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BEFORE THE  
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD  
  
CALIFORNIA WATERFIX WATER )  
RIGHT CHANGE PETITION )  
HEARING )

JOE SERNA, JR. BUILDING  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY  
COASTAL HEARING ROOM  
1001 I STREET  
SECOND FLOOR  
SACRAMENTO CALIFORNIA  
PART 1 REBUTTAL

Tuesday, May 23, 2017  
9:30 A.M.

VOLUME 47  
Pages 1 - 204

Reported By: Deborah Fuqua, CSR No. 1248

Computerized Transcription by ProCAT

1 APPEARANCES:

2 CALIFORNIA WATER RESOURCES BOARD

3 Division of Water Rights

4 Board Members Present

5 Tam Doduc, Co-Hearing Officer:

6 Felicia Marcus, Chair and Co-Hearing Officer:

7 Dorene D'Adamo, Board Member

8 Staff Present

9 Dana Heinrich, Senior Staff Attorney

10 Conny Mitterhofer, Senior Water Resources Control Engr.

11 Kyle Ochenduzsko, Senior Water Resources Control Engr.

12

13 For California Department of Water Resources

14 William Croyle, Director

15 Tripp Mizell, Senior Attorney

16 Robin McGinnis, Senior Attorney

17 Cathy Crothers, Assistant Chief Counsel

18 Ken Bogdan, Senior Attorney

19 Duane Morris, LLP

20 By: Thomas Martin Berliner, Attorney at Law

21 By: Jolie-Anne Ansley, Attorney at Law

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23 U.S. Department of the Interior, Bureau Reclamation,  
24 and Fish and Wildlife Service

25 Amy Aufdemberge, Assistant Regional Solicitor

26

27

28 State Water Contractors

29

30 Stefanie Morris

31 Adam Kear

32 Becky Sheehan

33

34

35 (Continued)

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4	Osha Meserve
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6	<u>California Sportfishing Protection Alliance, California</u>
7	<u>Water Impact Network, AquAlliance</u>
8	Michael Jackson
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10	<u>Delta Agencies, and other parties</u>
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13	<u>Tehama-Colusa Canal Authority &amp; water service</u>
14	<u>contractors in its area</u>
15	Meredith Nikkel
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18	Kelley Taber
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38	Suzanne Womack
39	Sheldon Moore

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1 Tuesday, May 23, 2017

9:30 a.m.

2 PROCEEDINGS

3 ---000---

4 CO-HEARING OFFICER DODUC: Good morning,  
5 everyone. Welcome back to the Water Rights Change  
6 Petition hearing for California WaterFix project.

7 I'm Tam Doduc. With me here to my right is  
8 Board Chair and Co-Hearing Officer Felicia Marcus.  
9 We will be joined shortly by Board Member DeeDee  
10 D'Adamo, who will be to the Chair's right.

11 To my left are staff assisting us, Dana  
12 Heinrich, Conny Mitterhofer, and Kyle Ochenduszk. We  
13 also are being assisted today by Mr. Baker and  
14 Mr. Long.

15 Since it's a brand-new week, the three usual 16  
announcements. Please identify the exit closest to  
17 you. If an alarm sounds, we will evacuate. Please  
18 take the stairs, not the elevators. Go down to the  
19 first floor. We'll meet up in the park across the  
20 street to wait for the all-clear signal to return.

21 If you're not able to use the stairs, please 22 flag  
down one of the people wearing orange  
23 fluorescent-color clothing, and they will direct you to  
24 a protective area.

25 Second announcement. Please speak into the

1 microphone when providing your comments today. We are  
2 recording as well as webcasting this hearing.

3 The court reporter is also with us, and the  
4 transcript will be available at the end of Part 1. If  
5 you wish to have it sooner, please make your  
6 arrangements directly with her.

7 And finally and most importantly as always,  
8 even more important than evacuation, is take a moment  
9 right now to put all your noise-making devices on  
10 silent, vibrate, do not disturb. Even if you think  
11 they are that way, please check.

12 All right. Couple things before we continue.  
13 First of all, there's a couple of outstanding  
14 objections that I need to address. These were  
15 objections to Group 7's rebuttal testimony and  
16 exhibits. This won't be quite as long as last week.  
17 The first objection was -- actually the first, 18 was a  
18 motion to strike SVWU-202 Errata which was the  
19 MBK technical memo regarding modeling drought  
20 conditions. Ms. Morris from the State Water  
21 Contractors made the objection or the motion with  
22 Department of Interior, Ms. Aufdemberge, joining in.  
23 The grounds stated was that the exhibit is 24  
24 outside of the scope of the hearing and that the  
25 proposed changes to the model apply to both the no

1 action and with-project alternatives and therefore are  
2 not related to the California WaterFix.

3 This motion to strike is overruled. The  
4 SVWU-202 Errata is relevant to the issues presented in  
5 this hearing. It includes testimony asserting that,  
6 with the proposed changes, the model would provide a  
7 more realistic analysis of the impacts of WaterFix  
8 during drought conditions. SVWU-202 also addresses  
9 petitioner's testimony about the appropriate use of the  
10 model results under stressed water supply conditions.  
11 Any objection to accuracy of the assertions in SVWU-202  
12 goes to the weight to be afforded the evidence and not  
13 admissibility.

14 The second item was a motion made by  
15 Mr. Berliner, DWR, with Ms. Aufdemberge from the  
16 Department of Interior joining in. This was a motion  
17 to strike portions of Mr. Gohring's testimony about the  
18 Modified Flow Management Standard and related testimony  
19 by Mr. Weaver. The grounds specified was that the  
20 testimony should have been brought into ARWA's case in  
21 chief and is not properly within the scope of rebuttal.

22 This motion to strike is also overruled. The  
23 proposed permit terms to implement the Modified Flow  
24 Management Standard and related evidence was presented  
25 by ARWA as a protest dismissal package. We find that



1 such a proposal is appropriate rebuttal to petitioners' case  
2 in chief which did not include terms or conditions to address  
3 potential impacts to other legal users.

4 Petitioners will have the opportunity in Part 2 to explore  
5 the potential impacts of the proposed terms and conditions.

6 Finally, I also want to address some of the  
7 objections last week concerning the scope of  
8 cross-examination. Mr. Miliband objected on behalf of the  
9 ARWA parties to questions concerning the potential water  
10 supply and temperature impacts of the Modified  
11 Flow Management Standard on the grounds that the

12  
13 effects of the proposed conditions of approval are  
14 outside the scope of Part 1.

15 Those lines of questions have been deferred to  
16 Part 2, when ARWA parties will return to further  
17 discuss the Modified Flow Management Standard.

18 At this point, I don't believe it's necessary  
19 to rule on Mr. Miliband's objections, but moving  
20 forward, some guidelines to the parties might be  
21 helpful.

22 So our prior rulings concerning the scope of  
23 Part 1 and Part 2 were primarily directed at the scope  
24 of the parties' cases in chief. To the extent  
25 possible, we would like to limit rebuttal, surrebuttal,

1 and cross-examination to the scope of Part 1 and defer  
2 Part 2 issues to that stage of the hearing.

3 In some limited instances, however, it may be  
4 necessary to allow rebuttal, surrebuttal, or  
5 cross-examination outside the scope of Part 1 so that a  
6 party can effectively respond to another party or  
7 cross-examine a witness.

8 For example, we may permit a party to  
9 cross-examine a witness on issues outside the scope of  
10 Part 1, again, under limited circumstances if the  
11 cross-examination is otherwise appropriate and  
12 justified and the witness will not be available for  
13 cross-examination in Part 2. And as we've stated  
14 before, it may also be necessary to revisit Part 1  
15 issues during Part 2.

16 All right. With that, are there any questions  
17 or housekeeping items before we get to today's  
18 witnesses?

19 MR. JACKSON: Michael Jackson on behalf of the 20  
21 CSPA parties. It was my understanding that you asked  
22 for a report on the status and timeline for a number of  
23 different permits that were going to be required and --

24 CO-HEARING OFFICER DODUC: That was the  
25 environmental stuff, yes.

MR. JACKSON: Correct. The ESA stuff, the

1 record of decision.

2 And that was to be given this morning?

3 CO-HEARING OFFICER DODUC: Yes.

4 MR. JACKSON: Okay. Are we going to do that?

5 CO-HEARING OFFICER DODUC: Thank you for that  
6 prompt.

7 Yes.

8 MR. JACKSON: There are a lot of people  
9 watching on TV for that particular thing.

10 CO-HEARING OFFICER DODUC: All right.

11 MR. JACKSON: And they'd like to go back to  
12 work.

13 CO-HEARING OFFICER DODUC: What? You know  
14 what? I think I'll hold that till the end of the  
15 hearing today just for you, Mr. Jackson, because of  
16 that remark.

17 MR. JACKSON: I've got to keep my mouth shut.

18 CO-HEARING OFFICER DODUC: You are learning.  
19 All right. We will get to that shortly.

20 Let me hear from Ms. Des Jardins first.

21 MS. DES JARDINS: I just had a follow-up  
22 question to that. I also put it in writing. But when  
23 the petitioners submitted the petition, they said they  
24 would submit information with respect to Water Code  
25 85086, and I still haven't seen that. I don't know if

1 it's going to be submitted during -- before Part 3, but  
2 it's not defined at this point.

3 CO-HEARING OFFICER DODUC: Help me out here.  
4 I don't recall.

5 Mr. Berliner, did the Department work with  
6 Ms. Des Jardins to address her requests for  
7 documentation?

8 MS. MCGINNIS: Robin McGinnis for the  
9 California Department of Water Resources.  
10 Ms. Des Jardins' most recent request was for 11  
11 modeling regarding the different climate change  
12 projections which we did provide to her last week.

13 MS. DES JARDINS: There were two letters. One  
14 was for -- one was pointing out that petitioners were  
15 going -- that petitioners stated that they would be,  
16 during the course of the hearing, submitting complete  
17 information to completely satisfy Water Code 85086, and  
18 I believe they said it was in the Final EIR/EIS. I  
19 submitted a formal written letter.

20 The other thing I requested was there was  
21 quite a bit of information which I worked with PCFFA to  
22 subpoena. Most of it still hasn't been provided.  
23 There was some limited production. So that's the  
24 status. There are two letters.

25 CO-HEARING OFFICER DODUC: Thank you. We'll

1 make a note of that for now and ask the Department to  
2 respond as appropriate.

3 Mr. Berliner, are you coming up to satisfy  
4 Mr. Jackson's request, or is this pertaining to  
5 Ms. Des Jardins, or is it something else?

6 MR. BERLINER: Something else. I just had a  
7 question for clarification when you were discussing the  
8 American River Flow Management Standard and you  
9 mentioned that we may have to revisit Part 1 issues  
10 during Part 2.

11 We have obviously not conducted full  
12 cross-examination on the FMS regarding impacts. And I  
13 just wanted to make sure that that's something we're  
14 going to get to after the American River parties  
15 present their full flow management standard and we've  
16 had a chance to see their presentations and that we  
17 will conduct cross as to all impacts during Part 2.

18 CO-HEARING OFFICER DODUC: That is consistent  
19 with my understanding.

20 MR. BERLINER: Great. Thank you very much.

21 CO-HEARING OFFICER DODUC: And while you're up  
22 there, how about addressing Mr. Jackson's questions so  
23 that he may leave satisfied?

24 MR. BERLINER: I'm going to defer to  
25 Mr. Mizell.

1 CO-HEARING OFFICER DODUC: Mr. Mizell, welcome  
2 back from vacation.

3 MR. MIZELL: Thank you.

4 CO-HEARING OFFICER DODUC: I hope you bring  
5 good news.

6 MR. MIZELL. Yes. Well, I will bring you  
7 news.

8 The BiOps are likely to be issued sometime in  
9 the first half of June. The record of decision, notice  
10 of determination will be in the second half of June,  
11 probably towards the latter half. And the 2081, we  
12 anticipate that to fall at the end of June or the  
13 beginning of July.

14 CO-HEARING OFFICER DODUC: Thank you very  
15 much. All right.

16 Mr. Mizell, I believe Ms. Heinrich has a 17  
question for you.

18 MS. HEINRICH: Do you have a time estimate for  
19 certification of the Final EIR?

20 MR. MIZELL: I can have one for you by this  
21 afternoon.

22 CO-HEARING OFFICER DODUC: Mr. Jackson will  
23 have to keep waiting.

24 Thank you, Mr. Mizell.

25 Ms. Nikkel, did you have a housekeeping

1 matter?

2 MS. NIKKEL: (Shakes head negatively)

3 THE COURT: All right. Not seeing any other  
4 inquiries at this time, we will begin this morning with  
5 Group 22 and Dr. Paulsen.

6 Ms. Taber and Mr. Emrick, is this to be a  
7 joint presentation by Group 22 and 27, or will you be  
8 doing separate?

9 MS. NIKKEL: Chair Doduc, we will present  
10 separately.

11 CO-HEARING OFFICER DODUC: Okay. Then at some  
12 point before we break for lunch, about 15 minutes or so  
13 before we break for lunch, I would like to have  
14 Ms. Womack present her case in chief. So we'll sort of  
15 play by ear and make that judgment when we get to it.

16 All right. With that, not seeing anything  
17 else, we'll turn to Ms. Taber. And I believe  
18 Dr. Paulsen has already taken the oath.

19 MS. TABER: Thank you, Chair Doduc. Kelley  
20 Taber on behalf of the City of Stockton.

21 Stockton would like to request up to 30  
22 minutes to present its rebuttal testimony if that's  
23 acceptable. We're not sure we'll need the full time.

24 CO-HEARING OFFICER DODUC: I think that was a  
25 no.

1           Let's let Dr. Paulsen begin, and we will --  
2 obviously, her testimony is quite extensive. So we  
3 will play it by ear. I judge that she will be  
4 efficient, and we will provide additional time after  
5 the 15 minutes if necessary.

6           MS. TABER: Thank you. I wanted to make sure  
7 she had the opportunity to speak slowly enough for the  
8 court reporter. We'd like to make a brief opening  
9 statement, and then she'll begin her testimony.  
10 When the City of Stockton filed its protest in 11 this  
proceeding in January of 2016 and well before  
12 that, since 2008, the City has voiced its concerns  
13 about the California WaterFix project's potential to  
14 result in injury to this City as a legal user of water  
15 from changes in water quality at its San Joaquin River  
16 drinking water intake.

17           When petitioners filed their case in chief,  
18 they asserted generally the WaterFix project would not  
19 injure any party on the theory that the projects would  
20 continue to be obligated to meet water quality  
21 standards under Decision 1641.  
22 However, petitioners presented no evidence or 23  
analysis specific to the City of Stockton's water right  
24 or its use of water diverted under that right, and the  
25 only evidence they did offer presented water quality



1 data as long-term monthly average values.

2 In cross-examination during their case in  
3 chief regarding impacts to the City of Stockton,  
4 petitioners' witnesses asserted that they had  
5 considered modeling performed for the WaterFix EIR/EIS  
6 and, in particular, modeling results at a location  
7 known as Buckley Cove.

8 Petitioners' witnesses further stated that  
9 those results were representative of the water quality  
10 conditions at Stockton's intake and that the changes in  
11 water quality presented in their case in chief were  
12 sufficient to demonstrate that the WaterFix would not  
13 result in injury to Stockton.

14 Although it's not the City's burden to  
15 demonstrate that the proposed petition for change will  
16 not injure the City as a legal user of water, in this  
17 rebuttal phase, the City has submitted the written  
18 testimony and report of Dr. Susan Paulsen, one of the  
19 most respected and well-recognized experts on Delta  
20 water quality modeling and hydrodynamics.

21 Stockton is in a bit of an unusual situation  
22 with respect to its presentation of its rebuttal  
23 testimony, given that, at the same time the City  
24 submitted its rebuttal testimony, petitioners submitted  
25 extensive testimony in two separate technical reports

1 focused on concerns of injury that were raised in the  
2 City's direct testimony. In other words, petitioners'  
3 rebuttal evidence was petitioners' first ever attempt  
4 to provide information related to the impacts to the  
5 City of Stockton. The City intends to address that  
6 rebuttal testimony in written surrebuttal.

7           Nevertheless, Dr. Paulsen's written rebuttal  
8 testimony itself clearly demonstrates, using the  
9 petitioners' own modeling files, how the petitioners'  
10 presentation of WaterFix changes in water quality as  
11 long-term monthly averages masks the substantial  
12 increases in chloride at the City's intake that will  
13 occur throughout the life of the WaterFix project.

14           Specifically, Dr. Paulsen's testimony will  
15 show that, under the California WaterFix, the volume of  
16 higher-quality water originating from the Sacramento  
17 system at Stockton's intake is expected to decrease  
18 substantially, while the volume of more saline and  
19 lower-quality water originating from the San Joaquin  
20 River system will increase, and that these changes will  
21 result in significant water quality impacts and a  
22 decrease in usability of water at the City's intake.

23           Her testimony also will demonstrate how the  
24 California WaterFix increases the risk of microcystis  
25 formation in the Delta by significantly increasing

1 residence times, and that the increase in residence  
2 time will be greatest at times when other factors  
3 contributing to microcystis formation, and specifically  
4 temperature, are highest.

5 The rebuttal evidence offered by the City of  
6 Stockton thus will demonstrate that petitioners have  
7 failed to meet their burden under Water Code Section  
8 1702 of demonstrating that the California WaterFix will  
9 not result in injury to the City of Stockton as a legal  
10 user of water.

11 SUSAN PAULSEN, Ph.D.,  
12 called as a rebuttal witness by  
13 Protestant Group 22, having been  
14 previously duly sworn, was examined  
15 and testified further as hereinafter  
16 set forth:

17 DIRECT EXAMINATION BY MS. TABER

18 MS. TABER: And, Dr. Paulsen, you have taken  
19 the oath in this proceeding, correct?

20 WITNESS PAULSEN: I have.

21 MS. TABER: And is Exhibit STKN-25 a true and  
22 correct copy of your rebuttal testimony submitted in  
23 this proceeding?

24 WITNESS PAULSEN: It is.

25 MS. TABER: Is Exhibit STKN-26 a true and

1 correct copy of your rebuttal expert report submitted  
2 in this proceeding?

3 WITNESS PAULSEN: Yes, it is.

4 MS. TABER: And is Exhibit STKN-27 a true and  
5 correct copy of your PowerPoint presentation that you  
6 submitted in this proceeding?

7 WITNESS PAULSEN: Yes.

8 MS. TABER: Thank you.

9 If we could please put up STKN-27.

10 Dr. Paulsen, could you very briefly summarize  
11 your qualifications as they relate to your preparation  
12 of your report and testimony in this proceeding?

13 WITNESS PAULSEN: Sure. My education includes  
14 a bachelor of science in civil engineering from  
15 Stanford University, a master of science in -- also in  
16 civil engineering from Caltech, the California  
17 Institute of Technology, and a Ph.D. in environmental  
18 engineering science also from Caltech. And in  
19 addition, I did the majority of the work for my Ph.D.  
20 thesis in the Delta, looking at the mixing of the flows  
21 within the Delta and specifically tracing the sources  
22 of freshwater from the different inflows to the Delta  
23 within the interior of the Delta.

24 Since finishing my Ph.D., I've continued to  
25 work in the Delta performing modeling studies, field

1 studies, et cetera.

2 MS. TABER: Thank you. Dr. Paulsen, if you  
3 now could please summarize your rebuttal testimony.

4 WITNESS PAULSEN: Sure. Could we please move  
5 to the next slide -- oops -- and the next one. Thank  
6 you.

7 I don't -- we will walk through each of these  
8 briefly, so I don't necessarily want to take the time  
9 to read through them all now.  
10 The analyses that we undertook for the City of 11  
11 Stockton were approached in much the same way as the  
12 analyses that we performed for Brentwood and Antioch,  
13 and it was presented earlier. So I will try hard not  
14 to be redundant.

15 Consistent with the work that we did  
16 previously for Stockton, we used DWR's model input and  
17 output files as the primary basis for the opinions that  
18 we developed. So a lot of the work or some of the work  
19 may look similar to you as the prior work that was  
20 presented, but I do want to point out one key  
21 difference, which is that the City of Stockton's intake  
22 is located in the eastern Delta, so in a different part  
23 of the Delta from Brentwood and Antioch. And so the  
24 water that's present at Stockton's intake varies a  
25 little bit in composition and the route by which the

1 water arrives at that location.

2 Overall, though, we would conclude similarly  
3 as with the prior testimony that the impacts at the  
4 City's intake are due to two primary factors. One is  
5 that some of the proposed WaterFix operational  
6 scenarios remove more water from the Delta than is  
7 happening under current conditions and remove more of  
8 the higher-quality Sacramento River water from the  
9 Delta.

10 And so I think probably it's most efficient to move  
11 on to the opinions at this point.

12 Next slide, please.

13 The first opinion is that DWR did not evaluate  
14 water quality at Stockton's intake location. And the  
15 next slide shows a graphic -- thank you -- of the  
16 location of Stockton's intake which is at the southwest  
17 edge or corner of Empire Tract, and the location of  
18 Buckley Cove, which is on the order of eight miles to  
19 the southeast of Stockton's intake location.

20 You can see that there are a number of small  
21 channels in the vicinity of Stockton's intake that  
22 connect the North Delta to the intake location, and  
23 those channels serve to transport water from the  
24 Sacramento River and the eastside streams to Stockton's  
25 intake location. So that's the reason that the source

1 of water and the quality of water at Stockton's intake  
2 is different.

3 DWR did present in their rebuttal testimony  
4 model results and analyses for a location that is much  
5 closer to Stockton's intake, but the rebuttal testimony  
6 that I prepared focused primarily on DWR's case in  
7 chief, the information that was prepared in the fall,  
8 and on the FEIR/EIS.

9 We will be preparing surrebuttal to address 10  
11 DWR's rebuttal testimony. I won't address that  
12 specifically here, but I would like to note that I have  
13 reviewed that work and it does not change the opinions  
14 that I would like to offer today.

15 Next slide, please.

16 This shows the channels in the Delta with the 16 DSM-2  
17 modeling grid superimposed upon those channels. 17 The  
18 location of Stockton's intake with respect to the 18 actual  
19 channels, which are shown in the blue sort of  
20 more squiggly lines, is shown on this diagram. And you  
21 can see that DSM-2 Node 33 is closest to Stockton's  
22 intake facility. Buckley Cove would actually be off to  
23 the lower right-hand side of this chart. It's not on  
24 this diagram.

25 And then the next graphic -- I'm not sure we  
actually need this -- but it shows the location of

1 Stockton's intake in Buckley Cove and some of the  
2 measurement locations where water quality measurements  
3 are made within the Delta.

4 And then the next slide -- thank you -- shows  
5 source water fingerprints at Buckley Cove -- sorry.  
6 This is at Stockton's intake. What I would like to do  
7 in this section is demonstrate, using modeling for the  
8 existing condition, things as they are today, that  
9 water quality at the City's intake location is very  
10 different than water quality at the Buckley Cove  
11 location which, again, was presented previously by DWR.

12 This graphic shows the percent -- top left is  
13 the percent of Sacramento River water on average in dry  
14 water years that is present at the City's intake  
15 location. So what the top left diagram shows for both  
16 the no action alternative and the existing condition  
17 model run that's known as EBC2, which we believe is the  
18 appropriate existing condition run -- it shows that the  
19 fraction of Sacramento River water at the City's intake  
20 varies between 30 percent and about 90 percent, or a  
21 little bit more, on average in dry years at the City's  
22 intake.

23 The lower left panel shows the fraction of  
24 water at the City's intake that originates from the San  
25 Joaquin River. And you can see that that varies



1 between about zero and 50 percent. And then the lower  
2 right shows the fraction that is simulated to be  
3 agricultural return water. And you can see that that's  
4 about 15 percent or less at the City's intake.

5 The next slide -- thank you -- shows the  
6 source water fingerprints at Buckley Cove. And what  
7 you can see in the top left diagram is that, during  
8 most of the year in dry years, Sacramento River water  
9 is absent from Buckley Cove. It does show up for a  
10 couple of months in the summer at a concentration of  
11 just under 20 percent, being the peak.

12 Most of the water at the lower left shows at  
13 Buckley Cove, in contrast, originates from the San  
14 Joaquin River between about 40 percent to close to 100  
15 percent. And the fraction of water that is from  
16 agricultural returns, the lower right-hand panel,  
17 varies up to close to 30 percent at Buckley Cove.

18 So what we see from these two diagrams is that  
19 in dry years on average, the water at the City's intake  
20 is primarily from the Sacramento River, whereas the  
21 water at Buckley Cove is primarily from the San Joaquin  
22 River. And this is important because the Sacramento  
23 River water has higher quality, a lower salinity than  
24 water from the San Joaquin River.

25 The next plot -- thank you -- shows the source

1 water fingerprints, the Sacramento fraction, the  
2 Sacramento River water fraction, of the source water  
3 fingerprints over the entire 16-year model period. So  
4 it's not just dry years.

5 What you see on the top panel is the fraction  
6 of water at the City's intake that originates from the  
7 Sacramento River over that 16-year period. And at  
8 times it dips quite low to near zero percent, but most  
9 of the time it's relatively high.

10 And in contrast, you can see the fraction of 11 water  
in the bottom panel at Buckley Cove that  
12 originates from the Sacramento River. And you can see  
13 that most of the time during the 16-year simulation  
14 period there is no Sacramento River water present at  
15 Buckley Cove.

16 So again, concluding that, for all hydrologic  
17 year types, the composition of water at these two  
18 locations is very different.

19 The next slide shows the salinity at  
20 Stockton's intake, again, for both the no action  
21 alternative and the existing condition EBC2 model run.  
22 This graph shows that the chloride  
23 concentrations at Stockton's intake are expected to be  
24 below 100 milligrams per liter, ranging between about  
25 25 and about 100 milligrams per liter on average in dry

1 year types.

2           The next slide shows similar model results for  
3 the Buckley Cove location. Because there is more San  
4 Joaquin River water present at Buckley Cove and less  
5 Sacramento River water, the salinity is simulated to be  
6 much higher. The salinity is almost -- well, between  
7 175 and 200 milligrams per liter is chloride at the  
8 Buckley Cove location, and the lowest salinity is on  
9 the order of about 75 milligrams per liter.  
10 So at Buckley Cove, the salinity is between 11  
11 about 75 milligrams per liter and up to over 175;  
12 whereas at the City's intake, it was at 100 milligrams  
13 per liter or lower in dry year types.

14           Thus, based on the model results, I conclude  
15 that the water quality and the composition are both  
16 different at these two locations; and on that basis,  
17 it's my opinion that Buckley Cove model results cannot  
18 and should not be used to determine water quality  
19 impacts at the City of Stockton's intake location.

20           The next opinion is that proposed WaterFix  
21 project will result in significant water quality  
22 impacts at Stockton's intake.

23           And the next slide shows the changes in water  
24 quality composition that can be expected or that are  
25 expected based on the model results at the City's

1 intake location. Here we're showing the existing  
2 condition model run, which is EBC2, as the dark gray  
3 line. If you look at the top left panel, that shows  
4 the fraction of water at the City's intake that  
5 originated from the Sacramento River. You can see for  
6 the existing condition, that varies between about 30  
7 percent to about 90 percent during dry water years on  
8 average.

9 And you can see in the colors the simulated  
10 source fractions for the Alt 4A alternative. That's  
11 the preferred alternative from the FEIR/EIS, and you  
12 can see it for the Boundary 1 and Boundary 2 scenarios.

13 What we see is a significant decrease in the  
14 fraction of Sacramento River water at the City's intake  
15 in dry years. So if you focus on the month of  
16 December, you can see that the fraction of Sacramento  
17 River water declines from around 90 percent in the  
18 existing condition scenario to around 50 or 55 percent  
19 for the Boundary 2 scenario in the month of December.

20 We also see significant impacts for other  
21 alternatives. If you look at the difference a little  
22 bit later in the month of December or early in January,  
23 you can see that the fraction of Sacramento River water  
24 declines from about 80 percent for the existing  
25 condition to about 50 percent for the Alt 4A

1 alternative.

2           The lower left panel shows the fraction of San  
3 Joaquin River water, and you can see that there's  
4 almost a switch. When the fraction of Sacramento River  
5 water declines, the fraction of San Joaquin River water  
6 increases correspondingly.

7           The next panel -- thank you -- shows the  
8 number of equivalent days per year that water at  
9 Stockton's intake exceeds 110 milligrams per liter  
10 chloride. The 110 milligram per liter chloride  
11 threshold is an operational threshold that the City  
12 uses. And when chloride at its intake exceeds that  
13 threshold, the City switches to an alternative water  
14 supply such as purchased water or groundwater.

15           What we've done in this analysis is to use the  
16 model results for the five scenarios that are shown at  
17 the top of the Table EBC2, which is an existing  
18 condition run, the NAA, the Boundary 1, the Boundary 2  
19 and the Alternative 4A scenario, and we've added up the  
20 total time in those model runs for these year types  
21 that the salinity exceeds 110 milligrams per liter, and  
22 we've calculated the equivalent number of days -- so  
23 essentially, the total amount of time in the model  
24 simulation period expressed in units of days that water  
25 quality exceeds that threshold.

