To Incorporate The Best Science Available</u>

Dr. Schnaar testified that he did not perform any fieldwork, he did not conduct any pump tests, nor did he personally measure any streamflow for the Lower Ventura Basin. (Jungreis Decl., Ex. C, Schnaar Depo., at 261:7-24.) Dr. Schnaar further testified that vertical hydraulic conductivity can be measured in a laboratory core sample collected from the field, but he "was not aware of this being done in the Ojai Basin." (Jungreis Decl., Ex. C, Schnaar Depo., 166:15-21; 177:6-18.) Nor did Dr. Schnaar attempt to collect core samples from the Ojai Basin in the field: "Did I collect sediment to 900 feet personally? No." (Jungreis Decl., Ex. C, Schnaar Depo., 169:7-9.) Rather than perform actual testing himself on the vertical hydraulic conductivity in the Ojai Basin, Dr. Schnaar

instead relied on literature which he claimed was "standard."[6] In actuality, Dr. Schnaar assigned speculative values for vertical hydraulic conductivity that were not based on physical samples: "We did assign vertical hydraulic conductivity values in our model." (Jungreis Decl., Ex. C, Schnaar Depo., 174:9-15.) As previously noted, the Model's assumptions of vertical transmissivity were off by orders of magnitude, almost entirely ignoring the impact of a well-documented aquitard in the southwestern portion of Basin. (Jungreis Decl. ¶ 7; Ex. F McCord transcript and Exhibit 26.)

When asked whether Dr. Preston discussed the VRW Model parameters with anyone else doing similar models, such as United Water Conservation District or consultants building Sustainable Groundwater Management Act ("SGMA") models required to demonstrate no adverse or significant adverse effects are permitted to occur on surface water—Dr. Preston testified, "No," he didn't check with people developing SGMA models or look at those models personally as a part of the VRW Model process. (Jungreis Decl., Ex. B, Preston Depo., 153:9-154:22.)

Additionally, when asked whether the VRW Model had incorporated the newer Fulton Street well that was constructed in 2021, Dr. Schnaar testified "the model period ends in 2017, so it wasn't included." (Jungreis Decl., Ex. C, Schnaar Depo., 163:4-20.) While additional data was purportedly gathered by the State's experts a couple years after 2017, the VRW Model's calibration ended in 2017. (Jungreis Decl., Ex. C, Schnaar Depo., 163:17-20.) In other words, more recent data that is now available, and which appears to refute some of the main assumptions of the VRW Model, has not been included or run with the VRW Model as part of its additional calibration and testing.

An expert's opinion may not be based on assumptions of fact without evidentiary support, or on speculative or conjectural factors. (*People v. Chavez* (2021) 69 Cal.App.5th 159, 167, citing *People v. Wright* (2016) 4 Cal.App.5th 537, 546.) Where an expert witness bases his opinion on incompetent matter, or it is shown that incompetent matter is the chief element on which opinion is predicated, the opinion should be rejected altogether. (*People v. Byars* (1961) 188 Cal.App.2d 794, 805-806.) Here, Dr. Preston's and Dr. Schnaar's testimonies are largely (if not entirely) predicated

[6] This testimony presents *Sanchez* issues (discussed in greater detail in Defendant Trevor Quirk's Motion *in Limine*) as such reliance would be impermissible hearsay unless admitted through competent evidence. (*People v. Sanchez* (2016) 63 Cal.App.4th 665 [when an expert relates to the jury case-specific out-of-court statements, and treats the content of those statements as true and accurate to support the expert's opinion, the statements are hearsay.].)

on a flawed and incomplete draft model that cannot be relied upon by this Court as admissible evidence, particularly where the model's projected outcomes do not match up with measured data in the real world (Jungreis Decl., ¶7. Ex. F.) In fact, to allow such a model to come into evidence when it is, by the State's own admission, a "preliminary draft" and has not been subject to peer review, public comment, or other proper scientific processes would create damaging precedent, circumventing evidentiary rules and protections designed to bring about objectively reliable and fair outcomes from expert opinions offered at trial.

Dr. Preston testified that the VRW Model "was more complicated" because it was predicated on a preconditioned assumption that "groundwater was coming out into the surface water," which is one of the major disputed issues in this litigation. (Jungreis Decl., Ex. B, Preston Dep., at 108:23-109:13.) When further questioned how he reached this assumption and whether other factors could be causing the dry reach upstream and wet reach downstream, Dr. Preston admitted, "I haven't analyzed the data with that perspective in mind." (Jungreis Decl., Ex. B, Preston Depo., at 109:19-110:22.) In essence, the State's experts were plagued with tunnel vision, building a model based on preordained assumptions about the hydrological connectivity within the watershed.

Additionally, Dr. Preston testified at deposition that the State is the program manager for the model (at 30:19-21). When asked why Dr. Preston and Dr. Schnaar decided to us the GSFLOW Model for the Ventura River Watershed and opposed to other models that could have been used, Dr. Preston testified to the following: "The client had some requirements about it (the model) being freely labeled for public use, and *that precluded a lot of other models that were developed by other companies that were proprietary*, meaning you typically have to pay to use them." (Emphasis added) (Jungreis Decl., Ex. B, Preston Depo., 105:15-19.) Dr. Preston confirmed that the State's criteria for this model was that it be open sourced or freely available, thus precluding the availability of other (perhaps more accurate and more widely tested) models with which he had more expertise and familiarity. (Jungreis Decl., Ex. B, Preston Depo., at 106:1-108:13.) In fact, Dr. Preston testified that their original RFP had proposed using an Hydrological Simulation Program in Fortran ("HSPF") Model that had been developed for the watershed by Tetra Tech in 2009, but "it would have taken a lot of coding to couple that model to the groundwater, make sure that everything is

done correctly, a lot of testing, debugging, etc., and also potentially a lot of work in the future to maintain that code; whereas USGS had done all that for us." (Jungreis Decl., Ex. B, Preston Depo., at 107:7-108:13.)

D. Dr. Preston And Dr. Schnaar Should Be Precluded From Offering "New" Opinions At Trial That Were Not Included In Their Expert Reports Or Offered At Deposition

An expert witness cannot testify at trial beyond the opinions offered at deposition. (See *Jones v. Moore* (2000) 80 Cal.App.4th 557, 565 ["When an expert deponent testifies as to specific opinions and affirmatively states those are the only opinions he intends to offer at trial, it would be grossly unfair and prejudicial to permit the expert to offer additional opinions at trial."]). "When an expert is permitted to testify at trial on a wholly undisclosed subject area, opposing parties similarly lack a fair opportunity to prepare for cross-examination or rebuttal." (*Bonds v. Roy* (1999) 20 Cal.4th 140, 147; see also *Jones, supra,* 80 Cal.App.4th at 565.) Thus, the Supreme Court has affirmed: "[T]he very purpose of the expert witness discovery statute is to give fair notice of what an expert will say at trial. This allows the parties to assess whether to take the expert's deposition, to fully explore the relevant subject area at any such deposition, and to select an expert who can respond with a competing opinion. (*Bonds, supra,* 20 Cal.4th at 146-147.)

Both Dr. Preston and Dr. Schnaar are anticipated to offer "new" opinions—perhaps under the guise of "rebuttal" testimony—at trial, predicated on newer versions or "updates" to their VRW Model, since the half-baked model is still admittedly in "draft" form. (Jungreis Decl., Ex. C, Schnaar Depo., at 129:7-23; 156:12-157:20; 158:14-161:13.) Any "new" opinions that were not otherwise discussed in the lengthy 600+ page deposition transcripts of Dr. Preston and Dr. Schnaar or contained in their four separate joint expert reports should thus be properly excluded from trial.

IV. CONCLUSION

Casitas respectfully requests that the Court exclude and/or limit from evidence testimony from the State's retained expert witnesses—Dr. Preston and Dr. Schnaar— both of whom are anticipated to testify at trial concerning opinions based on an incomplete, premature, and half-baked *draft* model that was created from the ground up with biased and speculative assumptions that are

not representative of reality, and where the model itself has not been subject to peer review, has not passed the period for public comment, and blatantly contradicts actual and available scientific data from the Ventura River Watershed.

Dated: March 2, 2022

RUTAN & TUCKER, LLP
JEREMY N. JUNGREIS
DOUGLAS J. DENNINGTON

By: _____
Jeremy N. Jungreis
Attorneys for Cross-Defendant
CASITAS MUNICIPAL WATER DISTRICT a California special district

DECLARATION OF JEREMY N. JUNGREIS

I, Jeremy N. Jungreis, declare:

1. I am an attorney duly licensed to practice law in the State of California and am an attorney at the law firm of Rutan & Tucker LLP, counsel for Cross-Defendant Casitas Municipal Water District ("CMWD" or "Casitas") in this case. I have personal knowledge of the matters set forth in this declaration and could and would competently testify to them if called as a witness.

2. On or about March 1, 2022, I sent an initial detailed meet and confer email correspondence to all counsel (as required pursuant to Cal. Rule of Court, rule 3.112(f)), prior to the filing of this Motion, wherein I discussed the reasons for the filing of the Motion. A true and correct copy of my March 1, 2022 email correspondence, and my subsequent discussion with the State's counsel is attached hereto as **Exhibit "A."**

3. On or about February 8, 2022, the parties took the deposition of the State's retained expert, Dr. Al Preston ("Dr. Preston") in Los Angeles, California. A true and correct copy of Dr. Preston's deposition transcript excerpts are attached hereto as **Exhibit "B."**

4. On or about February 9, 2022, the parties took the deposition of the State's retained expert, Dr. Gregory Schnaar ("Dr. Schnaar") in Los Angeles, California. A true and correct copy of Dr. Schnaar's deposition transcript excerpts are attached hereto as **Exhibit "C."**

5. Attached hereto as **Exhibit "D"** is a true and correct copy of an email chain between Kevin Delano and Kelley Dyer of CMWD, dated December 17, 2021, that was attached and referenced as *Exhibit 12* to the deposition transcript of Dr. Schnaar.

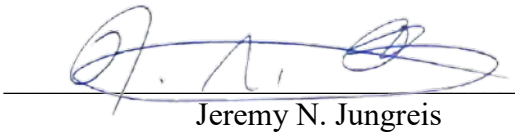
6. Attached hereto as **Exhibit "E"** is a true and correct copy of the "Draft Ventura River Watershed Groundwater-Surface Water Model and Report PowerPoint Presentation," jointly prepared by Geosyntec Consultants and Daniel B. Stephens & Associates on February 28, 2022.

7. Attached hereto as **Exhibit "F"** is a true and correct copy of pages 72-88 of the Rough Deposition Transcript of Dr. James McCord, taken on February 11, 2022, with pertinent highlighting added by counsel, and Exhibit 26 to Dr. McCord's Deposition.

8. Upon information and belief, and discussions with persons originally designated to be on the TAC for the VRW Model, it is my understanding that after an initial meeting in 2017, the

TAC did not meet. And this understanding was confirmed by the deposition of Dr. Preston.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on the 2nd day of March 2022, at Irvine, California.



Jeremy N. Jungreis

From: Jungreis, Jeremy <JJungreis@rutan.com>
Sent: Tuesday, March 1, 2022 7:00 PM
To: Marc Melnick; Holly J. Jacobson; Christopher Pisano; 'Slater, Scott' (SSlater@bhfs.com); 'Herrema, Brad'; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com); Noah GoldenKrasner; 'Ryan Blatz'; 'Gregg Garrison'; 'Patterson, Gregory'; Shawn Hagerty; 'W.Carter@musickpeeler.com'; 'David A. Ossentjuk'; 'Peter Duchesneau'; 'Sigrid Waggener'; Trevor Quirk
Cc: Sarah Foley; Marnie Prock; Jennifer Buckman; Quist, Kelsey; Martinez, Marisol
Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Good Evening Marc:

I am always willing to meet and confer. As to not meeting and conferring sooner, you have my apology, though LASC Local Rule 3.57(a)(2) does not specify a time wherein the meet and confer process must be commenced or completed. I, in good faith, started the process for CMWD's proposed MILs two full business days before the MILs were due. I would have started sooner if I could have (and yes, I assure you I did work over the weekend). Many things are due in this case tomorrow, as you know, and I've been hustling to get them all timely completed along with all of the rest of my substantial caseload.

Given the Parties positions as articulated herein, however, I don't think starting sooner on the meet and confer process would have made a significant difference. I cannot agree not to file a motion in limine for opinions that Casitas contends are based upon a flawed model and which does not align with real world conditions and data. CMWD has confirmed, through the deposition process, that the State's model is unfinished and suffers from significant errors that render it unreliable and unlikely to accurately predict the actual impact of groundwater pumping in the Ventura River Watershed. The flaws in the unfinished state model, and the processes used by the State's experts, undermine all of the opinions proposed to be offered at trial by Dr. Preston and Dr. Schnaar. This was not a fait accompli. The current structural problems with the State model were avoidable. The Workplan for the State Model included a robust TAC composed of technical experts from local agencies and key stakeholders, a peer review process with actual independent and non-aligned experts, and a public comment process wherein the modelers would actually respond to, and incorporate, comments received from the public. None of these things occurred, which is unfortunate, because if they had occurred, the State's model, and its outputs, would be more defensible and potentially useful to the trier of fact in this litigation. However, that is not the model before the court today; all the current model is capable of doing is causing confusion.

CMWD would be potentially willing to withdraw its motion(s) in limine as to the opinions of Preston and Schnaar upon the State Board completing an independent TAC and peer review process for the State Model and demonstrating that the modelers actually considered and responded to the public and technical comments they received from outside experts as well as persons in the Ventura River watershed who possess relevant data. Unfortunately, I am informed that this process will not be completed until at least the fall of 2022. It is not reasonable to expect CMWD to simply submit to the use of a model by the State that is not finished, and which, as Dr. McCord demonstrated at deposition, appears to suffer from significant structural errors and inconsistencies with observed data in the watershed.

I'm happy to meet and confer further on this topic if you think it would be useful and productive.

Respectfully Submitted,
Jeremy Jungreis
Special Counsel, CMWD

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From: Marc Melnick [mailto:Marc.Melnick@doj.ca.gov]
Sent: Tuesday, March 1, 2022 10:15 AM
To: Jungreis, Jeremy <JJungreis@rutan.com>; Holly J. Jacobson <hjj@bkslawfirm.com>; Christopher Pisano <Christopher.Pisano@bbklaw.com>; 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Noah GoldenKrasner <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison' <gsgarrison@garrisonlawcorp.com>; 'Patterson, Gregory' <G.Patterson@musickpeeler.com>; Shawn Hagerty <Shawn.Hagerty@bbklaw.com>; 'W.Carter@musickpeeler.com' <W.Carter@musickpeeler.com>; 'David A. Ossentjuk' <DOssentjuk@oandblawyers.com>; 'Peter Duchesneau' <pduchesneau@manatt.com>; 'Sigrid Waggener' <swaggener@manatt.com>; Trevor Quirk <tmq@qlflaw.com>; 'Andrew Whitman' <andyw821@gmail.com>
Cc: Sarah Foley <Sarah.Foley@bbklaw.com>; Marnie Prock <Marnie.Prock@bbklaw.com>; Jennifer Buckman <jtb@bkslawfirm.com>; Quist, Kelsey <kquist@rutan.com>
Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Jeremy, it's a day before motions in limine are due. I don't consider this a good faith attempt to meet and confer about these issues. You set this up so that we really don't have time to talk about any of this. Nevertheless, I will try to address each of your points, and I hope you will not waste the Court's time with this. You can make all these points in arguing about the strength of the evidence.

As to the State Water Board's model, I have no idea what you're talking about when you say that the "State Water Board dictated the outcomes of the model." That is not the case. It's actually ridiculous. The model has been a data and science driven exercise. If you have some statement you're relying on, I'd be interested in hearing what that is. Contrary to what you say, the model is complete. It has all the data necessary and it has been calibrated and validated. That it is out for public comment and has not yet been peer reviewed is of no consequence as far as expert testimony in this case. And, lastly, I find it absolutely astounding that you and your experts cannot tell the differences between the August preliminary draft and the December draft of the model when those are spelled out in clear detail on pages 4 and 5 of our December supplemental expert report.

As to your second point, I have no idea what you're talking about. You'll need to be more specific, and then we can talk about it. Of course, it's awfully late to do that in any meaningful way.

As to your third point, what you are referring to is not the model but the streamflow depletion analysis done here using the model. This is a standard way to measure the interconnection of stream flow and groundwater, one even Dr. McCord has used in the past. And, as to any inaccuracy of the model, as you know and Dr. McCord admitted, it is within standard measures of accuracy for these kinds of models.

As to your fourth point, if you think there is better data, you could certainly have used that to re-run the model to see if there were different outcomes. You did not. At most, it goes to the strength of these opinions, not to whether they can be provided to the Court.

As to the last point, any new opinions would simply be in response to what other experts said late in this process, after the rebuttal reports were due. There is nothing unfair about that. This is essentially the issue that Holly raised, and I am waiting to hear back from her to clarify her first motion in limine.

Again, while I don't think you really want to talk about any of this, I will do so if you want. Thanks.

