



1 APPEARANCES

2 CALIFORNIA WATER RESOURCES BOARD

3 Division of Water Rights

4 Board Members Present:

5 Tam Doduc, Co-Hearing Officer

Felicia Marcus, Chair & Co-Hearing Officer

6 Dorene D'Adamo, Board Member

7 Staff Present:

8 Andrew Deeringer, Senior Staff Attorney

Conny Mitterhofer, Supervising Water Resource Control

9 Engineer

Jean McCue, Water Resources Control Engineer

10 Hwaseong Jin

11

12 PART 2

13 For Petitioners:

14 California Department of Water Resources:

15 James (Tripp) Mizell

Jolie-Anne Ansley

16

The U.S. Department of the Interior:

17

Amy L. Aufdemberge, Esq.

18

19 INTERESTED PARTIES:

20 For Grassland Water District:

21 Ellen Wehr

22 For Snug Harbor Resorts, LLC:

23 Nicole S. Suard, Esq.

24

25

1 APPEARANCES (Continued)

2 INTERESTED PARTIES (Continued):

3 For The City of Roseville, Sacramento Suburban Water  
4 District, San Juan Water District, The City of Folsom,  
5 and Yuba County Water Agency:

6 Ryan Bezerra

7 For The Environmental Justice Coalition for Water,  
8 Islands, Inc., Islands, Inc., Local Agencies of the  
9 North Delta, Bogle Vineyards/Delta Watershed Landowner  
10 Coalition, Diablo Vineyards and Brad Lange/Delta  
11 Watershed Landowner Coalition, Stillwater  
12 Orchards/Delta Watershed Landowner Coalition, Brett G.  
13 Baker and Daniel Wilson, SAVE OUR SANDHILL CRANES,  
14 Friends of Stone Lakes National Wildlife Refuge, The  
15 County of Yolo:

16 Osha Meserve

17 For Sacramento County Water Agency, Glenn-Colusa  
18 Irrigation District, Biggs-West Gridley Water District,  
19 Carmichael Water District as well as Placer County  
20 Water Agency and the County of Sacramento:

21 Andrew M. Hitchings

22 For North Delta Water Agency & Member Districts:

23 Meredith Nikkel

24 For State Water Contractors:

25 Stefanie Morris

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23  
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I N D E X

PETITIONERS' WITNESSES	PAGE	VOL.
BRYAN, MIKE		
PREECE, ELLEN		
WHITE, KRISTIN		
MILLER, AARON		
WILDER, RICK		
GREENWOOD, MARIN		
PARKER, NANCY		
REYES, ERIK		
SMITH, TARA		
HSU, EN-CHING		
GUERIN, MARIANNE		
(Witnesses Previously Sworn)	4	6
Cross-examination by Ms. Wehr	13	6
Cross-examination by Mr. Hitchings	54	6
Cross-examination by Mr. Bezerra	107	6
Cross-examination by Ms. Nikkel	282	6
Redirect examination by Mr. Mizell	299	6
Recross-examination by Mr. Bezerra	299	6
Recross-examination by Ms. Meserve	304	6

1 Friday, March 2, 2018 9:30 a.m.

2 PROCEEDINGS

3 ---000---

4 CO-HEARING OFFICE DODUC: All right, everyone.

5 Please settle down. It is 9:30.

6 Welcome back.

7 Looking out in the audience, I see all  
8 familiar faces, so you should know who you are and who  
9 we are by now. And if you don't, then you should ask  
10 somebody there quietly.

11 And looking at all the faces, you all should  
12 know the three general announcements by now, but I will  
13 make a special exception in Miss Ansley's case and ask  
14 her to inform us of the third and most important  
15 announcement.

16 MS. ANSLEY: I'm pretty sure that would be to  
17 make sure that all of your devices are on mute or  
18 vibrate.

19 CO-HEARING OFFICE DODUC: Thank you.

20 And is yours?

21 MS. ANSLEY: I -- Yes. I don't believe I've  
22 ever had a problem with that. I'm too scared of you.

23 CO-HEARING OFFICE DODUC: Oh. So yesterday,  
24 was that Miss Aufdemberge again?

25 MS. AUFDEMBERGE: Yeah. I think you need to

1 pick on me instead of --

2 CO-HEARING OFFICE DODUC: Oh. Well,  
3 Petitioners do share alike in everything; right?

4 MS. ANSLEY: That's true. We can take this  
5 together.

6 CO-HEARING OFFICER DODUC: Thank you.

7 Okay. Let's -- Let's get back to any  
8 housekeeping matter.

9 The one thing I do want to get back, before we  
10 go to Miss Wehr, is the request from Miss Suard, and  
11 Miss Smith's generous offer to review things last  
12 night.

13 But before we do that, Mr. Mizell, I  
14 understand you have a housekeeping matter, and I see  
15 representatives of Group 7 in the audience, so please  
16 raise your -- your request now.

17 MR. MIZELL: Certainly. Thank you very much.

18 And, again, I have spoken with the -- the  
19 attorneys from Group 7 about this.

20 Dr. Guerin has a -- a commitment in Reno  
21 tomorrow morning, and the weather report for the  
22 pass -- for I-80 -- is rather severe this afternoon.

23 So it sounds as if Group 7 doesn't have any  
24 questions for Dr. Guerin. If anybody else in the  
25 audience does, maybe we can ask the question more

1 broadly.

2 But, otherwise, it would be appreciated if we  
3 could accommodate and let Dr. Guerin go to be on the  
4 road by noon.

5 WITNESS GUERIN: Lunchtime is good.

6 CO-HEARING OFFICE DODUC: The only two  
7 cross-examiners I have let, unless Mr. Porgans walks  
8 into the room, are Miss Wehr and Group 7.

9 So do you have questions, Miss Wehr?

10 MS. WEHR: I do not.

11 CO-HEARING OFFICER DODUC: Okay. So I think,  
12 at the appropriate time, please take your leave and  
13 thank you for --

14 WITNESS GUERIN: Thank you.

15 CO-HEARING OFFICER DODUC: -- for your  
16 participation this week.

17 WITNESS GUERIN: Thank you.

18 CO-HEARING OFFICE DODUC: Oh. Speaking of  
19 Mr. Porgans, I don't believe we've been able to reach  
20 him.

21 All right. And I would hope he's okay. But  
22 just in case he's watching, the offer stands for him to  
23 submit his written cross-examination questions for  
24 Panel 2 by 5 p.m. today.

25 And should that happen, then, Mr. Mizell, we

1 will discuss when the responses might be due.

2 MIKE BRYAN,  
3 ELLEN PREECE,  
4 KRISTIN WHITE,  
5 AARON MILLER,  
6 RICK WILDER,  
7 MARIN GREENWOOD,  
8 NANCY PARKER,  
9 ERIK REYES,  
10 TARA SMITH,  
11 EN-CHING HSU

12 and

13 MARIANNE GUERIN,

14 called as witnesses by the Petitioners,  
15 having previously been duly sworn, were  
16 examined and testified further as follows:

17

18 CO-HEARING OFFICER DODUC: All right.

19 Miss Smith, were you able to follow up on our  
20 discussion of yesterday?

21 WITNESS SMITH: Yes, I was.

22 I looked at SHR-350, which shows dry-year  
23 monthly average flows for October, June, July, August  
24 and September in various North Delta locations.

25 I looked at flow data for California WaterFix



1 H3+ as compared to the No-Action Alternative, H3 and H4  
2 in various North Delta locations.

3 California H3+ shows a similar pattern and is  
4 very similar in values to H3 and H4 shown as -- in  
5 SHR-350.

6 Looking at Steamboat Slough, comparing  
7 salinity values between the No-Action Alternative, the  
8 California WaterFix H3+, H3 and H4, there were no  
9 visible differences between the alternatives.

10 The modeling results do not show salinity  
11 effect being caused by California WaterFix H3+ as  
12 compared to the No-Action Alternative.

13 CO-HEARING OFFICE DODUC: Thank you,  
14 Miss Smith.

15 Miss Suard, anything else?

16 MS. SUARD: Nicki Suard with -- Oop.

17 (Adjusting microphone.)

18 MS. SUARD: Nicki Suard with Snug Harbor.

19 Can that be read -- what was said read into  
20 the record as evidence?

21 CO-HEARING OFFICE DODUC: It has just been  
22 read into the record as evidence.

23 MS. SUARD: Because we're in the procedural  
24 part right now so --

25 CO-HEARING OFFICE DODUC: Yes.

1 MS. SUARD: Okay. So I just did want to point  
2 out that it was on February 19th that I did serve all  
3 parties a request for information, and it really is --  
4 goes beyond this.

5 And I don't believe that I've seen a ruling  
6 responding to that, so --

7 CO-HEARING OFFICE DODUC: I'm sorry. If you  
8 are serving something on -- well, on --

9 MS. SUARD: Well, I.

10 CO-HEARING OFFICER DODUC: -- all parties, but  
11 on Petitioners, it is up to Petitioners to respond. We  
12 would not be ruling on it.

13 MS. SUARD: I -- So I did request read --  
14 readable information. It goes beyond what was  
15 just . . . relayed, and I very much appreciate that  
16 information.

17 So . . . I hope that there will be a response  
18 to the February 19th letter that I sent.

19 Thank you.

20 CO-HEARING OFFICE DODUC: And to clarify, the  
21 letter was sent to?

22 MS. SUARD: It was served on the Hearing  
23 Board, and it was a joinder -- a motion to formally  
24 consider Additional Information Submitted in Support of  
25 Petition and Request for Readable Information Showing

1 Impacts on Steamboat Slough at the Location of the  
2 Peninsula Referred to as Snug Harbor.

3 CO-HEARING OFFICER DODUC: Was that a joinder  
4 to a motion made by Miss Des Jardins?

5 MS. SUARD: Yes.

6 CO-HEARING OFFICE DODUC: We have denied --

7 MS. SUARD: You --

8 CO-HEARING OFFICER DODUC: -- dismissed --

9 MS. SUARD: You ruled on that, but the -- You  
10 know, I had one paragraph on the joinder, and the rest  
11 of the three-page -- four-page -- three-page -- well,  
12 three pages and the Statement of Service was a request  
13 for readable information very specific to Steamboat  
14 Slough. And that, I don't believe has been responded  
15 to.