1           If you look at dry years, for example, you can  
2 see in the existing condition run that 31 days for EBC2  
3 would exceed the 110-milligram-per-liter threshold in a  
4 year. For the no action alternative, that would rise  
5 to 36 days per year in excess of 110 milligrams per  
6 liter.

7           For the Boundary 1 scenario, there would be 46  
8 days in excess of 110; for the Boundary 2 scenario,  
9 there would be 77 days in excess of the 110 level; and  
10 for Alternative 4A, there would be 58 days. And then  
11 the numbers on the right-hand side of the table, the  
12 percentages, show the percentage increase in the number  
13 of days that would exceed the City's operational  
14 threshold for each of these scenarios compared to the  
15 base case. So we see up to a 150 percent increase  
16 between existing conditions in the Boundary 2 scenario.

17           We see similar kinds of increases for critical  
18 years, and we actually see slight decreases for normal  
19 and wet years. So in critical and dry years, we  
20 conclude that the number of days that the City would  
21 have to either purchase water from an alternative  
22 source or use groundwater would increase.

23 The next slide shows the same results for the 24  
individual model years. I don't know that we need to  
25 walk through this year by year.

1           You can see that many years there is an  
2 increase in the number of days that exceed that  
3 operational threshold. And if you look at the bottom  
4 row of the table, what we've done is to sum the numbers  
5 in the columns above, in the rows above. And you can  
6 see that, for the time period as a whole, there would  
7 be an increase in the number of days that exceeds that  
8 threshold.

9           So for the existing condition, there would be 10 455  
days in the 16-year period in excess of 110  
11 milligrams per liter. For the no action alternative,  
12 there would be 572. For Boundary 1, there would be 627  
13 days. For Boundary 2, there would be 759 days. And  
14 for Alt 4A, the proposed alternative, there would be  
15 606 days in excess of 110 milligrams per liter.

16           So those are significant increases for all of  
17 the proposed project scenarios relative to both the  
18 existing condition baseline and the no action  
19 alternative.

20           CO-HEARING OFFICER DODUC: How much further do  
21 you have, Dr. Paulsen, also?

22           WITNESS PAULSEN: Okay. I would estimate that  
23 I've got probably five to ten more minutes.

24           CO-HEARING OFFICER DODUC: All right. Let's  
25 give you ten minutes to finish up, please.

1 WITNESS PAULSEN: Thank you.

2 This next slide shows how the salinity is  
3 predicted to vary during dry years on average over the  
4 course of the year. And what we see is that neither  
5 the existing condition EBC2 run, which is gray, nor the  
6 no action alternative, which it's hard to make out the  
7 colors, but it's sort of a pinkish color, both of those  
8 remain below the 110 milligram per liter threshold  
9 throughout the time period in dry years.

10 In contrast, all three of the simulated  
11 alternatives -- the Boundary 1, the Boundary 2, and the  
12 Alternative 4A scenario -- all cross that  
13 110-milligram-per-liter threshold during dry years.  
14 The Boundary 2 alternative would exceed that threshold  
15 for about a two-and-a-half-month-long period. The  
16 Alternative 4A scenario would exceed for about one  
17 month and the Boundary 1 scenario for less than one  
18 month but it still pops above it.

19 And this last slide dealing with the water  
20 quality impacts to Stockton's intake has to do with  
21 residence time. We used the model results to compute  
22 the residence time. The results shown here are for a  
23 dry year, for every month in a dry year and for each of  
24 those five modeled scenarios.

25 What the table shows is that in all but May of



1 dry years, in every other month, all of the model  
2 scenarios show a significantly longer residence time in  
3 the Delta relative to existing conditions.

4 We also see that the residence times for the  
5 EBC2 existing condition scenario and the NAA no action  
6 alternative scenario are similar in all months. The  
7 increases in residence time are greatest for the months  
8 of July through December. So we see a significant  
9 increase in residence time in the summer and the fall  
10 months when the temperatures are highest.

11 And this is significant because the research  
12 on microcystis shows that microcystis blooms are  
13 correlated with residence time within the Delta and  
14 with water temperature. So we see up to a 37 percent  
15 increase in residence time for the Boundary 2 scenario  
16 relative to the existing condition model run in the  
17 month of August, which is also one of the months when  
18 the water temperature is highest.

19 So based on this, we do conclude that there is  
20 an increased likelihood as a result of the WaterFix  
21 project for microcystis blooms in the interior Delta.

22 The next opinion is that water quality will be  
23 harmed at the City's intake whether or not D1641  
24 objectives are met as shown or not shown by the  
25 modeling. I've previously presented information on

1 behalf of the cities of Antioch and Brentwood dealing  
2 with the frequency of compliance for the model  
3 scenarios with the D1641 objectives. I won't repeat  
4 that here, but I would ask that it be incorporated by  
5 reference.

6           The point here is a little bit different. the  
7 D1641 objectives are evaluated at locations that are  
8 not near the City of Stockton's intake location. So I  
9 conclude that whether or not those objectives are met  
10 is not directly relevant to water quality at the City's  
11 intake location.

12           In addition, not all of the simulated WaterFix  
13 scenarios were set up with the intention of having them  
14 comply with D1641. Specifically, the Boundary 1  
15 scenario did not include Fall X2 and a number of other  
16 components that are part of D1641.

17           And my conclusion is that the model results at  
18 the City's actual intake location should be used to  
19 assess impacts to the City.

20           Next slide, please.

21           The fourth opinion is that long-term averages  
22 and cumulative probability diagrams really cannot be  
23 used to assess impacts of the proposed WaterFix project  
24 on Stockton. And I'd like to just add to the prior  
25 testimony by showing one example in the next slide.

1           Here, these are results from the FEIR/EIS, and  
2 we provided these within the expert report which I  
3 believe is Stockton 26.

4           What the red box with the arrow pointing to it  
5 shows is just one example. These are model results for  
6 the month of March presented in the top half of that  
7 red box for all of the 16 modeled years in the  
8 simulation period and in the bottom half of that red  
9 box for the years that DWR calls drought years. It's a  
10 sequence of years that includes both dry and critical  
11 years.

12           What we can see is a 4 percent increase for  
13 all years in the month of March and a 5 percent  
14 increase in the month of March for drought years for  
15 the proposed project Alternative 4A relative to the no  
16 action alternative.

17           What we see if we look at the next slide, when  
18 we dig into those model results -- this is just one  
19 example. This is looking at the model results for the  
20 month of March for water year 1981, which is a dry  
21 year. And what we see is the no action alternative  
22 simulated salinity in pink, which is -- it's hard to  
23 tell the difference in the colors. It's one of lines  
24 on the bottom of this stack of lines on this -- within  
25 the box. And we see the no action Alternative 4A as

1 the red line.

2           What we see is a difference in simulated  
3 chloride concentration of about 25 milligrams per  
4 liter, about 18 percent different between the no action  
5 alternative and Alternative 4A. You would never be  
6 able -- from the summarized results in the FEIR/EIS or  
7 in the results presented earlier -- be able to tell the  
8 difference here.

9 And I should say also that the prior slide and 10 this  
slide are showing results at the Buckley Cove

11 location, not at Stockton's intake. Because again, in  
12 the first phase of this testimony and in the FEIR/EIS,  
13 DWR presented results only at Buckley Cove, not at the  
14 City's intake.

15           So the point here is -- I'm trying to make the  
16 point here that presenting the results as long-term  
17 averages hides some of the detail that's really  
18 important to a drinking water operator. A drinking  
19 water operator within the Delta cannot use long-term  
20 average water; rather, they have to take water that's  
21 available at their intake when it's available at the  
22 salinity that it's available at -- that was a bad  
23 sentence -- and serve that water at the same time that  
24 it is withdrawn from the Delta -- after treatment of  
25 course.

1           So a drinking water operator such as the City  
2 of Stockton really cannot understand potential impacts  
3 of the proposed project on their operations using only  
4 long-term average or cumulative probability  
5 information.

6           The next opinion, and we're almost done, is  
7 that the WaterFix project operations are not clearly  
8 defined, and as such, it's not possible to understand  
9 the impacts of the proposed WaterFix project on the  
10 City of Stockton's drinking water operations.

11           We have presented information on this before  
12 and continue to assert that the WaterFix operations  
13 remain unclear.

14           We don't know how the decisions will be made  
15 to transition operations from one type of operation  
16 scenario to another, or how the adaptive management  
17 program will work, and this continues to add  
18 uncertainty.

19           The FEIR/EIS, which was released in December 20 after  
the conclusion of the first phase of these  
21 hearings, did not provide any additional clarity  
22 regarding the proposed project operations and did not  
23 carry the Boundary 1 or Boundary 2 scenarios through to  
24 the full analysis.

25           The last opinion -- next slide, thank you --

1 has to do with appropriate Delta baseline conditions. And  
2 we've talked about this previously, so I won't repeat what  
3 I previously said which focused on DWR's  
4 use of the EBC1 scenario, which was an existing  
5 condition scenario that did not include Fall X2;  
6 whereas we believe the appropriate scenario is the EBC2  
7 existing condition scenario that does include Fall X2.

8 To evaluate the impact of that on the City of  
9 Stockton --

10 Next slide, please.

11 -- we calculated the number of days per year, 12 again,  
that water quality at Stockton's intake would 13 exceed the  
threshold of 110 milligrams per liter for

14 each of the baseline scenarios: the EBC1, the EBC2, and  
15 the no action alternative. So all of the information  
16 on this slide is for baseline conditions.

17 If you look just at dry years, you can see  
18 that the EBC2 scenario, which we believe to be the  
19 appropriate existing condition scenario because it  
20 includes Fall X2, the EBC2 scenario indicates that  
21 about 31 days per average on year in dry years would  
22 exceed the 110-milligram-per-liter threshold.

23 The EBC1 existing conditions model scenario  
24 which does not include Fall X2 almost doubles that  
25 number to 58 days per year that would exceed the

1 existing condition threshold. And the no action  
2 alternative baseline condition which also does include  
3 Fall X2 indicates that 36 days per year would exceed  
4 the 110-milligram-per-liter threshold.

5 So for dry years, there are an additional  
6 27 days per year by which the baseline scenario chosen  
7 by DWR would exceed the City's operational water  
8 quality threshold. The impact of this choice by DWR to  
9 use EBC1 as the existing condition scenario in the FEIR  
10 is to minimize the apparent impacts of the project.

11 So we would assert that existing conditions  
12 would exceed 31 days on average; whereas the EBC2  
13 condition -- model scenario would exceed 58 days on  
14 average.

15 If you're comparing a model simulation that  
16 exceeds an even greater number of days, we're looking  
17 at the difference in the number of days between those  
18 scenarios. And if we use a baseline that is higher in  
19 salinity than it should be, we're minimizing the  
20 apparent difference between the WaterFix project  
21 operations impact and the baseline.

22 So, again, it's our assertion that the EBC2  
23 scenario is the appropriate baseline condition and  
24 that, by choosing the EBC1, the apparent impacts of the  
25 proposed project are minimized.

1           Much of the information that I've just  
2 presented focuses on dry years, but the report, which  
3 is I believe Stockton 26, includes model results for  
4 all of the scenarios in all of the year types. So  
5 those are available for reference.

6           CO-HEARING OFFICER DODUC: And you are  
7 wrapping up?

8           WITNESS PAULSEN: I conclude there. Thank  
9 you.

10          CO-HEARING OFFICER DODUC: All right. Thank  
11 you.

12          From estimates last week, I believe we have  
13 about two hours of cross-examination starting with DWR  
14 and then Ms. Morris, Mr. O'Laughlin, Ms. Meserve, and  
15 then Mr. Herrick.

16          MS. DES JARDINS: I was not here on Friday to  
17 request time, but I would like to ask one question  
18 which would take less than ten minutes, maybe just  
19 five.

20          CO-HEARING OFFICER DODUC: All right. Let's  
21 go ahead and start with DWR. And I would like to take  
22 a break around 11:00 o'clock or so for the court  
23 reporter. So I'll ask Ms. McGinnis and Mr. Berliner to  
24 find a nice breaking point.

25          MR. BERLINER: Optimistically, we would be



1 done before that.

2 CO-HEARING OFFICER DODUC: Even better.

3 CROSS-EXAMINATION BY MR. BERLINER

4 MR. BERLINER: Good morning.

5 WITNESS PAULSEN: Good morning.

6 MR. BERLINER: I'm Tom Berliner on behalf of  
7 the Department of Water Resources, and I'm accompanied  
8 today by Robin McGinnis, also of the Department of  
9 Water Resources.

10 I'm going to be focusing primarily on  
11 chlorides, a little bit about water treatment plant  
12 operations, and a couple of cleanup issues to start  
13 with.

14 Dr. Paulsen, in the testimony you just  
15 submitted, you discussed meeting D1641 requirements in  
16 the various alternatives that DWR has proposed. And  
17 you mentioned, for instance, Fall X2 and spring outflow  
18 and some other criteria that --

19 CO-HEARING OFFICER DODUC: Mr. Berliner, your  
20 microphone.

21 MR. BERLINER: Sorry -- that our obligations  
22 -- should I start over?

23 CO-HEARING OFFICER DODUC: It might be best.

24 MR. BERLINER: Okay. In your testimony,  
25 Dr. Paulsen, you identified some areas where you

1 indicated that you thought certain requirements were  
2 not included within D1641. You mentioned Fall X2, for  
3 example, and the I:E ratio, I believe. And, in your  
4 testimony -- are you aware that Boundary 1 includes  
5 existing Spring X2 as required by D1641?

6 WITNESS PAULSEN: I think that question was a  
7 little bit garbled in that -- the first part of it  
8 relating to D1641.

9 The -- what I can say is that DWR's testimony  
10 as summarized in my testimony states that the  
11 Boundary 1 existing outflow scenario, quote,  
12 "Represents an operational scenario with most of the 13  
13 existing regulatory constraints but does not include 14  
14 additional spring outflow, additional OMR flows,  
15 existing I-to-E ratio" -- I think it should be E-to-I  
16 ratio -- "and the additional Fall 2" -- "Fall X2 flow  
17 requirement imposed in the existing BiOp for Delta  
18 smelt."

19 MR. BERLINER: And in your view, are those all  
20 D1641 requirements?

21 WITNESS PAULSEN: I'd have to look back at  
22 D1641. Certainly some of them are.

23 MR. BERLINER: Do you know which ones?

24 WITNESS PAULSEN: If we can bring up D1641, I  
25 could walk through the tables and explain it that way.

1 MR. BERLINER: Maybe I can -- rather than  
2 going through that, maybe I could speed this up a  
3 little and try to refresh your memory.

4 In your testimony, you mentioned the I:E  
5 ratio. Isn't that under the NMFS Biological Opinion?

6 WITNESS PAULSEN: I believe that there are  
7 requirements for the E-to-I ratio in D1641 as well. I  
8 don't remember the table number specifically. It may  
9 be Table 3.

10 MR. BERLINER: You understand the difference  
11 between the I:E ratio and the E/I ratio?

12 WITNESS PAULSEN: Oh, apologies. Is the  
13 E-to-I ratio that is in D1641, I believe, Table 3,  
14 although I may have that citation off.

15 MR. BERLINER: And in your testimony, you're  
16 referring to the I:E ratio which is found in the  
17 Biological Opinion, correct?

18 WITNESS PAULSEN: I think that is correct. I  
19 mean, again, that's a quote directly from the DWR  
20 testimony.

21 MR. BERLINER: But you're using this to  
22 contend that DWR is not meeting D1641, correct?

23 WITNESS PAULSEN: No, that's not correct. If  
24 I can expand on that?

25 MR. BERLINER: No. Let's go to Stockton

1 Exhibit 25, please, on Page 9, Lines 11 to 12.

2 Now, at this point, you indicate that not all  
3 the proposed operation scenarios will be operated to  
4 meet D1641.

5 And then if we can go to Page 51 -- do you see  
6 that, Dr. Paulsen?

7 WITNESS PAULSEN: I do.

8 MR. BERLINER: Great. If we could go to  
9 Lines 5 to 20.

10 So you indicate -- you're discussing D1641, 11 "not  
all the proposed operations centers will be  
12 operated to meet D1641," and then you continue,  
13 regarding Boundary 1 and existing outflow scenario  
14 rate, where you've taken a quote from DWR to state  
15 that, "represents an operational scenario with most of  
16 the existing regulatory constraints...but does not  
17 include additional spring Delta outflow, additional OMR  
18 flows, existing I/E ratio, and existing Fall X2 flow  
19 requirement..."

20 With the exception of the Fall X2 flow  
21 requirement, which states there specifically it's from  
22 the existing Biological Opinion for Delta smelt, was it  
23 your understanding that those other regulatory  
24 constraints are in D1641?

25 WITNESS PAULSEN: Well, I'd like to clarify

1 here.

2 The analysis of the D1641 criteria that we  
3 performed and that I alluded to today but presented  
4 earlier on behalf of the other cities was -- what we  
5 did specifically was to use the model results to look  
6 at the frequency of compliance with the D1641 M and I  
7 objectives for each of the model scenarios.

8 Whether the requirements underlying those  
9 scenarios derive from D1641 or from the BiOps, frankly,  
10 I did not analyze in detail. But we were using DWR's  
11 model runs to try to evaluate the frequency of  
12 compliance with the D1641 M and I objectives that  
13 apply. We looked at several locations, but I think we  
14 presented results mainly for Contra Costa Pumping Plant  
15 No. 1.

16 So if that clarifies what I've done here, I  
17 hope that's helpful.

18 MR. BERLINER: Thank you.

19 And what is the requirement under D1641 for 20 M  
and I supplies, for chloride?

21 WITNESS PAULSEN: I believe that there are two  
22 primary requirements. I think they're found in Table 1  
23 of D1641. One is that the 250-milligram-per-liter  
24 chloride threshold be met at -- I think there are five  
25 locations that are offered, every day in every year

1 regardless of year type. And the second form of the  
2 requirement has to do with the 150-milligram-per-liter  
3 chloride objective.

4 And that's sort of a sliding scale. It's  
5 expressed as a calendar year, but it's dependant upon  
6 the hydrologic year type, which is a water year  
7 classification. And it specifies the number of days  
8 that must meet that 150-milligram-per-liter threshold  
9 and also specifies that that threshold must be met in  
10 increments of no less than -- I believe it's 14 days.  
11 Again, we would make certain of that if we looked at  
12 the document, but I think that's how it's represented.

13 MR. BERLINER: I'm not going to bother pulling  
14 it up. We've looked at that table several times. I  
15 think the Board's pretty familiar with it at this  
16 point. Thank you.

17 Referring to Stockton 27, this was a chart  
18 that you put up earlier found at Page 15. This is  
19 Table No. 3. Now, in Table No. 3, as I understand it,  
20 you used 110-milligram-per-liter chloride as the  
21 benchmark for Stockton's municipal water supply,  
22 correct?

23 WITNESS PAULSEN: Yes.

24 MR. BERLINER: As their target?

25 WITNESS PAULSEN: I wouldn't say that's their

1 target. That is the threshold chloride concentration  
2 at which operationally they switch from an in-Delta  
3 water supply from their intake to an alternative source  
4 of water. So it's an operational threshold.

5 MR. BERLINER: And the -- it's not a water  
6 quality standard, correct?

7 WITNESS PAULSEN: I believe that they make  
8 that decision based in part on the discharge  
9 requirements in their -- in their permit for discharge  
10 to the Delta. There are probably other factors  
11 involved with that as well. I believe that the City  
12 may have provided additional information on that point.

13 MR. BERLINER: But as we just discussed under  
14 D1641, the chloride standard is either 150 milligrams  
15 per liter or 250 milligrams per liter, right?

16 WITNESS PAULSEN: Yes.

17 MR. BERLINER: There's no 110?

18 WITNESS PAULSEN: Yes, that's true at  
19 locations that are -- that don't include the City's  
20 intake location.

21 MR. BERLINER: There is no  
22 110-milligram-per-liter chloride requirement in D1641,  
23 correct?

24 WITNESS PAULSEN: Not that I'm aware of.

25 MR. BERLINER: And are you familiar with the

1 California toxic rule?

2 WITNESS PAULSEN: Yes, I am.

3 MR. BERLINER: There's no  
4 110-milligram-per-liter requirement under California  
5 toxic rule, correct?

6 WITNESS PAULSEN: There aren't any requirement  
7 for chloride, for TDS, for TSS, for pH. I can think of  
8 a number of constituents that are not included in the  
9 California toxics rule because that covers --

10 MR. BERLINER: Is the answer no?

11 WITNESS PAULSEN: -- that covers toxic  
12 pollutants and it doesn't cover pollutants in a  
13 different class of constituents such as chloride.

14 So, correct, the answer is no.

15 MR. BERLINER: And same answer for drinking  
16 water maximum contaminant levels? There's no  
17 110-milligram-per-liter requirement?

18 WITNESS PAULSEN: I would have to look back at  
19 the MCLs, but I believe that's correct.

20 MR. BERLINER: Do you recall that the  
21 secondary drinking water MCL for chloride is 250  
22 milligrams per liter?

23 WITNESS PAULSEN: Again, I haven't looked at  
24 it recently, but that sounds correct.

25 MR. BERLINER: Do you recall that the



1 secondary drinking water MCL of 250 is to address  
2 aesthetic issues of odor and taste?

3 WITNESS PAULSEN: I don't recall specifically.

4 MR. BERLINER: Do you recall that the maximum  
5 contaminant level for chlorides is 500 milligrams per  
6 liter?

7 WITNESS PAULSEN: Again, I'd have to look  
8 back, but I believe that's correct.

9 MS. TABER: At this point, I'd like to object  
10 that Mr. Berliner's questions really go outside the  
11 scope of Dr. Paulsen's rebuttal testimony. She didn't  
12 provide any testimony regarding the drinking water  
13 standards or its specific levels.

14 CO-HEARING OFFICER DODUC: Mr. Berliner?

15 MR. BERLINER: Stockton is contending that 16  
16 they're entitled to a unique standard for themselves  
17 for their operational convenience that doesn't comply  
18 with D1641, doesn't violate any applicable standards.  
19 And essentially they're setting forth the case that  
20 they're entitled to their own operational preference  
21 that the State and Federal projects should somehow be  
22 operated to. I think it's pretty relevant to their  
23 110-milligram-per-liter argument.

24 CO-HEARING OFFICER DODUC: I agree.

25 Overruled, Ms. Taber.

1 MR. BERLINER: Dr. Paulsen, are you aware that  
2 the City of Stockton issues a consumer confidence  
3 report related to their water supplies?

4 WITNESS PAULSEN: I'm sure they do. I think  
5 all cities or drinking water operators do.

6 MR. BERLINER: Are you aware that for  
7 chlorides they identify a maximum contaminant level in  
8 their consumer confidence report of 500 milligrams per  
9 liter?

10 WITNESS PAULSEN: I have not reviewed their  
11 consumer confidence reports, but it would not surprise  
12 me.

13 MR. BERLINER: Could we please have Stockton  
14 Exhibit 27, Slide 22. This is a graph of the mean --  
15 of the daily mean concentration of chloride at Buckley  
16 Cove. You showed this earlier and identified a box  
17 around the month of March. This is Figure 3.  
18 Isn't it correct that all the scenarios in 19  
19 this graph have lower chloride concentrations as  
20 compared to existing conditions in the peak area that  
21 you marked?

22 WITNESS PAULSEN: On this graph for chloride  
23 concentrations at Buckley Cove for that month, that is  
24 correct.

25 MR. BERLINER: And as you look across the

1 graph, all of the chloride concentrations are below  
2 250, correct?

3 WITNESS PAULSEN: For this location for this  
4 graph, that is correct, yes.

5 MR. BERLINER: Could we go to Slide 21,  
6 please.

7 You also showed this chart which is marked as  
8 Figure 2 and is an excerpt from the Final EIR/EIS,  
9 specifically Table C-170 from Appendix 8G. In here,  
10 you indicated that there is a 4 or 5 percent increase  
11 in chloride at Buckley Cove during either all years or  
12 drought years.

13 Now, you're not suggesting, are you, that this  
14 increase of 4 or 5 percent would result in a chloride  
15 concentration that would exceed the  
16 250-milligram-per-liter MCL, are you?

17 WITNESS PAULSEN: I'd like to add on to your  
18 question by specifying clearly that the 4 or 5 percent  
19 applies in the month of March, the area outlined here.  
20 I'm not sure that you said that in your question, and  
21 if I didn't say that in my testimony, I meant to.

22 This doesn't present information on what the  
23 baseline concentration -- long-term average baseline  
24 concentration is simulated to be in this month under  
25 those circumstances; that's correct.

1 MR. BERLINER: This chart has, on the left  
2 side, various locations, and includes Buckley Cove,  
3 among others, and both all years and drought years.  
4 And as you move across, there are -- there's a period  
5 of -- there's an alternative, a WaterFix alternative  
6 that's identified, existing conditions, the no action  
7 alternative, 4A, 2D and 5A.

8 You follow those, correct?

9 WITNESS PAULSEN: Where is the 4A? I'm sorry.  
10 I'm getting lost. The 4A, the 5- --

11 MR. BERLINER: So under the box that's the  
12 "Period Average Concentration," below that, it's right  
13 in the center of the chart.

14 WITNESS PAULSEN: Yes.

15 MR. BERLINER: You have existing condition --

16 WITNESS PAULSEN: Yes.

17 MR. BERLINER: -- the no action, Alternative  
18 4A is next.

19 WITNESS PAULSEN: Yes.

20 MR. BERLINER: 2D and then 5A.

21 So if we look at Buckley Cove on the San  
22 Joaquin River, which, if you look in the location  
23 column, it's the second one down.

24 WITNESS PAULSEN: The part that I'm not  
25 understanding, I believe that all of these results are

1 for 4A. So I'm not sure -- can you explain what you  
2 mean by the -- I think you said 2D?

3 Or I believe he referenced 5A.

4 CO-HEARING OFFICER DODUC: 5A?

5 WITNESS PAULSEN: I'm sorry. I'm just not  
6 following.

7 CO-HEARING OFFICER DODUC: I'm not following  
8 either, Mr. Berliner.

9 MR. BERLINER: So this table shows, under  
10 the -- in the middle, the period average concentration  
11 under different alternatives. So it has the existing  
12 condition?

13 WITNESS PAULSEN: I don't --

14 CO-HEARING OFFICER DODUC: I don't see that.

15 WITNESS PAULSEN: I don't either.

16 MR. BERLINER: Oh, I'm sorry. I'm looking at  
17 a different chart.

18 CO-HEARING OFFICER DODUC: Thank you.

19 MR. BERLINER: I apologize. I'm looking at an  
20 entirely different chart. No wonder. My mistake. I  
21 apologize.

22 Let's get the right chart up there.

23 That's what I get for looking down at my paper 24 instead  
of up at the screen.

25 So Figure 2, please, Slide 21 -- no. I'm

1 sorry. That's incorrect. That's what I've got up.

2 On the thumb drive, do you have Table C1-82?

3 I apologize.

4 MR. OCHENDUSZKO: Did you mean Table CL-82?

5 MR. BERLINER: Yes. That's what it looks  
6 like, as a CL, it's actually a "1."

7 Okay. Let me try this all over again.

8 MR. OCHENDUSZKO: Mr. Berliner, can you please  
9 identify what's on the screen right now?

10 MR. BERLINER: Yes.

11 MR. OCHENDUSZKO: And its location for us.

12 MR. BERLINER: This is from the Final EIR.  
13 It's Appendix 8G, Table C1-82.

14 MS. MCGINNIS: And I'll add it's Page 8G-96.

15 MR. BERLINER: Are you familiar with this  
16 table?

17 WITNESS PAULSEN: I reviewed a lot of  
18 information in the FEIR/EIS. I probably looked at this  
19 table at one point in time. I did not focus on it in  
20 preparing the rebuttal testimony.

21 MS. TABER: Excuse me, Mr. Berliner. Do you  
22 have a copy of this table that Dr. Paulsen could  
23 examine? It's a little small on the screen.

24 That's helpful. Thank you.

25 MR. BERLINER: Yes, we do.

1 MS. TABER: Thank you.

2 MS. MCGINNIS: I apologize.

3 WITNESS PAULSEN: Oh, my goodness. I think  
4 it's better on the screen.

5 MR. BERLINER: It may be better on the screen.  
6 It's a little table.

7 WITNESS PAULSEN: Thank you, though.

8 MR. BERLINER: We struggled with that as well.  
9 It's a little table.

10 So let me see if I can try this again and try  
11 to orient you to it.

12 So in the left-hand column, it shows various  
13 locations in the Delta; the interior, the western  
14 Delta, and then major diversions from the Delta such as  
15 the Banks and Jones Pumping Plants.

16 The next columns from the left is specific  
17 locations where water quality is taken. And the second  
18 location down is the San Joaquin River at Buckley Cove.