Marc

From: Jungreis, Jeremy <JJungreis@rutan.com>
Sent: Tuesday, March 1, 2022 6:32 AM
To: Marc Melnick <Marc.Melnick@doj.ca.gov>; Holly J. Jacobson <hjj@bkslawfirm.com>; Christopher Pisano <Christopher.Pisano@bbklaw.com>; 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Noah GoldenKrasner <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison' <gsgarrison@garrisonlawcorp.com>; 'Patterson, Gregory' <G.Patterson@musickpeeler.com>; Shawn Hagerty <Shawn.Hagerty@bbklaw.com>; 'W.Carter@musickpeeler.com' <W.Carter@musickpeeler.com>; 'David A. Ossentjuk' <DOssentjuk@oandblawyers.com>; 'Peter Duchesneau' <pduchesneau@manatt.com>; 'Sigrid Waggener' <swaggener@manatt.com>; Trevor Quirk <tmq@qlflaw.com>; 'Andrew Whitman' <andyw821@gmail.com>
Cc: Sarah Foley <Sarah.Foley@bbklaw.com>; Marnie Prock <Marnie.Prock@bbklaw.com>; Jennifer Buckman <jtb@bkslawfirm.com>; Quist, Kelsey <kquist@rutan.com>
Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Good Morning All:

Casitas Municipal Water District will be bringing two motions in limine to exclude and/or limit the trial testimony of Dr. Al Preston and Dr. Greg Schnaar for reasons for the following reasons:

i. The State Water Board's groundwater-surface water model was not developed using a proper scientific process (e.g., the State Water Board dictated the outcomes of the model in advance to persons that had never developed an integrated groundwater surface water model before), is not even close to finished, is at this very time undergoing public comment, was the subject of multiple "drafts" during the course of discovery that made it impossible to know exactly what model, and what assumptions were being reviewed/utilized by the experts, was not subject to any type of technical advisory committee process (even though one was called for in the work plan), ignored and did not respond to any of the prior public comments submitted during scoping, and did not undergo any kind of peer review. It is simply incomplete, biased from the outset, and entirely unreliable. The model thus can't be relied on, and the opinions of Preston and Schnaar, which are almost entirely based upon it, would be confusing for the trier of fact and should be excluded. Ev. Code 352, 720, 801, 803.

ii. Preston can't opine on surface water impacts because he relies on incompetent/ speculative data and opinions of Schnaar and his flawed model based on the limitations imposed by SWRCB and its RFP. Schnaar can't opine on speculative model results based upon assumptions and incomplete data. Ev. Code 352, 720, 801-803

iii. The model is inherently flawed because its projected outcomes regarding the impacts of pumping on surface water are: (1) based on the artificial construct of eliminating all wells in the Ojai Basin for purposes of creating alleged "baseline conditions" before irrigated agriculture, "refilling" the Basin to a point where it is overflowing, and then turning all the wells back on after the groundwater overflows—a fantastical scenario (which could take decades if it could happen at all), which does not demonstrate the way the Ojai Basin and the Ventura River currently interact hydrologically; (2) the model is inconsistent with real world data and measurements and dismisses all real tangible evidence that doesn't fit into its predefined conditions and assumptions. Ev. Code 352, 801, 802, 803

iv. The modelers could have, but chose not to, conduct aquifer tests, conductivity tests, and other sampling of material in the Ojai Basin to test the degree of transmissivity of the aquitard in the southwestern portion of the Ojai Basin and made assumptions about transmissivity between aquifer layers that are orders of magnitude too low; thus the Preston/Schnaar Model did not, and could have relied upon the best science available. They instead relied on old data, cherry picked to meet the outcomes the State Water Board directed them to obtain, and ignored compelling new data that might affect the State's desired outcome of dedicating all water in the Ojai Basin and Ventura River Watershed to non-consumptive uses. Ev. Code 352

v. Preston and Schnaar both indicated at deposition that they intended to offer "new" opinions not contained in their expert reports, but that could have been previously offered. This is impermissible and a proper subject for a motion in limine.

Casitas MWD also agrees with, and incorporates by reference herein, the justifications for opposing the other motions in limine referenced below for the reasons articulated by Ms. Jacobson on behalf of the City of Ojai below. As to the motion in limine referenced by Mr. Pisano below regarding the testimony of Mr. Randall Hanson, the City of Ventura and Casitas met and conferred in good faith and were able to resolve the remaining issues raised by Mr. Pisano regarding Mr. Hanson's testimony.

Respectfully Submitted,
Jeremy Jungreis
Counsel for Casitas MWD

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From: Marc Melnick [mailto:Marc.Melnick@doj.ca.gov]
Sent: Monday, February 28, 2022 10:07 AM
To: Holly J. Jacobson <hjj@bkslawfirm.com>; Christopher Pisano <Christopher.Pisano@bbklaw.com>; 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Noah GoldenKrasner <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison'

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Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Holly, thanks for providing some explanation.

As to our motion in limine as to Mr. Kear, he testified at his deposition that he is not a modeler. It's not more complicated than that. Being a hydrogeologist does not make one a modeler.

As to your first motion in limine, I'll need to get back to you about that after conferring with my client. But I have a clarifying question. By this motion do you intend to prevent experts from providing "rebuttal rebuttal opinions" – that is, opinions contrary to opinions stated in the last expert report provided by another expert? As an example, can Dr. Preston respond to Mr. Kear's rebuttal report? I assume he can, and that you don't intent to prevent that category of testimony, but please confirm.

I think your second motion in limine, as to Dr. Preston and Dr. Schnaar, misses the mark. They are not only modelers. They are a professional engineer and a professional geologist, respectively, and given their education and extensive professional experience can certainly speak to those topics as well. Moreover, Dr. Scnaar built the Ojai Basin Groundwater Model, and certainly speak to that and the work he did to develop that model.

Thanks.

Marc

From: Holly J. Jacobson <hjj@bkslawfirm.com>
Sent: Sunday, February 27, 2022 2:16 PM
To: Marc Melnick <Marc.Melnick@doj.ca.gov>; Christopher Pisano <Christopher.Pisano@bbklaw.com>; 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Noah GoldenKrasner <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison' <gsgarrison@garrisonlawcorp.com>; 'Patterson, Gregory' <G.Patterson@musickpeeler.com>; Shawn Hagerty <Shawn.Hagerty@bbklaw.com>; Jeremy Jungreis <jjungreis@rutan.com>; 'W.Carter@musickpeeler.com' <W.Carter@musickpeeler.com>; 'David A. Ossentjuk' <DOssentjuk@oandblawyers.com>; 'Peter Duchesneau' <pduchesneau@manatt.com>; 'Sigrid Waggener' <swaggener@manatt.com>; Trevor Quirk <tmq@qlflaw.com>; 'Andrew Whitman' <andyw821@gmail.com>
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Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Marc,

Thank you for identifying your proposed motions in limine. As to Mr. Kear, you are going to have a very difficult time convincing me, let alone the court, that Mr. Kear doesn't have sufficient knowledge to discuss the deficiencies of the models that Ventura and SWRCB have presented. At the moment I'm unaware of testimony or other evidence that

would support your motion. If you want to be more specific on this point I'm happy to discuss but I reviewed his testimony and he explained his experience and knowledge on this topic.

Chris,
In response to your motions in limine, as they relate to my client, I am unaware of the evidence or law in which you are relying. Expanding on my prior response, please see below.

First and foremost, we are going into trial because Ventura has filed a cross complaint wherein it seeks a variety of relief, including the imposition of a physical solution pursuant to C.C.P. section 830 et seq. The proposed physical solution is directly relevant to the case and Ventura has asked that it be considered following this phase. While it may not be necessary to spend time dissecting all the problems with the physical solution, it is not correct that any reference to the physical solution should be completely excluded. References to the physical solution, as they relate to the ultimate questions and procedures in this case, are not confusing and will not necessitate undue consumption of time. As such, Evidence Code 350-352 do not support the request as phrased. I would not disagree with you if your motion did not purport to exclude all references to the physical solution as explained above.

As to the motion in limine to exclude Jordan Kear, there is no evidence that he failed to produce responsive documents that he relied upon for his opinions. You previously gave me examples of what you believed was missing. So too did Mr. Melnick. Great efforts were made to locate and produce documents (in Mr. Kear's possession) that were remotely relevant to his opinions. Therefore, even if you could establish that those documents were required to be produced at an earlier date (which I disagree) they were ultimately produced. Further, C.C.P. section 843 governs the expert disclosures and documents in this case. Ventura previously argued that the general Discovery Act governed expert disclosures and discovery in this case. The Court disagreed. Nonetheless, you still cannot demonstrate a violation of C.C.P. section 2034.210 et seq and therefore, the motion, pursuant to 2034.300, lacks evidentiary and legal support.

To the extent you take the position that every scrap of paper that has ever existed with regard to Mr. Kear's work experience should have been produced, I'm happy to review case law stating the same. As far as I'm aware, the case law states otherwise. Also, if your position were correct, I'm happy to have Dr. Archer and your other experts excluded for similarly failing to produce all potentially relevant documents they reviewed. For example, Dr. Archer and Dr. Schnaar both admitted they did not produce every document they have ever written or reviewed during the course of their employment or education during deposition. In fact you made it clear that some of Dr. Archer's work was protected by privilege and work product and "outside the scope" of this phase of trial, even though some of the documents such as Dr. Archer's comments on the CDFW Flow criteria were directly relevant to issues pending in this litigation (but not produced). Nor did Dr. Archer produce all documents relating to her studies, all papers she's ever read, and all drafts relating to her dissertation in Italy or even the underlying data for that dissertation, which were highly relevant to her qualifications to testify since it was one of the only examples of her creating a groundwater surface water model prior to her efforts in the Ventura River watershed. I still haven't found powerpoint presentations that were otherwise identified as having been drafted by Cardno in the document productions so it also remains unclear if those were not produced. There was a lot Dr. Archer did not produce, and much that she did produce was produced late. I'm happy to discuss this further if your position as to Mr. Kear remains, but it appears that if you want to exclude Jordan's opinions and testimony, the standard you are applying means we are both going to have to go to trial with zero experts and zero evidence.

As to the motion in limine to exclude Jordan Kear's testimony regarding the fishery or steelhead, it is unclear what the basis for the motion is. Evidence Code 352? Ventura, the SWRCB and CDFW have offered evidence that the native flows in San Antonio Creek would support the fish but for groundwater pumping activities. Mr. Kear is qualified to opine on matters relevant to that evidence as stated in his opinions and testimony. It's unclear why the fishery and steelhead are relevant in this phase of trial only when Ventura, the SWRCB, and CDFW want to introduce evidence but is otherwise irrelevant and outside the scope for everyone else. I'm not aware of any case law or section of the Evidence Code that would support that position. However, to the extent you wish to exclude testimony regarding steelhead completely unrelated to the question of connectivity and the assertions of your experts, I don't think there would be opposition as Mr. Kear does not have any such opinions.

Finally, below is a list of my proposed motions in limine relevant to Ventura and SWRCB for your consideration.

1. Motion to Exclude all Testimony and Evidence of Connectivity Not Provided in Discovery. Some courts have a standing order on this. I do not see such an order relevant to Judge Higherberger therefore I intend to offer it as a straightforward motion pursuant to Evidence Code 352. This is meant to exclude any attempt to introduce evidence or opinions that were available to the parties prior to the final disclosures but were inexplicably withheld. A perfect example of this is Dr. Preston's testimony under oath that he intends to offer opinions on Mr. Kear's water quality samples that he could have, but did not, include in the rebuttal report. It of course won't apply to rebuttal opinions related to matters that did not yet exist. For example, it would not preclude Dr. Preston from testifying about something Mr. Kear said at his last deposition that Dr. Preston wishes to opine on that he could not otherwise have stated in any of his reports. Nor would it preclude Mr. Preston from testifying about documents produced prior to Mr. Kear's deposition but after the deadline to submit reports, so long as that information was new and not otherwise available.

2. Motion to exclude all expert testimony and evidence of Tamara Klug, Kyle Evans, Dr. Littlefield and Chuck Hanson as irrelevant and as unqualified experts. None of these experts are geologists or hydrogeologists and none of them offer opinions on the question of geologic or hydrologic connectivity or the amount of water that is allegedly being consumed. While they may be able to offer limited percipient witness testimony of the vegetation and other wildlife in the area without unnecessarily consuming time, the same cannot be said of their proffered expert opinions. See Evidence Code 352 and 803. Similarly the motion would exclude any opinions of Dr. Preston and Dr. Schnaar that are outside the scope of their model and the model of Dr. Archer. That exclusion would encompass opinions as to the geologic and hydrologic conditions of the Ojai Basin that they have no personal or expert knowledge of and are unqualified to opine based upon their qualifications and testimony.

3. Motion to exclude Dr. Archer's opinions and evidence on the basis that she is not properly qualified to testify as an expert, her one layer model upon which her opinions are based is wholly unsuitable. Therefore, her opinions would not assist the trier of fact but would instead necessitate undue consumption of time, result in confusion and mislead the court. Her model is not remotely defensible and her opinions separate from her model are based on limited information and assumptions. Therefore, she cannot meet the basic qualifications of an expert witness. This is aside from the fact that she isn't a professional geologist in California. See Evidence Code 352 and 803.

Marc and Chris, I don't think there should be any opposition to the first motion but let me know. Likewise if you think the law and evidence clearly refutes any of the above I'm happy to discuss.

-Holly

From: Marc Melnick <Marc.Melnick@doj.ca.gov>
Sent: Friday, February 25, 2022 8:05 AM
To: Holly J. Jacobson <hjj@bkslawfirm.com>; Christopher Pisano <Christopher.Pisano@bbklaw.com>; 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Noah GoldenKrasner <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison' <gsgarrison@garrisonlawcorp.com>; 'Patterson, Gregory' <G.Patterson@musickpeeler.com>; Shawn Hagerty <Shawn.Hagerty@bbklaw.com>; Jeremy Jungreis <jjungreis@rutan.com>; 'W.Carter@musickpeeler.com' <W.Carter@musickpeeler.com>; 'David A. Ossentjuk' <DOssentjuk@oandblawyers.com>; 'Peter Duchesneau' <pduchesneau@manatt.com>; 'Sigrid Waggener' <swaggener@manatt.com>; Trevor Quirk <tmq@qlflaw.com>; 'Andrew Whitman' <andyw821@gmail.com>
Cc: Sarah Foley <Sarah.Foley@bbklaw.com>; Marnie Prock <Marnie.Prock@bbklaw.com>
Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Chris, thanks getting this conversation started.

We are likely to bring an additional three motions in limine: (1) to exclude any testimony by Mr. Brown or Mr. Kear on modeling, since they are not expert modelers; (2) to exclude Mr. Brown's testimony as to hydraulic conductivity since he relies on a Wikipedia article; and (3) to exclude Mr. Brown's testimony as reflected in his February 21 memorandum because that should have been provided on February 7 at the latest. I am happy to talk or email with any of you about these.

Holly, if you're going to meet and confer, you should at least explain to Chris why you think his motions are "without merit."

Thanks all.

Marc

From: Holly J. Jacobson <hjj@bkslawfirm.com>
Sent: Thursday, February 24, 2022 6:50 PM
To: Christopher Pisano <Christopher.Pisano@bbklaw.com>; 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Marc Melnick <Marc.Melnick@doj.ca.gov>; Noah GoldenKrasner <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison' <gsgarrison@garrisonlawcorp.com>; 'Patterson, Gregory' <G.Patterson@musickpeeler.com>; Shawn Hagerty <Shawn.Hagerty@bbklaw.com>; Jeremy Jungreis <jjungreis@rutan.com>; 'W.Carter@musickpeeler.com' <W.Carter@musickpeeler.com>; 'David A. Ossentjuk' <DOssentjuk@oandblawyers.com>; 'Peter Duchesneau' <pduchesneau@manatt.com>; 'Sigrid Waggener' <swaggener@manatt.com>; Trevor Quirk <tmq@qlflaw.com>; 'Andrew Whitman' <andyw821@gmail.com>
Cc: Sarah Foley <Sarah.Foley@bbklaw.com>; Marnie Prock <Marnie.Prock@bbklaw.com>
Subject: RE: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

Chris,

The City of Ojai will not stipulate to those motions as they are without merit. I will be in touch soon identifying the motions I intend to file.

From: Christopher Pisano <Christopher.Pisano@bbklaw.com>
Sent: Thursday, February 24, 2022 5:55 PM
To: 'Slater, Scott' (SSlater@bhfs.com) <SSlater@bhfs.com>; 'Herrema, Brad' <BHerrema@bhfs.com>; Jeanne Zolezzi <JZOLEZZI@herumcrabtree.com> (JZOLEZZI@herumcrabtree.com) <JZOLEZZI@herumcrabtree.com>; Holly J. Jacobson <hjj@bkslawfirm.com>; Marc Melnick <Marc.melnick@doj.ca.gov>; 'Noah GoldenKrasner' <Noah.GoldenKrasner@doj.ca.gov>; 'Ryan Blatz' <ryan@ryanblatzlaw.com>; 'Gregg Garrison' <gsgarrison@garrisonlawcorp.com>; 'Patterson, Gregory' <G.Patterson@musickpeeler.com>; Shawn Hagerty <Shawn.Hagerty@bbklaw.com>; Jeremy Jungreis <jjungreis@rutan.com>; 'W.Carter@musickpeeler.com' <W.Carter@musickpeeler.com>; 'David A. Ossentjuk' <DOssentjuk@oandblawyers.com>; 'Peter Duchesneau' <pduchesneau@manatt.com>; 'Sigrid Waggener' <swaggener@manatt.com>; Trevor Quirk <tmq@qlflaw.com>; 'Andrew Whitman' <andyw821@gmail.com>
Cc: Sarah Foley <Sarah.Foley@bbklaw.com>; Marnie Prock <Marnie.Prock@bbklaw.com>
Subject: Santa Barbara Channelkeeper v. City of San Buenaventura - Meet and Confer re: MILs

All:

I am reaching out to this group to meet and confer on motions in limine. LASC Local Rule 3.57(a)(2) requires the parties to meet and confer in advance of filing motions in limine to see if they can agree about the scope of evidence at trial. Pursuant to the Court's order on Ventura's Motion to Bifurcate and the Court's subsequent order establishing Watershed and Basin Boundaries, the only remaining question for Phase 1 Trial is whether surface water and groundwater are interconnected in the Watershed and must therefore be considered as one common source or system. Ventura and the State agencies are proposing the motions in limine listed below. If we can reach an agreement about these proposed motions, we may be able to forgo filing them. Accordingly, please tell us whether you will stipulate to the proposed exclusions or oppose them. If anyone in this group would like to discuss these issues, please let me know, and we can set up a zoom meeting for tomorrow afternoon following the hearing, or early next week.

Ventura's Motions in Limine

1. Motion in Limine to exclude evidence of specific impacts from individual pumping and diversions activities in Phase 1 trial. The motion is brought pursuant to Evidence Code sections 350 and 352 on the grounds that such evidence is not relevant to the issues in phase 1 trial and that any probative value it might have is substantially outweighed by the probability that its admission will necessitate undue consumption of time and/or create substantive danger of undue prejudice or of confusing the issues.
2. Motion in Limine to exclude evidence regarding the proposed physical solution in the phase 1 trial. Per Evidence Code sections 350 and 352, the draft proposed physical solution is not relevant evidence in phase 1 trial, and admitting or referring to it would create undue prejudice or confusion and delay.
3. Motion in Limine to exclude expert witness Jordan Kear from testifying in phase 1 trial. Mr. Kear should be excluded from testifying pursuant to Code of Civil Procedure section 2034.300, subd. (c) because he failed to produce documents upon which he relied in forming his opinions about the Ojai and Upper Ojai Basins.
4. Motion in Limine to exclude expert witnesses Anthony Brown and Jordan Kear from testifying regarding the fishery or the steelhead in phase 1 trial. Mr. Brown and Mr. Kear have admitted that they are not aquatic biologists, fishery biologists, steelhead experts, fishery management experts, or botanists; accordingly any such opinions, testimony, or evidence about these matters are not qualified and must be excluded.
5. Motion in Limine to exclude expert witness Randall T. Hanson from testifying in phase 1 trial. Mr. Hanson should be excluded from testifying pursuant to Code of Civil Procedure section 2034.300, subd. (c) because he failed to produce data about Casitas' water diversions at Robles upon which he relied in forming his opinions about modelling conducted for the Watershed.

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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES, COMPLEX CIVIL DIVISION

SANTA BARBARA CHANNELKEEPER, a California non-profit corporation,

Petitioner,

vs.

STATE WATER RESOURCES CONTROL BOARD, a California State Agency; CITY OF SAN BUENA VENTURA, a California municipal corporation, incorrectly named as CITY OF BUENA VENTURA,

Respondents.