16 CO-HEARING OFFICE DODUC: Mr. Deeringer, I  
17 thought we dismissed all joinders along with . . .

18 MR. DEERINGER: We did.

19 Just to clarify, was this a Public Records Act  
20 request directed toward Petitioners?

21 MS. SUARD: No. It was more of a request for  
22 information from Petitioners because what has been  
23 provided so far is not in readable human format for me  
24 and for the interest of Steamboat Slough.

25 And so I'm just asking for . . . readable

1 information regarding impacts to Steamboat Slough.

2 MR. DEERINGER: I would suggest that we take a  
3 second look at that and take some time to review it and  
4 come back to this on Monday.

5 CO-HEARING OFFICE DODUC: And it would be  
6 helpful also, Mr. Mizell, if you would check your  
7 records and let us know if there are any outstanding  
8 requests from Miss Suard.

9 MR. MIZELL: I'm looking at the joinder to  
10 Miss Des Jardins' motion in front of me now. We were  
11 provided a copy.

12 Again, it was our understanding that by  
13 denying all joinders to Miss Des Jardins' motion, that  
14 was inclusive of Miss Suard's joinder.

15 To the extent that she has been seeking  
16 information about Steamboat Slough, we went over this  
17 yesterday, and Miss Smith spent her evening confirming  
18 her testimony that Steamboat Slough would see similar  
19 impacts as the Barker Slough graphics that were part of  
20 her testimony.

21 So, at this point, I think we've also  
22 satisfied any additional request for information.

23 CO-HEARING OFFICE DODUC: Thank you.

24 We will take that under consideration, like  
25 Mr. Deeringer suggested, and we will provide

1 clarification on Monday.

2 MS. SUARD: I -- I do want to point out that I  
3 specifically asked for the Excel spreadsheets that the  
4 modelers have said they do refer to, and I don't  
5 understand why that information cannot be provided to  
6 the general public because a lot of people do have  
7 capability to work with Excel spreadsheets.

8 And I've heard repeatedly that there -- there  
9 are these spreadsheets, so I do request that.

10 CO-HEARING OFFICE DODUC: We will review your  
11 request.

12 MS. SUARD: Thank you very much.

13 CO-HEARING OFFICE DODUC: Mr. Bezerra, are you  
14 going to make me wish I had that transport device?

15 MR. BEZERRA: Well, possibly.

16 I -- This goes to the issue Miss Des Jardins  
17 raised yesterday and has been continuous throughout  
18 this hearing, which is that the Department has chosen  
19 in their testimony to present very small slices of  
20 their modeling results.

21 Some of us have the avai -- have the  
22 capability to access other modelers who can extract  
23 results from those models. Not everyone can do that.  
24 And even when you do do that, we had at least one  
25 instance in Part 2 when the Department's witnesses

1 claimed they had no knowledge of modeling results that  
2 we had extracted from their models.

3           In my experience with modeling, it is a fairly  
4 simple matter for the people who own the models and  
5 operate the models to simply produce the full suite of  
6 results.

7           We did that in Rebuttal in Part 1. I believe  
8 it's Exhibit SVWU-201.

9           CO-HEARING OFFICE DODUC: Mr. Bezerra, I was  
10 not looking for a full-blown oral argument on this  
11 matter.

12           As I remind you, Miss Des Jardins will be  
13 submitting her --

14           MR. BEZERRA: Yes.

15           CO-HEARING OFFICER DODUC: -- her, whatever,  
16 in writing, and you'll have the opportunity to respond  
17 to that in writing.

18           MR. BEZERRA: Okay. And it's just -- It would  
19 be a simple matter for the Department to simply produce  
20 full model results that everyone can review in .pdf.

21           CO-HEARING OFFICE DODUC: I have learned  
22 throughout these proceedings to date that nothing is  
23 ever simple but . . .

24           Miss Meserve.

25           MS. MESERVE: Good morning. Osha Meserve for

1 Land, et al.

2 Without repeating anything that's been said,  
3 I'm also concerned about the availability of data for  
4 water users and others.

5 And I would ask that since Miss Smith, at  
6 least with respect to this one location, already went  
7 through the time to do the comparison, that some kind  
8 of table or document that reflects that work be  
9 provided to all parties.

10 With respect to the issue of whether that  
11 needs to be done in additional locations, I understand  
12 there's not a decision on -- on that to force DWR to do  
13 that. But it sounds like she already did the work so I  
14 think, to accompany her written and her oral statement,  
15 some kind of table or graph would be helpful.

16 CO-HEARING OFFICE DODUC: Thank you,  
17 Miss Meserve.

18 Anything else?

19 Miss Smith, to the extent that you have that  
20 information available, I am not going to require you to  
21 go back and redo and repeat and generate more tables  
22 and chart.

23 I believe your statement that you just made  
24 earlier reaffirms Mr. Mizell's comment yesterday that  
25 there is negligible, if not similar -- I believe is the

1 term -- differences.

2           Is there any work that you have already done  
3 last night that you are able to share with the service  
4 list?

5           WITNESS SMITH: I don't think so. I looked at  
6 a number of different data. There -- It's not labeled.  
7 It's very -- It's very crude.

8           There would be -- There would be a fair amount  
9 of work that would go into presenting the information  
10 with the appropriate titles and everything to put  
11 forward. And I looked primarily at the -- the raw data  
12 and the . . . and -- and some of the other stuff that I  
13 had to make the assessment.

14           CO-HEARING OFFICE DODUC: Thank you. Thank  
15 you for doing that last night.

16           All right. Unless there are any other  
17 housekeeping matter . . .

18           Miss Wehr.

19           MS. WEHR: Good morning. Ellen Wehr for  
20 Grassland Water Districts.

21           I have three witnesses to cross-examine on the  
22 following topics:

23           First, Miss White about operational  
24 assumptions regarding the CVP water deliveries to  
25 Wildlife Refuges south of the Delta, including



1 rescheduled water in San Luis Reservoir.

2           For Mr. Reyes, modeling of water operations  
3 regarding Level II Refuge water deliveries south of the  
4 dealt.

5           And for Mr. Miller, operational assumptions  
6 regarding minimum health and safety deliveries south of  
7 the Delta.

8           And if Mi -- If Miss Parker is the best  
9 witness to answer these questions on behalf of  
10 Reclamation, I will call on her expertise.

11                           CROSS-EXAMINATION BY

12           MS. WEHR: Miss White, I'm going to ask you  
13 about how the CVP will be operated if the Board  
14 approves the Water Right Change Petitions for the  
15 WaterFix Project.

16           Miss Gaylon, can you please pull up Exhibit  
17 GWD-21.

18                           (Exhibit displayed on screen.)

19           MS. WEHR: This is a letter from Regional  
20 Director David Murillo to Ricardo Ortega, the General  
21 Manager of Grassland Water District.

22           Miss White, have you seen this letter before?

23           WITNESS WHITE: I have.

24           MS. WEHR: And did you participate in the  
25 preparation of this letter?

1           WITNESS WHITE: I participated in portions of  
2 the -- of developing this letter, yes.

3           MS. WEHR: And you're familiar with its  
4 contents?

5           WITNESS WHITE: I don't know that I could  
6 recite them but I'm pretty familiar.

7           MS. WEHR: Okay. Is it your understanding  
8 that an identical copy of this letter was sent to all  
9 CVP Contractors on Sept -- on September 15th?

10          WITNESS WHITE: That is my understanding, yes.

11          MS. WEHR: And is it your understanding that  
12 this letter represents the Bureau of Reclamation's  
13 current public position regarding its financial  
14 participation in the WaterFix Project?

15          WITNESS WHITE: It's my understanding that  
16 this letter represents Reclamation's understanding of  
17 how the CVP Contractors might financially participate  
18 in the WaterFix on the date it was issued.

19           I can't speak on behalf of what our current  
20 administration policy calls are right now.

21          MS. WEHR: Okay. And on the date this was  
22 issued -- this was issued, the letter also represents  
23 Reclamation's par -- position regarding its own  
24 financial participation in the WaterFix Project.

25          WITNESS WHITE: I believe there's a statement

1 in there that says that, yes.

2 MS. WEHR: Thank you.

3 To your knowledge, did this letter undergo any  
4 formal notice and comment rule-making procedures?

5 WITNESS WHITE: Can you define "formal."

6 MS. WEHR: Like a formal rule-making.

7 Is this a formal regulation of the Department  
8 of Interior?

9 MS. AUFDEMBERGE: Objection: Calls for a  
10 legal conclusion.

11 MS. WEHR: Was this letter issued for public  
12 comment?

13 CO-HEARING OFFICE DODUC: Thank you.

14 WITNESS WHITE: I do not believe so.

15 MS. WEHR: Okay. And in -- In your  
16 experience, if circumstances change, could Reclamation  
17 change its position in the future with regard to its  
18 participation in the WaterFix Project?

19 WITNESS WHITE: I'm sorry. Can you repeat  
20 that one more time?

21 MS. WEHR: Based on your knowledge and  
22 experience, if circumstances were to change in the  
23 future, could Reclamation change its position for  
24 what's stated in this letter?

25 WITNESS WHITE: Yes. I think there are

1 several instances in this letter that explain how this  
2 letter was developed, assuming a handful of  
3 assumptions.

4           And should any of those change, Reclamation  
5 will be revisiting our -- how we see financial  
6 participation among the CVP Contractors.

7           I think there's even a statement at the end  
8 that says Reclamation may change if other conditions  
9 change as well.

10           MS. WEHR: Okay. On Page 1 of this letter, at  
11 the end of the first paragraph, the letter states  
12 (reading):

13           ". . . At this time, Reclamation will not  
14 be participating in . . . construction of  
15 the CWF, will not own any of the CFW  
16 facilities, and the CFW will not be a CVP  
17 facility."

18           The Footnote 1 to this sentence explains what  
19 Reclamation means when it says it will not be  
20 participating, which is that Reclamation (reading):

21           ". . . Will not agree to contract with  
22 DWR, or other appropriate entity, to pay  
23 a percentage of . . . construction costs  
24 or provide funding through any other  
25 mechanism to secure future use of the

1 capacity of the CWF."

2 Does this letter indicate that Reclamation  
3 would not use the new North Delta intakes of the  
4 WaterFix Project in a similar fashion to how it  
5 currently uses the South Delta intakes?