19 Do you see that?

20 WITNESS PAULSEN: I do see that.

21 MR. BERLINER: Then the next column is a  
22 period of time which is either all years under the 16-  
23 year period in DSM-2, or drought years.

24 Are you with me so far?

25 WITNESS PAULSEN: I do see that, yes.

1 MR. BERLINER: Okay. Now we're getting to the  
2 period average concentration of the existing conditions  
3 which shows Buckley Cove in all years at 115.7 and  
4 drought years at 154.9.

5 Do you see that?

6 WITNESS PAULSEN: I assume that that's a  
7 long-term 16-year average. I do see that, yes.

8 MR. BERLINER: And as we move over from left  
9 to right, there's the no action alternative, the 4A  
10 Alternative, the 2D Alternative, and the 5A  
11 Alternative. Do you see each of those?

12 WITNESS PAULSEN: Yes.

13 MR. BERLINER: And do you agree that,  
14 according to this analysis, all of the alternatives are  
15 lower in period average concentrations than the  
16 existing condition?

17 WITNESS PAULSEN: I read the table the same  
18 way. I would point out to the Board Members that the  
19 existing condition is the EBC1 condition, which does  
20 not include Fall X2 and so, I would argue, has a higher  
21 salinity than true existing conditions.

22 MR. BERLINER: Oh, I don't want to get into a  
23 big discussion about Fall X2. We've already been  
24 through that here. So I'm sure the Board's aware of  
25 the issues surrounding Fall X2, which is from the



1 Biological Opinions.

2 As you move over to the right, it shows the  
3 lowest applicable human health criteria or objective of  
4 250 milligrams per liter. And as you look on the  
5 reference for Buckley Cove, you see that there are no  
6 exceedances of 250, correct?

7 WITNESS PAULSEN: If you take the long-term  
8 average, 16-year average chloride concentration -- I  
9 believe that's what's represented in this table -- then  
10 I agree that the 16-year average concentration appears  
11 not to have exceeded 250 milligrams per liter as  
12 reported in this table.

13 MR. BERLINER: And, for example, when we were  
14 talking about 1981, on your Figure 3, where you looked  
15 at the daily mean concentration, we also agreed there  
16 were no exceedances of 250 milligrams per liter on a  
17 daily basis at least for 1981, correct?

18 WITNESS PAULSEN: I believe that's true.  
19 Again, I point out that this -- all the information  
20 that we're looking at is at Buckley Cove not at  
21 Stockton's intake. The reason that I showed Buckley  
22 Cove information was just to make a point about  
23 long-term averages versus shorter term, a shorter term  
24 or a different way of presenting the modeling  
25 information.

1           MR. BERLINER: As I understand it, one of the  
2 intentions in your testimony is that you need to take  
3 into account hourly or sub-hourly -- or treatment plant  
4 operators have to take into account changes in its  
5 operations on an hourly or sub-hourly basis at least  
6 for the City of Stockton; is that correct?

7           WITNESS PAULSEN: I'm not sure I would say  
8 changes in treatment plant operations because I'm not  
9 familiar with the day-to-day workings of their  
10 treatment plant operations.

11           I can tell you that the City -- my  
12 understanding of the City's operations is that they  
13 stop taking water from the Delta when it reaches a  
14 threshold of 110 milligrams per liter and that they do  
15 have the ability to operate their intake on an hourly  
16 or sub-hourly basis in order to do that.

17           MR. BERLINER: Have you ever operated a  
18 drinking water treatment plant?

19           WITNESS PAULSEN: No.

20           MR. BERLINER: Have you ever given advice to  
21 Stockton or -- to Stockton regarding how they should  
22 operate their treatment plant?

23           WITNESS PAULSEN: No, not to Stockton. I have  
24 assessed drinking water -- or, sorry, excuse me. I  
25 have assessed water quality at drinking water intakes

1 on a number of occasions, and I have given entities  
2 advice on how they may choose to operate given the  
3 constraints of the drinking water treatment plants, but  
4 I have not provided treatment-related advice to the  
5 City of Stockton.

6 MR. BERLINER: Do you have any expertise in  
7 drinking water plant operations?

8 WITNESS PAULSEN: I would say I have expertise  
9 in some limited aspects of drinking water plant  
10 operations and I have some understanding of some of the  
11 treatment processes that they employ, but I would not  
12 call myself a drinking water treatment plant operator  
13 or expert.

14 MR. BERLINER: What kind of drinking water  
15 treatment plant is operated by the City of Stockton?

16 WITNESS PAULSEN: I haven't reviewed the  
17 details of that.

18 MR. BERLINER: Do you know what type of intake  
19 they have?

20 WITNESS PAULSEN: In terms of what -- I'm not  
21 even sure how to answer that. I have looked at  
22 photographs of their intake.

23 MR. BERLINER: Let me be more specific.  
24 Does their intake have multiple ports with 25  
depths so they can change operation in response to

1 changes in chloride concentrations?

2 WITNESS PAULSEN: I don't know.

3 MR. BERLINER: Does the plant remove chloride?

4 WITNESS PAULSEN: Oh, I would doubt it. I  
5 don't know of very many drinking water treatment plants  
6 -- unless they employ something like reverse osmosis or  
7 similar technology -- that would have the ability to  
8 remove chloride.

9 MR. BERLINER: Does Stockton have reverse  
10 osmosis?

11 WITNESS PAULSEN: Not to my knowledge.

12 MR. BERLINER: I'm guessing you don't know the  
13 answer to this since -- but to your knowledge, would a  
14 20- to 30-milligram change in chloride concentrations  
15 affect the performance of any treatment process in  
16 Stockton's treatment plant?

17 WITNESS PAULSEN: I don't know.

18 MR. BERLINER: And with your reference to  
19 hourly or sub-hourly operations, are you suggesting  
20 that the City operates the treatment plant pursuant to  
21 real-time chloride monitoring at its intake?

22 WITNESS PAULSEN: I don't know.

23 MR. BERLINER: Has the City indicated to you  
24 that they change their intake and treatment plant  
25 operations on an hourly or sub-hourly basis?

1                   WITNESS PAULSEN: I don't recall the details  
2 of our discussion, but we have discussed that they do  
3 operate to the 110-milligram-per-liter threshold. I  
4 don't remember the specifics of that conversation, so I  
5 don't have a direct answer to your question.

6                   MR. BERLINER: In terms of their operations,  
7 do you know what the City would do differently based on  
8 hourly changes in chlorides?

9                   WITNESS PAULSEN:                   In terms of their treatment  
10 operations? I do not.

11                   MR. BERLINER: Do you know if -- strike that.  
12 Just so I understood, you are not aware of 13  
13 what changes, if any, the City might make to its  
14 treatment processes on an hourly basis, correct?

15                   WITNESS PAULSEN: I have not looked at that.

16                   MR. BERLINER:                   And you don't know if they even  
17 make changes on an hourly basis, correct?

18                   WITNESS PAULSEN: Again, I have not looked at  
19 that.

20                   MR. BERLINER: Are you aware if they make  
21 changes on a daily basis?

22                   WITNESS PAULSEN: I have not looked at that.

23                   MR. BERLINER: No further questions.

24                   CO-HEARING OFFICER DODUC: Thank you,  
25 Mr. Berliner.

1 I do not see Ms. Morris here.

2 MS. MORRIS: No questions from the State Water  
3 Contractors.

4 CO-HEARING OFFICER DODUC: No questions from  
5 the State Water Contractors. All right.

6 Mr. O'Laughlin, you had estimated 20 minutes.  
7 Is that still --

8 MR. O'LAUGHLIN: Around there, yeah.

9 CO-HEARING OFFICER DODUC: If that's the case,  
10 then we might take our break now rather than cut --  
11 rather than interrupt your cross-examination.

12 Let's go ahead and take our 15-minute break 13 now,  
and we will return at -- oh, I'll be generous -- 14  
11:05.

15 (Recess taken)

16 CO-HEARING OFFICER DODUC: All right. It is  
17 11:05. We are back in session.

18 I see Mr. Mizell up at the microphone

19 MR. MIZELL: Yeah. Tripp Mizell, DWR. If  
20 you'd like the estimate on the certification, it would  
21 occur at the time of the ROD/NOD, which, as I explained  
22 this morning, would be late June.

23 CO-HEARING OFFICER DODUC: Late June. Thank  
24 you, Mr. Mizell.

25 With that, we'll turn to Mr. O'Laughlin for

1 his cross-examination.

2 MR. O'LAUGHLIN: Thank you.

3 CROSS-EXAMINATION BY MR. O'LAUGHLIN

4 MR. O'LAUGHLIN: Dr. Paulsen, my name is Tim  
5 O'Laughlin. I represent the San Joaquin Tributaries  
6 Authority.

7 I have to say this is kind of ironic. After  
8 25 years, I finally get to cross-examine you --

9 WITNESS PAULSEN: Oh, dear.

10 MR. O'LAUGHLIN: -- but this will be kind of  
11 fun.

12 CO-HEARING OFFICER DODUC: The topics you'll  
13 be covering, Mr. O'Laughlin? Before you get too  
14 excited here.

15 MR. O'LAUGHLIN: We're going to focus on  
16 D1641. And since I'm kind of myopic, we're going to be  
17 looking on the San Joaquin River side of things to try  
18 to understand, based on what Dr. Paulsen has or hasn't  
19 done, what flows are occurring at Vernalis and how they  
20 may impact or not impact the analysis that she's done  
21 with the City of Stockton. You'll hear the same  
22 questions once again when we get to Antioch.

23 CO-HEARING OFFICER DODUC: All right.

24 MR. O'LAUGHLIN: Can you put up on the screen  
25 the Stockton exhibit and the --

1 CO-HEARING OFFICER DODUC: And,  
2 Mr. O'Laughlin, to the extent that she did not conduct  
3 those analyses, it's outside the scope of her rebuttal  
4 testimony.

5 MR. O'LAUGHLIN: Oh, it will be real quick.

6 CO-HEARING OFFICER DODUC: I'm sure her  
7 attorney will speak up.

8 MR. O'LAUGHLIN: Oh, yeah. I'm sure she will  
9 too. Yeah.

10 MR. LONG: On the screen is Slide 3 of Exhibit 11  
Stockton 27.

12 MR. O'LAUGHLIN: These -- Dr. Paulsen, this is  
13 just an outline of your opinions and conclusions,  
14 correct?

15 WITNESS PAULSEN: Yes. For the City of  
16 Stockton, yes.

17 MR. O'LAUGHLIN: I want to focus in on D1641  
18 objectives. In the third one, you say that -- Opinion  
19 No. 3, water quality will be harmed at the City's  
20 intake whether or not D1641 water quality objectives  
21 are met.

22 So the first question I have is, when you were  
23 focused on water quality objectives under D1641, did  
24 you look at Vernalis?

25 WITNESS PAULSEN: I did not. I focused



1 primarily on chloride concentrations at a few key  
2 locations within the Delta.

3 MR. O'LAUGHLIN: In regards to this, it talks  
4 about water quality objectives only.

5 Did you look at any flow objectives at  
6 Vernalis under D1641 to see whether or not they had  
7 been met?

8 WITNESS PAULSEN: I did not.

9 MR. O'LAUGHLIN: Does -- you've used DSM-2; is  
10 that correct?

11 WITNESS PAULSEN: Yes. My staff and I, yes.

12 MR. O'LAUGHLIN: Yes, okay.

13 And one of the inputs into DSM-2 is the amount 14 of flow  
coming in from the San Joaquin River; is that 15 correct?

16 WITNESS PAULSEN: Yes.

17 MR. O'LAUGHLIN: Now, did you or your staff  
18 ascertain what flow amounts were being used at Vernalis  
19 for February through June of any year?

20 WITNESS PAULSEN: Were being used at  
21 Vernalis or --

22 MR. O'LAUGHLIN: Yeah.

23 WITNESS PAULSEN: -- flowing through Vernalis?

24 MR. O'LAUGHLIN: Did you use -- did you use a  
25 historical Vernalis flow numbers, or did you use a

1 simulated flow numbers when you were doing your DSM-2  
2 analysis?

3 WITNESS PAULSEN: The DSM-2 analyses that we  
4 did for this Stockton analysis were based on DWR's  
5 model input files, which I understand were based on, in  
6 turn, CalSim II model output files and not on a  
7 historical measured sequence of flows.

8 MR. O'LAUGHLIN: Did you go back when you were  
9 doing your analysis and do any QA/QC of the Vernalis  
10 flow numbers to see whether or not they did in fact  
11 meet D1641 flow objectives?

12 WITNESS PAULSEN: We did some basic QA/QC in  
13 terms of plotting up all of the Delta inflows and a few  
14 other DSM-2 parameters just to make sure that they made  
15 sense, but we did not compare to flow criteria.

16 MR. O'LAUGHLIN: When you did plotting up, did  
17 you -- of those numbers, did you plot them up so that  
18 they made sense in the context of what had occurred  
19 historically or based on a model simulation?

20 WITNESS PAULSEN: We plotted them up to make  
21 sure that they made sense, were within the range of the  
22 flow values that we expected, based on, I guess you  
23 could say, both -- I mean, our expectations have been  
24 set or our experience has been set looking at both  
25 measured and modeled data.

1 MR. O'LAUGHLIN: If -- if the -- and this is  
2 pretty basic, but I have to ask it. I apologize.

3 So if the amount of flow coming in on the San  
4 Joaquin River is represented as more than what would --  
5 what occurred historically, would that change the DSM-2  
6 water quality analysis downstream?

7 WITNESS PAULSEN: Yes, in the sense that those  
8 flows propagate through the Delta and through the  
9 model. So if you change any of the inputs, you may  
10 change the results as well.

11 MR. O'LAUGHLIN: Right. And generally,  
12 generally, the San Joaquin River is saltier, and  
13 therefore since the San Joaquin River is saltier and  
14 more quantity of salty water is coming in, it could  
15 change the water quality objectives in the interior  
16 Delta; is that correct?

17 WITNESS PAULSEN: I don't think it would  
18 change the water quality objectives --

19 MR. O'LAUGHLIN: Not the objectives.

20 WITNESS PAULSEN: -- but it would change the  
21 water quality.

22 MR. O'LAUGHLIN: Yes.

23 WITNESS PAULSEN: The simulated water quality,  
24 yes.

25 MR. O'LAUGHLIN: Thank you. Sorry. You said

1 that much better than I did.

2 Did -- one of the other things you noted in  
3 here is that Opinion No. 6, DWR does not use  
4 appropriate Delta baseline conditions. When you make  
5 that statement, do you include or exclude the Vernalis  
6 flow objectives and how they were modeled?

7 WITNESS PAULSEN: Again, we did not look at  
8 those specifically with respect to this question.

9 MR. O'LAUGHLIN: When you were doing your  
10 modeling analysis for the City of Stockton, how did you  
11 operate the Head of Old River barrier?

12 WITNESS PAULSEN: I believe we used the  
13 operations that were in the modeling consistent with  
14 what DWR did. We used their input files.

15 MR. O'LAUGHLIN: So if there are changes in  
16 the -- how the Head of Old River barrier is operated or  
17 would it be operated in the future, you did not look at  
18 those, correct?

19 WITNESS PAULSEN: Again, we looked at a number  
20 of the model input data files just to make sure that  
21 they were within the realm of possibility, that they  
22 made sense. I don't remember specifically how we  
23 looked at or whether we made any specific conclusions  
24 with respect to the Head of Old River barrier.

25 Does that answer the question?

1 MR. O'LAUGHLIN: Sure. Well, I'll ask it a  
2 little differently maybe.

3 Did you run into sensitivity analysis in  
4 regards to the operation of Head of Old River barrier  
5 and water quality objectives?

6 WITNESS PAULSEN: Not for this analysis, no.

7 MR. O'LAUGHLIN: Thank you. Thank you very  
8 much.

9 CO-HEARING OFFICER DODUC: Thank you,  
10 Mr. O'Laughlin.

11 Ms. Meserve.

12 MS. MESERVE: Good morning. Osha Meserve for  
13 LAND. I just have a couple of questions that will only  
14 take five minutes.

15 CO-HEARING OFFICER DODUC: Please proceed.

16 CROSS-EXAMINATION BY MS. MESERVE

17 MS. MESERVE: Good morning, Dr. Paulsen.

18 On Page 8, at the bottom of Page 8 of your 19  
19 testimony which is Stockton 25, you discuss the  
20 residence time findings that you had for this study or  
21 for this testimony.

22 WITNESS PAULSEN: Page 8? Yes, correct.

23 MS. MESERVE: And I was wondering if you could  
24 provide a little more explanation about the sentence up  
25 toward the bottom of Line 26.

1           You say that the residence times would be  
2 similar under the NAA and EBC2, demonstrating that the  
3 increase in residence times is caused primarily by the  
4 proposed project, not sea level rise.

5           And can you explain that statement better?  
6 Because that's something that we've been discussing  
7 here quite a bit.

8           WITNESS PAULSEN: I think so. If possible,  
9 could we please refer to Slide 8 from Stockton 27? All  
10 right. This table, Table 5 from the report, shows our  
11 analysis of the residence times. And if you look --  
12 let's just take the top row of the table. If you look  
13 at October -- and again, this is dry years on average  
14 -- you can see that the EBC2 existing condition  
15 scenario has a monthly average residence time of 28  
16 days and the no action alternative has a residence time  
17 of 26.6 days.

18           If you do that similar comparison in all the  
19 months of dry years, you can see that sometimes the EBC2  
20 residence time is slightly higher than the NAA.  
21 Sometimes it's the other way around. But those two  
22 sets of numbers in, I think, all of the months are  
23 pretty similar, quite close to each other; whereas the  
24 residence times for the Boundary 1, the Boundary 2, and  
25 the Alt 4A scenarios are for the most part higher.

1           The difference between the EBC2 and the NAA  
2 scenarios or the primary difference is sea level rise  
3 and climate change. And so because those two are  
4 similar, I conclude that the residence times will be  
5 similar for existing conditions and for a future early  
6 long-term time frame scenario without the project; and  
7 further, that the project scenarios Boundary 1,  
8 Boundary 2, and Alt 4A all increase the residence times  
9 above what you would see with either the EBC2 or the  
10 NAA.

11           So I conclude on that basis that the increase  
12 in residence time is caused by the project and not by  
13 climate change or sea level rise.

14           Is that responsive?

15           MS. MESERVE: Yes. And you mentioned the  
16 early long-term. Are there any late long-term modeling  
17 results that you looked at?

18           WITNESS PAULSEN: Yes. We looked at them a  
19 while ago. DWR did late long-term model runs that  
20 appeared in prior documents, including the March 2013  
21 Revised Administrative Draft BDCP documents, the 2013  
22 Draft EIR/EIS, and I believe also the 2015 RDEIR/SDEIS.  
23 Sorry for the acronyms.

24           I think the subsequent work presented by DWR  
25 did not include the late long-term. It included only

1 the early long-term.

2           So in prior comment letters that we submitted  
3 on behalf of a few different parties on those earlier  
4 draft documents where the late long-term was evaluated,  
5 we did review those model files, but because the late  
6 long-term was not carried through to this proceeding or  
7 the FEIR, we did not present those here.

8           We did mention that in the report, which is  
9 Stockton 26, as a concern.

10           MS. MESERVE: And in terms of your concern for  
11 Stockton regarding the residence time, would you be  
12 concerned that, under late long-term, the impacts and  
13 increases in residence time might be even worse than  
14 what you see when you look at the comparative results  
15 for early long-term?

16           WITNESS PAULSEN: The concern is that they  
17 would be different and that we haven't evaluated them  
18 to know whether they would be longer or shorter. The  
19 late long-term, as I recall, had 45 centimeters of sea  
20 level rise; whereas the early long-term had 15  
21 centimeters of sea level rise.

22           So the water quality within the Delta and  
23 probably the way the projects operate as well will have  
24 to change in response to that change. And because it  
25 wasn't carried through, we don't know exactly how the



1 system will be operated or what the changes will be, or  
2 at least we did not evaluate that as part of this  
3 testimony.

4 MS. MESERVE: And according to your  
5 understanding of the proposed project, the project  
6 would still exist if built in the late long-term,  
7 correct?

8 WITNESS PAULSEN: My understanding, if I  
9 remember correctly, of the early long-term with 15  
10 centimeters of sea level rise was that was roughly a  
11 2025 time horizon. And I believe that the project, if  
12 built, would start operation after that time frame and  
13 would continue operations indefinitely, so certainly  
14 through to the late long-term time frame.

15 MS. MESERVE: But you haven't been asked to do  
16 any analysis of late long-term with respect to  
17 residence time for this project?

18 WITNESS PAULSEN: Frankly, I don't recall if  
19 we looked at the late long-term for residence time in  
20 the prior comments that we assisted with in 20-- in  
21 the 2013, 2014 maybe 2015 time frame a while ago. We  
22 may have looked at residence time; I just don't recall.  
23 We did not look at residence time for the late  
24 long-term in this analysis.

25 And I found the reference, by the way. The

1 reference to the late long-term is at Page 32 of  
2 Stockton 26. And there, we wrote that the late  
3 long-term -- just to clarify, the late long-term  
4 corresponds to the year 2060 and would include 45  
5 centimeters of sea level rise.

6 MS. MESERVE: And in your professional opinion  
7 with the work you've been doing on -- for Stockton and  
8 others, would you think that the late long-term should  
9 have been provided as part of this petition  
10 application?

11 WITNESS PAULSEN: I don't want to make any  
12 legal conclusions. It's certainly something that I'm  
13 curious about from a technical point of view. I think  
14 drinking water operators such as Stockton also are  
15 curious about that. That's one of the reasons that we  
16 made the point in the report.

17 MS. MESERVE: And do you know why it was  
18 removed from the analysis, if you know?

19 WITNESS PAULSEN: I don't.

20 MS. MESERVE: Thank you. Nothing further.

21 CO-HEARING OFFICER DODUC: Thank you,  
22 Ms. Meserve.

23 Mr. Herrick.

24 CROSS-EXAMINATION BY MR. HERRICK

25 MR. HERRICK: Thank you, Madam Chair, Board

1 Members, staff. John Herrick for South Delta Water  
2 Agency, et al. I won't have more than ten minutes,  
3 probably. I'm going to cover a couple topics on the  
4 choice by the petitioners to use Buckley Cove, the  
5 compliance with D1641, one question on the residence  
6 time, and one or two other modeling questions.

7 Thank you, Dr. Paulsen. My first question is  
8 in your professional opinion can one determine any  
9 adverse impacts to the Stockton diversion plant by  
10 examining the impacts of the California WaterFix at  
11 Buckley Cove?

12 WITNESS PAULSEN: No. I tried to be clear  
13 about that in the testimony. I don't think that's an  
14 appropriate comparison.

15 MR. HERRICK: And part of the reason for that  
16 is this is not just a river system; it's a tidal  
17 system, right? So there's all sorts of flows going  
18 back and forth across, and water quality changes. It's  
19 not just one continuous system, correct?

20 WITNESS PAULSEN: Right. And when you get to  
21 Stockton's intake, as we showed on the map, there are a  
22 number of channels that sort of branch off of the main  
23 stem San Joaquin in that area. Because of tidal action  
24 and other factors, those serve to carry water from  
25 other sources into that part of the Delta, correct.

1 MR. HERRICK: Of course the California  
2 WaterFix includes a few other things like changes in  
3 export pumping at the current South Delta locations,  
4 correct?

5 WITNESS PAULSEN: That's correct.

6 MR. HERRICK: And if you decrease the amount  
7 of pumping in the South Delta from the SWP and CVP  
8 pumps, you might affect the amount of San Joaquin River  
9 water that goes to either Buckley Cove or to the City  
10 of Stockton's intake, correct?

11 WITNESS PAULSEN: Certainly to the City of  
12 Stockton's intake, yes.

13 MR. HERRICK: And so without knowing those  
14 specifics or somebody examining those, you cannot then  
15 determine whether or not there's an adverse impact at  
16 the City of Stockton's intake, correct?

17 WITNESS PAULSEN: Right. And that's why we  
18 use the model results to look specifically at model  
19 output at the City's intake. Yes.

20 MR. HERRICK: Now, I don't want to touch upon  
21 rebuttal testimony that may be addressed at  
22 surrebuttal, but I don't know if that drifts out there.

23 But in your analysis, did the petitioners  
24 quantify the differences in chloride at the Stockton  
25 intake under the California WaterFix scenarios in their

1 case in chief?

2 WITNESS PAULSEN: No. They presented results  
3 at Buckley Cove in the FEIR as well.

4 MR. HERRICK: And in your opinion, you'd need  
5 to quantify those changes in chloride at the Stockton  
6 intake in order to start an examination of whether or  
7 not there are impacts, correct?

8 WITNESS PAULSEN: Yes.

9 MR. HERRICK: And whether or not it's a 1  
10 chloride change or a 200 chloride change, it has to be  
11 quantified first; would that be correct?

12 WITNESS PAULSEN: Certainly you have to  
13 quantify it or use the model results to understand the  
14 magnitude of that change before you can assess whether  
15 that change is important.

16 MR. HERRICK: Yes. And once you quantify,  
17 then you would try to determine whether or not any  
18 particular increase or decrease has a certain effect or  
19 not, correct?

20 WITNESS PAULSEN: Yes.

21 MR. HERRICK: And then from that, someone  
22 would have to determine whether or not there's legal  
23 injury, which may not be a scientist's job, but once  
24 you quantify, compare it to what's going on, then you  
25 would be able to make the required finding, correct? I

1 didn't say that too well. Sorry.

2 MS. TABER: I'm sorry, Mr. Herrick.

3 MR. HERRICK: Let me do that one again.

4 MS. TABER: I'm going to object. That's a  
5 question for -- vague, and may be outside of her  
6 expertise.

7 MR. HERRICK: That's good. That's fine.

8 Now, Dr. Paulsen, in your opinion, is there  
9 only an adverse impact to a municipal water diverter if  
10 the chloride concentrations reach the point where the  
11 water can't be used by the municipality?

12 WITNESS PAULSEN: That is the impact that I  
13 focused on most closely, whether the chloride  
14 concentrations were simulated to go above certain  
15 operational thresholds that are used by the City.  
16 There may be other impacts to drinking water treatment  
17 processes, the like as intimated by Mr. Berliner. But  
18 I did not explicitly look at those.

19 MR. HERRICK: I'm just asking for your  
20 opinion. You may not know.

21 But one doesn't have to reach 251 chlorides  
22 for there necessarily to be an impact, right? It could  
23 occur before you reach that high level?

24 WITNESS PAULSEN: Yes. And we know for -- I  
25 mean, clearly there would be. We know that several of

1 the cities have operational thresholds that are below  
2 250. They either blend or switch to an alternative  
3 water source at levels well below 250. And I don't  
4 know, frankly, whether that occurs specifically for  
5 drinking water treatment reasons.

6 One of the reasons that it does occur is  
7 because they have discharge requirements for treated  
8 wastewater that is returned to the Delta. And when  
9 salinity of their source water passes above a certain  
10 threshold, that increases the salinity of their  
11 discharges back to the Delta. So they have operational  
12 thresholds that are based on those discharge  
13 requirements as well.

14 MR. HERRICK: And pursuant to your review in  
15 this hearing, did the petitioners do any sort of  
16 analysis like that?

17 WITNESS PAULSEN: I confess that I haven't  
18 read the entire FEIR, but I don't recall coming across  
19 that analysis.

20 MR. HERRICK: Dr. Paulsen, you talk about  
21 residence time, and one of your charts shows the  
22 different days of -- changes in residence time.

23 Is it important to note that residence time is  
24 different than maybe channel velocities?

25 WITNESS PAULSEN: Yeah. Residence time is

1 essentially a measure of how long water will remain in  
2 the Delta. And in a tidal system like the Delta, water  
3 sloshes back and forth with the tides and always has  
4 and probably always will.

5 That tidal forcing is, you know, honestly, a  
6 function of the sun and the moon and the stars. So  
7 that will continue into the future regardless of how  
8 the system is operated.

9 Residence time is more a function of how much  
10 water flows into the Delta or is removed from the  
11 Delta. And that, honestly, is not controlled by the  
12 sun and the moon.

13 MR. HERRICK: In your professional opinion,  
14 then, it's more important to determine the California  
15 WaterFix effects on residence time than it would be to  
16 examine channel velocities?

17 WITNESS PAULSEN: The range of channel  
18 velocities is not going to change significantly into  
19 the future. Again, that's a function of the tidal  
20 forcing. And so the back-and-forth movement of water  
21 in the channels is almost a given, and we see that  
22 almost regardless of which operational scenario we look  
23 at.

24 There will be subtle changes, but the peak  
25 velocities in either the upstream or the downstream



1 direction are relatively fixed because of the tidal  
2 forcing that acts on the Delta. Residence time is a  
3 completely different measure.

4 The other thing that is interesting about  
5 residence -- or, sorry -- about the velocities is that,  
6 because the peak velocities are relatively fixed,  
7 they're going to be more or less in the same range both  
8 for the existing condition and for the future  
9 with-project scenarios. There's not going to be much  
10 change in those.