Case No. 19STCP01176

CITY OF SAN BUENA VENTURA, a California municipal corporation,

Cross-Complainant,

vs.

DUNCAN ABBOTT, et al.,

Cross-Defendant.

DEPOSITION OF
AL PRESTON, PH.D., P.E.
Los Angeles, California
Tuesday, February 8, 2022

Reported by:
SONYA MATTESON
CSR No. 5768
JOB No. 5067497
PAGES 1 - 271

do not have an opinion on those aspects of Mr. Kear's reports.

Trying to think. I did -- I did for the one submitted yesterday, actually, related to the Upper Ojai Basin, I felt -- I did disagree with some of the opinions presented from Mr. Kear and provided evidence to -- to support a different view.

Q Regarding the opinions that -- that Mr. Kear provided regarding the upper -- the conditions of groundwater in the Upper Ojai; is that right?

A Mostly the way he characterized the flows in Lion Canyon Creek which comes out of the Upper Ojai Basin.

Q So that's a tributary of San Antonio Creek?

A Correct.

Q Okay. All right. On what subject would you consider yourself to be an expert as it relates to this litigation?

A The surface water flows and the modeling of such flows and the hydrology that feeds the flows.

Q All right. How many integrated hydrology models have you developed in the past?

A What do you mean by "integrated"?

Q Groundwater-surface water models.

A This -- there's different levels of groundwater

modeling, so this would be the first one that has a complex groundwater model based on three-dimensional MODFLOW.

Other more traditional hydrology models have very simplistic represen -- representations of groundwater, so they're, you know, a little bit different.

That's why we assembled the team that we did with the experts on both sides, and I think that's quite, you know, there's -- there hasn't been a lot of integrated hydrology models, especially when we started out four -- four-plus years ago.

Q You say when we started out four-plus years ago.

Who -- who is -- who the "we" in that? Obviously you're part of that, but who was the -- who started out? How did it get started?

A The project team, you know --

Q Okay.

A -- Geosyntec Consultants and Daniel B. Stephens & Associates.

Q How did that -- how did you guys wind up married to each other? How did that -- how did that happen?

A I -- I -- I wasn't involved in putting the team

watershed.

So -- so we -- you want me to go into details of how we ran the model or --

Q Yeah. I mean, I just want to understand how you -- the process to get to your opinions must have had quite a few steps.

I'm just trying to understand what the -- what the process was, what the steps were so we can understand how you got to the conclusion you got to.

A Okay. So we took the calibrated model, and in September when this report was done, that model was still being worked on. I think we acknowledged that in here. We were still, you know, finalizing the calibration.

We took the calibrated model. We first turned off all the pumping in the model, so -- and set all the pumping in the model to zero, re-ran it, and kind of used that as a base case, and then we systematically went back and turned on groups of wells in the different zones -- I think there was 17 zones in the model -- and ran the model and then looked at the comparison of streamflow from those simulations with the simulation without any pumping and looked where we had streamflow depletions for the different zones.

Q So is that the -- what was the base case? Is

that the zero pumping scenario?

A Correct.

Q Okay. How would you even simulate that? How do you -- how do you construct that?

A You just go to input files, and you can either remove the -- the wells completely or you can just turn off the pumping, set it to zero, that's, you know, set the model --

Q Okay. So you have an assumption as to how much pumping exists -- so you have an assumption of what your baseline is, right? And then in order to create your base case, you then zero out all of whatever those inputs would be, and you make it instead of being, say, 10,000 now they're zero?

A Correct.

Q And then you see how it responds based on zeroing it out, and that's your comparison?

MR. MELNICK: Objection. Vague.

MR. JUNGREIS: It was, wasn't it?

Q BY MR. JUNGREIS: I'm just trying to understand how the base case -- your baseline case compares to, which is the no pumping alternative, compares to the status quo, how you compare those two.

So how do you do that?

A We didn't present those -- those comparisons in

validation of the model to show that it's -- it's accurate or, you know, fit for purpose.

And 2.4.1. 2.4.1 discusses some of the limitations of the model, and, yeah, so I think those sections are primarily discussing or presenting the model.

At this point we didn't have the full draft calibration report which was since released on December 17, and it has more details than these sections, but these sections provide -- the goal of these sections is to provide enough understanding of the basis of the model.

Q BY MR. JUNGREIS: So the -- so at the time that this was -- the report in Exhibit 2 was released, calibration had not occurred yet?

A The model had been -- was in process, progress, and we calibrated a lot. The metrics were more or less within the goals that we set out, but there were a few things in the model that we were still working on which I described in the December report.

Q More or less within the goals, what does that mean?

A There was some statistical metrics defined in the study plan, the draft study plan published either late 2017 or early 2018 and then finalized in late 2019,

and we had metrics for both the groundwater calibration in terms of heads and also for the surface water calibration in terms of streamflow.

We had met most of those metrics, not all of them, because you seldom meet all the metrics at every location in the model, but, you know, there were still aspects of the model that we were trying to improve.

Q Okay. Improve now or improve then in -- when you -- when you issued the subsequent version in December of 2021?

A Improve between the September report and December.

Q And how did you improve it between September and December?

A Just more adjustments to model parameters. It's summarized in the Dec -- December report.

Q The supplemental report discusses what adjustments you made?

A I believe so.

Q Okay. What -- why were adjustments necessary?

A I don't know. We just wanted to improve the model.

Q Did it improve the model?

A A little bit. One of the examples was actually in our December report where, you know, there's just

things we hadn't spent a lot of time on. We were focusing on the big things, and we wanted to go and tie up a lot of little things.

So one of the examples was actually in our December report in response to the incorrectly plotted lake elevations, we actually showed the plot that was presented as part of a Webinar series in the spring, May and June of 2021; and the final one that was presented, I forget, I think in September in which we were just showing some improvements. You know, we're kind of continually improving upon the model.

Q So you said there were some big things that you needed to address and then there were some little things that needed to be addressed that were addressed later.

What were the big things you had to address? And I guess when were the big things addressed?

A I'm not sure I would characterize it as big things, but we were focusing on, from the surface water perspective, focusing on the key gauges on the main stem Ventura earlier, and we hadn't focused a lot on flow gauges, for example, up above Lake Casitas.

So we -- we knew we could improve that part of the model, but we were focusing on other pieces of the model.

Most of that model was -- by September the

question, go ahead and answer it, or I can rephrase if you prefer.

A I'm trying to remember the timeline because --

Q Yeah. I'm just trying to understand.

A Yeah.

Q You've -- you've got this process.

A Um-hum. Um-hum.

Q And during this process you've got litigation going on --

A Um-huh.

Q -- and you've got your developing report, but meanwhile, you've got -- you've got the overall process, and so you are doing things to the model.

What -- what tells you when you need to do things to the model when you do a -- what -- do you have a work plan or what's telling you when are you going to make variations to the model?

A I think as we're reviewing the model, you know, one part of it is reviewing the -- the calibration metrics, the statistical fit, for example. Other part is our parameters, you know, within realistic ranges.

There's a lot of things that go on as you assess the model.

You know, when we wrote -- sorry. When we wrote the September report we knew the model wasn't

finished, and we stated as much, and we're still working on it, and it's a part of just our regular checking as part of our whole process is like, yeah, we need to make some changes in the model.

It wasn't -- it wasn't as a result of other expert reports that came out. It was -- I think we made that decision prior to reading other expert reports that came out.

We did later make changes to the model, that sensitivity analysis, I think that was in -- it was in this report. Maybe that's in the next report. I can't remember.

Q Let's say I wasn't a technical imbecile and I was actually good with models and technical things and I -- I decided I was going to run your model. That's a crazy idea, but let's say I was going to do it in September of 2021, and I was going to run it again December 18th, 2021.

Would it have given me different results based on the changes you made?

A It'll give you different numerical answers but I would say substantially similar results.

Q Okay.

A And I think that's characterized in one of the reports. I don't know if it was this one or -- or a

A Yeah.

Q Okay. That's almost entirely surface water models, though, correct?

A Yes.

Q Okay. Have you ever built an integrated hydrologic model before working on the Ventura River Model?

MR. MELNICK: Objection. Vague.

THE WITNESS: By "integrated" you mean -- we kind of went through this earlier -- surface water-groundwater?

Q BY MR. JUNGREIS: Correct.

A Not one with a fully three-dimensional groundwater model.

So I mentioned earlier, it's -- traditional hydrology models have a groundwater component.

Q What do you mean?

A They have a simple kind of box model for water goes into the ground, water comes out of the ground, water -- they don't have a three-dimensional grid where it actually simulates how the water can move around within the groundwater, so there's limitations.

Q What kind of limitations?

A On -- on the complexity of the processes that you can represent within the groundwater, just because

it's so -- it's so simplified.

Q Okay. So before undertaking the Ventura River -- I'm going to call it the "Ventura River Model" just for simplicity, if that's okay.

A Sure.

Q I know there's other names that have more acronyms but....

Before undertaking the Ventura River Model, had you ever in your other projects used an integrated hydrologic model before?

MR. MELNICK: Asked and answered, I think.

THE WITNESS: By -- by "integrated" you mean with a fully three-dimensional groundwater model?

Q BY MR. JUNGREIS: Yes.

A No.

Q Okay. Have you ever taken any classes or received formal training in geomechanics prior to your work on the Ventura River Model?

A Yes.

Q Okay. Where did you take that?

A New Zealand as under -- undergraduate.

Q Okay. And I understand geomechanics is a term related to understanding the nature and role of confining layers aquifers.

Is that your understanding?

A Within standard degrees of accuracy, yes.

Q What are standard degrees of accuracy?

A I think we discuss it in one of the reports.

Had some difficulty below about a CFS. Once -- once the flows get very low, it's difficult to model them accurately, and that's -- it's not unique to our model. It's very common for these types of models, and we presented many examples, and our model does better than most models out there.

Q Why do you say that?

A Well, the models we've looked at you can see there's -- there's -- at the low flows there can be large variances between the model and the data. Becomes very challenging below about a CFS to -- to accurately model the flow rate.

Q Okay. Have you personally ever modeled the degree and extent of groundwater-surface water interface in coastal California streams prior to your work on the Ventura River Model?

A No.

Q Okay. Have you used GSFLOW prior to your work on the Ventura River Model?

A No.

Q Have you ever prepared a groundwater sustainability plan or worked on a groundwater

using CFD.

The Ventura River Model uses a simpler version to route the streamflows which is more common with more hydrology models, and then specifically in there, the -- the, you know, that's -- that's the interface where the surface water and groundwater are coupled, so there's a lot of overlap with the groundwater model as well.

Q So why did you decide to use the GSFLOW model for the Ventura River Watershed as opposed to other models that potentially could have been used?

A Yeah. We did a -- an assessment early on in the project, it was published in our draft study plan in I think either late 2017 or maybe early 2018, kind of assessing different models.

The client had some requirements about it being freely labeled for public use, and that precluded a lot of other models that were developed by other companies that were proprietary, meaning you typically have to pay to use them. That precluded other models.

Q Why?

A Because the -- the -- I think it's part of SGMA requirements, not that this is a model developed for SGMA, but just they want it to be -- they want anyone to be able to use the model without having to pay some license fee, for instance.

Q So was that one of the state's -- state water board's criteria as far as your proposal is you had to have a model that was open source?

A Yeah. I forget if it was open source or freely available which could mean different things.

But yes, that was part of the criteria for this contract, for this model.

Q Is the GSFLOW model the best fit for the Ventura River Watershed?

A I think so.

Q On what basis?

A It met the goals of having a hydrology model separate, you know, the -- the -- yeah. It models the presence of the precipitation hitting the land and running off and uptake for plants and everything in a comprehensive way, and then that's coupled so that that's the surface water model, and then it's coupled with the groundwater model, has all of those processes.

And the other ones we looked at didn't have that full hydrologic model which then could limit what you use the model for in the future.

For example, if you want to look at climate change, if you don't have that full hydrology model, it would be more difficult to look at, you know, what if precipitation patterns change, for example?

Q So you hadn't used GSFLOW before. You already testified to that.

Had Dr. Schnaar used GSFLOW before?

A I think you'd have to ask him that.

Q Okay. But you don't know?

A I don't know.

Q I guess I'm trying to understand why you didn't use a model you were more familiar with.

A I think it's, you know, we -- we developed our team with experts on -- on the different components of the model, and so DB Stephens has a lot of MODFLOW experience; we had a lot of surface water modeling experience. That was a good fit to bring those together.

The original RFP proposed using an HSPF model, Hydrological Simulation Program in Fortran. One had been developed for the watershed by Tetra Tech in 2009, so that was -- that was assessed as one of the options.

That would have met the freely available criteria, but we just looked at pros and cons. You know, if you develop -- would have taken a lot of coding to couple that model to the groundwater, make sure that everything is done correctly, a lot of testing, debugging, et cetera, and also potentially a lot of work in the future to maintain that code; whereas, USGS had

done all that for us.

You know, they developed GSFLOW, and we just -- we just needed to apply it using pretty standard techniques.

Q All right. So what do you mean the USGS had already done it for you?

A Well, in GSFLOW, which is developed by the USGS --

Q Right.

A -- they had done the coupling between the surface water flows and the groundwater flows, and if we wanted to, you know, for example, use HSPF plus MODFLOW, we would have had to code that coupling up ourselves --

Q How would you have done that?

A -- so would have been custom coding.

Well, we talked about that. You know, had to be a two-way coupling as well, wasn't as simple as running, because in some watersheds --

(Reporter clarification)

THE WITNESS: In some watersheds it may be sufficient to run a surface water model, get the results from it and feed it to a groundwater model.

In the cases of Ventura, it was more complicated, because the groundwater is then coming back out into the surface water, and so it was important that

that is coupled.

So we would have had to figure out a way to make the HSPF code and the MODFLOW code communicate back and forth. It would have been coding, I presume, in Fortran.

Q BY MR. JUNGREIS: You're making an assumption there that the water from the ground is coming out, but isn't that one of the issues is -- aren't there other experts that say that the water is not coming out from the ground to the surface water?

MR. PISANO: Objection. Lack of foundation.

THE WITNESS: It's evident that the groundwater is coming out into the surface water.

Q BY MR. JUNGREIS: What do you base that on other than your model?

A The fact that there's a dry reach upstream and then a wet reach downstream. The water is coming out of the groundwater.

Q Couldn't that be from irrigation return flows?

A I don't think in that -- in that quantity. I'd say that's unlikely.

Q Okay. Where specifically are you describing where -- where you're seeing evidence of wet reaches surrounded by dry reaches?

A There's the intermittent gap in the main stem

Ventura, and then there's perennial flow, you know, around Foster Park area.

Q Okay. The intermittent gap, so where -- where -- how many river miles inland is that from the coast would you say?

A I'd have to check. I --

Q Okay. That's not in San Antonio Creek, though, right? That's in the main stem Ventura River, right?

A That's the one I'm referring to, yeah.

Q Okay. So you're not aware of any evidence of groundwater only or -- or strike that last.

You are not aware of any reaches in San Antonio Creek that are demonstrably fed by groundwater?

A I haven't analyzed the data with that perspective in mind. The fact that we needed a whole watershed model, the fact there was one clear reach where the gains to the river of flow is part of the physical processes that need to be represented pushed us towards a fully coupled model where the groundwater and surface water were coupled in both directions, so I didn't spend a lot of time analyzing San Antonio Creek from that perspective.

MR. JUNGREIS: Could you read back my last question, please?

(Record read)

A During -- when we responded to the RFP?
Q Yes.
A Yes. They were mentioned in the response to the --
Q Did -- did --
A -- the proposal.
Q Who paid them?
A At that point or --
Q Well, I guess, yeah. Once you were awarded the contract, who paid the academic --
A Through Geosyntec.
Q Okay. So it was done through -- through your organization?
A Correct.
Q Okay. But they weren't a separate independent body who was reviewing things outside of Geosyntec?
MR. MELNICK: Objection. Vague and ambiguous.
THE WITNESS: We'd send them reports --
Q BY MR. JUNGREIS: Right.
A -- that we wanted their input on --
Q Right.
A -- and they'd review it.
Q And they would review it and they would subsequently send you invoices, correct?
A Correct.

MR. MELNICK: Objection. Misstates the facts.

Q BY MR. JUNGREIS: The -- the version of the model that -- that you submitted to the court -- I shouldn't say to the court -- to the other parties on September 24th that you authored, how long --

MR. MELNICK: It misstates the facts.

Q BY MR. JUNGREIS: -- how long did you -- I should say that you coauthored, how -- how long did you put it out for public comment before submitting it?

MR. MELNICK: Objection. Vague and ambiguous and misstates facts.

THE WITNESS: That was a preliminary draft model that we explained in the reports was still being finalized, as we did through December, and the December model is now out for public comment.

Q BY MR. JUNGREIS: But you plan to rely on the opinions based on your preliminary draft model at trial, do you not?

A That would be the draft model.

Q You said preliminary draft model.

A Yes. But we since prepared a document that shows our opinions did not change with the draft model.

Q Okay. But those -- you're saying that the preliminary draft model, but you still stand by the opinions in here, correct?

A Yes.

Q Okay. And you didn't do a public -- at the time that this was released at the -- Exhibit 2 was released, you had not done public review on -- on --

A We had presented re -- results of an earlier version at a public Webinar --

Q Okay.

A -- on June 9th.

Q What did you do with the comments from the Webinar?

A On June 9th?

Q Well, didn't you have three Webinars?

A Yes.

Q Okay. So on those Webinars, did you receive public comments?

A Yes.

Q Did you receive extensive comments from Casitas -- from Casitas Municipal Water District?

A We received extensive comments on I think in July.

Q Okay. From whom?

A It's from Casitas -- I forget the consultants that were working for them. I think it's part of the same team that's work -- making the reports now.

Q Okay. And what did you do with those comments

once you received them?

A Reviewed them.

Q Okay. Did you respond in writing to those comments?

A No, I don't think so.

Q Did you make any changes to the model based on the comments received?

A I'd have to go back and take a look. There's -- there's a lot of comments coming in and how we integrate it as we're moving forward.

Q Okay. Wouldn't that be normally part of the process when you ask for public comment, to evaluate the comments, respond to the comments, and where merited, make revisions to the model?

Wouldn't that be the proper approach?

A Yes, and I still think it's still a draft model.

Q Okay. So it may change still, because it's still a draft model, correct?

A We'll see what comments we get back and --

Q Right. So you're likely -- April 1st is the deadline for the comments, right?

A Correct.

Q So -- and our trial in this case is March 16th, is it not?

A That's what I've been told, yes.

Q Right. So -- so the comments on the draft model won't even be in until after you testify in this case, correct?

A Some might be; some may not be.

Q And it could very well be that the comments would tell you that there are things with your model that don't make sense that need to be revised; is that possible?

A It's possible.