6 WITNESS WHITE: Could you define -- What do  
7 you mean "similar fashion"?

8 MS. WEHR: It won't use the North Delta  
9 intakes to generally export CVP water from the Delta to  
10 fulfill CVP water demands generally in accordance with  
11 its legal contractual obligations.

12 WITNESS WHITE: I don't know that that's what  
13 this says.

14 There's -- There's a -- several places in this  
15 letter that talk about how we intend to operate. And  
16 we intend to operate to maximize exports for -- for  
17 both Projects. And then there's a high cost accounting  
18 to determine how an increase -- a net increase in water  
19 supply due to this operation would be divided out.

20 I don't know that it specifically says that --  
21 that . . . that Reclamation -- Sorry.

22 I'm not sure what the -- Can you repeat the  
23 question? I'm not sure it exactly what your question  
24 said.

25 MS. WEHR: Yeah. I'm specifically referring

1 to the language Reclamation says it will not pay  
2 through any funding mechanism for -- to secure future  
3 use of the capacity of the CWF.

4 Does that mean that Reclamation would not  
5 itself secure a right to use the North Delta intakes to  
6 export CVP water?

7 WITNESS WHITE: I think this says that we are  
8 not funding construction, to pay a portion of the  
9 construction.

10 But, as I said, it does have several  
11 statements where it says we intend to coordinate with  
12 DWR on maximizing the exports in a -- maintaining the  
13 use a high casting accounting mechanism to determine  
14 who receives those -- that net increase in benefits.

15 MS. WEHR: So Reclamation will secure a right  
16 to use the capacity of the CWF.

17 WITNESS WHITE: I don't think that's what I  
18 said.

19 MS. WEHR: Okay. So Reclamation will not  
20 secure a right to use the capacity of CWF as stated in  
21 this footnote.

22 MS. AUFDEMBERGE: Objection: That misstates  
23 her testimony.

24 MS. WEHR: Okay. Moving on --

25 CO-HEARING OFFICE DODUC: Sustained.

1 MS. WEHR: -- the second paragraph of

2 Page 1 --

3 CO-HEARING OFFICE DODUC: I have to sustain at  
4 least one of Miss Aufdemberge's objections during this  
5 hearing.

6 MS. AUFDEMBERGE: That's not the first one.

7 CO-HEARING OFFICER DODUC: Okay.

8 MS. WEHR: Well, I'll get into the details  
9 maybe and -- and we can get some clarification.

10 On the second paragraph of Page 1, the letter  
11 states, however (reading):

12 ". . . Reclamation supports a proposal by  
13 which CVP Contractors independently  
14 determine whether to participate in the  
15 CWF by contracting directly with the  
16 State of California Department of Water  
17 Resources, or other appropriate entity,  
18 for the ownership of the available  
19 capacity of the CWF."

20 Miss White, keeping in mind that Reclamation  
21 is the co-applicant in this Petition for Water Right  
22 Change, can you please explain your understanding of  
23 what this statement means, that CVP Contractors could  
24 contract directly for available WaterFix capacity?

25 WITNESS WHITE: I think it means that -- that

1 we support CVP Contractors directly contracting to  
2 financially support the Project.

3 MS. WEHR: And to secure capacity in the  
4 facilities?

5 WITNESS WHITE: I think the securing capacity  
6 is a little bit -- It can be taken in two different  
7 ways.

8 Because, again, the letter says in numerous  
9 other places that we intend to coordinate to maximize  
10 the exports of -- of water during this excess period.

11 So, in this stance, "securing capacity" refers  
12 to a portion of ownership that will be considered in  
13 the accounting process for having to provide the  
14 benefits of the WaterFix.

15 MS. WEHR: Okay. In the water accounting  
16 process.

17 WITNESS WHITE: That's correct.

18 MS. WEHR: Thank you.

19 Because Reclamation is responsible for  
20 providing Level II Refuge water deliveries South of the  
21 Delta and Reclamation has opted not to itself  
22 participate by acquiring capacity in WaterFix Project,  
23 is it your understanding that Wildlife Refuges would  
24 not be considered participants under this participation  
25 proposal?



1           WITNESS WHITE: I think "participants" is  
2 defined in this as funding -- funding a portion of the  
3 Project. So I guess if they're not funding, then they  
4 wouldn't be.

5           MS. WEHR: And if Reclamation is not itself  
6 financially participating, then its deliveries to  
7 Wildlife Refuges would be considered non-participating  
8 water deliveries.

9           WITNESS WHITE: I think there are several  
10 assumptions that specifically talk about Refuge  
11 deliveries on -- on the next page, and that might  
12 provide a little bit more clarity about how Reclamation  
13 sees Refuge deliveries fitting into this participation  
14 approach.

15           We can scroll to that and -- and look at  
16 those.

17           MS. WEHR: Okay. Let's do that.

18           It's on Page 4.

19           WITNESS WHITE: Oh.

20           MS. WEHR: The second bullet on Page 4, I  
21 believe.

22           (Exhibit displayed on screen.)

23           CO-HEARING OFFICE DODUC: Miss White, were you  
24 referring to something else in -- in your response?

25           WITNESS WHITE: Yes. I think it was an

1 earlier bullet.

2           Again, I have not memorized -- I think it was  
3 on the previous page.

4           (Exhibit displayed on screen.)

5           CO-HEARING OFFICE DODUC: Let's allow  
6 Miss White to complete her response before we move on  
7 to your next question.

8           MS. WEHR: (Nodding head.)

9           CO-HEARING OFFICE DODUC: Page 2 maybe?

10          WITNESS WHITE: Yeah. Can you scroll up?

11          (Exhibit displayed on screen.)

12          CO-HEARING OFFICE DODUC: It is on Page 4.

13          Oh. Actually, you know what? On these long  
14 pauses, if you could stop the clock.

15          WITNESS WHITE: So I -- I -- I apologize. I  
16 realize it doesn't specifically say "Refuge."

17          So the -- You are correct, Miss Wehr, that the  
18 Refuge specifically is on Page 4.

19          There are several other bullets, though, that  
20 talk about not interfering with CVP water supplies. I  
21 thought it actually said "Refuge" in those -- on -- on  
22 the next page, on Page 3. That's what I was referring  
23 to.

24          (Exhibit displayed on screen.)

25          CO-HEARING OFFICE DODUC: So now we're back to

1 Miss Wehr for the next question, or are you . . .

2 WITNESS WHITE: Yeah. Maybe we'll see the  
3 next question.

4 MS. WEHR: Okay. Well, the bullet on Page 4,  
5 the second bullet, is the only specific bullet about  
6 Refuges. It states that (reading):

7 "Reclamation would continue to meet  
8 its obligations under the CVPIA,  
9 including deliveries to wetland habitat  
10 areas (Refuges) under 3406(d) . . . and  
11 (sic) that existing relative water rights  
12 and contractual priorities would be  
13 protected for non-participating CVP  
14 Contractors . . ."

15 Which does tend to indicate that Refuge  
16 deliveries would be non-participating contract  
17 deliveries.

18 (Reading):

19 ". . . In any integration agreement" --  
20 the bullet continues -- "that is  
21 executed."

22 Miss White, this means, does it not, that  
23 protections are required to ensure that this  
24 participation approach does not adversely affect Refuge  
25 water deliveries?

1           And that those protections still need to be  
2 developed through a future integration agreement with  
3 DWR?

4           WITNESS WHITE: I -- I would say this is an  
5 assumption that this -- this letter was written based  
6 on, that the CVP would not . . .

7           I want to use the right words from there.

8           Would be protected in the integration  
9 agreement.

10          So that's an assumption moving forward and  
11 that -- that's something we would expect to be in the  
12 integration agreement, or whatever we end up calling  
13 that, agreement to be developed in the future.

14          MS. WEHR: And that agreement has not yet been  
15 developed.

16          WITNESS WHITE: That's correct.

17          MS. WEHR: Thank you.

18          If you can scroll to the last paragraph on  
19 Page 4.

20          (Exhibit displayed on screen.)

21          MS. WEHR: Here, Reclamation describes in  
22 greater detail the contents that would need to be  
23 included in an integration agreement. It would  
24 (reading):

25          ". . . Define how Reclamation and DWR

1 anticipate coordinating the operations of  
2 CVP and SWP with respect to the  
3 WaterFix."

4 And it states that the agreement would  
5 include -- on the top of Page 5 -- quote (reading):

6 "Accounting and mitigation of water  
7 supply impacts attributable to  
8 CWF-specific regulations that have the  
9 potential to decrease the CVP Allocation  
10 for non-participating . . . Contractors."

11 Miss White, do you agree that this statement  
12 that Reclamation's participation approach does have the  
13 potential to decrease CVP allocations unless there are  
14 accounting procedures and mitigation measures put in  
15 place?

16 MS. AUFDEMBERGE: Objection.

17 She said that it was the participation  
18 approach that has the impact when this letter says it's  
19 the . . . the mitigation of water supply impacts  
20 attributable to Cal WaterFix-specific regulations.

21 CO-HEARING OFFICE DODUC: I'm . . . confused  
22 about the objection.

23 MS. AUFDEMBERGE: In your question, you  
24 attributed the impact to the participation approach.

25 What you read attributed the impact to the Cal

1 WaterFix-specific regulations.

2 MS. WEHR: Correct. And by "participation  
3 approach," I mean the approach taken by Reclamation in  
4 this letter.

5 CO-HEARING OFFICE DODUC: Thank you for  
6 clarifying.

7 MS. WEHR: But I can be more clear.

8 Miss White, do you agree that this statement  
9 that (reading):

10 ". . . Cal WaterFix-specific regulations  
11 do (sic) have the potential to  
12 decrease . . . CVP Allocations."

13 Unless there are accounting procedures and  
14 mitigation measures put in place?

15 WITNESS WHITE: I -- I think this -- this  
16 letter is highlighting that -- that should -- that an  
17 integration agreement needs to cover that potential,  
18 that . . . clarifies.

19 MS. WEHR: Thank you.

20 And the next bullet states that assumptions  
21 will also need to be defined in the integration  
22 agreement, including (reading):

23 ". . . Operational assumptions, sharing  
24 of regulatory requirements, storage in  
25 San Luis Reservoir, accounting . . .

1 changes for (sic) required carriage

2 water, and others."