11 MR. HERRICK: But what can happen under the  
12 California WaterFix scenarios is that that molecule of  
13 water will slosh back and forth and not exit the system  
14 maybe as soon as it used to or previously would have?

15 WITNESS PAULSEN: Right. The calculations of  
16 residence time very clearly show that that will occur.

17 MR. HERRICK: Dr. Paulsen, you were -- you  
18 made comments about compliance with D1641 and whether  
19 or not that would indicate -- or would be an evidence  
20 of damage to parties, and you also talked about things  
21 like X2 and stuff. You were asked a few questions  
22 about whether or not Fall X2 or anything else was a  
23 part of D1641.

24 Do you recall that?

25 WITNESS PAULSEN: I do.

1 MR. HERRICK: Do you know whether or not D1641  
2 contains provisions that require the projects to be in  
3 compliance with ESA?

4 WITNESS PAULSEN: I believe it does. Again, I  
5 would, you know, ask, if we are going to talk about the  
6 specifics, that we bring the documents up.

7 CO-HEARING OFFICER DODUC: No.

8 MR. HERRICK: I've got it right here, but I  
9 won't.

10 Dr. Paulsen, you concluded that examining  
11 16-year monthly averages for impacts to, say, chlorides  
12 was not the proper way to analyze impacts to the  
13 Stockton freshwater plant -- or diversion point,  
14 correct?

15 WITNESS PAULSEN: Yes.

16 MR. HERRICK: Now, is DSM-2, the model,  
17 capable of analyzing impacts at that location on  
18 shorter time frames?

19 WITNESS PAULSEN: Yes.

20 MR. HERRICK: And should it be used in that  
21 manner?

22 WITNESS PAULSEN: In my opinion, yes.

23 MR. HERRICK: Now, if you're going to examine  
24 the impacts of the California WaterFix on the Stockton  
25 intake, would you use a node closest to the intake

1 point or a node far away from the intake point? Or  
2 what node would you use from DSM-2?

3 WITNESS PAULSEN: You would want to use a node  
4 that is right near the intake location.

5 MR. HERRICK: Did petitioners do that in their  
6 case in chief, to your knowledge?

7 WITNESS PAULSEN: They didn't present it in  
8 the documents that I reviewed. To my knowledge, in  
9 both the primary case in chief and the EIR, they  
10 focused on Buckley Cove which, again, is about eight  
11 miles away from the City's intake.

12 MR. HERRICK: That's all I have. Thank you  
13 very much, Dr. Paulsen.

14 WITNESS PAULSEN: Thank you.

15 CO-HEARING OFFICER DODUC: Thank you,  
16 Mr. Herrick.

17 Ms. Des Jardins, who has one question.

18 CROSS-EXAMINATION BY MS. DES JARDINS

19 MS. DES JARDINS: My name is Deidre Des  
20 Jardins with California Water Research.

21 And you stated that you plotted the velocity  
22 -- I mean the stream flow inputs at Vernalis, the  
23 CalSim stream flow inputs to DSM-2, and examined them,  
24 correct?

25 WITNESS PAULSEN: We didn't plot the CalSim

1 inputs. We plotted the DSM-2 model input files.

2 MS. DES JARDINS: Model input files, yes.

3 I'm sorry.

4 WITNESS PAULSEN: Select inputs from those  
5 input files.

6 MS. DES JARDINS: And were you given any  
7 information about the error rate of those inputs at,  
8 say, you know, different seasons or overall or -- to  
9 assess?

10 WITNESS PAULSEN: Were we given inputs? You  
11 mean by someone else? Errors?

12 MS. DES JARDINS: Were you given any error  
13 information about the DSM-2 inputs?

14 MS. TABER: Objection. It's unclear who you  
15 intend when you say "given inputs," to the extent it  
16 calls for --

17 MS. DES JARDINS: Did petitioners provide any  
18 error information about the DSM-2 inputs for you to  
19 assess in your --

20 WITNESS PAULSEN: Not that I recall. The  
21 information that they -- is associated with the  
22 modeling is pretty voluminous. We focused on the model  
23 input and output files. We did review -- I won't say  
24 every file, but we reviewed the information fairly  
25 carefully, and I don't recall any information on

1 errors.

2 MS. DES JARDINS: If -- without that error  
3 information, is it possible that the impacts could be  
4 worse than your assessment -- to Stockton?

5 WITNESS PAULSEN: I'm not sure I know how to  
6 answer that explicitly.

7 MS. DES JARDINS: Could the modeled impacts --  
8 you have some model impacts which you discuss. But  
9 could those impacts be worse by an unknown degree  
10 because of lack of information about the model errors?

11 WITNESS PAULSEN: I would say if they were  
12 errors made in the modeling, it's possible --

13 MS. DES JARDINS: If there's just  
14 calibration -- you know, all models have errors if  
15 there's some kind of error in the input.

16 CO-HEARING OFFICER DODUC: I think this is  
17 going beyond the scope of her rebuttal testimony.

18 MS. DES JARDINS: Okay. It --

19 Do you have information, adequate information  
20 to assess the range of errors in your projected  
21 impacts?

22 CO-HEARING OFFICER DODUC: Dr. Paulsen, I  
23 don't believe errors in the model was something that  
24 you looked at.

25 WITNESS PAULSEN: We certainly didn't focus on

1 it, no.

2 MS. DES JARDINS: Okay. I would like to  
3 object to having this precluded because I think it's an  
4 important point for all modeling.

5 CO-HEARING OFFICER DODUC: I'm sorry.  
6 Objecting to what being precluded? You're asking her  
7 about --

8 MS. DES JARDINS: Asking questions --

9 CO-HEARING OFFICER DODUC: -- about errors  
10 which she did not analyze, did not evaluate?

11 MS. DES JARDINS: I just asked what -- what I  
12 asked was if her assessment, view of the impacts -- if  
13 that could be worse. That's all.

14 MS. TABER: And I'm afraid I object that the  
15 question is unclear to me, and I'm not sure Dr. Paulsen  
16 feels capable of answering.

17 MS. DES JARDINS: Okay. Thank you. Sure.

18 CO-HEARING OFFICER DODUC: Sustain Ms. Taber's  
19 objection; deny Ms. Des Jardins' objection, what I  
20 understood of it.

21 Do you wish to redirect, Ms. Taber?

22 MS. TABER: We have no redirect.

23 CO-HEARING OFFICER DODUC: In that case, then  
24 I don't believe there are any outstanding objections.

25 Ms. Taber, do you wish to move your exhibits

1 into the record?

2 MS. TABER: Yes, please. Stockton would like  
3 to move into the record its Exhibits STKN-25, -26 and  
4 -27.

5 CO-HEARING OFFICER DODUC: And those have been  
6 accepted into the record. Thank you.

7 MS. TABER: Thank you.

8 CO-HEARING OFFICER DODUC: Before we get to  
9 Dr. Paulsen's testimony on behalf of Antioch, I'd like  
10 to do a couple things. I was remiss last week when  
11 trying to estimate cross-examination of grouping you  
12 guys together.

13 So let's now ask Mr. Emrick to come up.

14 For Group 27, how much time do you need for  
15 Dr. Paulsen's testimony? And I'm hoping you'll say 15.

16 MR. EMRICK: Fifteen minutes.

17 CO-HEARING OFFICER DODUC: Thank you,  
18 Mr. Emrick.

19 Cross-examination of Dr. Paulsen on behalf -- 20 for  
her testimony on behalf of Antioch.

21 DWR?

22 MR. BERLINER: No more than half an hour.

23 CO-HEARING OFFICER DODUC: Anyone else?

24 Mr. O'Laughlin, around 20 minutes?

25 MR. O'LAUGHLIN: Yes.

1 CO-HEARING OFFICER DODUC: Mr. Jackson?

2 MR. JACKSON: Fifteen.

3 CO-HEARING OFFICER DODUC: Mr. Herrick?

4 MR. HERRICK: No more than 15.

5 CO-HEARING OFFICER DODUC: Okay. In that  
6 case, then, what I would do is turn to Ms. Womack for  
7 her testimony, then take our lunch break, and then we  
8 will come back with Group 27.

9 And right now I'm looking at, if I'm adding  
10 correctly, less than two hours with Dr. Paulsen on  
11 behalf of Antioch. So, one, two, three. Yes, we will  
12 get to the combined 19, 24, and 31 today.

13 MR. EMRICK: Madam Chair, Board, I just wanted  
14 to mention that the City of Antioch yesterday uploaded  
15 for demonstrative purposes only a PowerPoint for  
16 Dr. Paulsen to go over which I think would make her  
17 testimony go much quicker. I had discussed this before  
18 with DWR, and they said initially there would be no  
19 objection.

20 CO-HEARING OFFICER DODUC: Let me ask right  
21 now. Are there any objections to that PowerPoint which  
22 included excerpts not only from Dr. Paulsen's testimony  
23 but also from DWR exhibits and also from the  
24 transcript? All right.

25 Not hearing any objection, Mr. Emrick, it



1 sounds like you've done your homework well in reaching  
2 out to the other parties.

3 MR. EMRICK: Thank you.

4 CO-HEARING OFFICER DODUC: All right. Any  
5 other housekeeping matter before I turn to Ms. Womack?  
6 Ms. Womack?

7 MS. WOMACK: One little housekeeping on our  
8 part is my father and I, when we were here last, were  
9 not sure if he took the oath, and he'd like to speak  
10 today. So...

11 CO-HEARING OFFICER DODUC: All right. If you  
12 could please stand and raise your right hand.  
13 (Witness Moore sworn)

14 SHELDON MOORE and SUZANNE WOMACK  
15 called as rebuttal witnesses on behalf  
16 of Protestant Group 43 having been first  
17 duly sworn, were examined and testified  
18 as hereinafter set forth:

19 CO-HEARING OFFICER DODUC: All right.  
20 Ms. Womack.

21 MS. WOMACK: Thank you so much.

22 CO-HEARING OFFICER DODUC: Please give  
23 Ms. Womack 15 minutes to make her direct -- present her  
24 rebuttal testimony.

25 MS. WOMACK: My father wanted to do a small

1 opening because he hasn't spoken before.

2 CO-HEARING OFFICER DODUC: All right. The  
3 opening.

4 DIRECT EXAMINATION BY MS. WOMACK

5 MS. WOMACK: So, anyway, Dad, do you want to  
6 tell a little bit about yourself?

7 WITNESS MOORE: I've been involved in  
8 agriculture for 60 years, and on Clifton Court for 56  
9 years. I seen these problems come and go. Not go;  
10 come. And it's really hard for me to read and talk at  
11 the same time. So if I get a little mixed up here,  
12 it's difficult to keep on -- look at the answers here  
13 and that.

14 So -- but I've been in the Delta a long time.  
15 I understand it. I don't think there's anybody in here  
16 that's fished in the Delta 75 years ago. I remember  
17 the Delta before water exportation. It was different,  
18 very much different.

19 Any time -- the problem is, as I see it, there  
20 was never an EIR on the water project before it was  
21 built. They built -- and my problem is that it never  
22 addressed any of the past problems, not one.

23 And they -- this is a problem, of course.  
24 I've spent hundreds of thousands of dollars of my own  
25 money to protect myself from the water because --

1 because the water export, they take the levees with  
2 them. And of course as the water quality goes, you can  
3 never take water out of the Delta and expect water  
4 quality to get better.

5 What bothers me now, they're taking these  
6 tubes from Clarksburg, Sacramento area and taking what  
7 would have been freshwater that would come, we would  
8 mix in with the Delta, and they send it south so they  
9 get good water; we get poor water. There's no way you  
10 can take the amount of water they're taking out of the  
11 Sacramento River -- whatever they take with the two  
12 tubes -- there's no way they can take it without  
13 injuring us or raising the chloride.

14 So all I can say is I'm sorry that the State  
15 has to be so crooked and not realize questions. It's  
16 very frustrating for an old guy.

17 And then they talk about seepage here. We  
18 talk about seepage. And this Pump No. -- Seep Pump  
19 No. 6.

20 (Sotto voce discussion between Ms. Womack  
21 and the witness)

22 WITNESS MOORE: I can't hear anything.

23 MS. WOMACK: Do you want to do that in a  
24 minute? Let's do that in a minute. Okay? Yeah.

25 Okay. So basically that is his opening, and

1 we want to do the seepage in just a minute. We want to  
2 talk about it.

3 CO-HEARING OFFICER DODUC: So now you're  
4 moving to your rebuttal testimony?

5 MS. WOMACK: Rebuttal, yeah, because he's  
6 moving into that.

7 CO-HEARING OFFICER DODUC: All right. Fifteen  
8 minutes, please.

9 MS. WOMACK: Thank you.

10 So in the rebuttal, the petitioners claim  
11 they'll cause no damage. We've gone over that. And my  
12 father is someone who's experienced 50 years of damage  
13 and injury ongoing. He's talked about the levees,  
14 exporting 15,000 cubic feet per second between the two  
15 right at our levees, and never -- never doing anything  
16 for our levees. And that 15,000 cubic feet per second.

17 So Mr. Bednardski's testimony -- there's no  
18 plans to improve our levee. Yeah, we have done all of  
19 it, but they've never even evaluated our levee. They  
20 didn't come in and ask permission to look at it. So I  
21 don't know why they know that our levee is fine.

22 But, you know, Dad -- the levee costs, do you  
23 want to talk about levee costs?

24 WITNESS MOORE: Yeah. I don't even think I  
25 could buy the rock today. I've bought from Basalt in

1 Napa and -- thousands of tons of rock. I can't even  
2 buy it from Basalt today, so I don't know what it would  
3 cost -- it would cost to replace the rock.

4 But what else? Did we talk about --

5 MS. WOMACK: Three times, you had to do it.

6 WITNESS MOORE: Yeah, I've had to rock, rock  
7 and re-rock, yeah, because of the exportation which  
8 keeps digging underneath. But when you rock, it only  
9 goes to the bottom of the levee. And then when the  
10 bottom of the -- bottom of the river, and when the  
11 river goes lower because of export, then you have to --  
12 it slips. The rock slips, and we have to put more  
13 rock.

14 MS. WOMACK: So we didn't know in 1961 when we  
15 bought this property that had sloped levees, dirt  
16 levees, that we would have to, first of all,  
17 re-engineer them to take in the water project and the  
18 CVP. We didn't know that every ten years or so we'd  
19 have to spend an enormous amount putting in rock to  
20 re-rock because of the ongoing damage every time you  
21 pump. This doesn't change. The C- -- California water  
22 project will continue to pump.

23 You know, engineering that looks at -- that's  
24 looked at our -- that's engineering the whole thing  
25 doesn't look at our site at all. And we just -- we've

1 had so much damage there without anyone ever saying,  
2 "Hey, we got the engineering wrong."

3 We needed engineering. We needed somebody to  
4 do this right.

5 My dad wants to talk about seepage because 6 in  
--

7 We'll do seepage.

8 Some of the areas -- in DWR-212, it says some  
9 areas of the south Clifton Court foundation are subject  
10 to significant seepage. And I want my dad to talk  
11 about that for a minute.

12 WITNESS MOORE: Yeah, well, what I was  
13 particularly interested in was the Seep Pump No. 6.  
14 And my understanding when I -- the bottom of that seep  
15 pump, I assert, is above the level of our land.

16 MS. WOMACK: Could we put up Clifton Court  
17 LP-32 to show Seep -- the Seep 6 is in there.

18 WITNESS MOORE: So Seep Pump 6 is a joke. It  
19 doesn't help me. Maybe a little of the surface water.  
20 But I'm concerned with -- you know, that's -- I don't  
21 even know what to say that helps me.

22 MS. WOMACK: So we've had ongoing damages with  
23 the seepage from the Clifton Court Forebay. We don't  
24 know how much of the Forebay will remain. We don't  
25 know what will remain.

1           This is from DWR from this -- from February.  
2 This is on -- you know, we have on -- we have damages  
3 continuing, and our latest damage is seepage from last  
4 year, 40 acres.

5           I wrote -- I called DWR. They wrote me a  
6 letter, and in their letter they showed me that Seep 6  
7 is there. The other station, 11370 is, our discharge  
8 pumping station. Seep 6, they -- according to DWR, is  
9 a station, and because they said the seep basin works,  
10 we don't have seepage problems.

11           And this is the ongoing thing that we have  
12 happening. This was a February 14th letter from the  
13 head of DWR, the acting chief.

14           Again, another problem Clifton Court faces is  
15 ongoing changes of who's in charge. We had Diana  
16 Gillis retire. We had Mark Cowin, Carl Torgensen.  
17 Every two or three years, we have brand-new people in.  
18 They never introduce themselves.

19           We are the whole south of Clifton Court  
20 Forebay. We're the only farm there. When we have  
21 damages, I got a letter from the acting chief. I wrote  
22 back asking for very specific information about how  
23 deep the seepage pump is because I don't know all this  
24 like my father does. And we've received nothing back.  
25 They ignore us. We have damages, and they're ongoing

1 damages. And this has been ongoing for a very long  
2 time.

3 So basically, she's saying that her seepage --  
4 that the seepage we're experiencing is our problem.  
5 It's nothing to do with that huge body of water there.  
6 It just doesn't make sense. Of course it's caused --  
7 especially when you know that there is a huge sandbar  
8 just north of where the levees are.  
9 But I'd like to -- anyway, my father informed 10 me  
because he saw the seep pump go in.

11 And you said the seep pump is -- is at ground  
12 level. There's no way it's going to get seepage that  
13 affects our crops.

14 WITNESS MOORE: Well, no. No, it's --

15 MS. WOMACK: It's in a berm.

16 WITNESS MOORE: It's on a berm. And the  
17 bottom of it could be on our -- the water level -- the  
18 effective level of that could maybe be on our surface  
19 of our ground. Could be -- I'm sure it's on -- but  
20 they don't tell us, so we don't know.

21 MS. WOMACK: So the Seep 6 pump isn't -- can't  
22 take any of our seepage. And I don't know why it's  
23 there. I mean, if we don't have seepage problems --  
24 how can that say we don't have seepage problems when I  
25 can't farm 40 acres? My farmer -- you know, I'm losing



1 money left, right, and center with this.

2 I'd like CCLP-31 to show. There's two photos  
3 in CCLP-31. If you could turn that, I'd appreciate it.  
4 Can you turn it? Is that possible?

5 That's my father in '63 maybe; young man.  
6 Beautiful crops right in the middle of Clifton Court.  
7 And now they say the seepage problems are not caused by  
8 that huge body of water. This is the kind of baloney  
9 we've been dealing with for 56 years.

10 My dad didn't even want to come. He's so  
11 tired of wasting time.

12 So, seepage problems.

13 Let's see. You want to do one more photo?  
14 Sure you do. There's one more photo of me. See, isn't  
15 that cute. Over 50 years, 50. I'm four years old.  
16 I'm 57. 53 years. This is beautiful lands. It's in  
17 the middle of Clifton Court. Pretty much my dad knows  
18 the exact ones, but this is where the Forebay is or  
19 next to the Forebay. This is where we're having  
20 seepage problems. This didn't exist. This was a  
21 wonderful place, and we shouldn't have to pay for it.

22 Now, when talking about seepage problems --  
23 and the next thing we get into is who makes us whole.  
24 And according to Mr. Bednarski -- talking about making  
25 diverters whole. And then Mr. Mizell clarified we're

1 not talking about injuries that occurred in the past  
2 but injuries that may occur through the course of the  
3 construction of the Clifton -- of the CWF.

4 It's absolute madness that the California  
5 WaterFix is only going to take care of injuries during  
6 construction.

7 When we look at Clifton Court LP, we're living  
8 proof that they've never paid us any damages. And they  
9 write us letters that say we don't have damage because  
10 they have a seep pump that works.

11 It's unfair. We're -- there's no due process.  
12 They have an unfair advantage. DWR and CVP both have  
13 unlimited lawyers that I'm paying for as a taxpayer.  
14 If I want to get anything back from them, I need to sue  
15 them, and that's wrong. I shouldn't have to sue.

16 I haven't heard anything since I wrote to  
17 Amber with my latest problem. We have retirees all the  
18 time, and every time there's a retiree, I have to  
19 restart the clock with them and explain who we are,  
20 where we are.

21 Amber, when I started, didn't know where our  
22 farm was. "I don't know," the only farm left south of  
23 Clifton Court Forebay. It's -- it's maddening, and  
24 this is how I spend my time. My father can't do it  
25 anymore.

1           But you're going to be making the decision to  
2 grant DWR and Reclamation the right to a change point  
3 of diversion, and you're going to give them the green  
4 light to continue to ignore landowners injured by --  
5 now it will be the CWF post construction, because we  
6 know what's happened. I know what's happened post  
7 construction with SWP and the CVP. We've been ignored.

8           CO-HEARING OFFICER DODUC: No, Ms. Womack.  
9 You are taking a page out of Dr. Jackson's --  
10 Mr. Jackson's book. So let me remind you that we have  
11 not made any decision.

12           MS. WOMACK: And I -- and that's why I'm  
13 really trying to be -- you know, I'm pleading. Please  
14 know that, when you make that decision, you're going to  
15 be greenlighting them. If you do that, you're going to  
16 say this is great. There's nothing in their CWF that  
17 talks about communication with neighbors. It seems  
18 really basic, taking care of things, ongoing  
19 responsibility for damages.

20           I shouldn't have to sue DWR to get a damage  
21 that they've caused. If I was a farmer, the farmer  
22 would be out of business. But because it's DWR -- if  
23 you can't farm, well, you go out of business, and  
24 you're done.

25           My dad's had five farms. Some of the farmers

1 next to him have gone out of business. You don't stay  
2 in business. But if you're DWR, you just keep rolling  
3 along, and there's new people. Also CVP -- both of  
4 them have been bad.

5 The last thing I want to touch on --

6 Let's see. Did you get all --

7 WITNESS MOORE: What?

8 MS. WOMACK: Did you want to --

9 WITNESS MOORE: No.

10 MS. WOMACK: Okay. The last thing I want to  
11 touch on is water rights. There's no injury to legal  
12 users of water, has been the big thing. And then also  
13 I'm not supposed to have any injury if they take all my  
14 farm because I will be mitigated.

15 In 1971, the best land that my father could  
16 find was in Newman. It was off the Delta-Mendota  
17 Canal. It had Delta-Mendota water rights, but it  
18 didn't have the water rights that we have. That was  
19 the best in 1971.

20 In 1976 and 1977, there was a drought. And my  
21 father had young almond trees that needed to be  
22 watered. So he asked to transfer his water from the  
23 ranch, the existing water from where we were, to  
24 transfer it on the Delta-Mendota Canal to a further  
25 diversion and was denied.

1           He ended up spending \$175,000 to Met Water.  
2 He paid Met Water to have the right to have water. It  
3 turned out it rained that year, and he never used the  
4 water. He never got the 175,000 back.

5           Why are we angry and bitter? Because we have  
6 been messed with for 56 years, oh, so many ways.

7           We're unable to believe that 46 years later  
8 down the road from 1979, we're going to be able to buy  
9 great land with great water rights. Our water rights,  
10 you know, they're from the 1870s and '80s. And  
11 riparian -- the whole thing.

12           Did you want to say something?

13           WITNESS MOORE: No.

14           MS. WOMACK: Okay. So I get to finish up.

15           But anyway, I guess the last thing I'd like to  
16 ask is you guys are -- you're the Wizard of Oz up here,  
17 right? You're in charge of everything. You have an  
18 incredible amount of power, and I know that.

19 I would like to be treated differently. I'd  
20 like to be acknowledged, all the damage I've had. All  
21 this baloney is, "Oh, that's all in the past." No,  
22 this is how you treat people, how you continue to treat  
23 people.

24           I would like to be able to use my water  
25 rights. If I can't -- if I can't find a farm with

1 equal water rights, I'd like to be able to maintain my  
2 water rights and use them. I'd like to be compensated  
3 for all our thousands of hours of trying to defend  
4 ourselves.

5 My dad's 85. I'm 56. I don't even want to be  
6 here, but I have to defend our family water rights.  
7 It's only fair, and it's our family farm. We have no  
8 idea -- our experience with DWR is that you've -- it  
9 could be -- I mean, we were -- 1960s, you took half our  
10 land; 2002, walked away from it.

11 So we don't know what California WaterFix will  
12 bring. We know they've been doing this now for about  
13 ten years starting with the BDCP. We've been going to  
14 hearings and all, listening to all how great it is.

15 Meanwhile, we keep having damages. We want  
16 the damages to stop, and we don't want anybody, any  
17 other landowners, to have to deal with this. That's  
18 really why I'm here. It has to stop.

19 Thank you.

20 CO-HEARING OFFICER DODUC: Thank you,  
21 Ms. Womack and Mr. Moore.

22 Any cross-examination?

23 Mr. Mizell and then Ms. Des Jardins.

24 Please stay. Please stay.

25 MR. MIZELL: This should be a rather quick

1 cross-examination, but I am trying to get the exhibit  
2 on a USB drive at the moment. Would it make sense to  
3 take lunch? And I will have it ready at that time or?

4 CO-HEARING OFFICER DODUC: How -- I believe  
5 that Ms. Womack and Mr. Moore need to leave. And that  
6 was the reason we took them out of order before our  
7 lunch break.

8 So why don't I ask Ms. Des Jardins to come up to  
9 do her cross while you locate your documents?

10 MR. MIZELL: Thank you very much.

11 CO-HEARING OFFICER DODUC: Please do so.

12 Ms. Des Jardins, what will you be exploring?

13 MS. DES JARDINS: I just wanted to ask  
14 directly about how her experience relates to the  
15 impacts, the potential adverse impacts of the petition.

16 CO-HEARING OFFICER DODUC: All right.

17 CROSS-EXAMINATION BY MS. DES JARDINS

18 MS. DES JARDINS: So, Ms. Womack, based on  
19 your experience, if there were impacts during the  
20 construction or operation of a new diversion, would  
21 owners have a reasonable process for getting  
22 compensation for damages?

23 MS. WOMACK: I can only speak to what happened with  
24 the -- by the SWP. So, for example, with us, when the SWP put  
25 in -- my father asked that a cutoff wall be

1 put in to keep the water from seeping through. They  
2 didn't put a cutoff wall in.

3 Back then, there were five, six people in DWR.  
4 There weren't a lot of people when my father started.  
5 But they ignored his wish. We've had seepage damage  
6 since then. My dad, being in his 30s, thought it  
7 wasn't a big deal. 56 years later, it's a huge deal,  
8 huge amount in pumps and electricity.

9 CO-HEARING OF FICER DODUC: So your answer is  
10 no?

11 MS. WOMACK: My answer is no, we weren't able  
12 to. There's nobody in charge.

13 CO-HEARING OFFICER DODUC: All right.

14 MS. WOMACK: Except for you guys. You're the  
15 first -- this is the first time my dad's been able to  
16 speak to anybody other than DWR or CVP, saying, "Oh,  
17 yeah, we'll get to that." And they never do. You see  
18 all our letters, all our phone calls. You don't see  
19 the phone calls. But, my gosh, he spent so much time.

20 CO-HEARING OFFICER DODUC: All right. All  
21 right. Ms. Des Jardins, your next question.

22 MS. DES JARDINS: That was my question. Thank  
23 you.

24 CO-HEARING OFFICER DODUC: Thank you.

25 Mr. Mizell.



1 I'm trying to remember my Wizard of Oz. If I  
2 remember, the Wizard actually had no power at all.

3 CO-HEARING OFFICER DODUC: Ms. McGinnis,  
4 Mr. Mizell, will you give us a clue as to what is it  
5 that you'll be exploring?

6 MR. MIZELL: We'll be exploring the previous  
7 settlement-involved damages on Clifton Court LP with  
8 the Department.

9 CO-HEARING OFFICER DODUC: Okay. And how much  
10 time do you expect?

11 MR. MIZELL: Five minutes.

12 CO-HEARING OFFICER DODUC: All right. Thank  
13 you.

14 CROSS-EXAMINATION BY MR. MIZELL

15 MR. MIZELL: As soon as we have DWR-920 up,  
16 I'll start.

17 So, Ms. Womack, do you recognize this  
18 document?

19 MS. WOMACK: Yes, I do.

20 CO-HEARING OFFICER DODUC: And actually, for  
21 the record, would you please describe what this  
22 document is.

23 MR. MIZELL: Certainly. It's being marked as  
24 DWR-920, and it is a copy of a judicial settlement  
25 between Sheldon Moore and the Department of Water

1 Resources for both the acquisition of the land  
2 underlying Clifton Court Forebay when it was initially  
3 constructed and the settlement of all damages for the  
4 remainder of their property.

5 Is your father's name identified on Line 25 of  
6 Page 1?

7 WITNESS MOORE: Yeah, I'm familiar with that  
8 document.

9 MR. MIZELL: Thank you. Can we please go  
10 to -- I believe it's pdf Page 9, but it will be marked  
11 at the bottom of the page as 4. There was a scanning  
12 error where we got blank pages in there. That's the  
13 one.

14 On Page 16 does this settlement settle any and  
15 all damages to the remaining property resulting or to  
16 result from seepage of water from the public  
17 improvement which is Clifton Court Forebay?