Q They could tell you that significant additional calibration is required to produce accurate results; is that a possibility?

A It's possible they could say that. Whether or not we agree with them, that's a different question.

Q That's fair. I'm just -- I'm trying to understand where we are in the process.

So I'm still having a hard time understanding how -- so there's this work you're doing for -- under the final study plan, so that's for the state water board. That's Mr. DeLano, right?

A Yes.

Q He's the manager of the program for the Ventura River Watershed.

A I believe that's his role.

expertise who can provide you a fresh look on -- on different things you're doing with regard to a model.

Is that -- is that accurate?

A I think that's reasonable.

Q Okay. So did -- was there a TAC that was ever constituted that included public agencies and water districts for the Ventura River?

A I'd have to refresh my memory with notes, et cetera.

Typically the state would be setting up the TAC, and as a consultant our job was to prepare materials and present to them and then take on their feedback.

Q But you don't even know who's on the TAC, so you really --

A I can't remember at this point. I --

Q So there was only the one -- so the only time you can remember meeting with the TAC was in the context of reviewing the work plan; does that sound right?

A There was -- I believe there was also a TAC review of the geologic analysis that -- that DB Stephens carried out.

Q Okay.

A And I believe there were some comments that were incorporated to revise that analysis, but, again,

that's not my --

Q Were those documents produced for this deposition? Because they would have been used as a basis for the -- for the model.

A Which documents? The -- the geologic analysis or --

Q Right.

A I believe so.

Q Okay. So there -- so if we go back and look through documents, we'll find documents reflecting interface with a technical advisory committee?

I'm not trying to trap you. I just don't know.

A No. I think, no, there's -- you'll find a memo on the geologic analysis. I don't know if -- I can't recall if that speaks to TAC input or not.

Q Okay. Do you think interface in developing your September report, if you had been able to interface that report, that the report that's Exhibit 2 would have been helpful to have been able to get the review of a technical advisory committee before putting that before the court?

A Well, we did have some input from TAC at different time --

Q As part --

A -- leading up -- leading up --

A Members of our team have been in email contact with Richard Niswonger at USGS.

Q What's his -- what's his position?

A I don't know his title, but he's one of the developers of GSFLOW.

Q Okay. So my understanding is that you omitted certain inputs from the model that might have potentially changed the outcome.

And let me just ask you, did you omit the storm drain system from consideration in the model, the impact of storm drains?

A We have a couple of the major storm drains that run through Ojai in the model. You know, they're kind of larger scale open channels that are in the model.

I believe the question's -- specific question is more related to the lower part of the river where there is an urbanized area near the mouth, so there would be a storm drain network there, and we do not have that in the model.

Q Okay. That would tend -- that potentially could skew or -- or leave you with less water than you would otherwise have based on leaving that out, couldn't it?

Well, it certainly could effect the accuracy of the model, wouldn't it?

could be seepage from the lake coming down under through the dam, but -- but the -- the barrier's geologic in nature.

Q Okay. So you don't -- but you don't know if that was considered as part of the model or not?

A I think you'd have to --

Q Ask Dr. Schnaar?

A -- ask Dr. Schnaar. Um-huh.

Q Okay. Did you discuss your model parameters with anyone else doing similar models such as United Water Conservation District or consultants building SGMA models that are required to demonstrate no adverse or no significant adverse effects on surface water?

A No, not with other consultants. We -- we've reviewed other literature.

Q Are you familiar with the Sustainable Groundwater Management Act?

A Yes.

Q Are you familiar with the deadly sins of SGMA that you're not supposed to commit?

A I don't think I am.

Q Okay. Do you have an understanding that you are not supposed to cause significant and -- significant adverse impact to connected surface water from groundwater?

A There's -- there's a lot. You know, we've -- we've assumed that, for instance, PRISM 30 a normal spatial pattern holds and can be used to interpolate rain gauge data, and I think that's a good assumption, probably the best assumption one can make, you know, given that there's -- you know, there's a lot of gauges -- rain gauges in the watershed, but there's still not every point in the -- in the model.

We've -- I don't know. It's quite a few assumptions there.

You know, we don't have measurements of all the stream widths throughout the watershed. You know, there's all these tiny tributary streams, so we've made some assumption that there's a relationship between watershed area and stream width, and that assumption is based on some data, but it's still somewhat of an assumption.

I don't know. I can't think of anything more from the surface water perspective.

Q Does your analysis of the surface water perspective rely on the assumption that groundwater is connected to the surface water?

A I think we'd have to assume that going into the modeling, and I think we construct a model, and the model demonstrates that, that we, you know, we -- we

look at the -- again, outside of my area of expertise.

We look at the geologic layering and conditions in the watershed, and you construct a geologic model, and then on top of that we impose rivers and streambeds, and the -- the model then shows the connections.

We don't have to assume there are connections before we construct the model.

Q Well, you said you kind of have to assume that and then your model shows it.

A Well --

MR. MELNICK: Objection.

THE WITNESS: We don't have to assume it, but if we want to evaluate those connections, we need a platform that's capable of modeling those connections.

Q BY MS. JACOBSON: What platform is that?

A GSFLOW, the chosen platform.

Q So what did you personally do to determine that groundwater's connected to surface water for your opinions?

A The September report, the first report, we ran the model as I described a lot earlier this morning and looked at specific output -- streamflow at specific output locations in the watershed, and so we used the model to show that pumping, when you turn on the pumping it depletes streamflow at different locations in the

I, AL PRESTON, PH.D., P.E., do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made any corrections as they appear on the errata sheet, which is signed by me; that my corrected testimony as contained herein is true and correct.

EXECUTED this _____ day of _____, 20____, at_____,_____.

(City) (State)

_____

AL PRESTON, PH.D., P.E.

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were duly sworn; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript [ ] was [ ] was not requested.

I further certify I am neither financially interested in the action, nor a relative or employee of any attorney or party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: This 14th day of February, 2022

SONYA MATTESON

CSR No. 5768

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES, COMPLEX CIVIL DIVISION

SANTA BARBARA CHANNELKEEPER, A California non-profit corporation, Petitioner, vs. STATE WATER RESOURCES CONTROL BOARD, a California State Agency; CITY OF SAN BUENA VENTURA, a California municipal corporation, incorrectly named as CITY OF BUENA VENTURA, Respondents. CITY OF SAN BUENA VENTURA, a California municipal corporation, Cross-Complainant, vs. DUNCAN ABBOTT, et al., Cross-Defendant.	Case No. 19STCP01176 DEPOSITION OF GREGORY SCHNAAR, PH.D., P.G. Los Angeles, California Wednesday, February 9, 2022

Reported by:
SONYA MATTESON
CSR No. 5768
JOB No. 5067510
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A If there's a slab present on the ground it would be beneath the slab.

Q Okay. All right. But that's -- that's -- so that work was -- was fairly distinct and different than the work you are currently doing on the Ventura River Model, wouldn't you say?

A It's a vague -- I don't know how to answer your question. Some of the same subjects are similar, actually.

Q Oh, what are those -- what subjects are similar?

A The -- you know, for example, the Farro case, the water flow through clays and low permeability materials was central to that case.

Q Okay. But there wasn't really an issue in that case as to surface-groundwater connection, was there?

A In that case, no.

Q And you didn't have an integrated model that projected certain amounts of flow at different points within a watershed based on the inputs -- inputs in your model, you didn't have that in that case?

A We developed a model in that case, but it focused only on the vadose zone; whereas, the model here includes the vadose zone, but it also includes more than that.

see my name on the sub -- on the lines of who's included on the emails.

Q Okay. So I -- so you -- so you -- this was never forwarded to you, so it was never brought to your attention that there were potentially significant documents that had not been produced?

A I recall some correspondence along these lines about additional document requests from Casitas. I do recall that issue coming up.

Q Okay. So would you agree -- let me put it this way: So there were changes to the model that occurred between September and December, right?

A Yes.

Q And there's documents that would have reflected or been associated with those changes, correct?

MR. MELNICK: Objection. Vague.

THE WITNESS: There are documents related to the model, and as it changes there are different documents.

Q BY MR. JUNGREIS: Okay. I guess my point is, and the reason I -- I showed this to you is that there were still significant documents that ultimately were produced last week that were not produced in September, contrary to what you just stated.

A Well, what I stated is that the model input and

Q Okay. So you worked on that.

Do you still work on that model? Do they still have a model?

MR. MELNICK: Objection. Compound.

Q BY MR. JUNGREIS: It's actually two questions. Go ahead.

A I think I can answer your questions.

Q Yeah. Either that or I can restate them. It's up to you.

A I'll give you my history of it, if that answers your question.

Q Sure.

A We developed the model in 2011. That was a state grant with some fund matching from OBGMA.

We then contracted separately to OBGMA to update that model for them in 2014 and 2020, and that was the last contract that I had -- that Daniel B. Stephens had with the OBGMA.

Q Okay. So -- so you said that it was more than simply just a groundwater model, but it's not an integrated hydrologic model like the GSFLOW model, correct?

A It's not as sophisticated as GSFLOW and it's not as dynamic as GSFLOW.

GSFLOW is definitely an improvement in many

Q But how do you know the model's right? How do you -- is that the calibration process?

A You know, in my mind it's more about seeing if the model's appropriate and if it's developed using the standard methods, and -- and that was what was done.

And so we know that it was developed using standard methods, because we followed protocols that are laid out in various documents that we've referred to, and it was calibrated to data consistent with those guidelines.

Q What did you use to calibrate the model?

A Do you mean the data?

Q Well, you -- you calib -- you said you calibrated the model. How did you calibrate it?

A So the model is calibrated by running simulations with a certain set of assumptions and comparing the results to data.

And when the model is consistent enough with the data within agreed upon tolerance --

Q Agreed upon by whom?

A The -- we followed guidance and -- and literature that's cited in our report that includes ASTM -- do I need to define ASTM?

Q Yeah. Might as well. I know what it is, but you can.

about earthquakes.

Q No, I'm not.

A Then what do you mean by "geomechanics"?

Q My understanding, and I know I'm not the hydrogeologist, obviously, the properties of fine grain layers and confining layers.

A Yes. That's core to my training and my expertise.

Q Okay. What role did each -- you know, we talked a little about this before, but I'm going to revisit it.

This -- this is the first GSFLOW model you've put together, correct?

A Yes.

Q Okay. And this is the first integrated surface flow -- I'm sorry -- integrated surface-groundwater model you've put together, correct?

A Well, like I said, we've coupled watershed models with groundwater models in the past. I think this is the most sophisticated and dynamic of that integration that I've done.

Q Okay. Are there any significant deviations from the OBGMA model and with -- with the Ventura River Model?

A No, not anymore. Because we updated the OBGMA

can --

A And --

Q So you can certainly question whether they're -- whether they're accurate or not. Those were added.

A Um-huh.

Q But the -- but the actual -- the red lines and blue lines, I will represent to you, were from data we received from materials produced by -- by your team.

Does that -- does that sound right to you?

A Yes. These look familiar for the older version of the model, yes.

Q Okay. Well, okay, so an older version.

Do you -- do you -- is the newer version, are they going to be different under the newer version?

A They very well could be, yes.

Q Why do you say?

A Because we changed -- this is Test 81, and we're on Test 95 now is the version that we used in the supplemental and the rebuttal and what was released to the public, and we did continue to improve the calibration, so Test 95, these graphs very well could be different than Test 81.

Q So is a test a model run?

A We have run the Ventura River Watershed Model

of, and, again, he had the same issues of -- that we talked about before in Ojai of not presenting a full hypothesis or conceptual model consistent with basic groundwater science of the interaction of pumping and streamflow.

Q Okay. Okay. So now we've gone through all of your reports, correct? No other reports that I don't know about that are --

A Sorry to laugh.

No. Those are the reports that I've submitted to Marc in this case.

Q All right. Now, yesterday Dr. -- I will tell you that Dr. Preston indicated that he may be working on a new opinion.

A Um-huh.

Q Whether he can do that or not still remains to be seen, but he's working on some additional thoughts on things.

Are you developing any different opinions beyond those that are already contained in the reports that have already been submitted in this case?

A There's three additional analyses that I have done already that I -- that come to mind --

Q Okay.

A --- that I'm happy to speak to.

Q Yeah. Why don't you tell us what your -- so these would be -- when you say "analyses," are these opinions you are going to render in court?

A They're each rebuttal opinions specific to opinions made by other experts.

Q When? I mean, haven't you already rebutted all the experts that provided opinions?

A I've had time to do some additional analyses since the rebuttal reports so --

Q Okay. So what are the three opinions, that if allowed to do so, you would provide?

A Yeah. Well, first two we submitted the files relating to these, at least I did to Marc.

Q What files were those?

A Modeling files and a spreadsheet that explain the analyses that we did.

Q To be honest with you, we got over 3,000 pdf files and then a whole bunch of files that I didn't even know what they were.

A I understand.

Q And that was not long ago.

So are you talking about -- so there was a large dump of files that occurred, I believe, on February 3rd.

Is that when those documents were disclosed?

A I -- again, I don't give the files -- I give the files to the DOJ.

Q Okay. When did you give the files to DOJ? Maybe that's something we can talk about.

A Like a week or so ago.

Q Okay. So that sounds about the same time.

A Yes.

Q Okay. Since I can't depose Marc, I'll have to leave it at that.

At least not yet. I'm just kidding.

MR. PATTERSON: We could.

MR. JUNGREIS: No, we're not deposing Marc. I'm just kidding.

Q BY MR. JUNGREIS: So -- all right. What are the -- so you had a bunch of analyses and there was documents released. What are the opinions that you would -- you -- that are not contained in any of the reports so far that you would propose to give?

A So the first two are very similar in that we ran -- to what's in our rebuttal report.

We ran additional simulations to test different criticisms of the model put forth by Dr. McCord, and those were to include what are called horizontal flow barriers, or HFBs, at faults in the bedrock.

And the second was to change the initial

conditions in the model to be consistent with what Dr. McCord thought they should be.

And so we redid the streamflow depletion analysis separately for those two different things in order to understand if changing those things in the model would have any bearing on our opinion.

And, again, we're not prepared to say that he's correct. He -- but we wanted to test the importance of those criticisms on our opinions, and in both cases it made, essentially, I think zero difference in the streamflow depletion that we calculated.

So I'm -- those are the first two. I'll pause if....

Q Okay. That's the first two.

A The third?

Q Yeah. What was the third?

A In Jordan Kear's rebuttal report, he presented a graph of -- that I had developed in 2014 that used the Ojai Basin Groundwater Model to project what could happen in the future, and I emailed that graph to the OBGMA and Jordan in 2014.

And in his rebuttal report, Jordan overlaid some actual data from the basin on the model results. Because it's now eight years later we actually know what happened, and I think the idea was to see if the model

simulations were consistent in their predictions to what actually happened, but Jordan's graph was fuzzy, like literally. I couldn't tell what well data this was, like I couldn't --

Q So it was literally fuzzy?

A It was literally fuzzy. I couldn't tell what it was.

Q Okay.

A And so yesterday I finally got around to plotting the actual data from that location, and -- and so it looks to me like Jordan took a well that's very far away from where the model simulations are, and we know the -- the model -- the actual observed results changed quite a bit over the basin, and so if you're looking to compare model and simulated, you have to look at the same location, and I don't -- that's not what he did.

And -- and so I actually got data from the same location, and it lined up with the projections very well, actually. So we took the 2014 projections, overlaid it on the actual data from that location, and what actually happened was within the range of what we predicted would happen which is different than Jordan's graph.

Q So what would the opinion be? So I'm looking

for opinions.

A Yeah.

Q What would your opinion you'd provide to the court be other than --

A Yeah. My opinion would be that it -- Jordan was clearly incorrect to make an assertion about the validity of a model by comparing data from the wrong location, and, in fact, this exercise really validates the Ojai model, which I had never done this before, really, to go back and look at a projection from that model to what actually happened.

Completely inconsistent with what he said in his report.

Q Okay. All right. Well, that's -- are there any other opinions?

A None that come to mind.

MR. JUNGREIS: All right. I think -- I think whether I want to be or not, I probably need to yield the balance of time to my colleagues.

So with that, I will -- I will turn it over to -- is it Greg? Are you next or is that going to be Holly?

MR. PATTERSON: Holly.

MR. JUNGREIS: Holly, are you ready to go?

MS. JACOBSON: Sure.

and take my video off. There were complaints yesterday that you guys couldn't gaze upon my face while I was questioning Dr. Preston, so I'll leave it on for now.

And so earlier today you had this conversation with -- with Jeremy -- Mr. Jungreis that you did not calibrate the model with wells -- newer wells like the DDMW well in the Ojai Basin; is that correct?

A There are two depth-discrete monitoring wells in the Ojai Basin. We did include the San Antonio Creek spreading grounds well.

The newer Fulton Street well was put in in 2021. You know, our model period ends in 2017 for the calibration period, so it wasn't included. And also this project started in 2017. We gathered data over a couple of years after that, but none of this data existed during that time period.

Q Your model is limited to data up to 2017?

A Yeah. That's -- that's my understanding is -- yes. As I sit here, that's my recollection is that we -- our calibration ended in 2017.

Q Okay. And you said something along the lines of there's only one well within the entire watershed that could be used to calibrate the data that you were looking at; is that correct?

A No. The specific question was about vertical

depending on the geology of the area you're testing. It would be tough to sort of isolate vertical from a hydraulic conductivity test in the field.

Another option would be to collect core material and actually analyze it in a laboratory for a vertical -- for hydraulic conductivity, and, for example, there's different labs that do this, but Daniel B. Stephens & Associates has a lab that actually measures vertical hydraulic conductivity.

But, you know, there's issues with just plugging those values in from labs into big regional models like this, so even if we were to do that, I'm not sure we would end up using the values one to one, but that is how it can be measured.

Q So you can go out into the field and collect a sample of tangible material and analyze it, right?

A Yes. And like I said, there's issues with using data collected in that way in a large regional model like this one, but you can measure vertical hydraulic conductivity from lab cores collected in the field.

Q Now, you say there's problems in doing it on a large scale like for a whole watershed. What about on a groundwater basin perspective, could you do that? Would there be less problems if you were to collect actual

take physical samples of what I'm going to call sediment, for lack of better word, from the surface down 900 feet, correct?

A I think when Jordan Kear was employed with our company, he very well may have done that. He --

Q Did you?

A Did I collect sediment to 900 feet personally?

Q Yes.

A No.

Q For purposes of this model, ignoring Jordan, did anybody else collect samples, tangible samples of sediment -- and we can use a different word if you'd prefer -- from surface down 900 feet?

A I'm sorry. Your -- you cut out for a second, or at least you did to me. Could you repeat the question?

Q Sure. Other than Jordan Kear, are you aware of anyone who has taken physical samples of the sediments that is present in the Ojai Basin, a sample drilling down from surface level down to 900 feet?

A You said took sediment. I'm having trouble understanding what you mean by that. Lots of people put in wells and they take sediment.