3 Does this mean that all of these assumptions  
4 are still yet to be determined for the WaterFix  
5 Project?

6 WITNESS WHITE: This is specific to the -- the  
7 accounting process and how we would work with -- with  
8 DWR sharing the water, and, yes, those are yet to be  
9 developed.

10 MS. WEHR: The paragraph in the middle of  
11 Page 4 of this letter, the second sentence of that main  
12 paragraph describes a process that would identify two  
13 distinct amounts of CVP water made available to  
14 participating . . . Contractors under this  
15 appropriation approach. A CVP allocation is mentioned  
16 and a CWF allocation is also mentioned.

17 Is it correct that, under Reclamation's  
18 approach in this letter, operations of the WaterFix  
19 Project would result in two distinct allocations of  
20 Central Valley Project water?

21 WITNESS WHITE: That's correct.

22 MS. WEHR: And you testified yesterday that  
23 Reclamation has not yet determined how it would  
24 distribute the CVP water that moves through the  
25 WaterFix facilities but that, under the approach

1 described in this letter, Contractors' financial  
2 participation decisions might affect Reclamation's  
3 decisions regarding how to allocate WaterFix water in  
4 the future?

5 WITNESS WHITE: I don't remember which you're  
6 referring to yesterday.

7 Was it when I referred to that we hadn't set  
8 up how to split water between the CVP and SWP, or did I  
9 make a statement specific about CVP Contractors?

10 MS. WEHR: You made the statement when being  
11 asked questions about this letter by Miss Des Jardins.  
12 And specifically you mentioned that Contractors'  
13 financial decisions and their financial participation  
14 in the Project might be taken into account when  
15 Reclamation decides how to allocate CVP water in the  
16 future.

17 WITNESS WHITE: Right. Thank you. Yes.

18 MS. WEHR: So that's correct. I'm just  
19 confirming.

20 My final question on this document, toward the  
21 bottom of Page 5, the last full paragraph.

22 (Exhibit displayed on screen.)

23 MS. WEHR: This has to do with rescheduling.

24 It states that (reading):

25 "The participating CVP Contractors

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1           may reschedule their CWF water,  
2           consistent with the terms and conditions  
3           of their CVP Contracts, and the storage  
4           priorities of San Luis Reservoir as  
5           established by . . . Federal . . . law  
6           and policy . . ."

7           Miss White, is it correct that, according to  
8 this letter, CWF water that is allocated to  
9 participating CVP Contractors could be rescheduled in  
10 San Luis Reservoir in accordance with applicable  
11 storage priorities?

12           WITNESS WHITE: Yes, that's how I read the  
13 sentence.

14           We had a lot of people involved in developing  
15 this letter. One of them was our Contracting  
16 Department. So the rescheduling guidelines are outside  
17 of my area, but that's how I read that sentence.

18           MS. WEHR: Okay. I'd like to ask you about  
19 the rescheduling guidelines and pull them up.

20           Would you be qualified to answer basic  
21 questions about rescheduling priorities?

22           WITNESS WHITE: Probably not.

23           If you pulled them up, it would be the first  
24 time I've looked at them in a long time.

25           MS. WEHR: Miss Parker, would you be qualified

1 to answer questions about rescheduling in San Luis  
2 Reservoir?

3 WITNESS PARKER: I am not.

4 MS. WEHR: Okay. Well, if you'll indulge me,  
5 Miss White, let's pull them up and I'll ask one basic  
6 question.

7 WITNESS WHITE: Sure.

8 MS. WEHR: Let's see. Miss Gaylon, could you  
9 pull up Exhibit GWD-19?

10 (Exhibit displayed on screen.)

11 MS. WEHR: This is the 2017 Central Valley  
12 Project Rescheduling Guidelines for San Luis Reservoir.

13 And on Page 1 toward -- The list toward the  
14 bottom of Page 1 shows the storage priorities in  
15 San Luis Reservoir.

16 And the third bullet on that list shows the  
17 priorities for rescheduled water.

18 The list includes irrigation water first; M&I  
19 water and Level II water second; and transferred  
20 Project water third.

21 Miss White, do you know or can you confirm  
22 that this means irrigation water is given a higher  
23 priority for rescheduling in San Luis Reservoir than  
24 Refuge water?

25 WITNESS WHITE: This is well outside my area

1 of expertise, but A seems to come before B, so I would  
2 say that irrigation water is above M&I water and Level  
3 II Refuge water.

4 MS. WEHR: Thank you.

5 And you are new, but you are a Deputy  
6 Operations Manager for the Central Valley Project.

7 WITNESS WHITE: That is correct. I have -- I  
8 have not been involved in rescheduling decisions yet in  
9 this capacity.

10 MS. WEHR: Okay. Miss Parker, could you  
11 confirm what Miss White is reading, that Refuge water  
12 as a lower rescheduling priority than irrigation water  
13 in San Luis Reservoir?

14 WITNESS PARKER: According to that list where  
15 A comes before B, A is irrigation water and B is M&I  
16 water and Level II Refuge water.

17 MS. WEHR: Thank you.

18 Miss White, is it your understanding that the  
19 WaterFix Project could increase the average annual  
20 allocations of CVP water for some irrigation  
21 Contractors south of the Delta?

22 WITNESS WHITE: Yes, I think that is correct.

23 MS. WEHR: Therefore, is it correct to assume  
24 that the WaterFic Pro -- WaterFix Project could result  
25 in requests to reschedule more irrigation water in

1 San Luis Reservoir?

2 WITNESS WHITE: I think it could, depending on  
3 all the specifics.

4 MS. WEHR: And that could have a priority  
5 over -- In other words, it could displace rescheduled  
6 Refuge water.

7 WITNESS WHITE: I think that would depend.  
8 Again, I can't talk about the rescheduling in detail,  
9 but we did say in developing the integration agreement,  
10 which is about how we would operate, that one of the  
11 things we would have to define is how rescheduling  
12 would work in the operations of San Luis. So I think  
13 that's one of the items that -- that needs to be  
14 determined in that integration agreement.

15 We did have a statement in there that said CWF  
16 water cannot displace CVP water at any time in  
17 San Luis. I think that -- that would also be  
18 consideration in the determination of that integration  
19 agreement.

20 MS. WEHR: Thank you.

21 I have one final question:

22 Is Reclamation proposing any conditions as  
23 part of this water right change proceeding that would  
24 protect non-participating Contractors or, specifically,  
25 Wildlife Refuges in the San Joaquin Valley from adverse

1 water supply effects?

2 WITNESS WHITE: I'm not aware of any  
3 conditions that Reclamation has requested in this  
4 Permit proceeding.

5 MS. WEHR: Thank you.

6 Moving to Mr. Reyes. Good morning.

7 WITNESS REYES: Good morning.

8 MS. WEHR: The WaterFix Project would result  
9 in reduced water exports from the existing South Delta  
10 pumps compared to the No-Action Alternative; correct?

11 WITNESS REYES: From the South Delta  
12 facilities, yes, it would be reduced compared to  
13 No-Action.

14 MS. WEHR: And two of the reasons why exports  
15 would be reduced are increased OMR restrictions and  
16 increased Delta outflow requirements associated with  
17 the WaterFix Project?

18 WITNESS REYES: Yeah. There's several  
19 reasons, and those are two. The other would be that  
20 some of the water is being shifted to the North Delta  
21 facility.

22 MS. WEHR: That was my next question.

23 The reason why there wouldn't be excess water  
24 supply effects is because some of those exports could  
25 shift to the North Delta facility.

1 WITNESS REYES: That's correct.

2 MS. WEHR: You testified that the proportion  
3 of Delta exports at the new Del -- Del -- North Delta  
4 intakes and the existing South Delta intakes under  
5 CWF H3+ is similar to the BA H3+ model; correct?

6 WITNESS REYES: I'm not sure if I testified to  
7 that.

8 But could you just ask it as a question  
9 without posing it as -- as my -- as I stated it --

10 MS. WEHR: Sure.

11 WITNESS REYES: -- but just a question?

12 MS. WEHR: Sure.

13 Essentially, my question: Is the proportion  
14 of the exports between the North and South Delta  
15 intakes is within the previously modeled range of H3 to  
16 H4 that was analyzed in the EIR?

17 WITNESS REYES: Yes, I believe that's right.

18 MS. WEHR: Thank you.

19 I would like to refer to an exhibit in Part 1  
20 because it relates to Mr. Reyes' testimony in Part 2  
21 regarding the proportion of Delta exports that would  
22 move through the north and south intakes.

23 Miss Gaylon, if you could please display  
24 Exhibit DWR-5 Errata, which is DWR's modeling  
25 PowerPoint from Part 1.

1 (Exhibit displayed on screen.)

2 MS. WEHR: And scroll to Slide 44.

3 (Exhibit displayed on screen.)

4 MS. WEHR: This slide is entitled (reading):

5 "Long-term Average Annual Total

6 North and South Delta Combined CVP/SWP

7 Diversions."

8 Mr. Reyes, do you agree that this exhibit  
9 shows, under both H3 and H4, that approximately half of  
10 all combined Central Valley Project and State Water  
11 Project exports from the Delta would be made from the  
12 new North Delta intakes and half would continue to be  
13 made from the South Delta intakes?

14 WITNESS REYES: I mean, visually inspecting  
15 this, you know, it -- I could say, yeah, it looks like  
16 it's close to half.

17 As to what percentage that is, I don't know,  
18 but, yeah, it looks -- visually inspecting, it looks  
19 about half.

20 MS. WEHR: Thanks.

21 And this is reflecting what is commonly  
22 referred to as dual conveyance; correct?

23 WITNESS REYES: Yeah, that's correct.

24 MS. WEHR: Would you agree that the CWF H3+  
25 operational model that is currently proposed contains a

1 similar assumption that, in general, approximately half  
2 of the compi -- combined CVP/SWP water exports will be  
3 made at the new North Delta intakes?

4 WITNESS REYES: Yes, I think that would be the  
5 case.

6 MS. WEHR: Thank you.

7 Level II Refuge water is water that the Bureau  
8 of Reclamation delivers to Wildlife Refuge from the  
9 CVP.

10 Mr. Reyes, you testified that, in your review  
11 of the CalSim II modeling and the CWF H3+ proposal,  
12 deliveries of Level II Refuge water supplies to  
13 Wildlife Refuges south of the Delta would remain  
14 similar to the No-Action Alternative; is that correct?