18 MS. WOMACK: During construction? Because  
19 this is the same construction that you're doing.

20 MR. MIZELL: I don't believe that was an  
21 answer to my question.

22 Does this statement settle any and all damages  
23 to your property?

24 MS. WOMACK: Is this during construction? I'm  
25 asking.

1 MR. MIZELL: You said you were familiar with  
2 the document. Does this statement settle any and all  
3 damages to your property?

4 MS. WOMACK: I have not read this document in  
5 quite a few years.

6 MR. MIZELL: So is it your contention that  
7 this judicial decree is not a settlement of any and all  
8 damages to your property?

9 MS. WOMACK: Is this a construction  
10 settlement? Just like you'll have construction  
11 settlements with CWF.

12 MR. MIZELL: I'm going to assert that this is  
13 a judgment in condemnation that was a settlement of any  
14 and all damages.

15 Since the witness won't answer the question,  
16 there's no point in continuing the cross-examination,  
17 but we will be entering this into evidence.

18 CO-HEARING OFFICER DODUC: Thank you.

19 Do you wish to redirect yourself, Ms. Womack? 20

REDIRECT EXAMINATION BY MS. WOMACK (of Ms. Womack)

21 MS. WOMACK: You know, I -- this is a  
22 settlement for, I believe -- I don't know how the SWP  
23 was set up. Do you -- I don't know. The settlement  
24 was back then. Was it -- so was that forevermore  
25 damages? I don't know. I -- you know, I know that --

1 and if this is the way we work, wow. I mean, you know,  
2 we -- we -- you know, there's also roads because  
3 hundreds of trucks coming by, there's roads that were  
4 damaged. There's all kinds of things in the  
5 settlement, but it's for construction. It isn't for  
6 the ongoing 50 years of damages.

7 No one knew that the forebay would leak so  
8 much. In fact, DWR contended it wouldn't.  
9 I don't know what was -- this is 1971. So DWR  
10 would have a much better idea. Is this from  
11 construction? Because this is what they're saying for  
12 CWF, "We're going to take you during construction."

13 CO-HEARING OFFICER DODUC: All right.

14 MS. WOMACK: And I would hate to have future  
15 landholders bamboozled by this. It needs to be in  
16 there very clear if that's construction. That would be  
17 what our assumption was.

18 CO-HEARING OFFICER DODUC: All right. Thank  
19 you.

20 MS. WOMACK: Thank you.

21 CO-HEARING OFFICER DODUC: I assume there are  
22 no recross.

23 Ms. Womack, do you wish to move your, I  
24 believe it was four rebuttal exhibits into the record?

25 MS. WOMACK: Yes, please. Do I have to do

1 anything?

2 CO-HEARING OFFICER DODUC: No. I think you  
3 just did.

4 MS. WOMACK: Thank you so much.

5 CO-HEARING OFFICER DODUC: They are so  
6 received. Thank you.

7 MS. WOMACK: Thank you.

8 CO-HEARING OFFICER DODUC: And thank you,  
9 Mr. Moore, for making the journey to be present today.  
10 With that, we will take our lunch break, and 11 we  
will return at 1:10.

12 (Whereupon, the luncheon recess was taken  
13 at 12:08 p.m.)

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## 1 AFTERNOON SESSION

2 (Whereupon, all parties having been  
3 duly noted for the record, the  
4 proceedings resumed at 1:10 p.m.)

5 ---o0o---

6 CO-HEARING OFFICER DODUC: All right. Good  
7 afternoon, everyone. It is 1:10. We are back in  
8 session.

9 Mr. Emrick and Dr. Paulsen, please come on up.  
10 Oh, Ms. Womack.

11 MS. WOMACK: Hi.

12 CO-HEARING OFFICER DODUC: I thought we'd lost  
13 you.

14 MS. WOMACK: I know you did, but on the way  
15 home, my dad was clarifying the seepage thing that was  
16 in the condemnation, and I was wondering if I can  
17 clarify that because he wasn't able to get his thoughts  
18 together, but I just thought I'd ask.

19 CO-HEARING OFFICER DODUC: What level of  
20 clarification do you intend to provide?

21 MS. WOMACK: Oh, just that that was for  
22 seepage that occurred while they were building the --

23 CO-HEARING OFFICER DODUC: During the  
24 construction?

25 MS. WOMACK: During the construction. It's

1 all to do with construction.

2 So I just wanted to say my dad feels like, you  
3 know, he's the bad guy. He's always put on as a bad  
4 guy. We're not lawyers. You know, he's like, "I am  
5 not dishonest." But anyway, I thought I'd -- just to  
6 add that in. I felt bad that he didn't get that.

7 CO-HEARING OFFICER DODUC: Thank you.

8 MS. WOMACK: Thank you.

9 CO-HEARING OFFICER DODUC: Thank you. It is  
10 so in the transcript.

11 Mr. Emrick, do you have an opening statement?

12 MR. EMRICK: I do not have an opening  
13 statement.

14 CO-HEARING OFFICER DODUC: All right. Then we  
15 will get straight to Dr. Paulsen and her 15 minutes.

16 SUSAN PAULSEN,  
17 called as a rebuttal witness on behalf  
18 of Protestant Group 27, having been  
19 previously duly sworn, was examined  
20 and testified further as hereinafter  
21 set forth:

22 DIRECT EXAMINATION BY MR. EMRICK

23 MR. EMRICK: And she has been sworn. We've  
24 gone over her requirements previously. I'm just going  
25 to ask her to verify the exhibits we have.

1 Exhibit 300 is a true and correct copy of your  
2 rebuttal testimony; is that correct?

3 WITNESS PAULSEN: That is correct.

4 MR. EMRICK: And Exhibit 301 are some excerpts  
5 of the Final EIR for the WaterFix project; is that  
6 correct?

7 WITNESS PAULSEN: Yes.

8 MR. EMRICK: And then Exhibit 301A, those are  
9 two pages that are referenced in your rebuttal  
10 testimony but were inadvertently left out of the  
11 original Exhibit 301?

12 WITNESS PAULSEN: Yes. It appears we had a  
13 technical error and those didn't print into the pdf.

14 MR. EMRICK: And that's a true and correct  
15 copy of all those exhibits?

16 WITNESS PAULSEN: Yes.

17 MR. EMRICK: And then Exhibit 302 is Antioch's  
18 comment letter on the WaterFix Final EIR; is that  
19 correct?

20 WITNESS PAULSEN: Correct.

21 MR. EMRICK: And then we have submitted for  
22 demonstrative purposes only, presentation purposes  
23 only, a PowerPoint that you prepared and that we will  
24 be reviewing as part of your rebuttal testimony; is  
25 that correct?



1 WITNESS PAULSEN: Yes.

2 MR. EMRICK: Okay. I'm going to then have you  
3 summarize your rebuttal testimony using the PowerPoint  
4 Exhibit 303.

5 Again, my name is Matthew Emrick for City of  
6 Antioch. Thank you.

7 WITNESS PAULSEN: Thank you. I think there  
8 are five opinions that we prepared for the rebuttal  
9 testimony, and some of them cover some common ground.  
10 So again, I'll try not to repeat myself.

11 Oh, and I think I can operate this. Let's  
12 see. There we go.

13 The first of those rebuttal opinions has to do  
14 with the agreement that was entered into in 2016  
15 between CCWD, Contra Costa Water District, and DWR.  
16 And my opinion on that specifically, and I'll 17  
17 explain, is that that agreement may result in adverse  
18 impacts to water quality at Antioch's intake, but the  
19 analysis that we've been provided with really isn't  
20 sufficient to understand the magnitude or the frequency  
21 of those impacts.

22 The -- let's see. The next slide, this is a  
23 screen shot, if you will, of part of a page from  
24 DWR-512. DWR-512 is DWR's four-page memo analyzing the  
25 impact of the CCWD agreement. And part of our concern

1 stems from the data there. It's hard to see, but  
2 there's a red box around a few of the data points.  
3 This is DWR's summary of results for what they called  
4 Scenario B.

5 In Scenario B, they assumed that 150 cfs of  
6 water would be transferred from the Freeport facility  
7 to CCWD between November 1st and March 31st, and that  
8 would be a total transfer of 45,000 acre-feet in all  
9 year types. Scenario B also assumed that CCWD Delta  
10 diversions would be reduced by about 150 cfs for the  
11 three summer months starting from July 1st.

12 Antioch is concerned for a few reasons. First  
13 of all, we have the summary of the model results that  
14 is shown here, and they did not model water quality --  
15 or they didn't present results for water quality at the  
16 Antioch intake location.

17 Emmaton is relatively nearby. Jersey Point's  
18 not too far either. Those are the results that they  
19 did present. And what we're seeing here are results in  
20 terms of the impact on EC that would occur in the --  
21 and we see for the months of November, December,  
22 January, February and March, we see a long-term average  
23 increase in EC in those months of between 2 and  
24 5 percent. So it's between 2 and 4 percent for all 16  
25 years in the model period, and between 2 and 5 percent

1 for those months in what they termed the drought years.

2 I think we've already talked about how  
3 long-term averages can hide shorter-term impacts within  
4 them, and so that is one of the concerns. So among the  
5 concerns, model results were not summarized or provided  
6 for Antioch's location. The results were provided in  
7 the form of long-term averages which tend to mask  
8 shorter-term impacts.

9 DWR did not conduct new CalSim runs, and this 10 Exhibit  
DWR-512 acknowledged that a slight modification 11 in  
operations may need to be made in order to avoid  
12 reducing net Delta outflow. And it's that reduced net  
13 Delta outflow that causes or results in higher salinity  
14 in the western Delta.

15 The thing that's not clear to me about that  
16 statement is that I don't know how or if DWR would  
17 modify operations in realtime when implementing the  
18 CCWD agreement. I don't know of any procedure that  
19 they have for conducting model runs to show what the  
20 system is expected to look like in one condition and  
21 then sending instructions to operators in reverse to  
22 avoid that impact. In other words, I'm not sure that  
23 there's a procedure in place for establishing what the  
24 net Delta outflow should be in the absence of the CCWD  
25 agreement and then operating the system such that that

1 decrease in net Delta outflow doesn't occur in  
2 realtime.

3 And finally, DWR didn't, to my knowledge,  
4 provide the DSM-2 runs that were the basis for these  
5 analyses, so we weren't able to do independent analyses  
6 of these.

7 In summary, the model results show that,  
8 especially in certain months, impacts can be expected.  
9 But we don't have enough information to characterize  
10 those impacts, and that introduces additional  
11 uncertainty.

12 All right. Opinion No. 2 has to do again with  
13 the D1641 standards. And in my opinion, DWR did not  
14 demonstrate that the WaterFix project will comply with  
15 the D1641 standards for municipal and industrial uses  
16 or that complying with those standards would avoid  
17 harm, if you will, or water quality degradation to  
18 water users in the Delta.

19 And I won't belabor the point except to say  
20 that we've previously -- here we go. We've gone  
21 through this in the past in the last phase of the  
22 testimony and provided a bunch of information looking  
23 at long-term averages, different year types,  
24 aggregating the results for the overall period, and  
25 demonstrating that, particularly the Boundary 1

1 scenario has impacts in terms of increasing the number of  
2 days when water at Antioch's intake would not be usable as  
3 defined in the 1968 agreement.

4           And here is Table 8 from the primary  
5 testimony. This shows that there would be an increase,  
6 particularly for the Boundary 1 scenario, in the number  
7 of days when the 250 milligram per liter chloride  
8 concentration that's specified by D1641 would not be  
9 met at Pumping Plant No. 1, which is one of the  
10 compliance locations; and that increase in  
11 noncompliance is relative to both an existing condition  
12 and the no action alternative.

13           So we concluded that that increase in  
14 noncompliance, particularly for the Boundary 1  
15 scenario, is caused by the project and not solely by  
16 climate change or sea level rise.

17           And then Table 4 looks at those results. This  
18 shows the number of days on average in each of these  
19 water year types when that 250 milligram per liter  
20 chloride threshold, as measured at slack current after  
21 higher high tide, which is the time period specified in  
22 Antioch's 1968 agreement -- this shows the number of  
23 days for each of these model scenarios that that  
24 threshold would be exceeded.

25           And again, for all of these year types, you

1 see an increase in the number of days of exceedance  
2 relative to both the existing condition EBC2 with Fall  
3 X2 and the no action alternative.

4           It's my opinion that DWR could have done some  
5 additional analyses to assess harm. They could have  
6 used the DSM-2 model results on an hourly or a daily  
7 basis to establish changes in salinity. They could  
8 have looked at the established thresholds like that in  
9 the 1968 agreement to evaluate water quality  
10 degradation. They could have evaluated water quality  
11 directly at municipal drinking water intakes throughout the  
12 Delta in addition to evaluating D1641 compliance.  
13 And as we've stated before, they could use a more  
14 accurate baseline scenario.

15           Opinion No. 3 is that DWR has stated in  
16 multiple places that the WaterFix project won't cause  
17 harm to Antioch. As we've just shown, we anticipate  
18 that it will, particularly for the Boundary 1 scenario.  
19 And the one thing that's new here that I'd like to  
20 introduce is the information from the FEIR.

21           In the FEIR as shown in this excerpt, DWR has  
22 said that they may operate again between the bounds of  
23 Boundary 1 and Boundary 2; that they encompass the full  
24 range of impacts. In the FEIR they didn't carry  
25 Boundary 1 or Boundary 2 forward for a full analysis,

1 but they did say that -- well, again here, Boundary 1  
2 and Boundary 2 encompass the full range of impacts.  
3 And then here that, if you want to understand the  
4 impacts for Boundary 1, you can look to Alternatives 1A  
5 and 3.

6 So here it says, "Consistent with the goals of  
7 this analysis, the nature and severity of the impacts  
8 generally fall within the range of impacts disclosed  
9 under Alternatives 1A and 3 for Boundary 1 and  
10 Alternative 8 for Boundary 2.

11 So we looked at the EIR model results or --  
12 impact analyses for those. This is a little  
13 complicated. This is -- where did it go? There it  
14 goes -- a page out of the EIR.

15 What you can see in the second two rows of the  
16 table are impacts for chloride meeting the D1641  
17 standard at Pumping Plant 1 and, in the third row of  
18 data, EC at Emmaton.

19 And what you see is for 15 of the 18  
20 scenarios, including 1A and 3, which are analogous to  
21 Boundary 1, and including Scenario 8 which is analogous  
22 to Boundary 2, that DWR found significant adverse  
23 impacts for chloride. And you can see the percentage  
24 increases there. The only scenarios where they did not  
25 find impacts are the new scenarios introduced in the

1 FEIR.

2 So again, we conclude that Boundary 1 would  
3 have significant adverse impacts to water quality at  
4 Antioch, and it appears that DWR would agree with us,  
5 although I'm sure they won't.

6 Rebuttal Opinion No. 4. DWR continues to  
7 assert that the water quality degradation that would be  
8 expected at Antioch would be mitigated by the 1968  
9 agreement. We've summarized the reasons why we do not  
10 believe this to be true.

11 In brief, there's a fixed term to the  
12 agreement which expires in 2028. After that time,  
13 either party can terminate the agreement with  
14 12 months' notice.

15 The second thing is that the agreement  
16 reimburses Antioch for one-third of the water that it  
17 must purchase under that agreement. It doesn't have  
18 provisions for reimbursing the remainder of the  
19 purchases.

20 And the third thing is that the State is the 21 only  
party in addition to the City to that agreement. 22 The  
federal government is not and other parties are 23 not.

24 And then last, we've talked about this  
25 already, so I don't know that we need to go into it in



1 detail. But we continue to believe that the baseline  
2 is inappropriate. And the thing that is new here, in  
3 addition to the -- DWR's testimony in the first part of  
4 the hearings that the baseline that they used was  
5 appropriate, the FEIR uses the EBC1 existing condition  
6 baseline; we believe EBC2 would be the appropriate  
7 baseline because of the inclusion of Fall X2.

8 So we continue to have a disagreement about  
9 the baseline scenario. And in my opinion, the EBC2  
10 baseline is the appropriate existing condition to  
11 evaluate the impacts of the project. Thank you.

12 CO-HEARING OFFICER DODUC: Thank you,  
13 Dr. Paulsen.

14 I believe DWR is up first for 15  
cross-examination.

16 Mr. Berliner, you had estimated I believe 30  
17 minutes of cross-examination.

18 MR. BERLINER: Yes. And the areas that I'm  
19 going to cover will sound very familiar, again, are --  
20 is the chlorides issue.

21 CO-HEARING OFFICER DODUC: D1641.

22 MR. BERLINER: We won't cover 1641 again.  
23 And I think really this all just gets lumped 24 under  
chlorides.

25 CO-HEARING OFFICER DODUC: All right. Please

1 proceed.

2 CROSS-EXAMINATION BY MR. BERLINER

3 MR. BERLINER: If we could please start with  
4 Antioch Exhibit 302, Table 9, which is at Page 31.

5 I'm trying to make it a little more legible.

6 This is Table 9, which shows the number of  
7 days per year in the 16-year modeled record, that D1641  
8 water quality objective of 150 parts per liter chloride  
9 for M and I uses is met at the Contra Costa Pumping  
10 Plant.

11 And, Dr. Paulsen, you have grayed in certain  
12 parts of this table, correct?

13 WITNESS PAULSEN: Yes.

14 MR. BERLINER: Could you please tell us what  
15 the grayed-in areas stand for.

16 WITNESS PAULSEN: Those areas, if you take the  
17 first one on the table there, there's a "145" in the  
18 column of "NAA Days." That 145 is below the threshold  
19 of 155. So that graying-in indicates it's below that  
20 threshold; means there are a fewer number of days.

21 MR. BERLINER: So the -- and the threshold  
22 that you're referring to is what?

23 WITNESS PAULSEN: It is the 150 milligram per  
24 liter chloride threshold specified in D1641 as  
25 evaluated at Contra Costa Pumping Plant No. 1.

1 MR. BERLINER: Thank you. Okay.

2 And I see that you have -- under the no action  
3 alternative, you've indicated that there are four  
4 occasions where the threshold is exceeded, correct? Or  
5 not -- I should say the number of days on the threshold  
6 criteria is not met, correct?

7 WITNESS PAULSEN: That is what this table  
8 shows, right.

9 MR. BERLINER: But under Boundary 1, there are  
10 only three days, correct?

11 WITNESS PAULSEN: Three years.

12 MR. BERLINER: Three years, I mean. Sorry.

13 WITNESS PAULSEN: Yes.

14 MR. BERLINER: Yes, thank you.

15 Did you do an analysis of any other project 16  
alternatives besides Boundary 1?

17 WITNESS PAULSEN: Yes.

18 MR. BERLINER: And which were those?

19 WITNESS PAULSEN: I believe we analyzed  
20 Boundary 1, Boundary 2, H3, and H4. I don't recall off  
21 the top of my head if we looked at Alternative 4A. We  
22 probably did.

23 MR. BERLINER: And in your view, does  
24 Boundary 1 have the greatest potential impact on  
25 chloride as compared with the other alternatives?

1 WITNESS PAULSEN: At Antioch? Yes.

2 MR. BERLINER: What about at Contra Costa  
3 Pumping Plant No. 1? Did you analyze that?

4 WITNESS PAULSEN: I believe that's the case,  
5 yes.

6 MR. BERLINER: Was your analysis based on a  
7 calendar year or a water year?

8 WITNESS PAULSEN: We actually did both, and we  
9 presented the -- sorry. We presented the water year  
10 version in the report for the primary reason that we  
11 weren't exactly sure how to classify a water year  
12 that's split -- a calendar year -- excuse me -- that's  
13 split between two water years. In other words, if a  
14 calendar year starts in January and runs through  
15 December, the hydrologic year type classifications  
16 aren't based on that same time period. They're based  
17 on a hydrologic water year.

18 I can say that the results were fairly  
19 similar.

20 MR. BERLINER: Was there some reason that you  
21 didn't use the same methodology that the Water Board  
22 uses?

23 WITNESS PAULSEN: Well, again, we -- the  
24 reason we presented the water year results was because  
25 of our uncertainty as to how to handle that year type

1 classification, when you could have months in the same  
2 calendar year that have two very different year type  
3 classifications.

4 MR. BERLINER: Are you aware of how the Water  
5 Board handles its assessment for compliance? Because  
6 it has the same issue.

7 WITNESS PAULSEN: Again, the reason we  
8 presented it in terms of a hydrologic year type was  
9 because we were uncertain.

10 MR. BERLINER: So I see that you have 1991 on  
11 your -- on the table, and you've highlighted that as  
12 being one of the years where the threshold was not met,  
13 correct?

14 WITNESS PAULSEN: Yes.

15 MR. BERLINER: So if you used water year, did  
16 your water year end September 30th?

17 WITNESS PAULSEN: The water year did end  
18 September 30th.

19 MR. BERLINER: So what did do you about  
20 October, November, and December of 1991?

21 WITNESS PAULSEN: Well, again, this evaluation  
22 is for water year 1991. So the days that were counted  
23 in arriving at this sum started in September 30 --  
24 September -- sorry -- October 1st of 1990 and ended on  
25 September 30th of 1991.

1 MR. BERLINER: Are you aware that the DSM-2  
2 analysis only runs through September, so it would have  
3 cut off at December 1991 for that year?

4 WITNESS PAULSEN: All of water year 1991 would  
5 have been in those DSM-2 results. Otherwise, we would  
6 not have been able to calculate the sums here.

7 MR. BERLINER: So if I understand correctly,  
8 well, the Water Board uses a calendar year, and while  
9 DWR used a calendar year, you're showing results as a  
10 water year including 1991?

11 WITNESS PAULSEN: That was the choice that we  
12 made in the primary testimony.

13 MR. BERLINER: Okay. Could we please have DWR  
14 Exhibit 513, Figure C6, which is at Page 10.

15 And I will say this is my favorite chart in  
16 the whole proceeding. It took all of us a while to  
17 figure out how to read this.

18 Dr. Paulsen, do you understand how to read  
19 this chart?

20 WITNESS PAULSEN: I think I do. I will say,  
21 though, that we tried to reproduce this chart, and we  
22 were not able to do so.

23 MR. BERLINER: I think I understand the chart  
24 as well, having been tutored on this.

25 And do you agree with my understanding of this

1 chart that DWR's result shows that the no action  
2 alternative, B1, and 4AH3 to H4 meet the 150 milligram  
3 per liter chloride standard at Contra Costa in all  
4 years except 1977?

5 WITNESS PAULSEN: And I'm sorry. I see that  
6 for the no action. The other ones that you specified  
7 were -- can you say those again?

8 MR. BERLINER: Sure. B1 and 4AH3 to H4. If  
9 you look at the little -- on the top.

10 MR. EMRICK: Okay. I'm sorry. Just making  
11 sure that I heard your question correctly. You're  
12 saying that that group of scenarios netted in all years  
13 except 1977?

14 MR. BERLINER: Correct. Where it dips into  
15 the blue.

16 WITNESS PAULSEN: I agree that this graph  
17 shows that.

18 MR. BERLINER: Yes. Thank you.

19 And isn't it correct that this same figure  
20 shows that Boundary 2 meets the chloride standard even  
21 in 1977?

22 WITNESS PAULSEN: It's hard to read these. If  
23 Boundary 2 is the top line there, then yes, that shows  
24 that.

25 MR. BERLINER: And Boundary 2, to confirm, is

1 the top line, as I understand it.

2 WITNESS PAULSEN: Okay. Thank you.

3 MR. BERLINER: If we could have Antioch 302,  
4 Page 27, which is Table 4. And for the record, we have  
5 identified these as DWR exhibits.

6 The first document started at DWR-921.

7 And it probably would have been easier if I  
8 would have done this as I went along.

9 And just for the record, 921 is the table that 10 was  
highlighted showing Boundary 1 years that did not

11 meet the threshold criteria 992. So we're going to  
12 leave 929 blank for now -- 922, I mean, blank.

13 And go to 923, which is the chart that we just  
14 referred to. And the next one is 924.

15 CO-HEARING OFFICER DODUC: And by "the next  
16 one," do you mean what Ms. McGinnis is handing out?

17 MR. BERLINER: This is what Ms. McGinnis is  
18 handing out.

19 CO-HEARING OFFICER DODUC: And is it the same  
20 as what's on the screen?

21 MR. BERLINER: It is the same as what's on the  
22 screen. This is -- this is Antioch 322 at Page 27,  
23 Table 4.

24 MR. OCHENDUSZKO: Which is identified as  
25 DWR --



1 MR. BERLINER: 924.

2 MR. OCHENDUSZKO: Thank you.

3 MR. BERLINER: Thank you.

4 Now, on this table we have, again, water years  
5 from the left column, and then water year type on the  
6 column to the right of that. The number of days.

7 And then this shows the number of days of the  
8 250 milligram per liter chloride threshold that is not  
9 met at Contra Costa, correct?

10 WITNESS PAULSEN: Yes.

11 MR. BERLINER: And in this analysis, for the  
12 250 milligrams per liter, have you analyzed any other  
13 project alternatives other than Boundary 1?

14 WITNESS PAULSEN: Yeah. And I think we  
15 analyzed the same suite of alternatives from the prior  
16 question. And actually, you can find -- we didn't  
17 present that in testimony that we submitted for  
18 Antioch, but I think that you will find it in Brentwood  
19 102.

20 MR. BERLINER: Thank you. I appreciate that  
21 reference. Okay.

22 The next we are handing out is DWR-925, which  
23 is Figure C5, which shows D1641 250 milligram per liter  
24 chloride objective at Contra Costa Pumping Plant. And  
25 this is a probability of exceedance graph.

1 Dr. Paulsen, are you familiar with exceedance  
2 graphs?

3 WITNESS PAULSEN: Yes.

4 MR. BERLINER: Do you understand that this  
5 graph is compiled of all of the days in the --

6 CO-HEARING OFFICER DODUC: Mr. Berliner,  
7 please hold on. Let's try to get that graphic up for  
8 those of us who are trying to go paperless.

9 MR. BERLINER: Sorry.

10 MS. MCGINNIS: We could go from the flash  
11 drive from earlier, or we could go to DWR-513, and it's  
12 Figure C5 in DWR-513.

13 CO-HEARING OFFICER DODUC: What page?

14 MR. BERLINER: Page 9.

15 MS. MCGINNIS: Page 9, yeah.

16 MR. BERLINER: You understand exceedance  
17 charts, correct, Dr. Paulsen?

18 WITNESS PAULSEN: I believe so, yes.

19 MR. BERLINER: And do you understand as you  
20 look at this graph that it is made up of every day  
21 during the analyzed period of time?

22 WITNESS PAULSEN: That's what it says, yes.

23 MR. BERLINER: So it's not a long-term  
24 average, correct?

25 WITNESS PAULSEN: No. My understanding is

1 that it is the daily values arrayed from smallest to  
2 largest and then plotted on probability paper. So I  
3 believe -- and you can correct me if I'm wrong, but I  
4 believe that this is based on the daily modeled  
5 salinity at Pumping Plant 1.

6 MR. BERLINER: That's exactly right. Thank  
7 you.

8 And as you look at the -- there's a dotted red  
9 line which, as you read this, do you understand that is  
10 the 250 milligram per liter threshold?

11 WITNESS PAULSEN: The caption of it says that,  
12 yes, the caption of the table.

13 MR. BERLINER: Do you understand the dotted  
14 red line that goes across that says zero is meant on this  
15 graph to be equivalent to the 250 milligram per  
16 liter?

17 WITNESS PAULSEN: Yes.

18 MR. BERLINER: So everything below that dotted  
19 red line indicates that it's compliance with that  
20 requirement, correct?

21 WITNESS PAULSEN: Yes. The days that are  
22 below that have a salinity, as I read this, that is  
23 below 250 milligrams per liter as chloride.

24 MR. BERLINER: And then on the far right-hand  
25 side, do you also understand that it shows the days

1 that would exceed the 250 milligram per liter  
2 threshold?

3 WITNESS PAULSEN: Yes.

4 MR. BERLINER: And do you see that -- do you  
5 see where the no action alternative is that's the black  
6 line?

7 WITNESS PAULSEN: I think so, yes.

8 MR. BERLINER: If you look on the far right,  
9 as you get close to the, let's say, '93, '94, '95,  
10 there's a slight break between the black line and the  
11 gray line.

12 Do you see that?

13 WITNESS PAULSEN: Yes.

14 MR. BERLINER: So do you understand that, with  
15 one exception, all of the -- sorry.

16 As you look at this and you look at the  
17 different alternatives, you see that they all go above  
18 the threshold, including the no action alternative,  
19 with the exception of one of the -- one of the  
20 alternatives?

21 WITNESS PAULSEN: It looks like -- I think  
22 it's the Boundary 2 scenario that probably stays below  
23 the threshold except maybe for a handful of days at the  
24 end. The others do cross above that dotted red line,  
25 yes.

1 MR. BERLINER: Yes. Thank you.

2 And if we could go to the next DWR exhibit  
3 which is 926.

4 MS. MCGINNIS: And Mr. Emmanuel, it will  
5 probably be easiest to find if you look on the files we  
6 gave this morning. Should be in a folder called City  
7 of Antioch.