Q All right. So you don't understand the question or you didn't hear it?

hydraulic conductivity when you asked about that.

If you would like -- to answer your question, we assigned the hydraulic conductivity values, horizontal hydraulic conductivity values in the Ojai Basin based on the types of materials, the scientific literature on those types of materials, and it was constrained by the data from the aquifer testing that was done.

Q BY MS. JACOBSON: So you did not assign vertical hydraulic conductivity values in your model?

A We did assign vertical hydraulic conductivity values in our model, and for the most part, you know, the typical assumption is that vertical hydraulic conductivity is a tenth of horizontal hydraulic conductivity.

For the purposes of the Ventura River Watershed Model, we -- it's a regional model -- we were grouping different semi-confining units together with aquifer units, and for that reason we maintained a very low vertical hydraulic conductivity which was less than a tenth of the horizontal hydraulic conductivity.

We maintained the vertical hydraulic conductivity values that were the smallest from the semi-confining units from the Ojai Basin Groundwater Model, and that's how it was assigned.

the same?

A They could be similar; they could be different. It -- it depends on the sample and the amount of sand to clay, you know. It -- they very well could be different.

Q And that can be measured, right?

A In a laboratory core sample, yes, you can measure vertical hydraulic conductivity.

Q And that was not done in the Ojai Basin, was it?

A Well, like I said, I'm not aware of that being done.

Q Okay. So you have talked about this surficial clay, but I haven't heard or seen in your report any discussion of other clays present in the Ojai Basin.

Why is that?

A When I refer to a semi-confining unit, I assume that contains a fair amount of clay.

Q Is a semi-confining unit an aquitard?

A I wouldn't say those two things are the same, no.

Q So for purposes of the Ojai Basin, did you assume that the geologic materials throughout the entire basin were homogeneous?

A No.

see hundred plus feet of rise following a wet, rainy season. So that's what I meant by that.

There's a lot -- to answer from a physical process, it's a fairly small basin in a larger watershed, so a lot of water that falls on the mountains north of Ojai gets kind of funneled into and recharges the basin.

And so because the basin is fairly small in that context, the water only has one place to go, and that's just kind of filling up the basin. So you see pretty large fluctuations in groundwater elevations because of that.

Q But dependent upon how much it rains in any given year?

A That's exactly right.

Q So let's assume all humans left the Ojai Basin, all groundwater pumping stopped. How quickly would the basin fill? Sorry. Assuming it rained.

A I think I was asked this question earlier today, and I said that I don't think I've done a simulation that specifically answers how quickly. It would depend on the rain patterns after that exodus.

We could run simulations and see how quickly that would happen, but just based on my knowledge of the data, I've seen water levels come up hundreds of feet

within months of a rainy season, which is pretty quick.

So that's my only context without actually running some simulations of the model.

Q And what happens, generally speaking, when it's not raining? Does the basin continue to rise, the water -- sorry.

The groundwater levels in the basin, do they continue to rise when there's no rain?

A Is this the scenario where all the people have left?

Q Yes.

A So after it's rained, the water levels go up, but then if it hasn't rained, the water levels in the basin would go down somewhat, yes.

Q I think earlier you used an example of a bathtub to describe the Ojai Basin; is that right?

A No. I don't think I've ever used an example of a bathtub.

Q Okay. Could be confusing it with another deposition. I know there's been some analogies of sponges.

A I'm happy for you to look at the transcript. I don't believe I've ever said the word "bathtub."

Q That's okay. We won't do that.

How about we use my word instead. Why don't

quite understand what you mean. I'm having trouble understanding the question.

Q Okay. Well, your model projects out things that haven't actually occurred, right?

A Model has projected out things that haven't -- I'm not sure that I'd say that's true so far.

I know we have climate change scenarios we'll be looking at, but I don't think that to date we've run simulations that would be representative of a condition that never occurred.

Q Did you run simulations where you turned off all groundwater pumping in the Ojai Basin?

A We had simulations that never had any pumping, which would have been the case predevelopment.

Q Did those simulations relate to predevelopment only or are they projected out in time into the future?

A They are representative of a time period where we have measured precipitation, so we use that measured precipitation, but we don't have any pumping, so I guess because that simulation includes other things, like the presence of Lake Casitas, it's probably fair to say that's a condition that's never occurred that you would have Lake Casitas there but not any pumping at all.

So I guess that would be an example of a simulation that has not occurred.

Q Okay. Other than that, were there any other site specific information from the Lower Ventura River Basin that were -- that was included in the model?

A Yes. There's lots of site specific information for the Lower Ventura that's included in the model.

Q Okay. Let me rephrase that.

Is there any site specific -- specific information that you gathered personally for the Lower Ventura River Basin that's included in the model?

A Maybe to clarify your question, do you mean fieldwork or just gathering of data?

Q Actual fieldwork.

A No. Other than the tour I described to you? No.

Q Okay. You didn't conduct any pump tests in the Lower Ventura Basin?

A That same geologist submitted aquifer tests or pump tests to us, and we considered those in developing the model, but I myself did not conduct the pump tests, no.

Q Okay. Did you personally measure any streamflow in the Lower Ventura Basin?

A Other than just observing it with my eyes, no, I had not measured streamflow.

MR. GUILLEN: Okay. All right. I think that's

I, GREGORY SCHNAAR, PH.D., P.G., do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made any corrections as they appear on the errata sheet, which is signed by me; that my corrected testimony as contained herein is true and correct.

EXECUTED this _____ day of _____, 20____, at_____,_____.

(City) (State)

_____

GREGORY SCHNAAR, PH.D., P.G.

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were duly sworn; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript [ ] was [ ] was not requested.

I further certify I am neither financially interested in the action, nor a relative or employee of any attorney or party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: February 14, 2022

SONYA MATTESON

CSR No. 5768

---------- Forwarded message ----------
From: **DeLano, Kevin@Waterboards** <Kevin.DeLano@waterboards.ca.gov>
Date: Fri, Dec 17, 2021 at 11:35 AM
Subject: Re: Information Request for Preliminary Draft Model of the Ventura River Watershed
To: Kelley Dyer <kdyer@casitaswater.com>
Cc: Worth, Daniel@Waterboards <Daniel.Worth@waterboards.ca.gov>, Ore, AnnMarie@Waterboards <AnnMarie.Ore@waterboards.ca.gov>, Michael Flood <mflood@casitaswater.com>, Jungreis, Jeremy <JJungreis@rutan.com>, Coupe, David@Waterboards <David.Coupe@waterboards.ca.gov>

Good Morning Kelley,

1. The items on this request were released to the public for the Preliminary Draft VRW GSFLOW Model in August 2021 and were released for the Draft VRW GSFLOW Model today.
2. For both the Preliminary Draft VRW GSFLOW and Draft VRW GSFLOW models, this has been provided with our expert disclosures in the court case that were provided on September 24, 2021, or December 3, 2021, or will be provided when we respond to the document requests for our consultants' (Al Preston (Geosyntec) and Greg Schnaar (DBS&A)) depositions in January 2022.
3. Same as 2
4. Same as 2
5. Please see attached.

Sincerely,

Kevin

Kevin DeLano, MS, GIT

Geologist, Instream Flow Unit

Division of Water Rights, State Water Board

kevin.delano@waterboards.ca.gov

Telework (Google Voice): 916-359-9827

Office: 916-319-0631

EXHIBIT

From: Kelley Dyer <kdyer@casitaswater.com>
Sent: Wednesday, December 15, 2021 10:54 AM
To: DeLano, Kevin@Waterboards <Kevin.DeLano@Waterboards.ca.gov>
Cc: Worth, Daniel@Waterboards <Daniel.Worth@waterboards.ca.gov>; Ore, AnnMarie@Waterboards <AnnMarie.Ore@waterboards.ca.gov>; Michael Flood <mflood@casitaswater.com>; Jungreis, Jeremy <JJungreis@rutan.com>
Subject: Re: Information Request for Preliminary Draft Model of the Ventura River Watershed

EXTERNAL:

Good morning, Kevin,

Since the model is being used as evidence in the adjudication lawsuit, we would like the files used to support the expert opinions in Phase 1 of the trial. However, we will be making this request through our attorneys given that is now the appropriate route.

We will also be looking for similar information with the future release of the model.

Best regards,

Kelley Dyer

805-649-2251 ext. 150

Cell 805-794-1060

On Fri, Dec 3, 2021 at 4:01 PM DeLano, Kevin@Waterboards <Kevin.DeLano@waterboards.ca.gov> wrote:

Good Afternoon Kelley,

Thank you for your email. Given the impending publication of the draft model and model report, scheduled for mid-December 2021, would you prefer to have any responsive and non-privileged records associated with your information request on the forthcoming draft model instead of the preliminary draft model? The draft model records would likely be much more helpful and germane as those records would inform any comments you may want to submit on the draft model and model report. The deadline to submit comments on the draft model would not be until sometime in March 2022.

We did not release the preliminary draft model to solicit comments. However, we would have considered comments from interested parties. Given that we are two weeks from publishing the draft model and model report, I'm sure you can appreciate that comments on the forthcoming draft model and model report would be more helpful. Please let me know.

If you are still interested in any remaining responsive and non-privileged records associated with the preliminary draft model, please confirm. If that is the case, we are planning to meet with our consultants next week to discuss their estimated timeline for providing the requested information. At that time, we can provide a timeline to you to provide any remaining responsive and non-privileged records.

Thanks again for your continued patience and understanding. I hope you are well too.

Sincerely,
Kevin

Kevin DeLano, MS, GIT

Geologist, Instream Flow Unit

Division of Water Rights, State Water Board

kevin.delano@waterboards.ca.gov

Telework (Google Voice): 916-359-9827

Office: 916-319-0631

From: Kelley Dyer <kdyer@casitaswater.com>
Sent: Tuesday, November 30, 2021 6:22 AM
To: DeLano, Kevin@Waterboards <Kevin.DeLano@Waterboards.ca.gov>
Cc: Worth, Daniel@Waterboards <Daniel.Worth@waterboards.ca.gov>
Subject: Re: Information Request for Preliminary Draft Model of the Ventura River Watershed

EXTERNAL:

Good morning, Kevin,

Hope you are well.

Just checking in to see if you have a timeline for providing the supporting information requested (attached for reference).

Thank you,

Kelley Dyer

805-649-2251 ext. 150

Cell 805-794-1060

On Thu, Oct 14, 2021 at 1:57 PM Kelley Dyer <kdyer@casitaswater.com> wrote:

Hi Kevin,

Thank you for your response and information on the updated schedule. We are requesting the files as soon as possible, so we may provide constructive comments sooner than later on the model.

We will keep an eye out for the upcoming announcement.

All the best,

Kelley Dyer

805-649-2251 ext. 150

Cell 805-794-1060

On Wed, Oct 13, 2021 at 5:43 PM DeLano, Kevin@Waterboards <Kevin.DeLano@waterboards.ca.gov> wrote:

Hi Kelley,

We have received your request. I will talk to the project team to determine how long it will take to pull the requested files together. When do you need the files by? The team is working hard this month on the upcoming Scenarios Webinar (look for an announcement tomorrow) and Draft GW-SW Model and Model Report.

FYI, in December 2021, we will release the Draft GW-SW Model with a Model Report (the next version of the model) for a 60+ day TAC and public comment period. We have not scheduled the model trainings yet. We will schedule 12-hours of training for local modelers during the 60+ day comment period. I anticipate the trainings will be after the GSAs' January 31, 2022 deadline. I'm eyeing February 2022. The comment period will be long enough to give modelers time to use the model after the training and write comments.

Hope you're doing well,
Kevin

Kevin DeLano, MS, GIT
Geologist, Instream Flow Unit
Division of Water Rights, State Water Board

kevin.delano@waterboards.ca.gov
Telework (Google Voice): 916-359-9827
Office: 916-319-0631

From: Kelley Dyer <kdyer@casitaswater.com>
Sent: Wednesday, October 13, 2021 4:27 PM
To: DeLano, Kevin@Waterboards <Kevin.DeLano@Waterboards.ca.gov>
Subject: Information Request for Preliminary Draft Model of the Ventura River Watershed

EXTERNAL:

Dear Kevin,

I hope this finds you well.

We are requesting additional information to complete our review of the preliminary draft model. Please see attached.

Also, could you please provide an update if any model training sessions will be scheduled?

Thank you, and best regards,

Kelley A. Dyer, P.E.
Assistant General Manager
Casitas Municipal Water District
1055 Ventura Avenue
Oak View, CA 93022
805-649-2251 ext. 150
Cell 805-794-1060

---------- Forwarded message ---------
From: <lyris@swrcb18.waterboards.ca.gov>
Date: Tue, Aug 31, 2021 at 4:55 PM
Subject: Release of Preliminary Draft Groundwater-Surface Water Model of the Ventura River Watershed
To: California Water Action Plan/Statewide Instream Flows <waterrights_ca_water_action_plan@swrcb18.waterboards.ca.gov>

This is a message from the State Water Resources Control Board.

Today, the State Water Resources Control Board (State Water Board) and Los Angeles Regional Water Quality Control Board (collectively, the Water Boards) released a Preliminary Draft version of the Groundwater-Surface Water Model of the Ventura River Watershed (VRW GW-SW Model). The Water Boards are making these files available to give interested persons the opportunity to learn more about the VRW GW-SW Model and review preliminary draft model results. Please see the Notice for additional information and access instructions.

If you received this notice in a forwarded message and would like to receive future emails related to this and similar efforts, please subscribe to the "*California Water Action Plan/Statewide Instream Flows*" list under "*Water Rights*" on the State Water Board's **Email Subscription List** webpage at: https://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.html

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You are currently subscribed to waterrights_ca_water_action_plan as: kdyer@casitaswater.com.

To unsubscribe click here: leave-8061182-6376350.104d60bf0651a26f6e2fca25e0867f02@swrcb18.waterboards.ca.gov

Draft Ventura River Watershed Groundwater-Surface Water Model and Report

Overview Webinar

January 2017. SWRCB.

Monday February 28, 2022
10am-3pm

Division of Water Rights (SWRCB)
TMDL and NPS Unit (LA RWQCB)
Geosyntec Consultants
Daniel B. Stephens & Associates

Ventura River at Foster Park,
Upper Ventura River Valley Groundwater Basin

May 2017. SWRCB.

Ventura River Watershed Modeling Project Team

- State Water Resources Control Board
  - Daniel Worth, MS, Senior Environmental Scientist, daniel.worth@waterboards.ca.gov
  - Kevin DeLano, GIT, MS, Geologist, kevin.delano@waterboards.ca.gov
  - Shahab Araghinejad, PhD, Water Resources Control Engineer, shahab.araghinejad@waterboards.ca.gov
- Los Angeles Regional Water Quality Control Board
  - Jun Zhu, PhD, Senior Environmental Scientist, jun.zhu@waterboards.ca.gov
  - Stefanie Hada, MS, Water Resources Control Engineer, stefanie.hada@waterboards.ca.gov
- Geosyntec Consultants
  - Brandon Steets, PE (CA), MS, Principal, Project Director
  - Al Preston, PE (CA), PhD, Project Manager, Modeler
- Daniel B. Stephens & Associates
  - Stephen J. Cullen, PG (CA, ID), PhD, Hydrogeologist
  - Gregory Schnaar, PG (VA), PhD, Hydrologist
  - Farag Botros, PE (CA), PhD, Hydrogeologist

San Antonio Creek at Old Creek Road, October 2018. Project Team.

Meeting Expectations

- At meeting start, non-host participants don't have permission to unmute or turn on video
- During presentations, pauses for questions
- Additional discussion before lunch and at end
- To ask a question
  - Type a question
  - Use "raise hand" feature and we will give permission to unmute
  - Please remember to mute yourself
- Instructions for downloading slides and viewing recording at end

Ventura River Estuary, Lower Ventura River Valley Groundwater Basin, January 2017. SWRCB.

Draft VRW GW-SW Model and Report Outreach

Goals and Schedule

- Overview Webinar: Summarize the Draft VRW GW-SW Model and Model Report
  - Monday **February 28, 2022**, 10am-3pm, 1 hour lunch break
- Technical Training: How to use the model
  - Wednesday **March 2, 2022**, 10am-3pm, 1 hour lunch break
  - Friday **March 4, 2022**, 10am-3pm, 1 hour lunch break
- **Please submit technical comments by Friday April 1, 2022**
  - Email comments to: **InstreamFlows@waterboards.ca.gov**

Aerial view looking south at VRW
Source: VRW Council

Draft VRW GW-SW Model and Report

Published: December 17, 2021

- Purpose: Solicit comments on Draft VRW GW-SW Model and Model Report
- Model includes:
  - Model files for calibration/validation
  - Model files for unimpaired flow scenario
  - User Manual, Data Visualization Tool, streamflow routing shapefile
- Report includes
  - Supply and Demand Analyses
  - GSFLOW methodology and setup (split into PRMS and MODFLOW)
  - Results: calibration, validation, sensitivity analysis
  - Results: unimpaired flow scenario
  - Revised geologic analysis (Appendix C) (consistent with May 2021 webinar)

Soliciting TAC and Public Comments until April 1, 2022
- 105-day comment period
- Overview Webinar: February 28, 2022
- Technical Training: March 2, 2022 and March 4, 2022

Overview Webinar Agenda

- 10am-noon
  - Introduction
  - Review project history, past outreach
  - GSFLOW overview
  - Supply and demand analyses
  - Model inputs
- 1pm-3pm
  - Groundwater model structure
  - Model calibration and validation
  - Unimpaired flow scenario
  - Wrap Up
  - Other scenarios

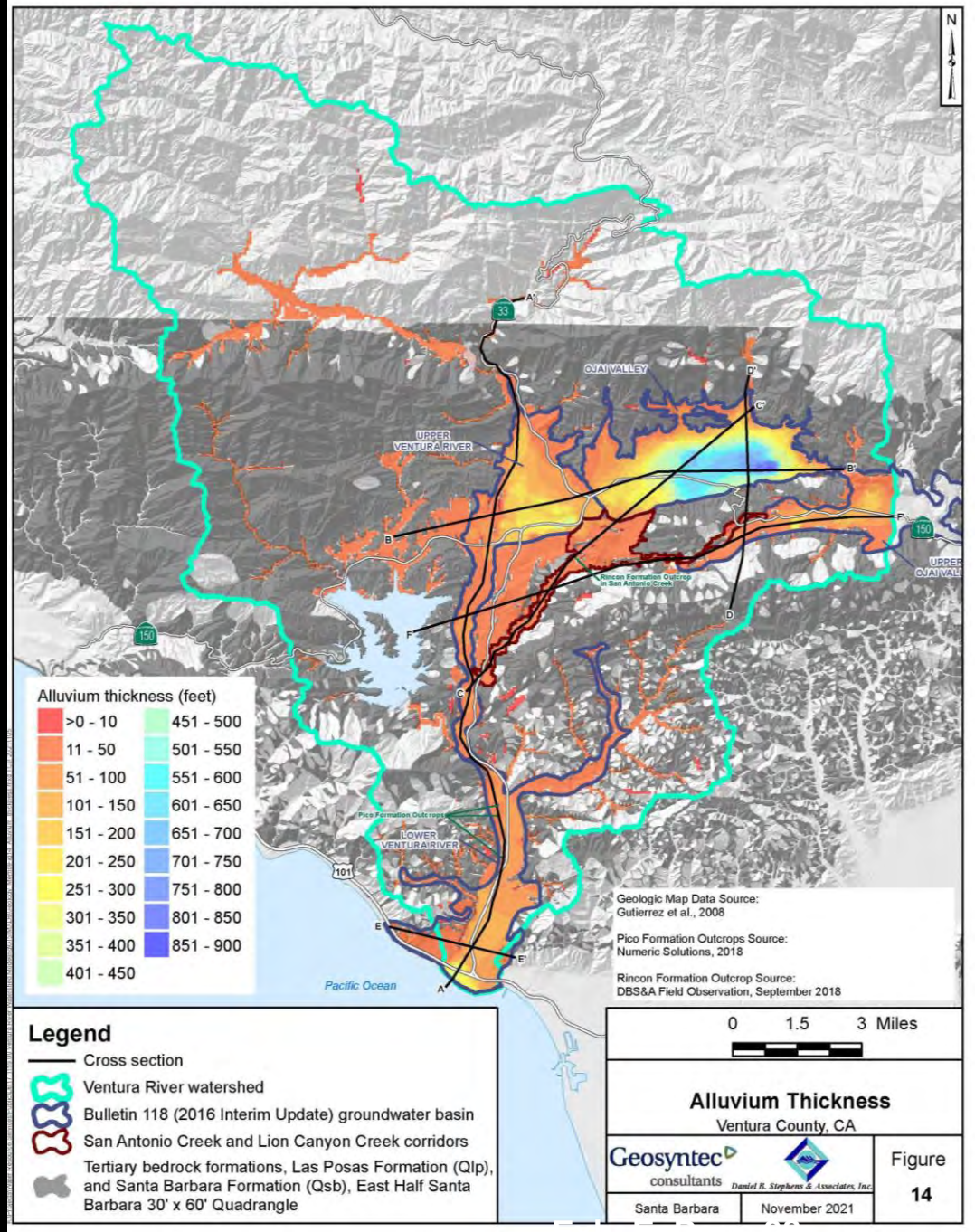


Figure C.14: Alluvium Thickness.