15 WITNESS REYES: That's correct.

16 MS. WEHR: Can you describe in general what  
17 assumptions that you or the CalSim II model made to  
18 support that conclusion?

19 WITNESS REYES: Well, the conclusion was based  
20 on the results that show the average deliveries, which  
21 was in my testimony and also as part of my  
22 presentation.

23 And it showed that the long-term average as  
24 well as the different year-type averages were very  
25 similar. And that's what drove that opinion.



1 MS. WEHR: Thank you.

2 I'd like to ask you a little bit more about  
3 the assumptions that led to that conclusion.

4 For example, did you or does the CalSim II  
5 model assume that Level II Refuge water deliveries  
6 along with deliveries, for example, to the San Joaquin  
7 River Exchange Contractors will be made first on a  
8 priority basis?

9 WITNESS REYES: Yes. The -- Well, I'll put it  
10 this way:

11 The allocations for Refuge Contractors are  
12 100 percent in -- in most years, and -- and there's a  
13 reduction to 75 percent in Shasta critical years.

14 And so, as far as the model's concerned, that  
15 allocation is the same between the No-Action case and  
16 in the Cal WaterFix H3+. That -- I think that's  
17 because that's what the contract terms states.

18 MS. WEHR: Because the model assumes that  
19 100 percent in non-critical years will be made to the  
20 Refuges?

21 WITNESS REYES: Yes. As an allocation, yes.

22 MS. WEHR: Does your modeling assume that  
23 Level II Refuge water deliveries could be made or would  
24 be made from either the North Or South Delta intakes?

25 WITNESS REYES: The modeling as was done --

1 And I don't know if Kristin wants to jump in here.

2 But I think we said before that the Projects  
3 will use the North and South in combination to meet  
4 whatever its requirements are.

5 And . . . so I don't think we're trying to  
6 discern how much is coming from where and -- and from  
7 which location it's going to. It's a general export  
8 for the CVP.

9 MS. WEHR: Okay. Thank you.

10 I would briefly like to pull up a transcript  
11 from Part 1 DWR witness, Armin Munévar. He testified  
12 about modeling in Part 1A.

13 This would be from August 23rd, 2016. It's  
14 Volume 13 in Part 1A.

15 (Exhibit displayed on screen.)

16 MS. WEHR: And Page 72 of the .pdf is Page 78  
17 of the transcript.

18 (Exhibit displayed on screen.)

19 MS. WEHR: Line 8 to 20.

20 (Exhibit displayed on screen.)

21 MR. BEZERRA: A quick comment: I think the  
22 pagination was mixed up there. I think you meant that  
23 Page 72 and transcript is Page 78 of the .pdf.

24 MS. WEHR: Thank you.

25 So Page 78 of the .pdf, please.

1 (Exhibit displayed on screen.)

2 MS. WEHR: No, that's not it.

3 CO-HEARING OFFICE DODUC: Oh.

4 MS. WEHR: All right. Well, let's try one  
5 more time.

6 If you could go to .pdf Page 281.

7 CO-HEARING OFFICE DODUC: Didn't you want  
8 Page 72?

9 MS. WEHR: It doesn't seem to be -- Oh, it is.  
10 Okay. Excuse me.

11 So this transcript states (reading):

12 ". . . Now we're going to the  
13 North-of-Delta Refuge water supplies.

14 ". . . We see a similar result here in  
15 that we have essentially identical  
16 deliveries . . ."

17 And on Line 16, it says (reading):

18 ". . . All of these Contractors that I'm  
19 showing right now are given a priority in  
20 terms of water delivery, so we would not  
21 expect to see a change in their  
22 deliveries as part of the operation."

23 Mr. Reyes, just to briefly go back to what you  
24 said about how CalSim II model works because it assumes  
25 that those allocations are made.

1           Would you agree that the assumption in the  
2 model is that Refuge water deliveries are given a  
3 priority?

4           WITNESS REYES: I think in this specific case,  
5 Mr. Munévar was talking about North-of-Delta Refuges,  
6 but I think -- I'd have to look at the specifics to see  
7 what priority the South-of-Delta Refuges are in  
8 relation to everything else, but I -- I think Refuges  
9 are given a priority.

10          MS. WEHR: Okay. If we can scroll to the next  
11 page.

12          (Exhibit displayed on screen.)

13          MS. WEHR: Mr. Munévar continues his testimony  
14 by stating that "It shows CVP" -- On Page -- On Line 4,  
15 excuse me (reading):

16                 "It shows CVP South-of-Delta Refuge  
17 water supply deliveries . . . these are  
18 Level II demands.

19                 "We have essentially some identical  
20 numbers."

21          So, would you agree that in your experience or  
22 your understanding, the model treats Refuge water  
23 deliveries both north and south of the Delta on  
24 priority basis assuming their allocations are met.

25          WITNESS REYES: Again, I think here he's

1 talking about the result -- the -- the -- the resulting  
2 deliveries is what he's talking about here. And that's  
3 why I think he goes into the critical years when he --  
4 where he says it's less than half percent difference.  
5 He's talking about the result here.

6 MS. WEHR: Thank you.

7 Miss Parker, if I could briefly ask you:

8 Is this your understanding of how the CalSim  
9 model works?

10 WITNESS PARKER: Yes, what Mr. Reyes says is  
11 correct.

12 The -- The CalSim model is not a water rights  
13 model. We don't . . .

14 Deliveries on an individual month-by-month  
15 basis aren't made based on water rights. But the  
16 allocations are made based on the -- the senior water  
17 rights holders or contract holders having that  
18 priority. So their allocations are assumed or are  
19 constructed based on that Shasta critical criteria.

20 I don't know what other -- So it's not a  
21 priority-driven model. It's an allocation-driven  
22 model.

23 MS. WEHR: Um-hmm.

24 WITNESS PARKER: Those allocations are  
25 assigned based on the Shasta critical criteria.

1           So, in that way, Exchange Contractors,  
2 Settlement Contractors, and Refuges all do have a  
3 priority.

4           If those -- If the water supply is  
5 insufficient -- it never is -- but if it were to be  
6 insufficient to meet Contractors beyond that, then  
7 Service Contractor allocations are -- are zeroed out.

8           MS. WEHR: Thank you.

9           Mr. Reyes, one more question on this  
10 testimony. I know it's not yours, but it was your --  
11 your predecessor, I guess.

12           On .pdf Page 281 of this transcript, which  
13 continues Mr. Munévar's testimony, in rebuttal likely.

14           (Exhibit displayed on screen.)

15           MS. WEHR: On Line 18 -- And this is Page 275  
16 of the actual transcript.

17           A question was asked of the witness (reading):

18           "If I understand (sic) your  
19 testimony . . . the model" -- on  
20 Line 19 -- "the model first delivers  
21 water to the Sacramento . . . Exchange  
22 Contract -- Sacramento River Settlement  
23 Contractors, San Joaquin River Exchange  
24 Contractors, Refuge's and Feather River  
25 Settlement Contractors, before any other

1 deliveries . . ."

2 And Mr. Munévar clarifies, that also includes

3 (reading):

4 ". . . In-stream flows, Delta water  
5 requirements and (sic) fishery" -- if  
6 you'd scroll down -- "requirements."

7 So, just to confirm: The way that the  
8 modeling works for -- under CalSim II and for the  
9 California WaterFix Projects, in order to reach your  
10 conclusion that Refuge water deliveries will be similar  
11 to the No-Action Alternative, water deliveries to  
12 Settlement, Exchange, Refuge and Feather River  
13 Contractors, in addition to meeting instream flow water  
14 quality and fishery requirements, are made first.

15 WITNESS REYES: Again, I -- I was basing my  
16 opinion on the results, so not the -- the modeling  
17 assumption.

18 MS. WEHR: And it is -- Is it your  
19 understanding that those results are based on modeling  
20 assumptions -- assumptions built into the model, or  
21 does the model work to give those -- those allocations  
22 first?

23 WITNESS REYES: Yeah. I think -- I want to  
24 confirm this, but -- so we do have -- The way we handle  
25 priorities within the model is to assign a -- what we

1 call a weight to certain delivery categories.

2           And it's -- I think it is true that . . .

3 Refuges South of Delta have a -- maybe an assigned  
4 weight that is higher relative to other deliveries in  
5 the South of Delta.

6           But, again, I was speaking to the result and  
7 I'd have to confirm that priority.

8           MS. WEHR: Thank you.

9           CO-HEARING OFFICE DODUC: Hold on a second.

10           Miss Wehr, would you like -- If you would  
11 like, I would request Mr. Reyes to confirm that during  
12 the lunch break.

13           MS. WEHR: I would appreciate that, if you  
14 could. Thank you.

15           WITNESS REYES: Okay.

16           MS. WEHR: If it has to do with weight, maybe  
17 the relative weights.

18           Not too much work, hopefully.

19           My final question, Mr. Reyes: Keeping in mind  
20 the new restrictions on the South Delta intakes, would  
21 your conclusion regarding the similar Refuge deliveries  
22 under the WaterFix Project to Refuges and Exchange  
23 Contractors south of the Delta remain the same if only  
24 the South Delta intakes were used to make those  
25 deliveries after the Project is constructed and



1 operated?

2 WITNESS REYES: It seems like you're  
3 constructing a hypothetical.

4 Could you maybe frame that again? I'm -- I'm  
5 not -- I wasn't following quite exactly what -- what --  
6 what situation you're describing there.

7 MS. WEHR: Let me reframe it.

8 Would you need to do more modeling, or could  
9 you tell me sitting here today that if only the South  
10 Delta intakes were allowed to be used to meet Refuge  
11 and Exchange Contractor demands south of the Delta,  
12 your conclusion about their allocations remaining  
13 similar would -- would be the same?

14 WITNESS REYES: It seems to me you're  
15 describing -- I mean, as I hear it -- the No-Action  
16 case. And I would agree that it would be immediate --  
17 It would be No-Action, so it would be the same.

18 MS. WEHR: I'm actually describing a situation  
19 in which the WaterFix Project is built and the  
20 restrictions on the South Delta pumps and the new  
21 outflow standards are in place, and yet only the South  
22 Delta pumps can be used to meet those -- those  
23 allocations.

24 WITNESS REYES: So you're describing a case  
25 with the -- the North Delta facilities built but not

1 used?