8 MR. BERLINER: This is an excerpt from the  
9 Final EIR/EIS Appendix 31B.

10 Are you familiar with that appendix?

11 WITNESS PAULSEN: I'd have to see which one it  
12 is. I don't remember it by name.

13 MR. BERLINER: Fair enough.

14 WITNESS PAULSEN: It does sound familiar.  
15 Actually, I think that's the one describing the CCWD  
16 agreement; is that correct?

17 MR. BERLINER: Yes, correct.

18 WITNESS PAULSEN: Yes, I am familiar with that  
19 one.

20 MR. BERLINER: You analyzed that in your  
21 review, correct?

22 WITNESS PAULSEN: Yes.

23 MR. BERLINER: Should be Page 2-45, 46. So we  
24 have just an excerpt from that document. We didn't try  
25 to bring the entire document.

1           And if you could scroll down to the second  
2 page, which is the section on Delta outflow.

3           Does this look familiar to you, Dr. Paulsen?

4           WITNESS PAULSEN: I have reviewed this in the  
5 past. I don't think we spent a whole lot of time with  
6 this table. But yes, I've seen this table before.

7           MR. BERLINER: So what we have in the  
8 left-hand -- this is Alternate 4A, early long-term.  
9 Table 33 out of the FEIR. In the left-hand column, we  
10 have various locations of rivers that feed into the  
11 Delta as well as Delta outflow and Old and Middle River  
12 flow.

13           Do you understand that?

14           WITNESS PAULSEN: Yes.

15           MR. BERLINER: Left-hand column.

16 And then the next column over is the months of 17 the  
17 year. The next column is the mean flow in cubic  
18 feet per second without the Contra Costa Water District  
19 mitigation agreement.

20           Do you see that?

21           WITNESS PAULSEN: Let me make sure I'm  
22 oriented properly.

23           MR. BERLINER: It's the third column from the  
24 left.

25           WITNESS PAULSEN: Yes.

1                   MR. BERLINER:   With the numbers in the  
2 thousands.   And then the next two columns are the  
3 change in flow, again in cfs, due to the Contra Costa  
4 agreement, depending upon where the water is -- is  
5 wheeled, with one alternative being Freeport, and the  
6 second alternative being the California WaterFix.

7                   Do you see that?

8                   WITNESS PAULSEN:   I see that.

9                   MR. BERLINER:                   And then the next column,  
10 instead of being in cfs, is a percentage change.

11                   Do you see that?

12                   WITNESS PAULSEN:   I do.

13                   May I ask a question?                   I assume that each of  
14 these months are results that are averaged over the  
15 full 16-year period; is that correct?

16                   MR. BERLINER:   I think that's fair, yes.

17                   And do you see, as you look at Delta outflow, 18 the  
Delta outflow category, which is the second from 19 the  
bottom, you will see that simply looking at the

20 percentages is perhaps the easiest.   The numbers are  
21 quite small.   It's a little easier to look at the  
22 percentages.

23                   Do you see that they're all zeros except for a 24 0.2  
percent in June?

25                   WITNESS PAULSEN:   I assume they round to zero.

1 MR. BERLINER: Yes, they do.

2 WITNESS PAULSEN: There's a 0.2 percent in  
3 June. There are a couple of other values.

4 MR. BERLINER: Yeah. So if you look back at  
5 the cfs, you can actually see --

6 WITNESS PAULSEN: Right.

7 MR. BERLINER: -- what the actual numbers are.  
8 But when you take, for instance, minus 7 or minus 3 cfs  
9 out of 54,000, you're going to get a number that's so  
10 small that it was designated as zero.

11 WITNESS PAULSEN: It rounded to zero.  
12 Correct.

13 MR. BERLINER: Yes, yes.

14 And it's your understanding that these two  
15 conveyance scenarios, the Freeport alternative and the  
16 California WaterFix alternative, were evaluated and the  
17 results were reported in the Final EIR/EIS, correct?  
18 In fact specifically in --

19 WITNESS PAULSEN: I think that's what we're  
20 looking at, correct?

21 MR. BERLINER: Correct, exactly right.

22 And are you aware that the Final EIR/EIS 23  
analyzed all of the alternates?

24 WITNESS PAULSEN: To different levels of  
25 thoroughness, I believe it did. The main difficulty



1 I'm having with this table is that it is for  
2 Alternative 4A; whereas the analyses -- let me  
3 double-check that.

4 MR. EMRICK: Well, maybe I can help. Let's go  
5 to DWR-927, which is the notes from the FEIR, which  
6 alternatives were looked at.

7 CO-HEARING OFFICER DODUC: And as Ms. McGinnis  
8 is passing that out, Mr. Herrick?

9 MR. HERRICK: Thank you. John Herrick for  
10 South Delta parties.

11 We just had two or three exhibits from DWR  
12 that they brought up on the screen and asked the  
13 witness to agree to the number on them instead of 14  
14 testing the witness's analysis of them or why she 15  
15 disagrees with what they say.

16 So this is not cross-examination. This is  
17 citations in the record that they think supports their  
18 position. They're not asking the expert witness  
19 anything about those tables.

20 I would move to strike those.

21 CO-HEARING OFFICER DODUC: Mr. Berliner.

22 MR. BERLINER: We're getting there.

23 CO-HEARING OFFICER DODUC: All right. I will  
24 hold judgment on that motion to strike until you get  
25 there and, hopefully, you'll get there soon,

1 Mr. Berliner.

2 MR. BERLINER: Yes.

3 MS. MCGINNIS: So it's the pdf file, the last  
4 one in the column on the left. Yeah. Thank you.

5 MR. BERLINER: And just for orientation, these  
6 are the notes that indicate under this scenarios  
7 section that the various alternatives were analyzed.  
8 And if you see at the -- if you could scroll down just  
9 a little bit -- that the conclusion was made that --  
10 I'm sorry. I'm missing my own reference here.

11 Did you understand that DWR determined that  
12 the Alternatives 2B, 4A, and 5A were representative of  
13 the full range of alternatives? You won't find it  
14 written there.

15 WITNESS PAULSEN: I'm sorry. Could you say  
16 that again?

17 MR. BERLINER: Did you -- do you recall that  
18 DWR determined that Alternatives 2D, 4A, and 5A were  
19 representative of the effects of the full range of  
20 alternatives?

21 WITNESS PAULSEN: I have to say that I am  
22 still thoroughly confused on that point because, at  
23 some points in the FEIR, DWR appears to say that the  
24 operations range may range from Boundary 1 to  
25 Boundary 2, which are clearly different from 4A and the

1 other two scenarios for which no impacts were found.

2 And I just showed some of that on the screen  
3 in the PowerPoint that we compiled. So my  
4 understanding was that 4A was representative of the  
5 initial operating conditions but that operations may  
6 range much more broadly beyond that.

7 MR. BERLINER: Now I want to go back to the  
8 prior DWR exhibit. Hopefully, this will answer  
9 Mr. Herrick's concern.

10 CO-HEARING OFFICER DODUC: And mine.

11 MR. BERLINER: And yours, yes. All right.  
12 Dr. Paulsen, going back to the -- if we could 13 scroll  
down, please, to Delta outflow section.

14 So referring you now to the month of June, is  
15 it your contention that this 0.2 percent change in June  
16 outflow is affecting water quality at Antioch?

17 WITNESS PAULSEN: I would assert that this  
18 table does not have nearly enough information for me to  
19 understand the impacts of the agreement -- the CCWD  
20 agreement on Antioch's water quality.

21 MR. BERLINER: So we've looked at a few  
22 different documents out of the FEIR and others.

23 In your view, that collection of documents  
24 does not give you sufficient information in order to  
25 make a determination as to whether that 2 percent

1 change in June has a potential effect on water quality  
2 at Antioch?

3 WITNESS PAULSEN: That's correct, because this  
4 is a 16-year average view of net Delta outflow in the  
5 month of June, and it does not look into different year  
6 types or different years or shorter time periods within  
7 those months.

8 MR. BERLINER: So let's take a look, then, if  
9 you will, at what's going to be labeled as 926, which  
10 is -- yes. Which is the excerpt from -- it's again  
11 from the same Appendix 31B at Section 2.2.4.2,  
12 Table 33.

13 That should be the next in order, 14 Mr.  
Emmanuel. This one.

15 MS. MCGINNIS: We actually have it open  
16 already. It's the one that's all by itself on the  
17 right in the Explorer window. Yeah. Thank you.

18 MR. BERLINER: If you could scroll down again.

19 CO-HEARING OFFICER DODUC: Are you,  
20 Mr. Berliner, still pursuing this line of questioning  
21 after Dr. Paulsen's last response?

22 MR. BERLINER: Yes.

23 CO-HEARING OFFICER DODUC: Do you wish to  
24 renew your motion, Mr. Herrick, or should we let him  
25 play the --

1 MR. HERRICK: I'll renew it just for the  
2 record.

3 CO-HEARING OFFICER DODUC: All right. A  
4 little bit more leeway but not much more, Mr. Berliner.

5 MR. BERLINER: Thank you. Appreciate that.  
6 I'm nearly complete.

7 CO-HEARING OFFICER DODUC: Five minutes.

8 MR. BERLINER: Yes. Okay. If we could have  
9 DWR-928?

10 MS. MCGINNIS: That was the other one you just  
11 had up. It is Page 31B-2-36 of the Final EIR. Yes.  
12 Thank you.

13 MR. BERLINER: Dr. Paulsen, would you expect  
14 that the greatest percentage change in flow or greatest  
15 percentage change in flow would occur immediately  
16 downstream of the proposed California WaterFix  
17 facility?

18 WITNESS PAULSEN: I'd have to think about that  
19 one. Change in the flow of what?

20 MR. BERLINER: The river.

21 WITNESS PAULSEN: The Sacramento?

22 MR. BERLINER: Yes.

23 WITNESS PAULSEN: I mean, certainly if you're  
24 taking water out of the Sacramento River, the flow will  
25 be different upstream and downstream of the point where

1 you take it out. That will produce a change.

2 MR. BERLINER: Correct. And would you expect  
3 that the greatest percent change would be immediately  
4 below the facility where you're withdrawing the water?

5 WITNESS PAULSEN: I don't think I have enough  
6 information to answer that because the system operates  
7 in aggregate, and I'm not sure what changes in flow  
8 we're talking about.

9 I would agree that changes in diversions on 10 the  
Sacramento River produce a change in Sacramento  
11 River flow, but I'm not sure that that change is larger  
12 than any other that would occur if the WaterFix is  
13 operated in that manner.

14 MR. BERLINER: As you -- you mentioned earlier  
15 that Emmaton and Jersey Point were close by to Antioch,  
16 correct?

17 WITNESS PAULSEN: They're the two closest  
18 locations. They aren't that close. And water quality  
19 does differ from these locations and Antioch's intake.

20 MR. BERLINER: This is Exhibit DWR-928, which 21 is  
from -- again from the Final EIR/EIS. Again,  
22 Appendix 31B at Page 2-36.

23 As you look at the Western Delta and the  
24 Emmaton and Jersey Point locations, you see that the  
25 changes are somewhere between zero and 1 percent in

1 this chart, correct?

2 WITNESS PAULSEN: I assume these are rounded  
3 numbers, too. I mean, they may be slightly above  
4 1 percent, but round down.

5 MR. BERLINER: Right.

6 WITNESS PAULSEN: They're of that order,  
7 again, as long-term averages.

8 MR. BERLINER: And are these -- this magnitude  
9 of change part of your contention that there would be  
10 an effect on water quality at Antioch?

11 MR. EMRICK: Well, I'm going to object because  
12 I think you're misstating what the opinion is. The  
13 opinion, I believe, and Dr. Paulsen can correct me, is  
14 that there is inadequate information for Antioch to  
15 determine the harm based upon the operation of the CCWD  
16 agreement.

17 DWR presented 312, and we asked Dr. Paulsen to  
18 analyze that. And Dr. Paulsen's opinion talks about  
19 things that she believes would be necessary in order to  
20 actually judge the extent of the harm.

21 MR. BERLINER: Let me try this from a  
22 different direction.

23 CO-HEARING OFFICER DODUC: Please do,  
24 Mr. Berliner.

25 MR. BERLINER: Would you expect that the

1 changes in salinity resulting from the settlement agreement  
2 between DWR and Contra Costa would be greater at Emmaton than  
3 the City of Antioch?

4 WITNESS PAULSEN: I haven't explicitly looked  
5 at that.

6 MR. BERLINER: Have you looked at -- have you  
7 looked at changes in salinity at other locations  
8 besides Emmaton?

9 MR. EMRICK: Do you mean for -- with respect  
10 to the CCWD agreement? Because, obviously, she's  
11 looked at --

12 MR. BERLINER: Yes, correct.

13 WITNESS PAULSEN: I have included what we  
14 looked at in the appendix -- or in the excerpts, excuse  
15 me, that were submitted as part of this. It includes  
16 some information from 31B. We also looked at -- the  
17 name of the exhibit I think was DWR-512. Yes, DWR-512,  
18 which was submitted in this proceeding. So we relied  
19 on information from both of those sources

20 And again, Mr. Emrick is correct that we're  
21 not -- we're concluding that there may be an impact;  
22 that the information we've reviewed indicates that  
23 there may be an impact, but that we do not have  
24 sufficient information to tell for sure or to tell the  
25 frequency or duration of that impact.



1 MR. BERLINER: And based on your familiarity  
2 with the Delta and your experience, vast experience  
3 with the Delta, would you expect that Antioch is  
4 affected by reduced outflow as well as resulting ocean  
5 intrusion or sea water intrusion?

6 WITNESS PAULSEN: Well, I mean, Antioch, being  
7 in the western end of the Delta, is affected by the  
8 tides. And the tides bring water from the bay in and  
9 out. There's some component of salty seawater in that  
10 bay water and also affected by net Delta outflow.

11 So it's the interplay of factors that affects  
12 and determines salinity at Antioch's location.

13 MR. BERLINER: And again, based on your  
14 experience and judgment, in your view, are the --  
15 studied percentages of reduction in river flow of such  
16 sufficiency that they would cause additional seawater  
17 intrusion that could have an adverse impact on Antioch,  
18 or do you not have sufficient information?

19 WITNESS PAULSEN: You mean as a result of the  
20 CCWD agreement or as a result of WaterFix in aggregate?  
21 Or I'm not sure what your question is.

22 MR. BERLINER: We're still on CCWD agreement,  
23 yes.

24 WITNESS PAULSEN: Again, I don't have enough  
25 information.

1 CO-HEARING OFFICER DODUC: Were you wrapping  
2 up, Mr. Berliner?

3 MR. BERLINER: Yes, I am. Actually, I'm on my  
4 last question.

5 You raised a concern in your testimony that  
6 the Antioch agreement will expire potentially one year  
7 after the expiration of its term in the agreement -- or  
8 I should say -- strike that.

9 You raised a concern in your testimony that 10 the  
agreement runs -- the agreement between DWR and 11  
Antioch runs until 2028, correct?

12 WITNESS PAULSEN: The fixed term of the  
13 agreement is until a date in 2028. I forget the exact  
14 calendar day, but in 2028.

15 MR. BERLINER: And you also expressed concern  
16 that the agreement could be canceled after 12 months'  
17 notice, correct?

18 WITNESS PAULSEN: We can review the agreement  
19 if you like.

20 MR. BERLINER: No, I'm just asking as to what  
21 your understanding is.

22 WITNESS PAULSEN: That is my understanding,  
23 that either party, either the City or DWR, could  
24 terminate the agreement with 12 months' notice.

25 MR. BERLINER: Are you aware of any expression

1 of intent or interest by DWR in terminating that  
2 agreement?

3 WITNESS PAULSEN: I don't know one way or the  
4 other.

5 (Cell phone interruption)

6 CO-HEARING OFFICER DODUC: Ms. Aufdemberge is  
7 forever on my bad list.

8 MR. BERLINER: I notice Mr. Herrick cringing  
9 on the other side of the room there.

10 CO-HEARING OFFICER DODUC: Because he is no  
11 longer at the top of my bad list.

12 MR. BERLINER: Congratulations, Mr. Herrick.  
13 So your concern is at this point just 14  
14 speculation, correct?

15 WITNESS PAULSEN: No, I don't think so. I was  
16 part of the negotiations in the extension of the  
17 term --

18 MR. BERLINER: Hang on.

19 WITNESS PAULSEN: I'd like to explain my  
20 answer.

21 MR. BERLINER: I'll give you a chance.

22 CO-HEARING OFFICER DODUC: Hold on,  
23 Mr. Berliner.

24 MR. BERLINER: But let me just ask you a  
25 question. You said no, so let me ask you what do you

1 base that on?

2 CO-HEARING OFFICER DODUC: No. I'm sorry.

3 Stop, stop.

4 Let Mr. Berliner ask his question, and then I  
5 will come back to you, Dr. Paulsen.

6 WITNESS PAULSEN: Okay.

7 MR. BERLINER: So you've indicated no. On  
8 what do you base that response?

9 WITNESS PAULSEN: I participated with the City  
10 in the negotiations with DWR that resulted in the  
11 extension of the 1968 agreement through the -- to the  
12 -- you know, the term that ends in 2028.

13 I also did a number of calculations looking at  
14 how that agreement had been interpreted historically and  
15 how it should be interpreted and, in fact, developed the  
16 calculation method that is used in that agreement now.

17 As a party to those -- or I'm not sure "party"  
18 is the right word -- as a participant, as an individual  
19 sitting in those negotiations, I think I have an  
20 understanding of some of what went into that  
21 negotiation.

22 One thing that was discussed during those

23

24 negotiations --

25 Can I talk about this? I assume I can.

1 MR. EMRICK: You can answer the question, yes.

2 WITNESS PAULSEN: One of the things that was  
3 discussed was how long the term would be extended for.  
4 And as I recall, the City asked for a longer term and  
5 that was denied.

6 MR. BERLINER: I don't think you answered my  
7 question.

8 WITNESS PAULSEN: I'm sorry. Could you ask it  
9 again?

10 MR. BERLINER: Yes. I asked you whether at  
11 this point you were speculating as to whether DWR was  
12 going to terminate the agreement. And you've just  
13 responded that there was, let's say, a back-and-forth  
14 negotiation over the length of the agreement.

15 That wasn't my question. I didn't ask how  
16 they arrived -- how the parties arrived at a 2028 date.  
17 I asked whether at this point the question of the  
18 agreement being terminated, not the length of the  
19 agreement but terminated, whether you had any  
20 information on that.

21 So I'm taking it you do not have any  
22 information as to any intent by DWR at this point as we  
23 sit here today that, come 2028, while the agreement's  
24 term might cease at that point, that they intend to  
25 issue notice one way or another to Antioch that the

1 agreement is going to be terminated on 12 months'  
2 notice?

3 MR. EMRICK: Well, and I believe her question  
4 [sic] was responsive to that. She testified that she  
5 was involved in the negotiation --

6 CO-HEARING OFFICER DODUC: Okay. Hold on.  
7 Let's not get a back-and-forth.

8 Dr. Paulsen, I understood your response to be  
9 providing justification for your, yes, speculation as  
10 to a potential termination of the agreement.

11 WITNESS PAULSEN: Yeah. I don't know who's  
12 going to be at DWR in 2028. I don't know what  
13 information they'll have before them at that point in  
14 time, what decisions they might make.

15 The context that I have for interpreting that  
16 comes from being an individual in the room during the  
17 negotiations that extended the agreement. And I know  
18 that the City requested certainty beyond that date and  
19 DWR denied it.

20 CO-HEARING OFFICER DODUC: And that is the  
21 context of your opinion on that matter?

22 WITNESS PAULSEN: Yes.

23 MR. BERLINER: I have no further questions.

24 CO-HEARING OFFICER DODUC: Thank you,  
25 Mr. Berliner.

1           Mr. Herrick, we have an outstanding motion  
2 from you. Do you wish to withdraw or amend that  
3 motion? While I would tend to question whether the  
4 probative value justified the amount of time  
5 Mr. Berliner spent on that line of questioning, I  
6 thought Dr. Paulsen acquitted herself quite well.

7           But I'll leave it to you as to what you wish to  
8 do with your motion, Mr. Herrick.

9           MR. HERRICK: John Herrick for South Delta  
10 parties. I was going to say the same thing. I'll  
11 withdraw the motion because the witness explained her  
12 position very clearly.

13           CO-HEARING OFFICER DODUC: Thank you,  
14 Mr. Herrick.

15 With that, are you okay going on, or do you 16 need  
a break?

17           THE REPORTER: Whatever you want to do.

18           CO-HEARING OFFICER DODUC: All right. Then we  
19 will next go to Mr. O'Laughlin.

20           And we will take a break after Mr. O'Laughlin,  
21 who estimated 20 minutes?

22           MR. O'LAUGHLIN: Not even.

23           CO-HEARING OFFICER DODUC: Not even. Well,  
24 maybe not, then.

25           MR. O'LAUGHLIN: Sorry about that.

1 CROSS-EXAMINATION BY MR. O'LAUGHLIN

2 MR. O'LAUGHLIN: Good afternoon, Dr. Paulsen.  
3 Tim O'Laughlin again, San Joaquin Tributaries  
4 Authority.

5 So I cross-examined you this morning in  
6 regards to your testimony regarding the City of  
7 Stockton. Unfortunately for you, I'm going to ask you  
8 a lot of the same questions that I asked you this  
9 morning but, hopefully, we can breeze through them  
10 rather quickly, and then the record will be clear.

11 Turning to your Antioch Exhibit 303, Page -- I  
12 think it's Antioch's Rebuttal Opinion No. 2, Page 4.

13 PowerPoint. There we go.

14 I think it's Page 4, Opinion No. 2. There we  
15 go. Perfect. Thank you. Okay.

16 Dr. Paulsen, it says in here -- this one's a  
17 little bit different. It says existing D1641  
18 standards. So earlier this morning we talked about  
19 water quality objectives.

20 Are you using the terminology "standards" here  
21 in the same vein as water quality objectives?

22 WITNESS PAULSEN: Yes, that was my intention.

23 MR. O'LAUGHLIN: Okay. So once again, then,  
24 when we're talking about D1641 standards, you did not  
25 specifically look at the Vernalis flow objectives in



1 regards to this Rebuttal Opinion No. 2, correct?

2 WITNESS PAULSEN: You're correct; I did not.

3 MR. O'LAUGHLIN: And also in that sentence, it  
4 says, "or that complying with D1641." And once again,  
5 that has to do with water quality complying with D1641  
6 water quality objectives?

7 WITNESS PAULSEN: Yes.

8 MR. O'LAUGHLIN: Okay. And once again, you  
9 did not look to see whether or not the Vernalis flow  
10 objectives for February through June or the April-May pulse  
11 flow set forth in D1641 at Vernalis were complied  
12 with; is that correct

13 WITNESS PAULSEN: I did not double-check that,  
14 no.

15 MR. O'LAUGHLIN: I'm curious. Did you listen  
16 in when Dr. -- I mean, Mr. Tehrani was testifying  
17 previously?

18 WITNESS PAULSEN: I listened to portions of  
19 his testimony. I did not listen to everything.

20 MR. O'LAUGHLIN: Did you have a chance to  
21 review his -- Mr. Tehrani's rebuttal testimony at all  
22 in regards to the Antioch matter?

23 WITNESS PAULSEN: I did.

24 MR. O'LAUGHLIN: Okay. And remember, there  
25 were some charts and graphs up there where he set forth

1 what the amount of water from the San Joaquin River  
2 that would make it to Antioch in a given year type.

3 Do you remember those graphs?

4 WITNESS PAULSEN: I think so.

5 MR. O'LAUGHLIN: Okay. So basically what  
6 the --

7 CO-HEARING OFFICER DODUC: Are you verging  
8 into the area of surrebuttal, Mr. O'Laughlin?

9 MR. O'LAUGHLIN: No. Just trying to find out  
10 where we are with where water flows in the Delta. I'm  
11 almost done with that question.

12 CO-HEARING OFFICER DODUC: Okay.

13 MR. O'LAUGHLIN: Okay. Did you -- or are you  
14 as part of this -- let me put it a different way.

15 Based on the presentation that he made, do you  
16 have any basis as you sit here today that Mr. Tehrani's  
17 testimony regarding the percentage of water that shows  
18 up at Antioch in a given year type is incorrect?

19 WITNESS PAULSEN: Let me just -- if I can  
20 adjust the question you asked slightly?

21 MR. O'LAUGHLIN: Sure, you can adjust it.  
22 Yeah.

23 WITNESS PAULSEN: I think what he was looking  
24 at was the fraction of water at Antioch's intake that had  
25 originated from the San Joaquin River --

1 MR. O'LAUGHLIN: Correct.

2 WITNESS PAULSEN: -- that was from the  
3 San Joaquin River, not necessarily the amount of San  
4 Joaquin River water that made it to that location.

5 MR. O'LAUGHLIN: Thank you.

6 WITNESS PAULSEN: And I've lost the question.  
7 I'm sorry.

8 MR. O'LAUGHLIN: No. You actually cleaned it  
9 up.

10 Once again, the last one on this is in -- in 11  
11 Rebuttal Opinion No. 5, you talk about the  
12 inappropriate baseline.

13 Just to be clear, you did not look at the 14  
14 Vernalis modeling by DWR to ascertain whether or not  
15 the D1641 flow requirements were met in the baseline;  
16 is that correct?

17 WITNESS PAULSEN: That's correct. I did not  
18 evaluate that.

19 MR. O'LAUGHLIN: Thank you very much.

20 CO-HEARING OFFICER DODUC: Thank you,  
21 Mr. O'Laughlin.

22 Mr. Herrick.

23 Ms. Meserve?

24 MS. MESERVE: May I have five minutes before 25 Mr.  
Herrick? I forgot to stand up when we were getting

1 ready for lunch.

2 CO-HEARING OFFICER DODUC: All right. Since  
3 you caught me before I went past you, yes, you may have  
4 five minutes, Ms. Meserve.

5 CROSS-EXAMINATION BY MS. MESERVE

6 MS. MESERVE: Good afternoon. Osha Meserve  
7 for LANDS, et al. I just have a couple of questions  
8 about the modeling opinions in number -- Opinion No. 5,  
9 and on Page 8 as well. So starting with the Page 8 of  
10 the testimony which is Antioch 300, you discuss,  
11 Dr. Paulsen, the methods for evaluating water quality  
12 impacts.

13 Do you believe, Dr. Paulsen, that, even though  
14 the modeling is not predictive, it is just comparative,  
15 it can provide useful information for this hearing?

16 WITNESS PAULSEN: Yes.

17 MS. MESERVE: And at the top of Page 9, you  
18 state that there is insufficient information to  
19 determine -- to support a no injury conclusion for  
20 Antioch, correct?

21 WITNESS PAULSEN: Sorry. Let me just orient  
22 myself. I'm at the top part of Opinion 2, which has to  
23 do with whether harm or water quality degradation has  
24 been established, correct?

25 And yes, I agree there's not enough

1 information to demonstrate that.

2 MS. MESERVE: And elsewhere in your testimony,  
3 you point out that Antioch's intakes had not been  
4 specifically studied in the modeling conducted by DWR,  
5 and you disagreed with that; is that correct?

6 WITNESS PAULSEN: There was certainly water  
7 quality modeling output obtained at Antioch's intake  
8 for many of the scenarios that were evaluated here, but  
9 I didn't see that kind of information at Antioch's  
10 intake in DWR's evaluation of the impacts of the CCWD  
11 agreement.

12 MS. MESERVE: And with respect to other water  
13 diversions in the Delta and your experience with  
14 modeling of Delta water quality, do you think that it  
15 would have been appropriate to look at other specific  
16 intakes and diversions to support a no injury analysis?

17 WITNESS PAULSEN: Yes. I mean, I think that  
18 the evaluation -- if you want to demonstrate that  
19 you're not going to harm a user of water within the  
20 Delta, it would be most useful to evaluate the water  
21 quality for the water that they use, not at some point  
22 that's distant from that location.

23 MS. MESERVE: And the compliance points from  
24 D1641, for instance, may not align with all of the  
25 thousands of diversions in the Delta, correct?

1                   WITNESS PAULSEN:    Correct.    And some of them  
2    -- D1641, for example, provides an alternative for  
3    looking at some of the M and I standards of either  
4    Pumping Plant 1 or Antioch.    And for practical  
5    purposes, it's always evaluated at Pumping Plant 1.  
6    It's never evaluated at Antioch because water quality  
7    at Antioch tends to be worse, more saline than at  
8    Pumping Plant 1.

9                   So there's one example.    But also as I stated  
10   earlier today, I don't believe that DWR in either the  
11   case in chief or the FEIR evaluated water quality, for  
12   example, at Stockton's intake.

13                  MS. MESERVE:    And just keeping with the  
14   example of the other diversions in the Delta, would you  
15   think that an analysis that looked at groupings of  
16   other diversions would have been feasible for DWR to do  
17   as part of their case in chief?