Draft GW-SW Model Report: Appendix C (2021)

Statewide Effort to Enhance Instream Flows

- First identified in the California Water Action Plan (2014, updated 2016)
- Supports Governor Newsom's Water Resilience Portfolio (2020)

Action 4 – Protect and Restore Important Ecosystems

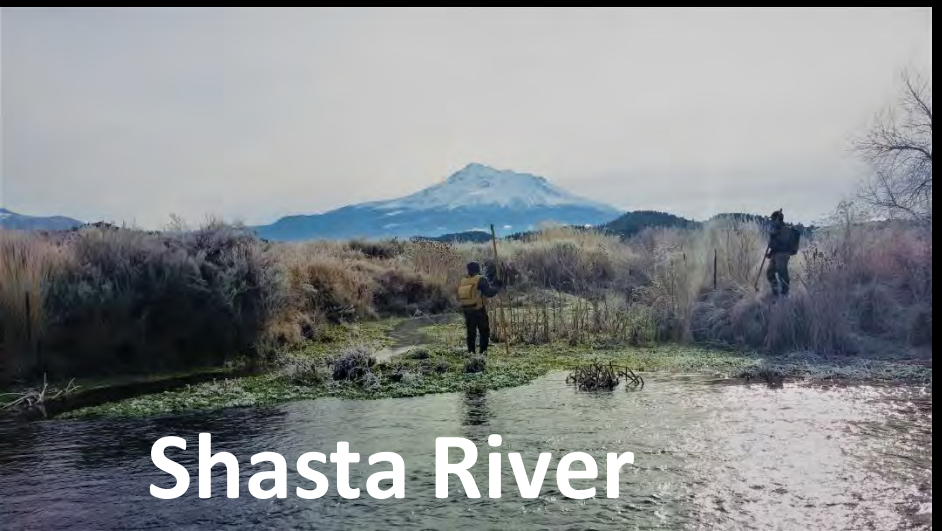
- Sub-action: Enhance Water Flows in Stream Systems Statewide

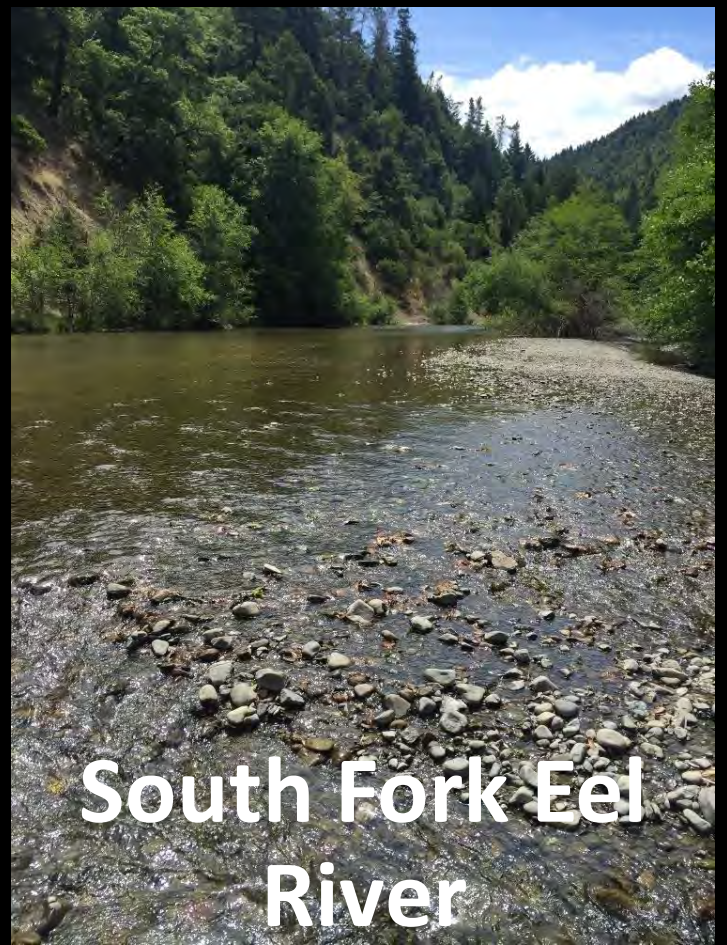
"The State Water Resources Control Board and the Department of Fish and Wildlife will implement a suite of individual and coordinated administrative efforts to enhance flows statewide in at least five stream systems that support critical habitat for anadromous fish…."

Exh. E, Page 100


SHASTA RIVER
MILL CREEK
SOUTH FORK EEL RIVER
MARK WEST CREEK
VENTURA RIVER
Klamath River
Eel River
Sacramento River
Russian River
Eureka
Redding
Chico
Reno
Carson City
NEVADA
CALIFORNIA
Sacramento
Vacaville
Napa
Fairfield
Antioch
Stockton
San Francisco
Livermore
Modesto
Fremont
San Jose
Salinas
Fresno
Visalía
Bakersfield
Santa Maria
Lompoc
Palmdale
Lancaster
Santa Clarita
Oxnard
Los Angeles
Priority Streams
California Water Action Plan
PRIORITY STREAMS
PRIORITY WATERSHEDS
Mainstem Rivers
1:3,500,000
Water Boards
Instream Flow Unit
Division of Water Rights
0 20 40 80 120 160
Miles
Sources: Esri, HERE, DeLorme, USGS, Intermap, Increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri Thailand, MapmyIndia, and the OpenStreetMap contributors, and the GIS User Community

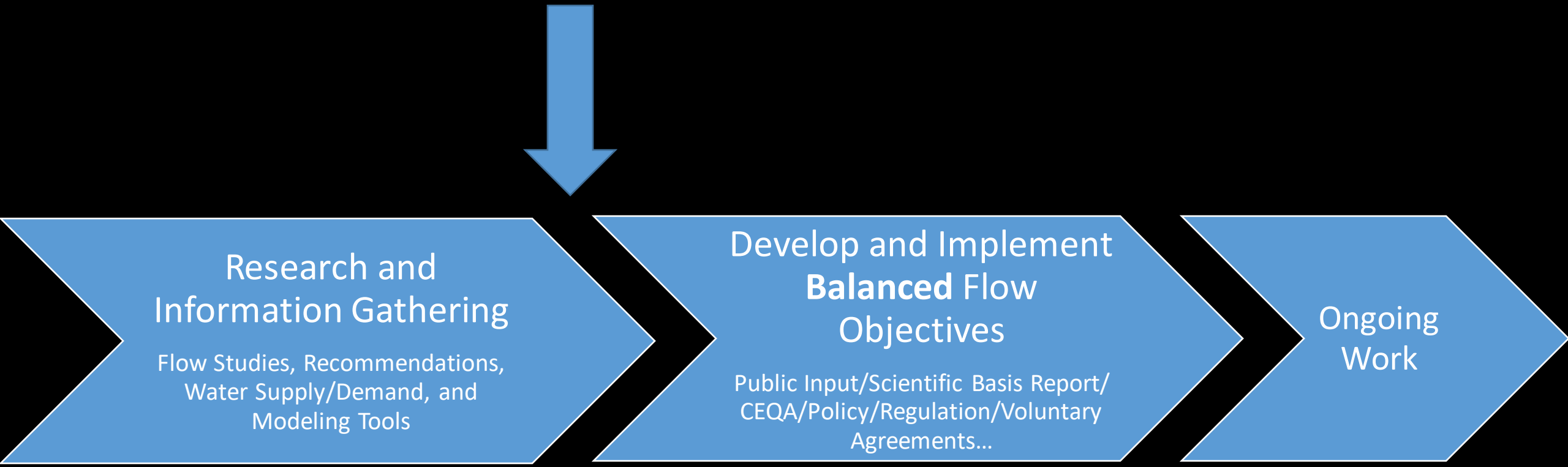
Goal is to Enhance Instream Flows





Roadmap

Currently here in the process



Flow Criteria and Flow Objectives

Flow Criteria

-Identify the flow needs of fish (e.g., passage, rearing, spawning)

-**No regulatory effect**

Beneficial Uses

Water supply
Agriculture
Recreation
Navigation
Fish and Wildlife
Others…

Flow Objectives

-Have regulatory effect

-Balance the needs of public trust resources and other beneficial uses of water

Exh. E, Page 104

Ventura River Flow Effort

CDFW

- Development of Flow Criteria and Recommendations
  - 11/22/2021: Site-specific information for SAC and Intermittent Reach VR
  - 2/26/2021: Draft Instream Flow Recommendations for Coyote Creek and Lower VR
  - 3/20/2020: Watershed-wide Instream Flow Criteria
- Ongoing fish and wildlife monitoring activities

State Water Board

- Developing GW-SW and water quality models
- Continuing to coordinate with other water management efforts
- Will develop and implement balanced flow objectives
  - → Policies, regulations, locally led solutions or agreements
- Role in ongoing implementation and monitoring of flow objectives

Exh. E, Page 105

Questions?

March 2016. SWRCB.

Jan-Feb 2017. CA Department of Fish and Wildlife.

Ventura River Preserve,
Upper Ventura River Valley Groundwater Basin

Exh. E, Page 106

Purpose: Modeling Tools will Inform Watershed Management

- State Water Board
  - Inform development of balanced flow objectives
- LA Regional Water Quality Control Board
  - Refine information related to nitrogen source assessment and load allocations
- Local Water Management Efforts
  - Free public domain model
  - Outreach and local training

Figure 1.2: Ventura River Watershed Hydrologic Cycle
Draft GW-SW Model Report (2021)

Exh. E, Page 107

Modeling Objectives

- Simulate historic conditions (1994-2017, 2018-2020)
- Simulate full range of water year types
- Understand water supply and demand
- Estimate effects of water use on GW and SW
- Estimate nitrogen loading to GW and hence SW
- Evaluate scenarios

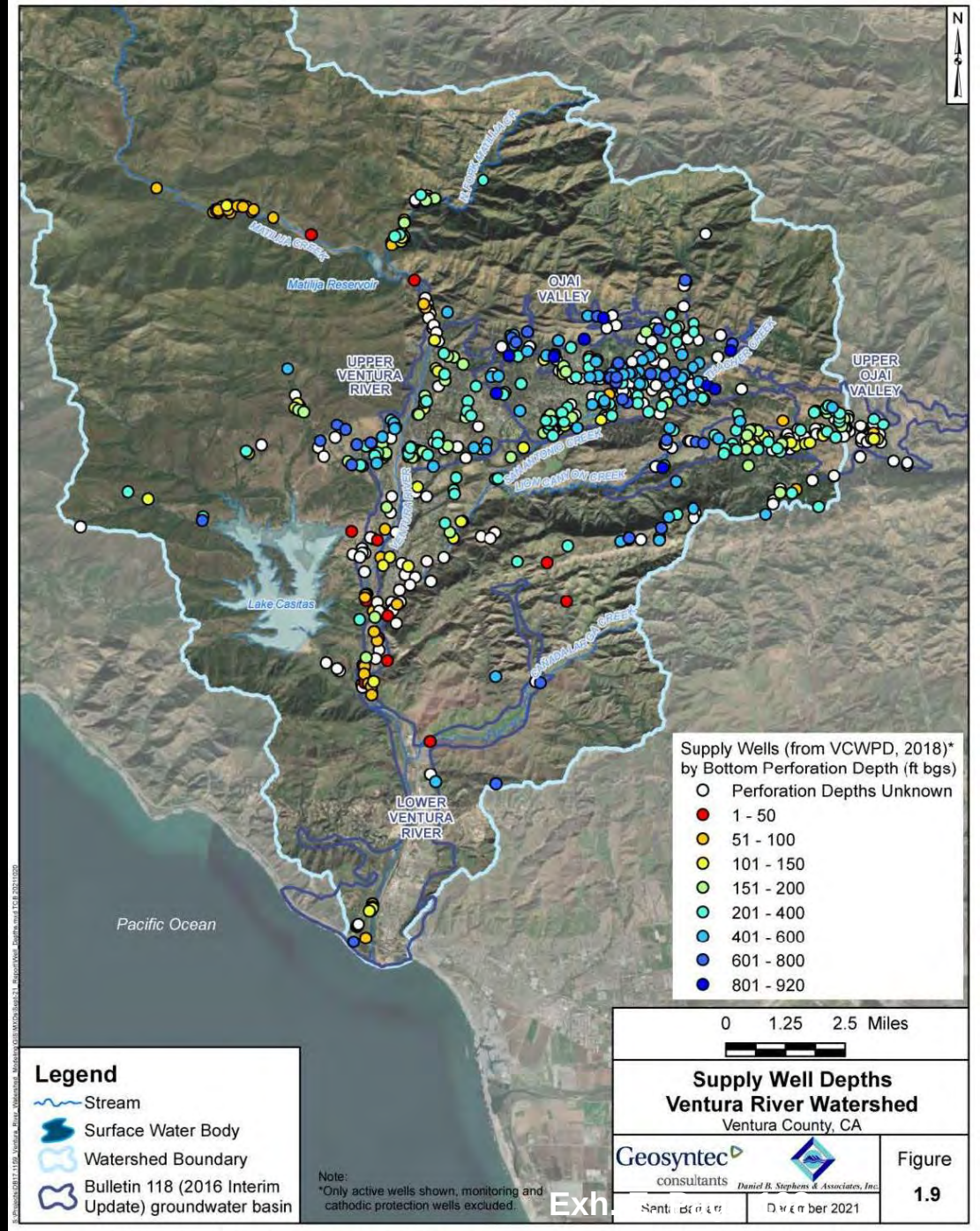


Figure 1.9 Supply Well Depths – Ventura River Watershed

Timeline Review: 2017-2020

- Draft Study Plan (2017)
  - 60+ day comment period
  - TAC Meeting
  - VRWC Council Presentation
- Draft Geologic Analysis Memo (2018)
  - 30-day comment period
  - TAC Meeting
  - Notified VRWC
- Final Study Plan (2019)
- Revised Geologic Analysis Memo (2020)
- Draft Data Compilation Report (2020)
  - 30-day comment period
  - Notified TAC
  - VRWC Council Presentation
- Draft Sensitivity Analysis Approach Memo (2020)
  - 30-day comment period
  - Notified TAC and VRWC

Draft Study Plan TAC Meeting. November 2017.

Timeline Review: 2021-present

- VRW Modeling Webinar Series (2021)
  - 52-day comment period
  - Combined online public and TAC meetings
- Preliminary Draft VRW GW-SW Model (2021)
- VRW GW-SW Modeling Scenarios Webinar (2021)
  - 30-day comment period
  - Combined online public and TAC meeting
- Draft VRW GW-SW Model and Report (2021)
  - 105-day comment period
  - Overview Webinar
  - Technical Training

Draft Study Plan Presentation at VRWC. September 2017.