2 MS. WEHR: Not used for those allocations and  
3 how that might affect those allocations.

4 CO-HEARING OFFICE DODUC: I think Mr. Mizell  
5 has --

6 MR. MIZELL: Yes, I'd like to object.

7 At this point, Mr. Reyes, I believe, is -- has  
8 indicated that he's a bit confused by the degree of  
9 specificity included in that question.

10 It sounds as though it would require an  
11 entirely new modeling run to be conducted. To ask the  
12 witness to con -- to do that modeling run in his head  
13 on the stand I don't think is a -- is a fair request.

14 MS. WEHR: So you agree that new modeling  
15 would likely be required in that scenario to --

16 WITNESS REYES: Yes. I mean, anytime you're  
17 making new assumptions about what you want to study,  
18 then, yeah, I would need a new model to -- to ascertain  
19 what the result would be.

20 MS. WEHR: Thank you.

21 Finally, Mr. Miller, very briefly.

22 You testified that when spring Delta outflow  
23 requirements are imposed by CWF H3+ in April and May,  
24 total Delta exports would be curtailed to no less than  
25 1500 cubic feet per second.

1           And does that mean that both the North and  
2 South Delta intake facilities would be collectively  
3 limited to 1500 cfs?

4           WITNESS MILLER: Yes.

5           MS. WEHR: And the 1500 cfs standard is an  
6 export rate that tries -- is intended to try and meet  
7 the minimum demands for water users who depend on water  
8 exported from the Delta; correct?

9           MR. MIZELL: Objection: Misstates the  
10 testimony.

11           CO-HEARING OFFICE DODUC: Then perhaps  
12 Mr. Miller would clarify.

13           WITNESS MILLER: The -- The 1500, I think,  
14 originated initially -- That level initially originated  
15 maybe from D-1641, the -- during the one-to-one  
16 San Joaquin 90 -- or not -- during the analysis 101  
17 standard.

18           And it's been typically carried through -- I  
19 don't know what the origination of that 1500 was.

20           MS. WEHR: Okay. And is it your understanding  
21 that the 1500 cfs minimum export rate would also be  
22 controlling at other times when other factors are  
23 controlling in the Delta, such as the OMR flow  
24 restrictions?

25           MR. MIZELL: Objection: Vague and ambiguous.

1           1500 cfs controlling where and in which  
2 conditions?

3           MS. WEHR: With the 1500 cfs minimum export  
4 rate that you described very clearly in your testimony  
5 as applying when Delta outflow is controlling in April  
6 and May, would that same minimum export rate apply to  
7 this Project when other factors are controlling, such  
8 as, for example, OMR flow restrictions?

9           WITNESS MILLER: Typ -- Typically -- Well, OMR  
10 is . . . It is restricting the South-of-Delta exports,  
11 so . . . that -- Under the current Biological Opinions,  
12 OMR allows exports only -- or forces the exports only  
13 down to 1500.

14           MS. WEHR: Okay. Thank you.

15           I -- I might be able to bring some clarity.

16           Miss Gaylon, if you could pull up Exhibit  
17 SWRCB-105, which is the U.S. Fish and Wildlife  
18 Services' Biological Opinion for the WaterFix Project,  
19 and scroll to Page 50.

20           (Exhibit displayed on screen.)

21           MS. WEHR: This Page 50 is Page 26 of the  
22 Biological Opinion.

23           At the bottom is Footnote 8.

24           (Exhibit displayed on screen.)

25           MS. WEHR: And the last sentence in this

1 footnote states that (reading):

2                   "The combined CVP and SWP export  
3                   rates from the proposed North Delta . . .  
4                   and the existing South Delta intakes will  
5                   not be required to drop below 1500 cfs to  
6                   provide water supply for health and  
7                   safety needs, critical Refuge supplies,  
8                   and obligations (sic) to senior water  
9                   rights holders."

10                  Mr. Miller, are you aware of this Biological  
11 Opinion and this general footnote?

12                  WITNESS MILLER: Which Biological Opinion is  
13 this? Is this --

14                  MS. WEHR: Fish and Wildlife Service's opinion  
15 for the WaterFix Project.

16                  WITNESS MILLER: So this is . . . SWRCB-105?

17                  MS. WEHR: Yes.

18                  And if you could scroll up, Miss Gaylon --

19                  (Timer rings.)

20                  MS. WEHR: -- just so we know what Footnote 8  
21 is referring to.

22                  (Exhibit displayed on screen.)

23                  MS. WEHR: (Reading):

24                         "OMR criteria . . . whichever  
25 results in more or (sic) less

1 positive . . . OMR flows, will be  
2 applicable."

3 So, essentially, the Biological Opinion is  
4 indicating, as you have indicated in your testimony,  
5 that there is a minimum export rate of 1500 cfs.

6 And the footnote further indicates that the  
7 purpose of that minimum export rate is to meet health  
8 and safety needs, critical Refuge water supplies, and  
9 obligations to senior water rights holders.

10 WITNESS MILLER: And -- And you want me to  
11 confirm what the footnote says?

12 CO-HEARING OFFICER DODUC: The question --

13 MS. WEHR: Is that in your --

14 CO-HEARING OFFICE DODUC: -- is: Were you  
15 aware of that?

16 WITNESS MILLER: I -- I was aware of the --  
17 what I was calling health and safety needs.

18 MS. WEHR: Okay. Are you aware that, during  
19 the critically dry years of 2014 and 2015, the  
20 minimum -- this minimum export level which exists in  
21 the current Biological Opinions as well was invoked by  
22 the Project operators to help meet minimum water  
23 demands south of the Delta?

24 MR. MIZELL: Objection: Relevance.

25 MS. WEHR: It's relevant to how -- I mean,

1 past operations at this minimum export rate would be  
2 relevant to how the Project would operate in the future  
3 under the same standard.

4 CO-HEARING OFFICE DODUC: Overruled.

5 WITNESS MILLER: You know, I -- I wasn't sure  
6 if it was this particular criteria that was invoked.

7 MS. WEHR: Okay. But you were aware that the  
8 minimum export rate was invoked in the critically dry  
9 years of 2014 and 2015?

10 WITNESS MILLER: I remember we were pretty  
11 low, but there was . . . some discussions with the  
12 fishery agencies and the Water Board on specific rules  
13 to get through the drought.

14 MS. WEHR: Okay. And are you aware that a  
15 portion of those minimum exports that were made during  
16 the drought were delivered to Wildlife Refuges and  
17 senior water right holders?

18 WITNESS MILLER: I -- I would have to refer  
19 that question to Miss White regarding the Refuges and  
20 senior water users. I'm only familiar with what --  
21 with the water in the State Water Project site.

22 MS. WEHR: Okay. Miss White, were you aware  
23 that a sort of minimum export rate with 2014-15  
24 remained for Wildlife Refuges and senior right holders?

25 WITNESS WHITE: So, I would say I'm aware that

1 water went to the Refuges. Whether it came from  
2 previously stored water in San Luis or directly during  
3 the times we were at minimum exports, I'm not sure.

4 MS. WEHR: Okay. My final question,  
5 Mr. Miller:

6 For the WaterFix Project, at times when the  
7 cont -- when controlling factors, whether those be  
8 outflow or OMR, limit total exports to 1500 cfs, do you  
9 assume that those exports would be made both from the  
10 North and South Delta intakes?

11 WITNESS MILLER: In -- In my example, I -- I  
12 did assume that when the 1500 cfs criteria was in  
13 place, that most -- well, the South of Delta took most  
14 of that water, and what could not be picked up in South  
15 Delta was picked up at the Northern Delta.

16 MS. WEHR: Thank you.

17 That concludes my cross-examination.

18 CO-HEARING OFFICE DODUC: Thank you,  
19 Miss Wehr.

20 Welcome to the proceedings.

21 MS. WEHR: Thanks.

22 CO-HEARING OFFICE DODUC: Group 7. We'll, I  
23 assume, begin with Mr. Hitchings.

24 And I would like to give the court reporter a  
25 break at around 11 o'clock, so if you could find a good



1 time in your questioning to break, that would be  
2 helpful.

3 MR. HITCHINGS: Okay. Thank you. I'll  
4 endeavor to do that.

5 Andrew Hitchings for my firm's Group 7  
6 clients.

7 Good morning.

8 The -- The subjects that I want to cover  
9 during the cross-examination, I'll lay a little bit of  
10 foundation and background. Mostly, they're going to  
11 involve questions for Dr. Greenwood and focus on the  
12 North Delta diversion intakes and fish screens.

13 I want to focus on screen passage time, the  
14 siting of the intake facilities, sweeping velocities at  
15 the fish screens, predation and predation impacts,  
16 refugia elements, biological modeling methods, and  
17 future conditions.

18 CO-HEARING OFFICE DODUC: Thank you.

19 MR. HITCHINGS: And I think our estimates are  
20 still three to five hours. I have my section -- This  
21 is for Group 7.

22 CO-HEARING OFFICE DODUC: In total.

23 MR. HITCHINGS: In total, yes.

24 My section, and then Mr. Bezerra, and then  
25 Ms. Nikkel will have just some short amount of

1 questions at the end.

2 CO-HEARING OFFICE DODUC: Thank you.

3 MR. HITCHINGS: Thank you.

4 MR. BEZERRA: It -- It might take a little  
5 more than that but hopefully not much.

6 CO-HEARING OFFICE DODUC: Well, considering  
7 that you're representing how many parties in all?

8 MR. HITCHINGS: Over 40, I believe.

9 CO-HEARING OFFICE DODUC: Thank you.

10 I know I can trust you to be efficient.

11 MR. HITCHINGS: Thank you.

12 I -- I've monitored the proceedings and -- and  
13 I don't think any of the questions that I'll be asking  
14 have been asked before, at least in the way that I'm  
15 posing them to Dr. Greenwood.

16 CROSS-EXAMINATION BY

17 MR. HITCHINGS: Good morning, Dr. Greenwood.

18 MS. GAYLON: Sorry. To clarify, how much time  
19 should be on the timer for Mr. Hitchings?

20 CO-HEARING OFFICE DODUC: We'll just start at  
21 two hours, and I -- I am trusting that the pace will  
22 move rapidly and that the questioning will be  
23 productive and, if so, then we'll just continue to add  
24 on until we get to five hours.