18                  WITNESS PAULSEN:   I'm not sure I know how to  
19   answer that.   I'm not sure which other diversions you  
20   have in mind.

21                  MS. MESERVE:    Just to clarify, I'm speaking of  
22   other diversions beyond the two that you've testified  
23   about today.

24                  WITNESS PAULSEN:   Right.    Or groupings of  
25   other diversions.   I mean, in my opinion if you want to

1 figure out the water quality impact at a given  
2 location, the model gives us the tools to look at water  
3 quality at locations throughout the Delta. And so that  
4 would typically be the best information to use.

5 MS. MESERVE: Thank you.

6 CO-HEARING OFFICER DODUC: Thank you,  
7 Ms. Meserve.

8 Mr. Herrick, do you still anticipate ten  
9 minutes? Less?

10 MR. HERRICK: (Shakes head negatively)

11 CO-HEARING OFFICER DODUC: And Mr. Jackson?

12 MR. JACKSON: Less than 15.

13 CO-HEARING OFFICER DODUC: Okay. Then if the  
14 court reporter is okay with that, let's go ahead and  
15 finish up before we take our break.

16 CROSS-EXAMINATION BY MR. HERRICK

17 MR. HERRICK: Thank you. Once again, I'm John  
18 Herrick for South Delta parties. I think I may be able  
19 to just do one question.

20 Could we pull up the PowerPoint, the  
21 demonstrative PowerPoint you used? I think it's Figure  
22 8-0A. It's the one with the highlighted impacts. Keep  
23 going. Sorry.

24 MR. EMRICK: John, are you thinking about  
25 DWR's --

1 MR. HERRICK: It was from a DWR document.

2 MR. EMRICK: Right. I think that is from her  
3 report, not from the demonstrative PowerPoint.

4 MR. HERRICK: Thank you, sir. It was up on  
5 the --

6 WITNESS PAULSEN: I don't know which one you  
7 mean for sure. Is it this one? That is in Antioch  
8 303. This one?

9 CO-HEARING OFFICER DODUC: What page is that,  
10 Dr. Paulsen?

11 WITNESS PAULSEN: You know, I reorganized the  
12 slides, and I didn't reprint. I apologize. It's  
13 probably on the order of 13, 14. It's down below this.  
14 There.

15 MR. HERRICK: That one.

16 Dr. Paulsen, is it your opinion that this is a  
17 DWR chart that tells us that there are significant and  
18 unavoidable impacts to chlorides from some of the  
19 scenarios being examined in this hearing?

20 WITNESS PAULSEN: Well, the chart, the second  
21 line down is for chloride, and that describes the  
22 percent of years when the 150 milligram per liter water  
23 quality objective is exceeded at Pumping Plant 1. And  
24 the darker the blue, the more serious or the more -- the  
25 greater the impact. And it shows both significant



1 and adverse impacts for Scenarios 1A, 1B, 1C, 2A, 2B,  
2 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9.

3 MR. HERRICK: And some of those scenarios you  
4 just described are either the same or very similar to  
5 the scenarios that are being evaluated as part of this  
6 petition, correct?

7 WITNESS PAULSEN: Well, the document, the FEIR  
8 states that the Boundary 1 scenario of all of these is  
9 probably closest to 1A and 3. And the Boundary 2  
10 scenario is probably closest to Scenario 8.

11 MR. HERRICK: So DWR believes that there are  
12 significant and unavoidable impacts to chlorides under  
13 the various -- under some of the scenarios being  
14 evaluated in this proceeding?

15 WITNESS PAULSEN: That is how I interpret this  
16 information.

17 MR. HERRICK: No further questions. Thank you  
18 very much.

19 CO-HEARING OFFICER DODUC: Thank you,  
20 Mr. Herrick.

21 Mr. Jackson.

22 CROSS-EXAMINATION BY MR. JACKSON

23 MR. JACKSON: My questions will be from the  
24 document that has been referred to as Antioch 303. And  
25 I'm looking for the opinions which I think were on

1 Page 2. My name is Michael Jackson, and I'm  
2 representing CSBA parties.

3 CO-HEARING OFFICER DODUC: And I just heard  
4 someone's phone ding. Everyone check your phones.

5 Mr. Jackson, do you want the list of all the  
6 opinions or --

7 MR. JACKSON: What now?

8 CO-HEARING OFFICER DODUC: Is this the page  
9 you were looking for?

10 MR. JACKSON: No. What I'm actually looking  
11 for is there was one page that had all five opinions.

12 CO-HEARING OFFICER DODUC: Yes. Go back up to  
13 the beginning, I believe.

14 MR. JACKSON: Right.

15 CO-HEARING OFFICER DODUC: Well, maybe not.

16 WITNESS PAULSEN: I'm not sure there was a  
17 summary of those in this PowerPoint. We did have a  
18 summary of six opinions for Stockton earlier, but I  
19 don't think --

20 MR. JACKSON: Oh, I'm sorry.

21 WITNESS PAULSEN: -- we put in a summary. I  
22 apologize.

23 MR. EMRICK: There is a summary, Mr. Jackson,  
24 in Antioch 300, I believe, Page 2.

25 MR. JACKSON: Okay. I had it written down

1 wrong.

2 WITNESS PAULSEN: Page 3.

3 R. EMRICK: Page 3.

4 MR. JACKSON: So Antioch 300, Page 3. Yes,  
5 that's the document I had in mind.

6 Dr. Paulsen, I represent a group that owns  
7 land directly across from Antioch at a place called  
8 Collinsville.

9 Are you familiar with where that is?

10 WITNESS PAULSEN: Generally, yes.

11 MR. JACKSON: It's downstream of Emmaton and  
12 downstream of Jersey Point, correct?

13 WITNESS PAULSEN: I'd need to look at a map to  
14 confirm, but I think so.

15 MR. JACKSON: Okay. Are you familiar with the  
16 Collinsville water quality station that DWR has at  
17 Collinsville?

18 WITNESS PAULSEN: It's been a long time since  
19 I've looked at those data. I believe there's a  
20 measurement station there. I know a few of the others  
21 much better.

22 MR. JACKSON: For the -- for the -- for these  
23 quick questions, I want you to assume hypothetically  
24 that the land I'm talking about is on the site of the  
25 Collinsville water quality station across the bridge

1 from Antioch.

2 WITNESS PAULSEN: Basically due north of  
3 Antioch on the north shore?

4 MR. JACKSON: Right. Would -- since DWR used  
5 Emmaton and Jersey Point as the water quality stations  
6 for their work in regard to Antioch, would the opinions  
7 that you have here be the same for all land below  
8 Emmaton to Antioch?

9 WITNESS PAULSEN: I believe it would be  
10 similar. I haven't looked at that exactly. What I was  
11 looking for in my prior testimony, I'm not finding  
12 quickly, is a map of the DSM-2 model grid. And the  
13 question that I would have is I think that there is one  
14 model channel section through there, not multiple.

15 And because the DSM-2 model is a  
16 one-dimensional model, if that is the case, then we  
17 would expect water quality on the opposite side of the  
18 channel to look very similar to water quality -- on the  
19 north side to look similar to the water quality on the  
20 south side.

21 So, yes, the same concerns would hold.

22 MR. JACKSON: Would it be -- would it make any  
23 difference that the Collinsville side is predominantly  
24 Sacramento River?

25 CO-HEARING OFFICER DODUC: Hold on a second.

1 I believe Mr. Berliner has an objection to make.

2 MR. BERLINER: Yes, I do. This line of  
3 questioning is beyond the scope of this witness's  
4 testimony. She did not discuss Collinsville at all.  
5 Her testimony was focused on Antioch. And she has  
6 indicated that she has scant familiarity at this point  
7 with the Collinsville area. So I think that this line  
8 of questioning is inappropriate.

9 CO-HEARING OFFICER DODUC: Mr. Jackson?

10 MR. JACKSON: The reason I'm asking these  
11 questions is that, first of all, she's an expert, and  
12 I'm allowed to go beyond the -- the scope on cross.

13 CO-HEARING OFFICER DODUC: Not on rebuttal.

14 MR. JACKSON: What?

15 CO-HEARING OFFICER DODUC: Not on rebuttal.

16 MR. JACKSON: All right. Then my second --  
17 then my second attempt at it is that since they used  
18 Emmaton and Jersey Point, the testimony that's  
19 applicable to Antioch is applicable to everybody in the  
20 same area.

21 CO-HEARING OFFICER DODUC: That is a good  
22 point.

23 Mr. Berliner, your response?

24 MR. BERLINER: There is no evidence in the  
25 record to that.

1 MR. JACKSON: I just asked the expert if that  
2 would be true.

3 CO-HEARING OFFICER DODUC: Right.

4 Mr. Berliner, overruled. I'll give  
5 Mr. Jackson a little bit of leeway.

6 MR. JACKSON: Thank you.

7 So assuming that hypothetical --

8 CO-HEARING OFFICER DODUC: And obviously,  
9 Dr. Paulsen will only answer to the extent that she is  
10 capable of giving her narrow focus on Antioch.

11 MR. JACKSON: Is there any reason for you to  
12 believe, as you sit here today, that Rebuttal Opinion 1  
13 would be different on one side of the river than on the  
14 other side?

15 WITNESS PAULSEN: I don't have sufficient  
16 information in what DWR has presented to understand the  
17 impacts at Antioch or at that location in the river  
18 generally.

19 MR. JACKSON: Or everyone downstream of  
20 Emmaton?

21 MR. EMRICK: Are you asking, Mr. Jackson,  
22 whether or not the other people downstream of Emmaton  
23 would also not have sufficient information to determine  
24 adverse impacts?

25 MR. JACKSON: That's exactly what I'm asking.

1                   WITNESS PAULSEN: I would argue or assert that  
2 people at Emmaton would not have sufficient information  
3 because the information that DWR has presented, as  
4 we've already discussed, was in the form of long-term  
5 averages and doesn't allow you to tease out water  
6 quality information on a finer time scale than that.  
7 And I think that would apply downstream of Emmaton as  
8 well, just as it applies at Antioch.

9 MR. JACKSON:                   Would that also apply to folks  
10 downstream of Jersey Point on the San Joaquin River?

11                   CO-HEARING OFFICER DODUC: Dr. Paulsen, can  
12 you truly form or offer expert opinion with respect to  
13 other areas near Antioch?

14                   WITNESS PAULSEN: I think what I can say  
15 comfortably is that the information that we were  
16 looking at both in the PowerPoint that I think is  
17 Antioch 303 and in the exhibit -- I've lost the number  
18 -- that Mr. Berliner showed, showed aggregated results  
19 presented as monthly averages either over the full  
20 16-year period or over a subset of those years called  
21 drought years.

22                   And from those long-term averages, if that is  
23 the only information that we have, I cannot tell what  
24 impacts would be on a shorter time scale.

25                   CO-HEARING OFFICER DODUC: Regardless of

1 whether it's Antioch, Collinsville, or any location?

2 WITNESS PAULSEN: My concern with Antioch was  
3 both that the results were presented in a  
4 long-term-average fashion and that they were presented  
5 only at Emmaton or Jersey -- and Jersey Point and not  
6 at Antioch's location. But I don't recall seeing any  
7 more detailed information than those long-term averages  
8 at either Emmaton or Jersey Point. So that part of my  
9 opinion here holds.

10 CO-HEARING OFFICER DODUC: Okay.

11 MR. JACKSON: Calling your attention to your  
12 Rebuttal Opinion No. 2. Given the group of landowners  
13 in the neighborhood, would your Rebuttal Opinion No. 2  
14 apply to those people as well as to Antioch?

15 WITNESS PAULSEN: Again, I have not evaluated  
16 those locations specifically.

17 MR. JACKSON: And neither has DWR.

18 WITNESS PAULSEN: I haven't looked for that,  
19 but I don't recall seeing it.

20 You know, again, I've testified that I think  
21 to evaluate water quality at a specific location, you  
22 should look at the model results for that specific  
23 location. I think I'd like to leave it at that.

24 MR. JACKSON: Okay. In regard to Rebuttal  
25 Opinion No. 3, would that opinion be applicable to



1 people downstream of Emmaton and Jersey Point to  
2 Antioch?

3 CO-HEARING OFFICER DODUC: Now here,  
4 Dr. Paulsen, since you have not analyzed that, are you  
5 prepared to offer an opinion?

6 WITNESS PAULSEN: I'm not. That would be a  
7 concern that I would have if I were one of those  
8 people, but I haven't analyzed those locations  
9 specifically. It is possible to do so with the model  
10 results we have.

11 MR. JACKSON: And the same process could be  
12 taken for Antioch and other landowners in that  
13 neighborhood?

14 WITNESS PAULSEN: Right. You'd need to pull  
15 out the model results for the locations of interest.

16 MR. JACKSON: And in Rebuttal Opinion 5, the  
17 inappropriate baseline you're talking about would apply  
18 to everyone in the Delta?

19 WITNESS PAULSEN: I think that applies to the  
20 Delta as a whole, right.

21 MR. JACKSON: Thank you very much. No further  
22 questions.

23 WITNESS PAULSEN: Thank you.

24 CO-HEARING OFFICER DODUC: Thank you,  
25 Mr. Jackson. I'm glad you skipped Rebuttal Opinion 4

1 because I was going to ask whether you had a 1968  
2 agreement or not.

3 MR. JACKSON: And I know that you were going  
4 to do that.

5 CO-HEARING OFFICER DODUC: Mr. Emrick, any  
6 redirect?

7 MR. EMRICK: Not at this time, no.

8 CO-HEARING OFFICER DODUC: All right. And I  
9 don't believe there are any outstanding objections. So  
10 at this time, do you wish to move your exhibits into  
11 the record?

12 MR. EMRICK: I do, thank you.

13 CO-HEARING OFFICER DODUC: And they have been  
14 so moved and accepted into the record.

15 Thank you all very much. Thank you,  
16 Dr. Paulsen.

17 We will take our 15-minute break. Return at  
18 2:00- -- it just moved on me -- 2:50 with Ms. Meserve.  
19 And I guess you will be presenting the witnesses for  
20 their combined Group 19, 24, and 31?

21 MR. KEELING: It will be me and Mr. Jackson  
22 and Ms. Meserve.

23 CO-HEARING OFFICER DODUC: All right. Three  
24 for the price of one. Thank you. We'll see you in  
25 15 minutes.

1 (Recess taken)

2 CO-HEARING OFFICER DODUC: All right,  
3 everyone, please take your seats. It is 2:50. We're  
4 going we're going to resume. Let me do a little bit of  
5 a time check here.

6 How much time do you need to present your  
7 rebuttal testimony?

8 MR. KEELING: I believe that this panel will  
9 consume less than half an hour, probably a larger  
10 portion of that for Mr. Del Piero.

11 CO-HEARING OFFICER DODUC: All right. Let me  
12 take a moment and welcome Mr. Del Piero, former vice  
13 chair of the board and actually was my vice chair when  
14 I was on staff.

15 MARK DEL PIERO: Thank you very much. It's  
16 really nice to see you.

17 CO-HEARING OFFICER DODUC: Cross-examination,  
18 can I have a cross-examination time for this panel?

19 MS. ANSLEY: I just have a brief objection to  
20 lodge and no cross-examination.

21 CO-HEARING OFFICER DODUC: All right.

22 (Reporter interruption)

23 CO-HEARING OFFICER DODUC: She has a brief  
24 objection that DWR would like to lodge and no  
25 cross-examination.

1           Anyone else wishing to conduct cross?

2           MR. HERRICK: John Herrick, South Delta  
3 parties. I was just going to anticipate, you know,  
4 five or ten minutes at the most, minimal.

5           CO-HEARING OFFICER DODUC: Okay. In that  
6 case, our goal will be to get through you today. That  
7 way, you will not have to come back tomorrow.

8           And since you're about to voice an objection,  
9 Ms. Ansley, would you mind -- is it an objection that  
10 can hold until my counsel gets here?

11          MS ANSLEY: Of course.

12          CO-HEARING OFFICER DODUC: I would prefer  
13 that. So with that, Ms. Meserve, Mr. Keeling,  
14 Mr. Jackson, I do believe your witnesses need to take  
15 the oath.

16          Please stand and raise your right hand.

17          (Witnesses sworn)

18          MARK DEL PIERO and BRANDON NAKAGAWA,  
19 called as rebuttal witnesses by Groups  
20 19, 24, and 31, having been first duly  
21 sworn, were examined and testified  
22 as hereinafter set forth:

23 CO-HEARING OFFICER DODUC:                   Thank you. Please  
24 be seated.

25          Do you have an opening statement, Ms. Meserve,

1 Mr. Keeling, Mr. Jackson?

2 MR. KEELING: We do not.

3 CO-HEARING OFFICER DODUC: Then please  
4 beginning with your rebuttal testimony.

5 MR. KEELING: And we will begin with  
6 Mr. Nakagawa.

7 Is everyone here?

8 CO-HEARING OFFICER DODUC: Hang on.  
9 Now that my counsel is here, do you wish to 10  
voice your objection?

11 MS. ANSLEY: Thank you. Jolie-Anne Ansley for  
12 the Department of Water Resources.

13 So this is on the first point of the Hearing  
14 Officer's ruling on April 13th, 2017 to Mr. Del Piero's  
15 testimony. You had ruled that he was to remove or  
16 revise testimony concerning the failure of past efforts  
17 to protect public trust resources. He has made  
18 revisions. I just have two page and line cites that I  
19 think should be further struck from the record, and  
20 they're pretty discrete.

21 CO-HEARING OFFICER DODUC: All right.

22 MS. ANSLEY: The first is on Page 3, Lines 22  
23 to 28, where he talks about Draft Decision 1630 would  
24 have resolved Delta issues. I believe those lines  
25 should also fall under that same ruling.

1                   And then Page 6, Line 26 to Page 7, Line 11,  
2 where the discussion is the failure of the State Water  
3 Resources Control Board to deal with the issue of the  
4 Bureau's water rights and paper water and the resulting  
5 significant and adverse environmental impacts in the  
6 Delta. So just those page and line cites falling  
7 within the first issue in your April 13th ruling to  
8 Mr. Del Piero's testimony.

9                   CO-HEARING OFFICER DODUC: Now, if I recall  
10 that ruling, it was specifically to strike that portion  
11 of the testimony as it potentially applies to fisheries  
12 and other environmental impacts that would be addressed  
13 in Part 2. To the extent that it might relate to  
14 impacts to water users, then it would be appropriate in  
15 this part.

16                   MS. ANSLEY: I agree. I think that the first  
17 page, the issues on Page 3 were more general to desired  
18 outcomes of the Delta, and the issues on Page 6  
19 specifically reference significant and adverse  
20 environmental impacts on the Delta, which would be  
21 Phase 2.

22                   CO-HEARING OFFICER DODUC: Thank you for that  
23 clarification.

24                   Before I get to Mr. Keeling -- to one of the  
25 three attorneys for their response, Ms. Heinrich, do

1 you have a question?

2 MS. HEINRICH: I do. I'm sorry. I missed the  
3 line numbers on Page 6.

4 CO-HEARING OFFICER DODUC: I believe it was  
5 Page 6, Line 26 through Page 7, Line 11.

6 MS. ANSLEY: Yes, of the revised testimony.

7 MS. HEINRICH: Thank you.

8 MR. JACKSON: Michael Jackson. Actually, I  
9 think Mr. Keeling will do most of the lifting here so  
10 you don't have to bounce back and forth between three  
11 lawyers.

12 CO-HEARING OFFICER DODUC: Thank you. I was  
13 about to call you the Three Musketeers.

14 MR. JACKSON: Yeah, well, I...

15 CO-HEARING OFFICER DODUC: Mr. Keeling,  
16 Mr. Jackson has abdicated to you.

17 MR. KEELING: What else is new?

18 As you will recall, we did submit Exhibit 76-R 19 in  
19 which we made considerable revisions in response to 20  
21 the Hearing Officer's ruling. And I take it from the  
22 objection that the objection is only to these two  
23 discrete passages. It's an objection particularly to  
24 the written testimony, if I understand it correctly.

25 CO-HEARING OFFICER DODUC: That is my  
understanding.

1 MR. KEELING: Well, with respect to the --

2 CO-HEARING OFFICER DODUC: And actually, do we  
3 have it up? If we can go to Page 38, Lines 22 through  
4 28.

5 MR. KEELING: Page 3 is part of his -- his  
6 background, his qualifications, and his experience.

7 In fact, I believe that this is in large part  
8 duplicative of what's in his statement of  
9 qualifications.

10 CO-HEARING OFFICER DODUC: Ms. Ansley, are you  
11 specifically looking at the portion on Line 23 and 24?

12 MS. ANSLEY: I am, and what they follow is --  
13 of course, this is buried within his narrative on  
14 qualifications where, in the previous paragraph, he had been  
15 talking about protection of coastal wetlands, endangered  
16 species, as well as impacts to agricultural lands.

17 And here he's just talking about the failure  
18 of -- instead of his qualifications, he's talking about  
19 the failure of the Board to adopt a water rights  
20 decision and a policy. And of course, that's going a  
21 little bit further than his qualifications. It's  
22 testimony about the failure of the Board in the past to  
23 protect public resources in the Delta.

24 MR. KEELING: Perhaps we can cut through this.

25



1 We would be happy to agree to strike the phrase that  
2 would have addressed many, if not all, of those desired  
3 outcomes sought for the Delta today. And I think that  
4 would address the objection.

5 CO-HEARING OFFICER DODUC: Thank you,  
6 Mr. Keeling. That was actually going to be my ruling.  
7 But we will so strike that, just that portion of this  
8 section.

9 MR. KEELING: If you'll give us a moment to  
10 look at Page 6/26 through 7/11.

11 CO-HEARING OFFICER DODUC: Let's move there so  
12 that we can all look at it together. And perhaps  
13 Mr. Keeling will anticipate my ruling again.

14 MR. KEELING: Did I wear the wrong tie?

15 CO-HEARING OFFICER DODUC: That was meant to  
16 be complimentary, Mr. Keeling.

17 MR. KEELING: You know, we could remove the  
18 language about --

19 CO-HEARING OFFICER DODUC: Adverse  
20 environmental impacts?

21 MR. KEELING: -- "resulting in significant and  
22 adverse environmental impacts in the Delta," and I  
23 think that would address the objection.

24 CO-HEARING OFFICER DODUC: That was what I was  
25 thinking as well.

1 Ms. Ansley, do you wish to offer a thought?

2 MS. ANSLEY: Just briefly that, you know, the  
3 import of the paragraph is really to past decisions of  
4 the State Water Resources Control Board and doesn't  
5 particularly relate to the current proceeding. And I  
6 guess divorcing the significant adverse environmental  
7 impacts section from it still leaves this testimony on  
8 the failure of the State Water Board to review in  
9 intervening decades what Mr. Del Piero characterized as  
10 the serious and irreparable defects.

11 I guess I'm fine with the stricken language.  
12 I do believe that the whole thing, though, is irrelevant  
13 to the proceeding and is kind of part and parcel.

14 CO-HEARING OFFICER DODUC: Mr. Keeling, your  
15 response to that?

16 MR. KEELING: I think the rest of it is  
17 necessary for the context of Mr. Del Piero's expert  
18 opinion. And to the extent that the Hearing Officers  
19 would entertain the objection at all, I think it goes  
20 to weight, not admissibility.

21 CO-HEARING OFFICER DODUC: All right. I'm  
22 looking at -- yeah. I think that's what we're going to  
23 do. We are going to strike the section that those  
24 water rights permit -- well, to what extent, though,  
25

1 will your testimony go into the details of impacts to  
2 senior water right holders, Mr. Del Piero? Now, that  
3 would be -- actually, now that I'm reading it, you're  
4 talking then would be the impacts not necessarily --  
5 I'm seeing Ms. Ansley's point now that the impacts that  
6 you will be discussing, as I read it from this section,  
7 will be impacts not due to the WaterFix but due to what  
8 you believe to be previous non-action. And that  
9 wouldn't result in whether or not there is a WaterFix  
10 proposal.

11 MR. KEELING: Well, the context within which  
12 the witness will be testifying is about the permits and  
13 defects in the permits. And this is historical context  
14 for that discussion about the permits.

15 CO-HEARING OFFICER DODUC: But those permits  
16 exist whether or not there is a WaterFix proposal,  
17 which I believe is what Ms. Ansley is trying to get at.

18 MR. KEELING: I believe the witness could  
19 answer that -- can respond to that observation.

20 CO-HEARING OFFICER DODUC: I'm sorry.  
21 Mr. Del Piero, did you have something to add?

22 WITNESS DEL PIERO: I've been cautioned --

23 MR. KEELING: Well, with respect to the  
24 Hearing Officer's statement that those permits exist  
25 because that's something we dispute.

1 CO-HEARING OFFICER DODUC: All right. Let's  
2 go ahead and just strike the section that refers to  
3 adverse environmental impacts in the Delta, and we'll  
4 proceed from there.

5 WITNESS DEL PIERO: Madam Hearing Officer,  
6 just so I know, that's Line 6 on Page 7; is that  
7 correct?

8 CO-HEARING OFFICER DODUC: That is -- Line 6,  
9 yes.

10 WITNESS DEL PIERO: Thank you, Madam Hearing  
11 Officer.

12 CO-HEARING OFFICER DODUC: All right.

13 MR. KEELING: We are ready to proceed. And we  
14 will begin with Mr. Nakagawa.

15 DIRECT EXAMINATION BY MR. KEELING

16 MR. KEELING: Mr. Nakagawa, have you taken a  
17 look at Exhibit SJC-70?

18 WITNESS NAKAGAWA: Yes.

19 MR. KEELING: Is SJC-70 a true and correct  
20 copy of your written testimony?

21 WITNESS NAKAGAWA: Yes.

22 MR. KEELING: Have you taken a look at SJC-71?

23 WITNESS NAKAGAWA: Yes.

24 MR. KEELING: Is SJC-71 a true and correct  
25 copy of your statement of qualifications?

1 WITNESS NAKAGAWA: Yes.

2 MR. KEELING: Mr. Nakagawa, could you please  
3 now summarize your testimony for the Hearing  
4 Officers.

5 WITNESS NAKAGAWA: Chair, Hearing Officers, I  
6 am currently employed by San Joaquin County Department  
7 of Public Works as a water resources coordinator. I'm  
8 also a graduate of the University of the Pacific. And  
9 I'm a registered civil engineer in the State of  
10 California.

11 As a water resources coordinator for  
12 San Joaquin County Public Works, my duties and  
13 responsibilities include among, other water-related  
14 issues, a number of groundwater-related programs. For  
15 example, San Joaquin County is designated as the  
16 monitoring entity for the California Statewide  
17 Groundwater Elevation Monitoring Program, or CSGEM, as  
18 administered by the Department of Water Resources. The  
19 County is a designated monitoring entity for the  
20 portion of the Tracy Sub-basin, which underlies a 21  
significant portion of the Sacramento-San Joaquin 22  
Delta.

23 In addition, I oversee the preparation of a  
24 countywide semiannual groundwater report published by  
25 the County Department of Public Works which includes a

1 portion of the Tracy Sub-basin and the majority of the  
2 Eastern San Joaquin Sub-basin.

3 I'm also extensively involved in efforts to  
4 comply with the Sustainable Groundwater Management Act  
5 in both the Eastern San Joaquin and Tracy Sub-basins.

6 Proposed Delta tunnels project's components  
7 and the tunnels' alignments -- alignment are located in  
8 both sub-basins.

9 I appreciate the opportunity to briefly  
10 summarize my written testimony as to the approximate  
11 location of wells in the vicinity of the proposed  
12 tunnels' alignment, a copy of which is submitted to the  
13 Water Board as Exhibit SJC-70.

14 The petitioners could have readily performed  
15 the search to locate wells within the vicinity of the  
16 proposed tunnel alignment and other tunnels' project  
17 components. Identifying well location is a critical  
18 step in any competent analysis designed to determine  
19 the potential injury to legal users of groundwater that  
20 would result in the proposed project. That will be  
21 explained by Mr. Del Piero sitting next to me in his  
22 testimony. Such an analysis would be necessary to  
23 determine, demonstrate a reasonable likelihood that  
24 proposed tunnels would not injure any other legal users  
25 of groundwater.

1           Before I go further, if the hearing staff  
2 could please queue up, SJC-73, -74 and -75. Thank you.

3           Locating wells in the vicinity of proposed  
4 tunnels started with obtaining information readily  
5 available to public agencies and retained within DWR's  
6 own databases. DWR is the repository for well  
7 completion reports containing well construction  
8 information as submitted by well drillers, well owners,  
9 and the well-permitting agencies. Public agencies and  
10 the general public, with certain limitations, may  
11 obtain well completion reports for use in studies and  
12 investigations.

13           On January 31st, 2017, I e-mailed a well  
14 completion report request to DWR, focusing on the areas  
15 in the vicinity of the proposed tunnels alignment and a  
16 couple weeks later was send a compact disk containing  
17 134 well completion reports with a Microsoft Excel  
18 index. Using the Excel sheet index, there were 56  
19 wells specifically denoted as domestic, industrial,  
20 irrigation, and public supply.