Public and TAC Outreach

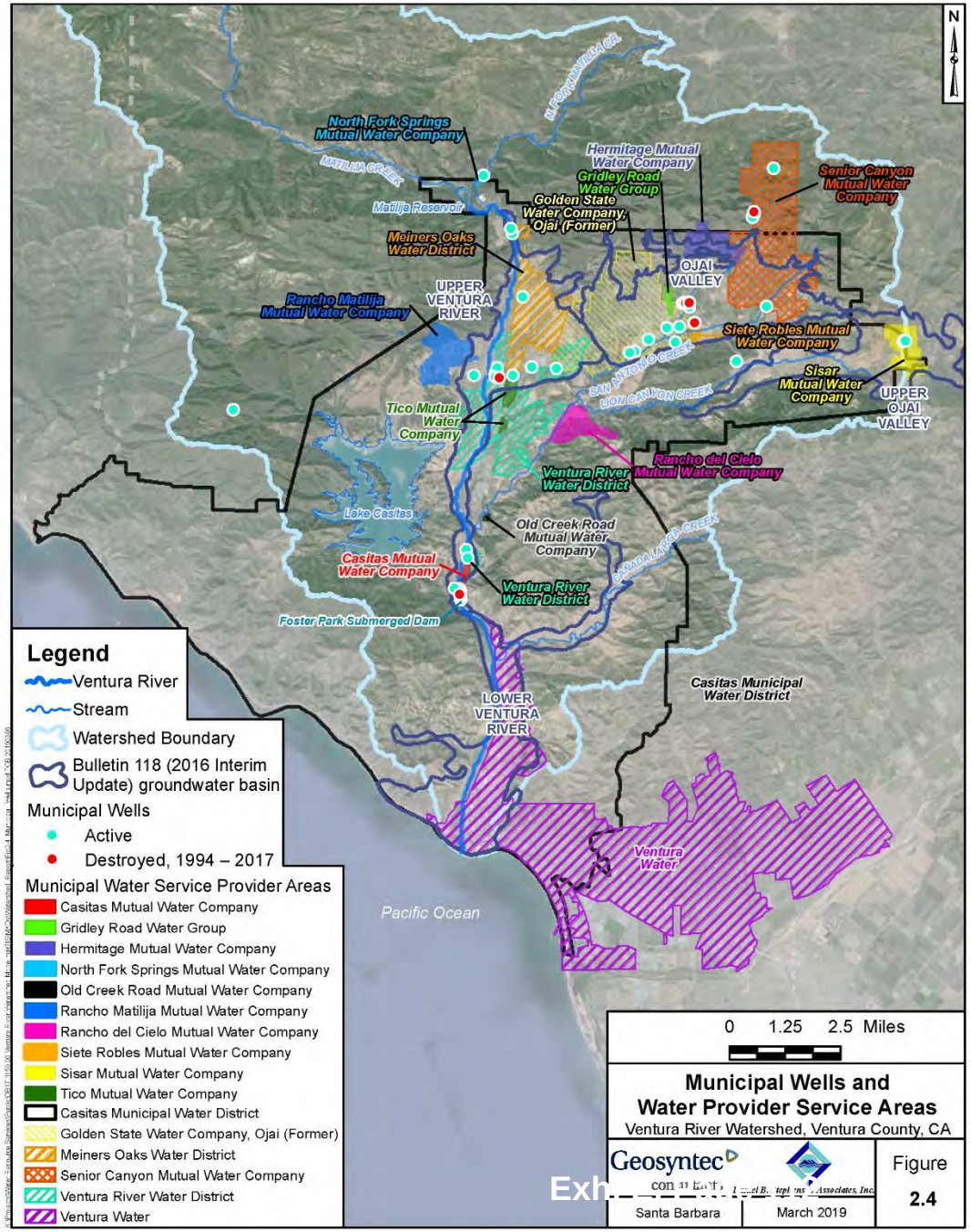
- Technical Advisory Committee (formed in 2017):
  - CA Dept Fish and Wildlife
  - Casitas Municipal Water District
  - Farm Bureau of Ventura County
  - Ojai Basin Groundwater Management Agency
  - Upper Ventura River Groundwater Agency
  - UC Santa Barbara, Department of Geography
  - Ventura County WPD
  - Ventura Water (City of Ventura)
  - Ventura Watershed Instream Flow Enhancement and Water Resiliency Program
- And everyone else who participates in our outreach

- SWRCB presence at Ventura River Watershed Council
  - 2016 (x2)
  - 2017 (x5)
  - 2018 (x1)
  - 2019 (x2)
  - 2020 (x2)
  - 2021 (x1)
  - 2022 (x1)

San Antonio Creek at Frasier Road, May 2017. SWRCB.

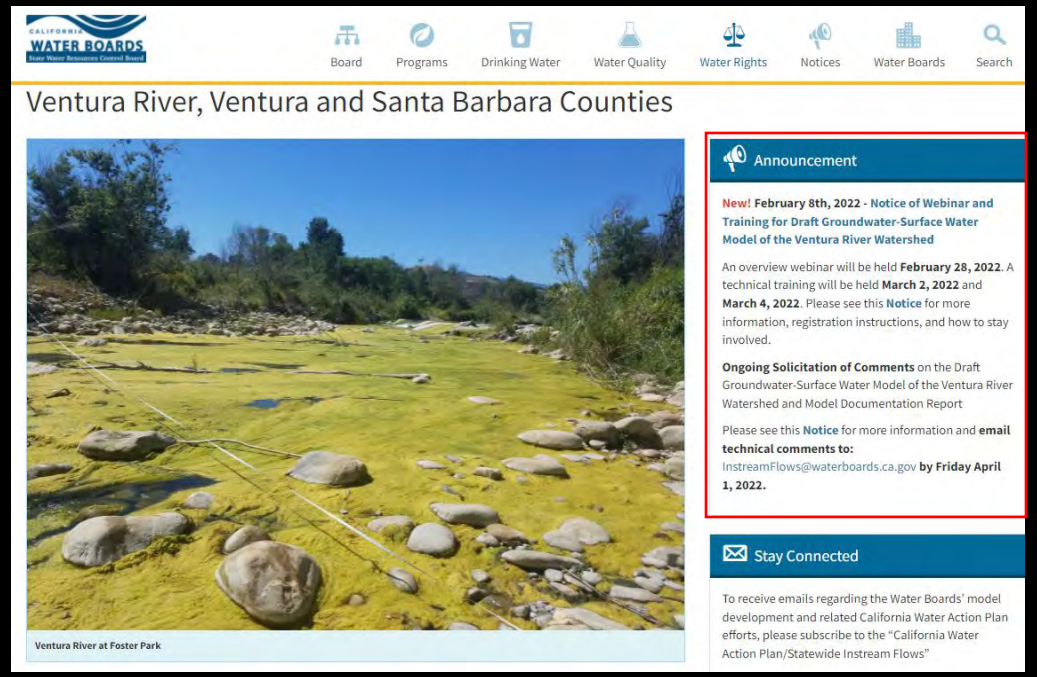
Ongoing Local Coordination

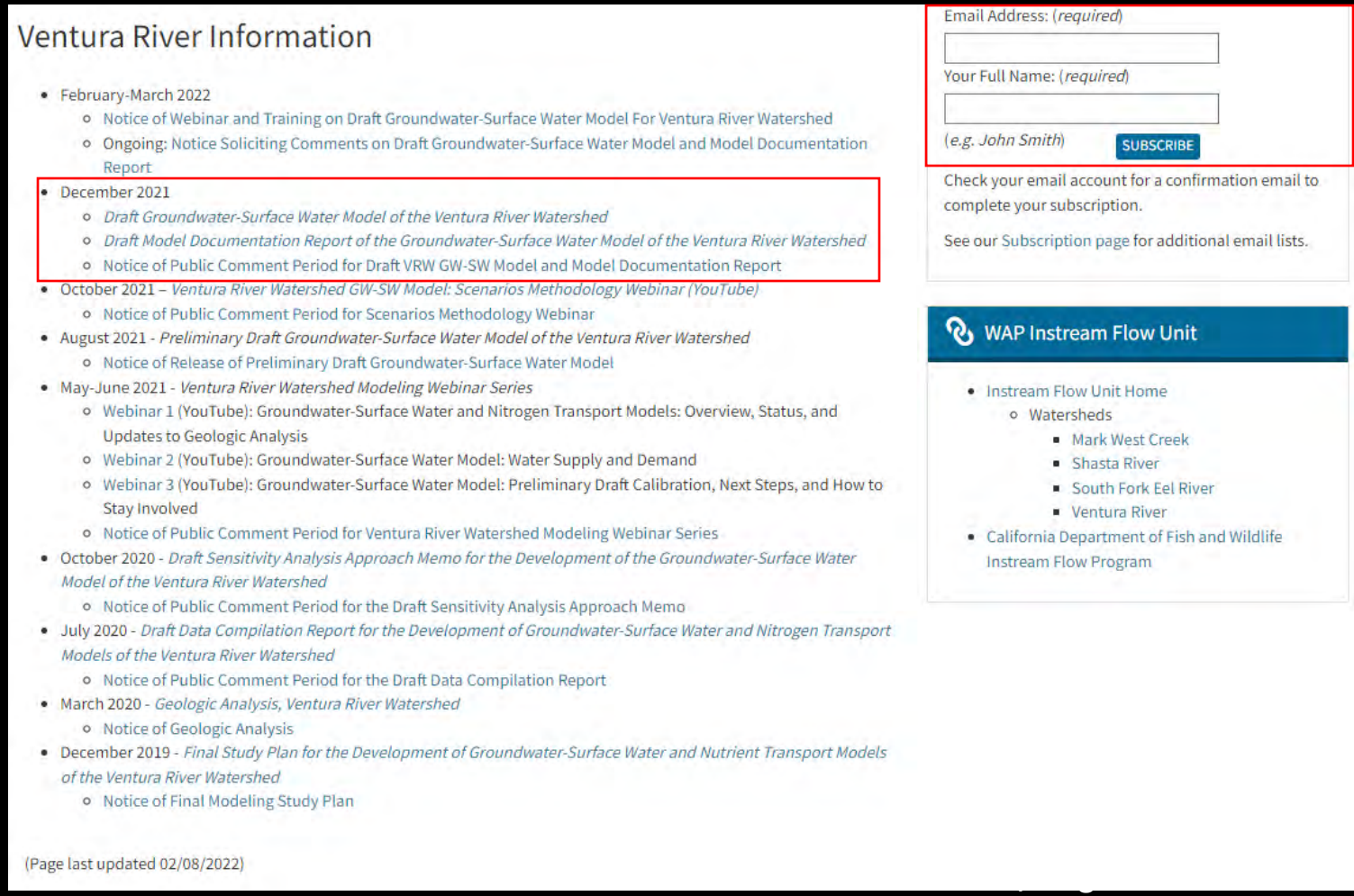
- We thank agencies, NGOs, and other stakeholders for helpful and ongoing engagement
  - Identifying appropriate data sources
  - Providing data
  - Feedback on model development



Draft Data Compilation Report (2020)

IFU Ventura Website





February 25, 2022 screenshot

https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing/ventura_river.html

Ojai Valley Basin, October 2018. Project Team.

Questions?

Instream Flow Unit: Ventura River Watershed website:
https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing/ventura_river.html

or search:
"California Water Action Plan State Water Board"

SWRCB

Daniel Worth
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Kevin DeLano
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Shahab Araghinejad
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LA RWQCB

Jun Zhu
Senior Environmental Scientist
jun.zhu@waterboards.ca.gov

Stefanie Hada
Water Resources Control Engineer
stefanie.hada@waterboards.ca.gov

Overview Webinar Wrap-Up

Technical Training

- Wednesday **March 2, 2022**, 10am-3pm
  - How to use the model
  - Looking at model outputs
- Friday **March 4, 2022**, 10am-3pm
  - Modifying model components

GSFLOW Scenarios

- Unimpaired Flow
- Matilija Dam Removal
- Climate Change
- Post-Thomas Fire Recalibration
- Arundo Removal
- Local Cooperative Agreement
- CDFW Instream Flow Recommendation
- One scenario TBD

Upcoming Public Outreach

2022 Deliverables	Anticipated Timeline
• Draft VRW Nitrogen Transport Model and Report	Fall 2022

Draft VRW Nitrogen Transport Model and Report

- Purpose: Solicit comments on Draft VRW Nitrogen Transport Model (MT3D-USGS) and Model Report
- User Manual

Expected: Fall 2022
Announced On: CWAP and VRWC email lists, email to TAC

TAC and Public Comment Period
- 30-days
- Overview webinar
- Technical Training (4-hours)
  - Draft VRW GW-SW Model training highly recommended

Contract Wrap-Up

- 2022: Revise both models and reports in response to comments
  - Incorporate GSFLOW scenario results
- Fall 2022: Project team submits both models and reports to Water Board's facilitated external peer review
- Early 2023: Consultants deliver final versions of both models and reports to Water Boards

Slides and Recording

- Meeting recording will be uploaded to YouTube and linked
- Slides will be uploaded to VRW Modeling TAC FTP
- https://ftp.waterboards.ca.gov
- Login
  - username: IFUVenturaTAC
  - password (case sensitive): S7i1Xb
- Locate files of interest and download
- Or contact Kevin DeLano (kevin.delano@waterboards.ca.gov)

Ojai Valley Basin, October 2018. Project Team.

Thank you

Instream Flow Unit: Ventura River Watershed website:
https://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/cwap_enhancing/ventura_river.html

or search:
"California Water Action Plan State Water Board"

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CASE NAME: SANTA BARBARA CHANNELKEEPER vs. STATE WATER RESOURCES CONTROL BOARD
DEPONENT: JIM MCCORD
DATE TAKEN: FRIDAY, FEBRUARY 11, 2022

A. Yes.

Q. How so?

A. In my exhibit, in my rebuttal -- doesn't have the -- they like to tell you what the exhibit number is.

Q. You don't have to, just describe the report.

A. It's the rebuttal report, and I have the table of contents for all these exhibits; so that's why I'm looking ^^.

From my rebuttal report, Exhibits 9 and 10 and the text related to that. So that would be (indicating) -- okay.

Yes. That would be in Section 4.1.3.2.

Q. Okay.

MR. MELNICK: Mike, do you have that exhibit yet? If not, it's okay, but...

THE CONCIERGE: I have it. Do you want to mark it as the next number?

MR. MELNICK: Yeah, why don't we just get -- let's mark that as 26.

THE CONCIERGE: 26. Okay. Give me one second.

Do you want me to pull it up right now?

MR. MELNICK: Yeah, that would be great.

11:35 THE CONCIERGE: (Indicating.)

(Exhibit 26 was marked.)^^

BY MR. MELNICK:

Q. Dr. McCord, do you know how many pages this is?

11:36 A. I think there's five slides. And so related to this question, it would be the --

MR. JUNGREIS: Can we go just go through it so everyone can see what's here? And you've seen that. That was an exhibit that was --

11:36 MR. MELNICK: Yes.

BY MR. MELNICK:

Q. So can you point for the record, Dr. McCord, what these pages are?

A. Yes.

11:36 Q. This is something you did in this week?

11:36 A. Well, yes. On February 7th, on Monday of this week, we were provided a rebuttal report by Preston and Schnarr.

Q. Right.

A. So this is in response to that.

Q. Okay. So let's go to the second page.

A. And so these first two -- this page and the next page, the second and third slide, relate to the question that you asked earlier that we said we were going to defer until we had this available, this particular slide.

Q. Right.

A. So next slide relate to the calibration concerns that I have. The fourth and fifth slide relate to this barrier and aquitard in the Ojai Basin.

And by the way, this slide is a figure right out of Preston and Schnarr. I forget what the figure number. Sorry. I didn't do that.

MR. JUNGREIS: I believe this was an exhibit prior.

MR. MELNICK: Yes, I have seen this figure.

THE WITNESS: This is a Preston and Schnarr figure.

///

BY MR. MELNICK:

Q. Okay. So we will go back to the question, the original question I had.

A. Okay.

11:38 Q. And you can use these pages if you want, but my question is: If the model has, as you said, "Within the predefined calibration criteria and meet common measures for being considered an adequately calibrated model," if it does that, why should we

11:39 care about concerns that you have about specific areas in specific wells?

A. Okay. And I started to answer that by looking at Section 2.4 of the Kear -- I'm sorry, of Preston and Schnarr's original September report.

11:39 Q. Which is -- on the exhibit we have here, it's on the next page --

A. It's on the next page.

Q. -- because it's represented on the next page; right?

11:39 A. Yes, that one.

Q. Okay.

A. And so that little inset box to the right, 2.4 Model Limitations, that is the snapshot from Preston and Schnarr.

11:39 The important thing that I wanted to point

out there -- and I highlighted it in there -- "^^X^^ was model framework uncertainty." And I'll just read it completely.

"All models and model results are subject to uncertainty, including model framework uncertainty due to incomplete scientific understanding of the system and necessary system simplifications, and model input uncertainty due to measurement errors and data gaps."

So I'm concerned about a framework uncertainty, specifically -- and then the -- in there, and then after that quote, in the text off to the left, Preston and Schnarr -- so in Section 2.4.2 in their report -- 2.4.1, we see 2.4 on the screen. 2.4.1 discusses surface water model limitations and uncertainties. Section 2.4.2 addresses groundwater model uncertainties.

And they list, in that first bullet on the left side, Preston and Schnarr, the groundwater model limitations, they specifically list uncertainty and geologic analysis and model layering and necessary simplifications.

So I maintain -- and it's my opinion,

24 based on looking at the whole of the data, that
11:41 25 while the model appears to meet industry standard
11:41 1 calibration measures, it suffers from a framework
2 error based on comparisons to the key data. And
3 that framework error specifically is related to the
4 vertical conductors. That is how water can transfer
11:41 5 from one layer to another, one model layer to
6 another, and also as I mentioned repeatedly, the
7 bias in the streamflows. But that's more focused
8 now on the Ventura River, okay, the overestimation
9 connection bias.
11:42 10 Q. Okay.
11 A. And I cite all the exhibits that are in my
12 report, the next -- well, I'll just read them,
13 second major bullet. "While the model appears to
14 meet standard calibration measures, it suffers from
11:42 15 model framework error based on comparison to key
16 data."
17 Then I list six key data. One is the
18 shallow groundwater levels in the Ojai Basin. And
19 so I do refer to only the Kear well in Exhibits 9
11:42 20 and 10. Those two relate to the South Fulton Street

well that Mr. Kear worked with his client to install. Then the vertical conductivity in the Ojai Basin and over much of the model domain, and again that does refer to those two exhibits related ^^Kear well^^.

Then the groundwater levels in the river looming, we've already discussed that today when I've mentioned that they're showing the stream channel as wet when it's dry. And not only is it dry, but the water levels may be tens of feet below the surface.

And I guess one thing I'd like to say why that's important, or one of the reasons that's important, is because if the water level is ten feet below the surface, there's a whole ^^^ zone there, a whole unsaturated, partially saturated zone that represents more space that's available to be filled when the next flood wave comes through. Okay?

When the water levels at the surface, well, then all that data from storage does not need to be filled by the flood wave, and now we are getting to the point of the framework error.

So if that's the case, and, actually, Mr. -- Dr. Preston did mention on Monday, when he was being asked about changes to the model after September why the changes were made, and Mr. Preston answered that well most of the changes were being made to improve the groundwater model. Okay? But for every change he needed to make, they made with the groundwater model, he needed to go back and make

some adjustments with his surface water model to get the good industry standard calibration fit. And in my mind, that's the structural -- that's one aspect of structural error.

So you can still -- so the point I want to make is still get a good model fit, but if there's some bias in one part of the model, well you could compensate for it in another part of the model. And that doesn't make the model right, just that it's meeting industry standards calibration criteria.

Q. Okay. But isn't that what -- what you described, isn't that what you do in calibration? That is, you adjust to certain things to being more accurate and then you have to adjust other things to

make sure that the model runs accurately? Isn't that the essence of calibration?

A. That's absolutely -- yes, that is true.

Q. Okay. So did you ever make any of these issues and change the model to see if it did anything differently?

MR. JUNGREIS: ^^^id^^ could the Court Reporter please read the question back?

(The record was read by the reporter.)

MR. JUNGREIS: All right. Vague, incomplete hypothetical.

You can answer if you understand the question.

THE WITNESS: I personally did not rerun the model for anything except for the Calibration 81 Model that was provided to us. I did not change any parameters and rerun the model.

BY MR. MELNICK:

Q. Okay. Do you know if Mr. Hanson did?

A. Do I know if Mr. Hanson did? As I sit here right now, I can't tell you if he did.

Q. Okay. So let's take an example. Vertical

conductivity.