25 MR. HITCHINGS: Okay. Thank you.

1 I -- I think to start, to just to orient to  
2 discussion and for some foundation, if we could pull up  
3 State Board Exhibit 104, which is the 2016 BA.

4 And if we could go to Appendix 3A, the mapbook  
5 as part of the BA.

6 (Exhibit displayed on screen.)

7 MR. HITCHINGS: And if we could go to Sheet 1  
8 of 17 in that book.

9 (Exhibit displayed on screen.)

10 MR. HITCHINGS: I think that's the overview  
11 sheet, and it should be the next one.

12 (Exhibit displayed on screen.)

13 MR. HITCHINGS: So, on this sheet, that  
14 depicts Intake 3, which is the most upstream intake,  
15 and Intake -- I'm sorry. Intake 2 is the most upstream  
16 and then Intake 3, which is the middle intake under  
17 CWF H3+.

18 Are you familiar with those locations,  
19 Dr. Greenwood?

20 WITNESS GREENWOOD: Yes, I'm generally  
21 familiar with them.

22 MR. HITCHINGS: And if we go to the next  
23 sheet, Sheet 2 of 17.

24 (Exhibit displayed on screen.)

25 MR. HITCHINGS: That depicts Intake 5, which

1 is the southernmost or most downstream of the -- the  
2 three proposed intakes.

3 Are you familiar -- familiar with that  
4 location?

5 WITNESS GREENWOOD: Yes, generally familiar.

6 MR. HITCHINGS: And if we could go to  
7 Chapter 3 of the -- of SWRCB-104.

8 (Exhibit displayed on screen.)

9 MR. HITCHINGS: Page 3-35.

10 (Exhibit displayed on screen.)

11 MR. HITCHINGS: And there's a Table 3.2-5.

12 (Exhibit displayed on screen.)

13 MR. HITCHINGS: And, I'm sorry, it's 3-35 is  
14 the page number.

15 (Exhibit displayed on screen.)

16 MR. HITCHINGS: And so in this table,  
17 Dr. Greenwood, Table 3-2 -- 3.2-5 lists the intake  
18 dimensions, the overall intake dimensions.

19 And according to this table, it will involve a  
20 total overall structural length of over one mile within  
21 a five-mile Reach of the river.

22 Is -- Is that a fair characterization?

23 WITNESS GREENWOOD: I'm forgetting what the  
24 conversion is between feet and miles.

25 It seems close, yes.

1 And the --

2 MR. HITCHINGS: 5,268 feet?

3 WITNESS GREENWOOD: Yeah. I'm sorry.

4 And the distance is about 5 -- 5 miles or so  
5 from top to bottom, approximately. Or slightly less, I  
6 guess.

7 MR. HITCHINGS: Okay. And if we could go to  
8 the next two pages later, 3-37, Table 3.2-6.

9 (Exhibit displayed on screen.)

10 MR. HITCHINGS: And then, according to this  
11 table, the total length of the fish screens for the  
12 three intakes will span over 3800 feet.

13 Do you agree?

14 WITNESS GREENWOOD: Yes.

15 MR. HITCHINGS: Are you aware of any other  
16 water diversion intake fish screen facility of this  
17 size and scale?

18 WITNESS GREENWOOD: The combined three  
19 intakes, I'm not aware of -- I'm not aware of anything  
20 so -- If -- If you're meaning one single or combined  
21 or . . .

22 MR. HITCHINGS: I'm talking --

23 WITNESS GREENWOOD: I'm not --

24 MR. HITCHINGS: I'm sorry.

25 I'm talking about the three combined.

1           WITNESS GREENWOOD: The three combined into a  
2 single location as far as the point of comparison  
3 or . . .

4           MR. HITCHINGS: Are you aware of -- Sorry.  
5 Maybe I can rephrase this to help.

6           Are you aware of any diversion Project with a  
7 fish screen con -- configuration that we just went  
8 through of that size and scale?

9           WITNESS GREENWOOD: I'm not aware of any. I  
10 haven't done any extensive research into looking to see  
11 if there are such --

12          MR. HITCHINGS: Okay. Thank you.

13          WITNESS GREENWOOD: -- in the Delta.

14          MR. HITCHINGS: Do you know what the longest  
15 fish screen facility is in the State of California?

16          WITNESS GREENWOOD: I don't specifically know  
17 which ones are the longest in the State of California.  
18 I know some long ones in the Central Valley, but I  
19 don't know how they compare to California overall.

20          MR. HITCHINGS: Have you ever performed or  
21 evaluated the performance of impingement or entrainment  
22 at fish screen facilities?

23          WITNESS GREENWOOD: I have assessed fish  
24 impingement at the cooling water intake of -- of a  
25 large coal-fired power plant.

1 MR. HITCHINGS: Any -- Any other facilities  
2 that come to mind?

3 WITNESS GREENWOOD: I haven't personally done  
4 any assessments.

5 MR. HITCHINGS: And what was the size of that  
6 fish screen facility at the power plant?

7 WITNESS GREENWOOD: How do you mean "size"?  
8 Define "size."

9 MR. HITCHINGS: The length of the fish screen  
10 itself.

11 WITNESS GREENWOOD: Well, the . . . The  
12 screens that I was assessing were not -- they're not of  
13 the -- they were preventing -- Essentially, the fish  
14 are being entrained down the canal, and this -- this --  
15 and they were impinged on screens that were preventing  
16 them from being moved through the whole system. So  
17 it's not really comparable to the situation that we're  
18 talking about on the Sacramento River.

19 I don't know that -- I don't recall the -- the  
20 precise dimensions of the -- the screens themselves.  
21 But, as I say, they're -- they're not directly  
22 comparable to what we're talking about for California  
23 WaterFix.

24 MR. HITCHINGS: Do you recall the diversion  
25 rate, the max diversion rate for that facility?

1 WITNESS GREENWOOD: 90 cubic -- cubic meters  
2 per second. Approximately.

3 MR. HITCHINGS: I want to switch gears now  
4 that we kind of have an overall sense of the -- of the  
5 scale and some of your experience with fish screen  
6 facilities.

7 Do you know what the NMFS BiOp for the  
8 WaterFix Project estimated as the amount of time it  
9 would take a passive particle and move past the entire  
10 length of the screen intakes of the North Delta  
11 diversions?

12 WITNESS GREENWOOD: I can't recall offhand --

13 MR. HITCHINGS: Let's --

14 WITNESS WILDER: -- what it was.

15 MR. HITCHINGS: Okay. I'm sorry. I thought  
16 you were finished there.

17 Let's -- Let's go to the NMFS BiOp for the  
18 Project, State Water Board 106, and Page 587.

19 And Table -- So it's Page 587 and then  
20 Table 2-161.

21 (Exhibit displayed on screen.)

22 MR. HITCHINGS: So this lists the -- the --  
23 the three intakes and lists the amount of time  
24 estimated for travel time along the length of the  
25 screen.



1           For -- For Intakes 2 and 5, the amount of time  
2 equates to approximately 56 minutes for each screen; is  
3 that correct?

4           WITNESS GREENWOOD: Yes, it seems to be.

5           MR. HITCHINGS: And for Intake 3, the amount  
6 of time equates to approximately 46 minutes; is that  
7 correct?

8           WITNESS GREENWOOD: I guess so. I'm -- Again  
9 doing minutes to seconds conversion.

10          MR. HITCHINGS: And then if we could down at  
11 Page 586 to the second paragraph.

12          (Exhibit displayed on screen.)

13          MR. HITCHINGS: I think you might be on 587.

14          (Exhibit displayed on screen.)

15          MR. HITCHINGS: Yeah. Thank you. I should  
16 have said scroll up. Sorry.

17          About 10 lines down . . . where it has 161 in  
18 the left margin, there's a sentence after that. This  
19 is in the second paragraph.

20          The BiOp there states that the (reading):

21          ". . . Transit time estimates may  
22 actually (sic) underestimate the actual  
23 time that fish are exposed to the  
24 screens."

25          Is that correct?

1 MS. ANSLEY: Objection: Is he asking is that  
2 what the document says? Or is he asking for his  
3 personal opinion?

4 MR. HITCHINGS: Well --

5 MS. ANSLEY: There's not a confirmation of  
6 what the document said, and I want to make sure we're  
7 getting to a question it distinguished.

8 CO-HEARING OFFICER DODUC: All right.  
9 Mr. Hitchings.

10 MR. HITCHINGS: Yeah, I'll -- I'll rephrase.

11 Do you agree with that conclusion stated in  
12 that sentence?

13 WITNESS GREENWOOD: That's -- It -- That's  
14 potentially true.

15 They also could overestimate the actual time  
16 depending on different factors.

17 But I think the next sentence notes that we  
18 did -- we did some analysis of potential passage time  
19 in the BA.

20 MR. HITCHINGS: Do you know of any express  
21 statement in the BiOp that indicates that those times  
22 may be overestimates?

23 WITNESS GREENWOOD: I -- I don't know of such  
24 statements.

25 MR. HITCHINGS: Are you familiar with the Fish

1 Facilities Technical Team that has worked on fish  
2 facilities issues for the WaterFix Project?

3 WITNESS GREENWOOD: I'm . . . Yes, I'm aware  
4 of its existence.

5 MR. HITCHINGS: Have -- Have you participated  
6 on that team?

7 WITNESS GREENWOOD: The . . . Are you  
8 speaking to the Fish Facilities Technical Team that  
9 issued a 2011 report --

10 MR. HITCHINGS: Yes.

11 WITNESS GREENWOOD: -- or -- No, I wasn't part  
12 of that team.

13 MR. HITCHINGS: Have you participated on -- on  
14 any other Fish Facilities Technical Team or other  
15 iteration of that team?

16 WITNESS GREENWOOD: I don't think I was a  
17 member of the team as such.

18 During the 20 -- preparation of the Study  
19 Plan, a 2013 document, I think that was essentially  
20 considered a Fish Facility Technical Team, but I  
21 wasn't -- I was -- I attended some meetings, but I  
22 wasn't -- I don't think I would consider myself as part  
23 of that -- part of that team.

24 MR. HITCHINGS: Were -- Were you involved in  
25 the selection of the sites for the three North Delta

1 diversion intake locations?

2 WITNESS GREENWOOD: No.

3 MR. HITCHINGS: In your opinion, are those  
4 intakes sited in locations that provide favorable  
5 hydraulic and biological conditions for the protection  
6 of listed Salmonid species?