21           As explained in detail in my written  
22 testimony, further investigation of wells without a use  
23 designation was performed, resulting in 76 total  
24 water-producing wells identified within DWR's own  
25 records.

1           The next step was to identify each well's  
2 physical location, which has been determined by looking  
3 up the listed situs address or any other additional  
4 information on the well completion report, such as a  
5 hand sketch, an attached map, or an actual written  
6 description.

7           To aid in the analysis, Google Maps, an  
8 Internet-based mapping tool and free to the general  
9 public, was used to approximate the location of wells  
10 in the vicinity of the proposed tunnel alignment. A  
11 particular utility, Google Maps search engine  
12 capabilities and the distance measurement tool were  
13 used to populate the resulting spreadsheet listed as  
14 Exhibit SJC-72.

15           The exhibit contains hyperlinks to screen  
16 shots generated by Google Maps depicting the  
17 approximate location of each well, the well's  
18 surrounding geographic identifiers, such as streets  
19 water bodies, place names, and the well's approximate  
20 latitude and longitude.

21           Using a GIS, or Geographic Information System  
22 mapping software, this is where Exhibits SJC-73, -74  
23 and -75 were generated by County staff. We used the  
24 latitudes and longitudes derived from Google Maps.

25           And if I could ask the Hearing Officer to



1 display SJC-73. Thank you. We do not have adequate  
2 labels identifying some of the other geographic  
3 features, like Interstate 5. But I'll try to navigate  
4 the Hearing Officers through that.

5 So tunnel boring, to orient the Hearing  
6 Officers and the audience, we're looking at a map of  
7 the proposed tunnel alignment as located mostly in  
8 Sacramento County. The tunnel alignment and other  
9 project components were re-created based on the project  
10 proponent's published reports, including the  
11 2015 R-DEIR/DEIS, Exhibit SWRCB-3, and the conceptual  
12 engineering report, DWR-212.

13 The wells have been given either an SAC or SJ  
14 well identification number for reference purposes. The  
15 well is orientated with north pointing upwards. And if  
16 you can see in the map, Interstate 5 is sort of grayed  
17 out north-south feature on the center right of your  
18 map.

19 The first cluster of wells along the tunnel 20  
alignments is approximately the town of Hood in the  
21 northern part of your map. And if you follow further  
22 south along the Sacramento River, there's another  
23 cluster of wells which is approximately the town of  
24 Cortland. As you travel further south, you transition  
25 from Sacramento County into San Joaquin County.

1           And if I could ask hearing staff to pull up  
2 SJC-74. So now we're in San Joaquin County again with  
3 north pointing upwards. I-5 is now off to the  
4 right-hand side of the screen in the extreme right-hand  
5 corner of the top corner there. And if you look just  
6 west of I-5, that's historic town of Thornton. The  
7 tunnel alignments run smack dab in the middle of Staten  
8 Island and continuing on to Bouldin Island in the  
9 south. Bouldin Island was recently purchased by  
10 Metropolitan Water District. The Delta water supply  
11 project intake is located on Empire Tract, which is how  
12 my family and others in the City of Stockton get our  
13 drinking water.

14 Traveling further south into SJC-75, we are 15 still  
in San Joaquin County.           There we go. And we are  
16 looking at the Contra Costa County and San Joaquin  
17 County line there just to the center left of the map.  
18 And the tunnel alignments continue down into Bacon  
19 Island, and Woodward and Victoria Islands further south  
20 into Clifton Court Forebay. Just to the west of the  
21 tunnel alignment on Contra Costa County is the town of  
22 Discovery Bay.

23           So why is it important that the wells be  
24 located in the first place? Impacts to wells due to  
25 interference caused by the actual tunnels could include

1 reduced well production, degradation of water quality,  
2 reduced well pumping efficiency, and possibly  
3 destruction of the well directly in the path of the  
4 tunnels.

5           As the San Joaquin County Water Resources  
6 Coordinator, if there are any groundwater  
7 related-questions or data requests from consultants,  
8 researchers, agencies, or the general public, those  
9 inquiries often come to me directly. To my knowledge  
10 in San Joaquin County, we have never seen something  
11 having as massive an underground footprint as this  
12 proposed tunnel project.

13           Not having seen any other documents produced  
14 by the tunnel proponents, I would have no other answer  
15 for a well owner in the Delta other than the possible  
16 impacts I just mentioned.

17           In my opinion, the identification and  
18 characterization of wells in the vicinity of tunnels is  
19 a critical first step in any analysis that would  
20 conclude that no injury to legal users of groundwater  
21 would occur.

22           This concludes the summary of my written  
23 testimony. Thank you.

24           MR. KEELING: Thank you, Mr. Nakagawa.

25           We're going to move on to Mr. Del Piero.

1           Mr. Del Piero, have you had a chance to take a  
2 look at Exhibit SJC-76-R?

3           WITNESS DEL PIERO: I have. I drafted it.

4           MR. KEELING: And is 76-R a true and correct  
5 copy of your written testimony?

6           WITNESS DEL PIERO: It is.

7           MR. KEELING: Have you had an opportunity to  
8 take a look at SJC-77?

9           WITNESS DEL PIERO: I have. I prepared that  
10 as well.

11           MR. KEELING: And is that a true and correct  
12 copy of your statement of qualifications?

13           WITNESS DEL PIERO: It is.

14           MR. KEELING: Mr. Del Piero, could you go  
15 ahead and, for the Hearing Officers, summarize your  
16 testimony.

17           WITNESS DEL PIERO: Thank you very much.  
18 Madam Hearing Officers, as was indicated, my 19  
19 name's Mark Del Piero. I'm an attorney licensed to  
20 practice law in the State of California since 1980. My  
21 bar number is 91644, which proves I'm old.

22           After passing the Bar exam, I severed on both  
23 the Monterey County Planning Commission and the  
24 Monterey County Board of Supervisors from 1981 until  
25 1992. And during that period of time, we heard and

1 certified in excess of 400 CEQA documents.

2 Additionally during that time, because of my membership  
3 on the Board of Supervisors, I was also the locally  
4 designated board member representing Monterey County on  
5 the Central Valley Project -- Central Valley Project  
6 San Felipe Division, which is the division that was  
7 originally created to serve Monterey, Santa Cruz, San  
8 Benito, and Santa Clara counties. I served in that  
9 capacity from 1981 until 1986.

10 In 1984, I founded the Monterey County Ag Land  
11 Trust. The Ag Land Trust is the largest and, some  
12 think, the most successful farmland conservation  
13 organization in the State. As of last week, we now  
14 have 32,000 acres in Monterey County under permanent  
15 open space conservation easements or that we own in fee  
16 title.

17 From 1992 until 2011, I severed as adjunct  
18 professor at my alma mater, Santa Clara University  
19 School of Law. And there I taught California water law  
20 with David Sandino, formerly chief counsel for the  
21 State Department of Water Resources.

22 From 1992 until 1999, I had the distinction and  
23 honor of serving on the State Water Resources Control  
24 Board in the attorney member's position.  
25 During that time, I severed as the hearing officer for

1 a number of water rights hearings, including the  
2 Mokelumne River water rights hearings, Decision 1630,  
3 the Mono Lake decision, and also on Water Rights  
4 Order 93-3, which is the first hearing I conducted, and  
5 it was related to revocation of water rights permits on  
6 the Sutter Bypass.

7 I fully participated in the hearings that led  
8 up to the 1995 Water Quality Plan which was the  
9 beginning of the request by DWR and the Central Valley  
10 Project to combine their points of diversion. And I  
11 served on the State Board through most of the State  
12 Water Resources Control Board hearings prior to the  
13 issuance of D-1640 [sic]; however, I left the Board  
14 about 12 months before 1640 was adopted.

15 Since 1999, I've been in private practice. I  
16 represent a number of local governmental agencies and  
17 public water agencies in and around California,  
18 including previously I was chief counsel for the  
19 Mendocino County Russian River Flood Control and Water  
20 Conservation Improvement District, Parajo/Sunny Mesa  
21 Community Services District, Carmel Riviera Mutual  
22 Water Company, and the Moss Landing Harbor District.

23 I'm for some reason frequently asked to speak  
24 about water rights before community groups, attorneys,  
25 and sometimes even elected officials.

1           During the course of my comments, I will  
2 reference Mr. Nakagawa's testimony and his submittals.  
3 And I will discuss injury to senior legal users of  
4 water likely to result from the change petition that's  
5 been submitted by the petitioners for DWR's double  
6 tunnels.

7           For the purposes of evaluating injury, I  
8 assumed a baseline of the petitioners' maximum historic  
9 use under the permits subject to the change petition  
10 not the maximum permitted use relied upon by the  
11 petitioners. And I will point out why during the  
12 course of my discussion.

13           I also will address the fact that the time  
14 limits to put water to beneficial use under subject  
15 that DWR permits that were issued by the State Water  
16 Rights Board expired in 2009, and no extension of time  
17 has in fact been granted.

18           I disagree with DWR's interpretation of the no  
19 injury rule that's embodied in Water Code Section 1702  
20 et sequitur. That language is clear in expressing  
21 mandates that no injuries take place to other water  
22 users.

23           In my opinion, DWR's trouble tunnels have the  
24 significant potential to and, in fact, will cause great  
25 injury to other legal users of water in the Delta,

1 including water rights holders whose rights are senior  
2 to those held by the State Water Project and the  
3 Central Valley Project.

4 An adequate no injury analysis would include a  
5 basic water availability analysis and quantify and  
6 characterize the water uses of other senior water  
7 rights holders within the Delta. The petitioners'  
8 professed reliance upon alleged compliance with water  
9 quality standards embodied in D1641 does not meet the  
10 no injury standard of the Water Code.

11 DWR's double tunnels will dewater the Delta of  
12 fresh water. DWR's double tunnels will divert fresh  
13 water inflows from this --

14 (Reporter interruption)

15 WITNESS DEL PIERO: I'm sorry. I apologize.  
16 that's okay. I'm talking fast. You've been here for a  
17 long time. Okay.

18 DWR's double tunnels will divert freshwater  
19 inflows from the Sacramento River that would otherwise  
20 freshen the Delta and recharge groundwater aquifers in that  
21 area.

22 DWR's failed to evaluate individual points of  
23 diversion or groundwater wells and groundwater rights  
24 holders within the context of the no injury rule.

25 Mr. Nakagawa's testimony identified the



1 groundwater wells that would be impacted or at least  
2 potentially impacted by the project.

3 DWR should have identified these wells in  
4 their initial description of the project and presented  
5 evidence of no injury to the owners of those wells and  
6 the holders of those groundwater rights. Those  
7 overlying groundwater rights have not been addressed  
8 anywhere in the documents that I've been presented with  
9 or that are submitted on behalf of the proponents.  
10 A properly conducted and legally sustainable 11 no  
injury analysis would require as a predicate a  
12 proper and complete study of the existing water rights,  
13 and the legal uses of water that -- legal beneficial  
14 users of water that may be injured by the construction  
15 and operation of the dual tunnels. That's pretty much  
16 mandated in Section 1702.1 of the Water Code.

17 DWR has failed to consider downstream water  
18 rights holders entitlements to the benefits of adequate  
19 water quality and quantity. Testimony by a DWR  
20 modeling expert further indicated that DWR had not even  
21 considered potential injuries to water users other than  
22 those caused by deviations in the terms of D1641  
23 exceedances.

24 The petition that's been submitted to the  
25 State Water Resources Control Board seeks a new water

1 right. The petitioners' prior permits and  
2 appropriative rights in fact have expired because DWR  
3 failed to put the water to use and failed to develop  
4 its facilities prior to 2009.

5 And let me just comment. At this point, it's  
6 been 50 years, ladies and gentlemen. That's a long  
7 time.

8 No extension of time was granted. No finding  
9 by the State Water Resources Control Board of an  
10 insurmountable obstacle over the past 50 years that has  
11 kept DWR from putting the water to beneficial use or  
12 kept DWR from constructing the waterworks necessary to  
13 do that. There's been no finding of an insurmountable  
14 obstacle. There's just been no work done at all.

15 Granting the petitioners' request now would  
16 result in an increased diversion in the northern Delta,  
17 which is now zero, and would therefore constitute a new  
18 water right because any originally permitted water  
19 right to divert from the North Delta was never  
20 exercised and expired prior to the time period required  
21 to exercise it by the predecessor agency to this Board.  
22 The petition will create an increase in  
23 diversion if operated under Boundary 1, a 1.2 million  
24 acre-foot increase, which will require a new right.  
25 Despite the petitioners' representations that they are

1 not requesting an increase in water diversions, the  
2 project will in fact increase the amount of Sacramento  
3 River water that can physically be diverted by the  
4 petitioners collectively by 9,000 cubic feet per  
5 second.

6           Given the actual water shortages in the  
7 system, DWR's permits do not allow it to divert the  
8 amounts of Sacramento River water that it has been  
9 historically diverting plus the requested additional  
10 Sacramento River water by direct diversion in the North  
11 Delta.

12           There is no equivalency -- there's no  
13 equivalency in terms of the no injury rule that's  
14 embodied in the California Water Code when it is  
15 compared to the requirements under California  
16 Environmental Quality Act that are embodied in the  
17 Public Resources Code dealing with mitigation of  
18 significant adverse impacts. Those are not equivalent  
19 processes. They are different standards in different  
20 codes adopted by a State legislature for different  
21 reasons.

22           The petition itself should have included  
23 sufficient information -- should include -- actually is  
24 required to be included by the Code sufficient information to  
25 demonstrate a reasonable likelihood that

1 the proposed change will not injure any legal water  
2 user. That's, again, 1701.2 of the Water Code, and  
3 it's been cited in a number of cases, including Barnes  
4 and Hussa.

5 Instead of attempting to demonstrate that the  
6 petitioner would in fact satisfy the no-injury  
7 standard, the petitioners have incorrectly relied upon  
8 mitigation measures designed to satisfy the  
9 requirements of CEQA. That's a mistake.

10 Simply implementing CEQA mitigation measures 11 would  
not be sufficient to demonstrate that the  
12 petition change will not cause injury to legal users of  
13 water as is mandated by the Water Code. The language  
14 in 1702 -- 1701 and 1702 leaves nothing to the  
15 imagination. It says "will not injure legal water  
16 users." I invite you to check out the Code, and you'll  
17 see it.

18 This is particularly true when a permit lacks  
19 the specificity of enforceable terms and conditions and  
20 when those terms are subject to change based upon DWR's  
21 proposed adaptive management scenario that I'll address  
22 in just a minute. Let me just...

23 Singularly, the most important thing I think  
24 that the Board needs to give deep consideration to is  
25 the application of measurable, definable, detailed and

1 powerfully enforceable terms and conditions on any  
2 permit that you issue to make sure that the decision  
3 made in the process that you are currently conducting  
4 doesn't result in the death of the Delta.

5           Addressing CEQA-defying adverse impacts does  
6 not satisfy the no-injury mandates as defined by the  
7 Water Code. A determination of significance under CEQA  
8 is based upon the significance of an impact based on an  
9 adoptive threshold. That's in the CEQA guidelines.  
10 If a project causes impacts that do not reach 11 this  
threshold under CEQA, no mitigation is required. 12 There  
is no parallel authority under the no injury rule 13 like  
that. The no injury rule doesn't allow that  
14 discretion.

15 Section 1702, as I indicated, is unambiguous 16 in as  
much as it states, "The Board shall find that the 17 change  
will not operate to the injury of any legal user 18 before  
allowing the change."

19           The difference in structure between the no  
20 injury rule and the CEQA process indicates that the two  
21 are not equivalent. And the petitioners have presented  
22 no authority indicating otherwise.

23           Lastly, DWR's proposed adaptive management  
24 scenario fails to protect other water users and the  
25 Delta ecosystem because it does not include any

1 measurable parameters or enforcement mechanisms or  
2 penalties for violations of your terms and conditions  
3 and requirements that you might place on any permits  
4 that you issue.

5 DWR and the Bureau of Reclamation owe a duty  
6 to you before they owe a duty to their contractors.  
7 They owe a duty to the State of California. And you  
8 and your Board represents the interests of all of the  
9 State of California.

10 The Department of Water Resources has  
11 historically said that it takes care of its contractors  
12 and addresses the needs of its contractors. The  
13 problem with that statement is it should be saying it's  
14 taking care of the conditions placed on their permits  
15 by this Board. They should answer first to this Board  
16 because this Board represents the entirety of the  
17 State.

18 DWR and the petitioners are proposing the  
19 largest replumbing project in the Delta in the history  
20 of this state. I note -- you notice I say

21 "replumbing."

22 Approval will require the State Board to rely 23 on  
plans on the premise of expired permits and

24 fictitious wet water that has really never existed.

25 The petitioners, lacking the necessary information and

1 facts to support their position, are unable to properly  
2 characterize the project. And this is why they are  
3 promoting the concept of adaptive management.

4 Because their current plans won't prevent  
5 injury to thousands of water users affected by their  
6 proposal, they're advancing the concept of adaptive  
7 management because they can't guarantee what they've  
8 been promising.

9 Thank you, Madam Chair.

10 CO-HEARING OFFICER DODUC: Mr. Del Piero?

11 MR. KEELING: May I ask one clarifying  
12 question on direct?

13 CO-HEARING OFFICER DODUC: Please do.

14 MR. KEELING: Mr. Del Piero, early in your  
15 testimony, you referred to D1640, did you mean D1641?

16 WITNESS DEL PIERO: D1641. I apologize. The  
17 decision handed down by the Board in 2000.

18 MR. KEELING: Thank you.

19 CO-HEARING OFFICER DODUC: Mr. Herrick, I  
20 believe you're the only one to request  
21 cross-examination.

22 MS. DES JARDINS: May I request  
23 cross-examination as well?

24 CO-HEARING OFFICER DODUC: Of?

25 MS. DES JARDINS: Mr. Del Piero.

1 CO-HEARING OFFICER DODUC: All right. Time  
2 estimate?

3 MS. DES JARDINS: Five minutes.

4 CO-HEARING OFFICER DODUC: All right. You  
5 will go after Mr. Herrick.

6 CROSS-EXAMINATION BY MR. HERRICK

7 MR. HERRICK: Thank you. John Herrick for  
8 South Delta parties again. I just have a couple of  
9 questions for Mr. Del Piero.  
10 Mr. Del Piero, I'm going to ask you just two 11 lines  
of questions on the same topic, so I'm going to 12 try to  
keep them apart. It has to do with the right to  
13 divert water.

14 And the first question is if a party has been  
15 unable to divert water under its permit for a few  
16 decades, in your opinion, does that party have the  
17 right to that water they have not diverted?

18 WITNESS DEL PIERO: The answer is no. The  
19 Code is real clear in regards to --

20 CO-HEARING OFFICER DODUC: Hold on a second,  
21 Mr. Del Piero. I believe Ms. Ansley has an objection.

22 WITNESS DEL PIERO: Okay.

23 MS. ANSLEY: Jolie-Anne Ansley for the  
24 Department of Water Resources.

25 And we've obviously held a lot of our



1 objections, but to this cross, we're going to object  
2 that this is asking for pure legal opinion.

3 CO-HEARING OFFICER DODUC: He's a lawyer.

4 MS. ANSLEY: He is a lawyer, but -- and I  
5 understand that the Board allows mixtures of fact and  
6 law and has said that they can discern pure legal  
7 opinion. However, this is asking to put Mr. Del Piero  
8 in the position of what the decision makers are to  
9 determine, the interpretation.

10 CO-HEARING OFFICER DODUC: Mr. Herrick?

11 MR. HERRICK: I was just going to say it's up 12 to  
the Board. The witness's testimony does cover legal 13  
conclusions whether or not they're considered the  
14 ultimate word under the law. But -- so if the Board  
15 doesn't want me to, I won't. But I just had a few  
16 questions exploring his view of how the petition can or  
17 cannot proceed.

18 CO-HEARING OFFICER DODUC: That's fine. Go  
19 ahead. Objection is overruled.

20 WITNESS DEL PIERO: You'll forgive me,  
21 Mr. Herrick. Would you be kind enough to repeat the  
22 question?

23 MR. HERRICK: Yes, you answered the first  
24 part. The second part deals with the permit. And for  
25 that, I'm going to just -- a couple real quick

1 backgrounds.

2           When somebody receives a permit from the State  
3 Water Resources Control Board, the permit sets forth  
4 various conditions that need to be done in order for  
5 them to eventually get a license; is that correct?

6           WITNESS DEL PIERO: That's correct. Generally  
7 referred to as terms.

8           MR. HERRICK: And those terms or conditions  
9 generally include things like the facilities necessary  
10 to divert the water; is that correct?

11          WITNESS DEL PIERO: That's generally correct,  
12 based on the application that's been filed.

13          MR. HERRICK: And the terms and conditions  
14 normally also include a time frame by which to put this  
15 applied-for water to beneficial use, correct?

16          WITNESS DEL PIERO: That is in fact correct,  
17 oftentimes with a date for performance.

18          MR. HERRICK: In your opinion, if somebody has  
19 not completed the facilities or not diverted the water  
20 to beneficial use, does their permit allow them to get  
21 that water at some future date?

22          WITNESS DEL PIERO: There's a -- there's a --  
23 that's not an easy question to answer with a yes or a  
24 no. So if you'll indulge me for a moment.

25                People are not allowed to apply for

1 appropriate water rights and then put them in cold  
2 storage. Makes no difference who the potential or  
3 particular applicant is. Securing an appropriate  
4 right from this Board and then basically holding it for  
5 an extended period of time with no demonstrative effort  
6 to either secure permits for the waterworks to be  
7 developed or in fact with no effort to develop  
8 waterworks at all is generally indicative of a party's  
9 intent to not move forward.

10 The reason I alluded to one of the -- some of 11 the  
cases that I acted as the hearing officer on, the 12 Sutter  
Bypass case -- that's a reported case and is

13 noted on the State Water Resources Control Board  
14 website -- terminated water rights where no facilities  
15 nor diversions had taken place in 50 years.

16 I was the hearing officer on that, and there's  
17 references in there based on the unanimous vote of the  
18 Board at that time talking about the standards --

19 CO-HEARING OFFICER DODUC: Thank you. I  
20 believe you have answered Mr. Herrick's question.

21 Next question, Mr. Herrick.

22 MR. HERRICK: Mr. Del Piero, without playing  
23 semantics, we're here under a change for point of  
24 diversion petition, correct?

25 WITNESS DEL PIERO: Mm-hmm.

1 MR. HERRICK: Now, in your opinion, are we  
2 actually changing the point of diversion or are we  
3 adding a new point of diversion? And, again, I'm not  
4 trying to play semantics, but the point of diversion  
5 isn't being changed, is it? Or do you think it is?

6 WITNESS DEL PIERO: I think the point of  
7 diversion for the double tunnels is 35 miles north of  
8 where they're diverting water now. If that's -- I  
9 guess it's a matter of opinion as to whether or not  
10 that constitutes a significant difference.

11 MR. HERRICK: In a normal change of point of  
12 diversion petition, the applicant is trying to move his  
13 point of diversion, you know, so many feet or half a  
14 mile upstream or downstream, correct?

15 WITNESS DEL PIERO: That's correct.

16 MR. HERRICK: And in this case, though, we're  
17 adding a point of diversion which allows exports -- or  
18 diversion, excuse me, which are in excess of what were  
19 previously divertable?

20 WITNESS DEL PIERO: The facilities would allow  
21 the 9,000 cubic feet per second more than what is  
22 currently allowed for with the current plumbing.

23 MR. HERRICK: In your opinion, then, is that  
24 not a change of point of diversion petition but in fact  
25 an application for a new water right?

1                   WITNESS DEL PIERO: I think it's an  
2 application for a new water right.

3                   MR. KEELING: I have no further questions.  
4 Thank you very much.

5                   CO-HEARING OFFICER DODUC: Ms. Des Jardins.

6                   CROSS-EXAMINATION BY MS. DES JARDINS

7                   MS. DES JARDINS: Deirdre Des Jardins with  
8 California Water Research.

9                   Good afternoon, Mr. Del Piero.

10                  WITNESS DEL PIERO: Good afternoon.

11                  MS. DES JARDINS:                   On Page 9 of your testimony  
12 Line 12, you state, "These agencies must now produce  
13 detailed and comprehensive evaluations in quantifiable  
14 determinations of actual available wet water to avoid  
15 injury to legal users of water who are entitled to  
16 protection under the no injury rule."

17                  WITNESS DEL PIERO:                   Forgive me, ma'am. Can  
18 you give me the -- it's Page 9, what line?

19                  MS. DES JARDINS: Page 9, Line 12, starting  
20 with "these agencies."

21                  WITNESS DEL PIERO: Got it.

22                  MS. DES JARDINS:                   So my question is with  
23 respect to when is a computer -- does a computer  
24 simulation ever constitute a detailed and comprehensive  
25 evaluation of available water?

1                   WITNESS DEL PIERO:   You'll forgive me I am not  
2 an engineer and I am not qualified to answer that  
3 question.

4                   MS. DES JARDINS:   Okay.

5                   WITNESS DEL PIERO:   Okay.

6                   MS. DES JARDINS:   Thank you.

7                   WITNESS DEL PIERO:   That's it?

8                   MS. DES JARDINS:   That is it. That is the  
9 evidence that's been presented for this proceeding.  
10 Do you have a -- you're not modeler?

11                   WITNESS DEL PIERO:   No, ma'am. I am not a  
12 modeler.

13                   MS. DES JARDINS:   I am blanking out.

14                   Thank you.

15                   CO-HEARING OFFICER DODUC:   Thank you. Any  
16 re- -- oh, Mr. Porgans.

17                   MR. PORGANS:   I'm Patrick Porgans, and just  
18 for the record, I want to agree with what Mr. Del Piero  
19 said about the need for a new water right permit, if  
20 that's appropriate.

21                   CO-HEARING OFFICER DODUC:   So noted.

22                   MR. PORGANS:   Thank you so much.

23                   MR. KEELING:   We have no redirect.

24                   CO-HEARING OFFICER DODUC:   All right. Do you  
25 wish to move your exhibits into the record at this

1 time?

2 MR. KEELING: Yes, indeed. Is it necessary  
3 for me to list them one by one.

4 CO-HEARING OFFICER DODUC: I don't believe it  
5 is.

6 MR. KEELING: Okay. At this time, we'd like  
7 to move them all into evidence. And does that dispense  
8 with the need for a subsequent letter?

9 CO-HEARING OFFICER DODUC: Yes, it does. And  
10 given that I have already ruled on the objections  
11 voiced by Ms. Ansley -- we have a standing objection?

12 I'm only going to act on this panel.

13 I hereby accept your exhibits into the record,  
14 Mr. Keeling.

15 MS. MESERVE: Osha Meserve for LAND, et al.

16 Just a point of clarification, I and others  
17 may have exhibits that we've used on cross, and we have  
18 not submitted those yet, so I was assuming you would  
19 provide further direction about the timing of that.

20 CO-HEARING OFFICER DODUC: We will. All  
21 right. Thank you very much.

22 MS. HEINRICH: If I can add something real  
23 quick. Actually, a follow-up e-mail confirming which  
24 exhibits go with this panel would probably be good for  
25 clarity of the record since we do have some outstanding

1 objections to some of LAND exhibits that we haven't  
2 ruled on yet.

3 MR. KEELING: Well, certainly I can go ahead  
4 -- in fact, I have a letter already. And I'll just  
5 have it sent out today or tomorrow.

6 CO-HEARING OFFICER DODUC: All right. Thank  
7 you very much.

8 MR. JACKSON: No objection.

9 CO-HEARING OFFICER DODUC: I think at this  
10 point I would like for us to break. And by my estimate  
11 of those who have projected cross-examination, we  
12 should finish tomorrow. We'll have Group 37,  
13 Ms. Des Jardins; Group 40, Mr. Porgans; and Group 41,  
14 Ms. Suard and Snug Harbor all presenting their  
15 rebuttals tomorrow with, from my notes, very little  
16 cross-examination.

17 So that means tomorrow we should be concluding  
18 the rebuttal phase, and we will then also give you  
19 directions with respect to surrebuttal.

20 Anything else we need to address today? If  
21 not, thank you all. And we'll see you at 9:30  
22 tomorrow.

23 (Whereupon, the proceedings recessed  
24 at 3:42 p.m.)

25



1 STATE OF CALIFORNIA            )  
   )  
 2 COUNTY OF MARIN                )    ss.

3                I, DEBORAH FUQUA, a Certified Shorthand  
 4 Reporter of the State of California, do hereby certify  
 5 that the foregoing proceedings were reported by me, a  
 6 disinterested person, and thereafter transcribed under  
 7 my direction into typewriting and is a true and correct  
 8 transcription of said proceedings.

9 I further certify that I am not of counsel or 10  
 attorney for either or any of the parties in the  
 11 foregoing proceeding and caption named, nor in any way  
 12 interested in the outcome of the cause named in said  
 13 caption.

14                               Dated the 29th day of May, 2017.

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*Deborah Fuqua*  
 DEBORAH FUQUA  
 CSR NO. 12948