A. Uh-huh.

Q. That's a parameter in the model; right?

A. Correct.

Q. That can be changed, and the model can be reground; right?

A. Correct.

Q. And if one made changes and reran the model and saw that the output starting connectivity didn't change very much, wouldn't the conclusion be that that parameter doesn't matter very much?

MR. JUNGREIS: Incomplete hypothetical, vague, speculation.

THE WITNESS: Certainly that is something that

can be done to adjust the parameters and see the impact on the model. And from the February 7th new exhibit provided by Preston and Schnarr, we can see that they did that.

But they only adjusted it by a factor of 10. I think that aquitard in the Ojai Basin, when you read the driller's log descriptions, they're talking that it's hard and mostly dry. It should be

adjusted by a factor of 100 or 1,000 or 10,000. And
11:48 when I'm saying 1,000, I'm not exaggerating. I
mean, really, that -- and what they would need to
do -- I mean, so what they did is they adjusted the
model with a factor of 10.
And then they compared it to okay, what
11:48 happens with the stream interconnection measures
that they invented? They are fine. But there are
more standard ones that can be used. But let's set
that aside.
So they made a very small change to
11:49 something that should have been changed quite a bit
more. And so with that factor of 10 change led to a
10 percent difference in the stream. Well, what
would 100 or 1,000 change? The important thing is
what they should have done, and I didn't see in
11:49 their rebuttal report, they should have looked at

11:49 the shallow water levels. That's a key thing. And
if we go here to the last slide in this, yes. These
are throughout the basin. These are water levels
throughout the basin.
11:49 And what they should have done -- so let's

look down at the lower left-hand corner. And sorry if this is a bit of a too busy. But the way this figure is set up, all the hydrographs that are plotted there are the same hydrographs -- they're taken from the ^^ results. In fact, they are taken from one of the result spreadsheets that were provided by the experts.

And so those are right out of the Excel spreadsheet copy and pasted in here. And I went ahead and added the dash redline, which that shows the streambed elevation from ^^ to the nearest streambed channel to those particular wells.

The important thing I want to point out here is the character of the fluctuations between the simulation and the data; the data being the blue dots, the simulation being the brown squiggly line without symbols. And you can see there's a great deal of fluctuations on the order of 40 or 50 feet -- in fact, between the peak, close to 715, the bottom down to 645. That's 70-foot of elevation

difference between the min and the max whereas the actual data, you know, shows less than 20 feet of

Ventura River Watershed Model Calibration Problems

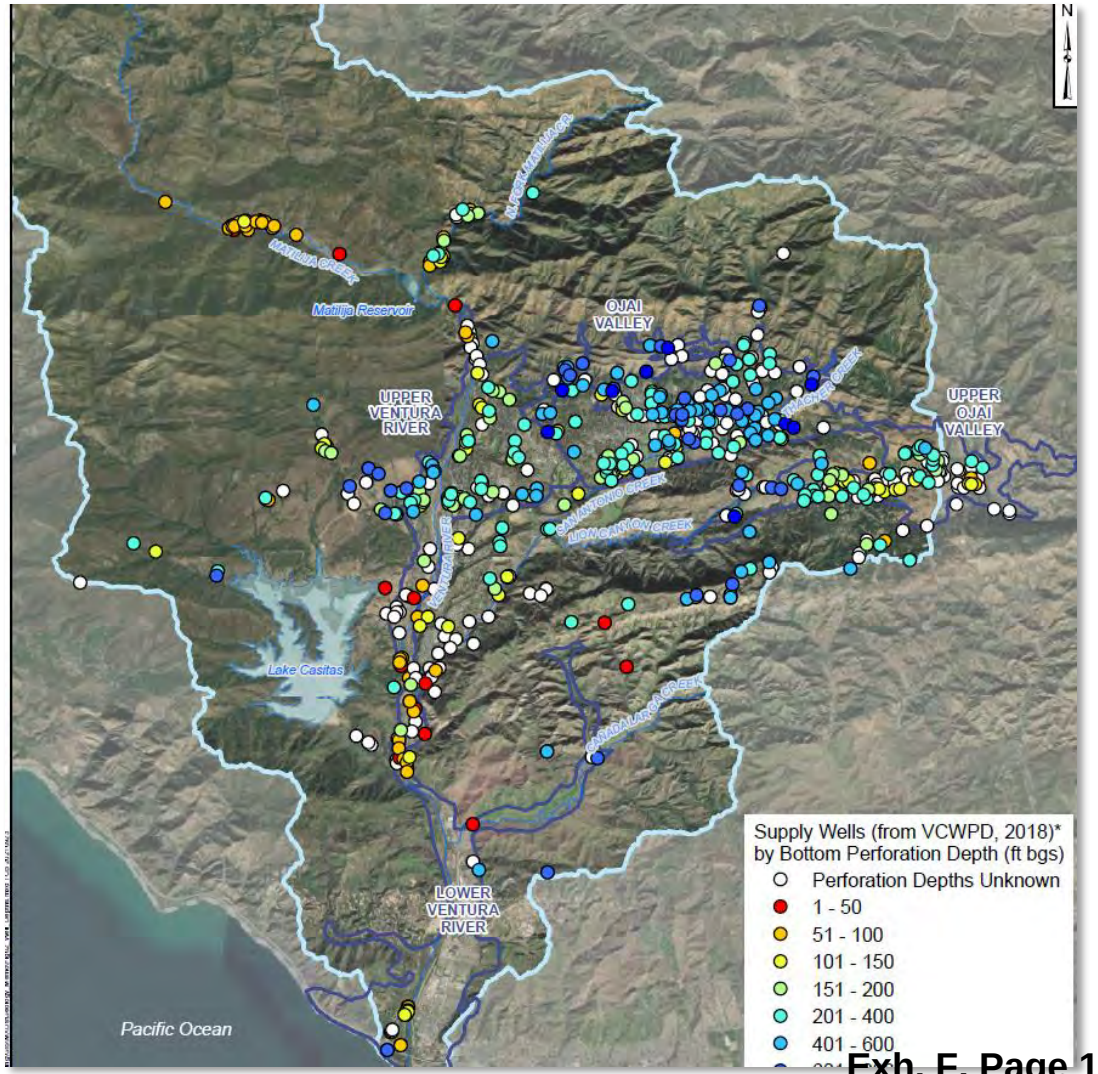
Rebuttal Opinions of James T McCord, PhD, PE
to Rebuttal Reports of Preston and Schaar, January and February 2022

09 February 2022

Ventura River Basin Water Adjudication
Superior Court of California
County of Los Angeles Case No. 19STCP01176

Ventura River Watershed Model Calibration Problem

- The calibrated model meeting “industry standards” in terms of goodness-of-fit of model heads and certain ranges of flows compared to observations does NOT mean that the model is correctly representing the true hydrologic system
- In general for the calibrated model, it appears that the deeper the well, the better the model captures amplitude of fluctuations
- The calibrated model does poorly with shallow wells
- As shown to right (Fig. 1.5-6, P&S 21.09.24), since:
  - the majority of the wells in the Ojai Basin are rather deep (most over > 200 ft bgs, many over 400-ft deep), and
  - the model calibration industry-standard goodness-of-fit measures “stack the deck” in favor of fitting the majority of date (e.g., deep wells)
  - thus, even if the model doesn’t do too good with some data (e.g., shallow wells), there is little penalty in the industry-standard goodness-of-fit measures
- Therefore, the calibrated model appears to do a good job simulating the deep well data, but does poorly with shallow wells in the Ojai Basin



VRW Model Calibration Problem: Non-Uniqueness and Model Framework / Structural Error

- Preston and Schnaar correctly consider model limitations in their original expert report (Sec. 2.4, snapshot to right)
  - One GW model limitation they cite (Sec. 2.4.2) is *"Uncertainty in geologic analysis and model layering and necessary simplifications"*
- While the model appears to meet industry standard calibration measures, the model suffers from a model framework error based on comparison to key data
  - Shallow groundwater levels in Ojai Basin (Exhibit 9 and 10, McCord, 2022)
  - Vertical connectivity in Ojai Basin, and over much of the model domain (Exhibit 9 and 10, McCord, 2022)
  - Groundwater levels in Ventura River alluvium (Preston and Schnaar, Sept. 2018, Fig. 2.3.1-18, wet-dry map comparison)
  - Surface flow error distribution (Exhibit 6, McCord, 2022)
  - Overestimation bias of SW – GW connectivity in Ventura River (Exhibit 7, McCord, 2022)
  - Robles diversion bias (Exhibit 8, McCord, 2022)

2.4 Model Limitations

All models and model results are subject to uncertainty, including model framework uncertainty due to incomplete scientific understanding of the system and necessary system simplifications, and model input uncertainty due to data measurement errors and data gaps (U.S. EPA, 2009). However, as stated by California Department of Water Resources (DWR, 2016b):

> While models are, by definition, a simplification of a more complex reality, they have proven to be useful tools over several decades for addressing a range of groundwater problems and supporting the decision-making process. Models can be useful tools for estimating the potential hydrologic effects of proposed water management activities.

The following model limitations are noted for the VRW GSFLOW model.

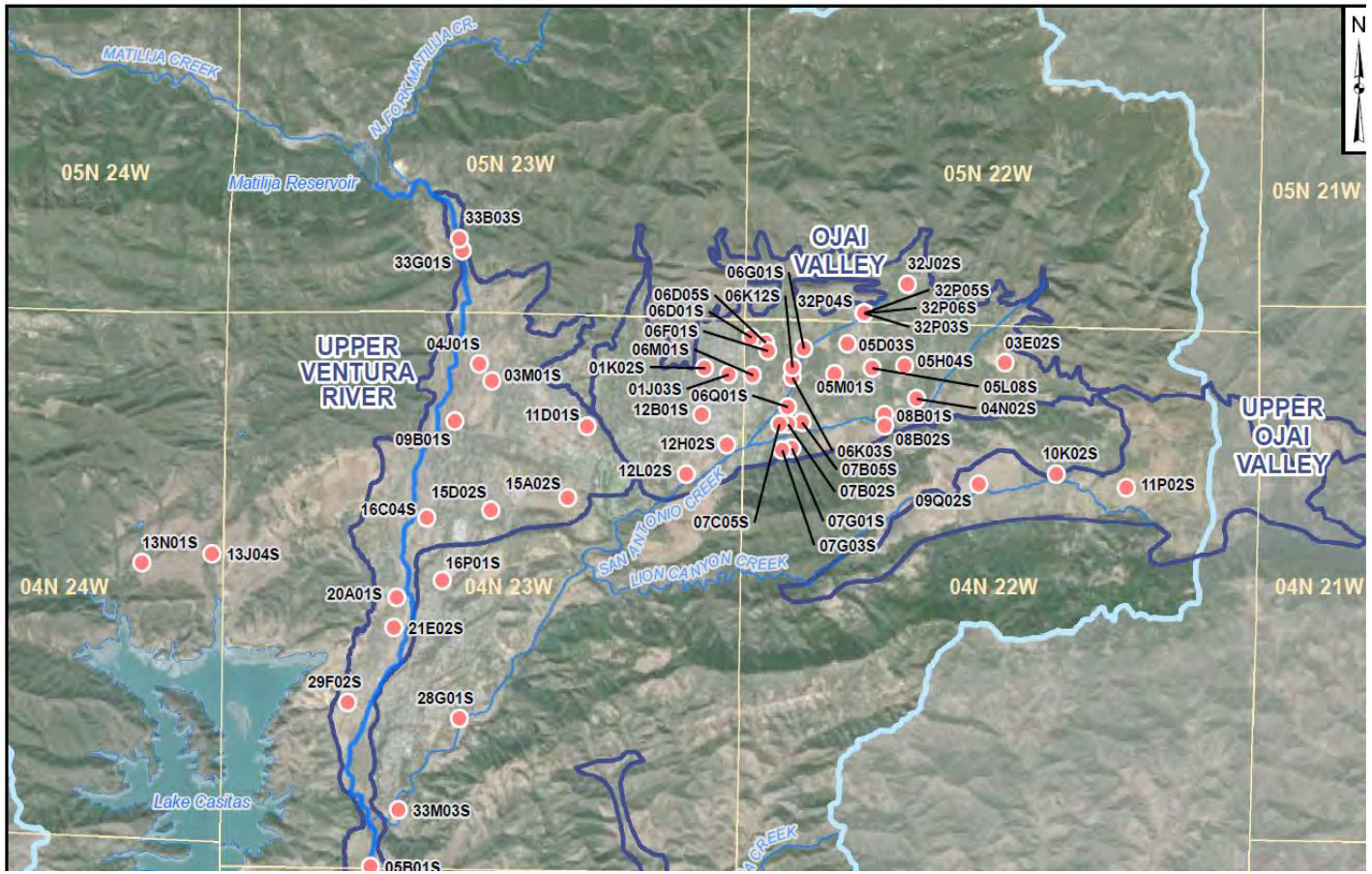
What do we mean by framework error?

→ *If some Component A of a model is incorrectly represented, adjustments to other Component B can compensate for errors imparted by incorrect representation of A*

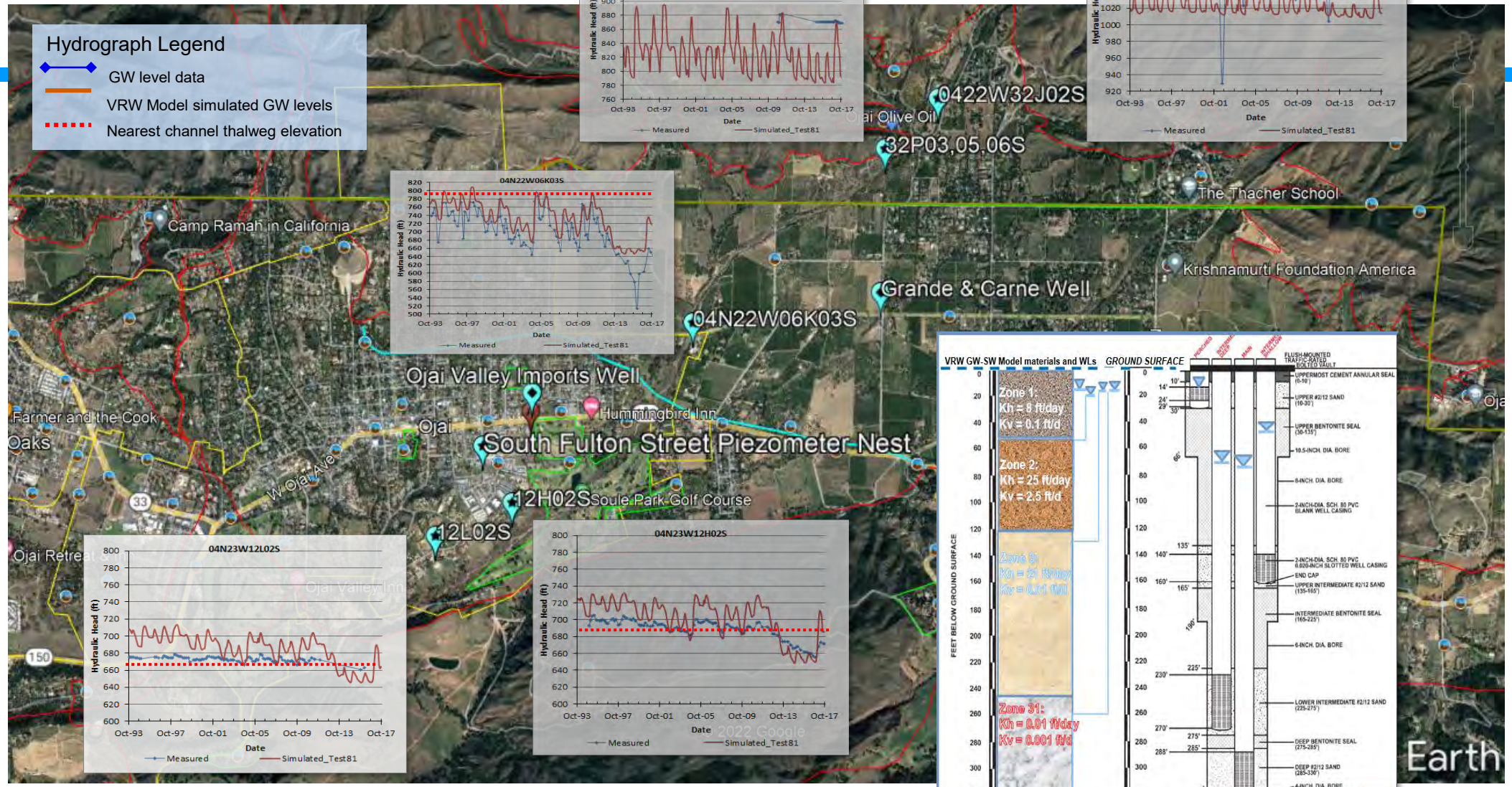
→ *This is also known as the non-uniqueness problem encountered in calibration of highly parameterized models (e.g., ASTM, 1996,2018; Anderson and Woessner, 1992; Mehdi et al., 2018)*

Ojai Basin Wells “with Issues”

- Model in general does worst with shallow wells completed in perched zone
  - Poorly modeled wells include 04N23W-12L02S, -12H02S, 05N22W-32P03,05,06S, and -32J02S
  - Intermediate depth wells 04N23W-01K02S intermediately poor
  - South Fulton Street multi-level well clearly shows poor model performance
  - In essentially all these cases, the “perched” water level is near or below the elevation of the nearest thalweg
- This is an important indicator of structural,



Ojai Basin Framework Diagnostic Using Key Wells



PROOF OF SERVICE

Santa Barbara Channelkeeper v. State Water Resources Control Board, et al.
and related cross-action
Los Angeles County Superior Court
Case No. 19STCP01176

STATE OF CALIFORNIA, COUNTY OF ORANGE

I am employed by the law office of Rutan & Tucker, LLP in the County of Orange, State of California. I am over the age of 18 and not a party to the within action. My business address is 18575 Jamboree Road, 9th Floor, Irvine, California 92612. My electronic notification address is mmartinez@rutan.com.

On March 2, 2022, I served on the interested parties in said action the within:

CASITAS MUNICIPAL WATER DISTRICT'S MOTION IN LIMINE TO EXCLUDE EXPERT TESTIMONY AND OPINIONS OF DR. GREGORY SCHNAAR AND DR. AL PRESTON; DECLARATION OF JEREMY N. JUNGREIS IN SUPPORT THEREOF

as stated below:

☒ (Via E-Service to **File & ServeXpress**) I affected electronic service by submitting an electronic version of the document(s) to **File & ServeXpress, LLC**, through the user interface at https://secure.fileandservexpress.com, which caused the document(s) to be sent by electronic transmission to the person(s) at the electronic service address(es) listed.

Executed on March 2, 2022, at Irvine, California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Marisol Martinez	/s/ *Marisol Martinez*
(Type or print name)	(Signature)