7 WITNESS GREENWOOD: I think the -- the  
8 pre-construction studies to be done as part of WaterFix  
9 will help to describe more of -- of the conditions in  
10 order to aid in the final design in order to make the  
11 facilities protective, as I noted in my testimony.

12 MR. HITCHINGS: But what about the original  
13 siting of those facilities?

14 The actual sites where they're located were  
15 studies pre-construction, post-construction, might be  
16 formed -- might be performed, do those sites themselves  
17 as they were selected hold those favorable biological  
18 or -- or hydraulic conditions for the protection of  
19 listed species?

20 WITNESS GREENWOOD: I think some of those  
21 things were considered. I don't recall the details  
22 of . . . of the overall selection process. I believe  
23 some of those factors were considered.

24 MR. HITCHINGS: In -- In your opinion, do  
25 those intake locations possess sweeping flow conditions

1 that are favorable for the protection of listed  
2 Salmonid species?

3 WITNESS GREENWOOD: I haven't -- I haven't  
4 seen specific information on the sweeping flows.

5 I know that the -- there are requirements  
6 for -- for sweep -- sweeping flows of at least twice  
7 the approach velocity, so .2 feet per second approach  
8 velocity, .4 feet per second or more sweeping velocity.

9 MR. HITCHINGS: Have you ever performed a site  
10 visit to the intake locations?

11 WITNESS GREENWOOD: I have not.

12 MR. HITCHINGS: Could we pull up DWR-219.

13 And this is the BDCP Fish Facilities Technical  
14 Team memorandum of 2011. We just talked about that for  
15 a moment.

16 (Exhibit displayed on screen.)

17 MR. HITCHINGS: And if you could refer to  
18 Page 22 of that report.

19 (Exhibit displayed on screen.)

20 MR. HITCHINGS: And the last paragraph, first  
21 sentence of that report states (reading):

22 "The North Delta diversions will be  
23 unlike any other screens that have been  
24 implemented to date. They may have  
25 individual features similar to other

1 screens in terms of length, capacity,  
2 river position, or tidal effects, but  
3 they will be unique in the combination of  
4 these features at this scale."

5 Do you agree with this statement?

6 WITNESS GREENWOOD: I think it's acknowledged,  
7 yes, that there is uncertainty in the potential effects  
8 of the screen, and this is what's driving the -- the  
9 variety of different pre-construction studies that I  
10 mentioned.

11 MR. HITCHINGS: Okay. And if we could refer  
12 to Page 33 of the same report.

13 (Exhibit displayed on screen.)

14 MR. HITCHINGS: The first and last -- first  
15 paragraph, first and last sentences state:

16 "There is a high level of  
17 uncertainty as to the type and magnitude  
18 of impacts that these new diversions will  
19 have on covered fish species that occur  
20 within the diversion Reach.

21 "It is also important to note that  
22 nearly the entire population of several  
23 anadromous species (Sacramento Basin  
24 Salmonids and Green Sturgeon) must pass  
25 through this Reach to complete their life

1           cycles."

2           Do you agree with these statements?

3           WITNESS GREENWOOD:   Yes.

4           I mean, in general, I -- I acknowledge that  
5 there is uncertainty and, yes, I acknowledge the . . .

6           I acknowledge the last sentence and agree with  
7 that without getting into the specifics of the  
8 different Sacramento Basin Salmonids, for example.

9           And, then, regarding the size -- the relative  
10 size of the diversions and screens, I'm not sure I  
11 would agree. I don't think I would necessarily agree  
12 with that one because I don't know the specifics  
13 of . . . the -- Can you remind me which part of the  
14 second sentence you -- you specifically mentioned?

15           MR. HITCHINGS:   Well, the second sentence in  
16 that paragraph is the sentence that refers to that it's  
17 (reading):

18           ". . . Important to note that nearly the  
19 entire population of several anadromous  
20 species . . . must pass through that  
21 (sic) Reach to complete their life  
22 cycles."

23           WITNESS GREENWOOD:   So I say you didn't -- you  
24 didn't say the second sentence of that paragraph.

25           MR. HITCHINGS:   I'm -- I'm sorry, no. The

1 first and last sentence.

2 WITNESS GREENWOOD: Yes.

3 So, as I said, I acknowledge -- I agree that  
4 there is uncertainty regarding the potential impacts.

5 And I also agree that large portions of the  
6 populations of several anadromous species must pass  
7 through the Reach.

8 MR. HITCHINGS: All right. I'd like to ask  
9 some questions about sweeping velocities.

10 If we could refer to your testimony, DWR-1012.

11 And if we could go to Page 18 of that.

12 (Exhibit displayed on screen.)

13 MR. HITCHINGS: And specifically Lines 13  
14 through 16.

15 (Exhibit displayed on screen.)

16 MR. HITCHINGS: You testified here that the  
17 required sweeping velocity of the North Delta intakes  
18 is two times the required approach velocity; is that  
19 correct?

20 WITNESS GREENWOOD: That -- That is my  
21 interpretation based on the reference I gave there from  
22 the NMFS Biological Opinion.

23 MR. HITCHINGS: Well, is that your  
24 understanding, that that is the required sweeping  
25 velocity for the Project?



1           WITNESS GREENWOOD: That is my -- Well,  
2 it's -- I don't think that it's something that's  
3 proposed or in a permit term, but that's -- that's the  
4 Incidental Take limit from the NMFS Biological Opinion.

5           MR. HITCHINGS: So that that would -- That is  
6 what would be required for operations of the Project  
7 under the NMFS Biological Opinion; is that correct?

8           WITNESS GREENWOOD: That is the take limit,  
9 so . . . as I understand it, that would be the limit --  
10 the -- essentially the requirement. Otherwise, take  
11 would be exceeded.

12          MR. HITCHINGS: All right. Let's go to  
13 Page 36, if we could.

14           (Exhibit displayed on screen.)

15          MR. HITCHINGS: And you state at Lines 21 to  
16 24 (reading):

17                   "Screening to the north -- Screening  
18                   the North Delta diversions to the  
19                   1.75-millimeter screen opening Salmonid  
20                   fry protection standard, in addition to  
21                   the North Delta diversion's 0.2 feet per  
22                   second approach velocity being  
23                   appreciably lower than the Salmonid fry  
24                   standard (0.33 feet per second), would  
25                   reasonably protected juvenile sam --

1 Salmonids."

2 Is -- Is there a reason why you did not  
3 include any reference to the required sweeping  
4 velocities as being protective of juve -- juvenile  
5 Salmonids in this opinion section?

6 WITNESS GREENWOOD: (Examining document.)

7 I'm just checking for context.

8 I don't think there was any particular reason  
9 why I didn't mention it in -- in this -- in this  
10 paragraph. It -- It . . . It does inform my  
11 conclusions regarding reasonable protection.

12 MR. HITCHINGS: And -- And what is that  
13 sweeping velocity that informs your conclusions for  
14 reasonable protection?

15 WITNESS GREENWOOD: .4 feet per second or  
16 more.

17 MR. HITCHINGS: Which is two times the  
18 approach velocity; correct?

19 WITNESS GREENWOOD: At least two times the  
20 approach velocity, yes.

21 MR. HITCHINGS: Would you agree that lower  
22 sweeping velocities compared to higher sweeping  
23 velocities increase the exposure time of juvenile  
24 Salmonid migrating past each of the three intake fish  
25 screen locations?

1           WITNESS GREENWOOD: They could do. I -- I  
2 think it would depend on the swimming behavior of the  
3 fish as well, but potentially it could do.

4           MR. HITCHINGS: Will you agree that higher  
5 sweeping velocities compared to lower sweeping  
6 velocities reduce risks to juvenile Salmonids passing  
7 by the North Delta diversion intakes?

8           WITNESS GREENWOOD: I think generally, yes,  
9 although there is -- I think there is some uncertainty  
10 regarding the extent of the potential effects.

11          MR. HITCHINGS: Are you aware of any fish  
12 screen sweeping velocity guidelines or recommendations  
13 from Federal agencies that recommend sweeping velocity  
14 to approach velocity ratio of greater than 2-to-1?

15          WITNESS GREENWOOD: I believe . . . I believe  
16 that . . . two to -- 2-to-1 is a NMFS standard, if I am  
17 remembering correctly.

18          MR. HITCHINGS: Do you agree that the CWF --  
19 CWF H3+ Project alternative is designed to be used  
20 during high-flow storm runoff events which will likely  
21 have high turbidity?

22          WITNESS GREENWOOD: It can be -- I believe it  
23 can be used across a variety of conditions, but with  
24 relatively higher flows than may be the potential for  
25 greater uses. My -- That's my general understanding.

1 MR. HITCHINGS: I'm sorry. I didn't hear  
2 that.

3 During higher flows, there's greater . . . use  
4 of the facility?

5 WITNESS GREENWOOD: There may -- As I  
6 understand it, there may be the potential for greater  
7 use of the facility under higher flows, depending on --  
8 on things like Bypass Flow Criteria.

9 MR. HITCHINGS: And during those higher-flow  
10 events, will you expect there to be higher turbidity?

11 WITNESS GREENWOOD: Generally, there is  
12 greater turbidity with higher flows.

13 MR. HITCHINGS: In -- In your opinion, would  
14 Salmon fry impingement risk at the North Delta  
15 diversion intakes likely be greater during periods of  
16 high water turbidity?

17 WITNESS GREENWOOD: I haven't -- I haven't  
18 examined that specifically, so I'm -- I am not  
19 completely certain of that.

20 MR. HITCHINGS: Okay. Chair Doduc, I -- This  
21 might be a good place to break. It seems pretty  
22 logical in the questions coming up.

23 CO-HEARING OFFICE DODUC: Thank you.  
24 Appreciate that.

25 We will resume at 11:10.

1 (Recess taken at 10:56 a.m.)

2 (Proceedings resumed at 11:10 a.m.):)

3 CO-HEARING OFFICER DODUC: All right. It's  
4 11:10. We're back.

5 Mr. Hitchings.

6 MR. HITCHINGS: Okay. Thank you very much.

7 CO-HEARING OFFICE DODUC: Actually, before you  
8 proceed, do you anticipate needing until about noon for  
9 your portion?

10 MR. HITCHINGS: I think that's about right,  
11 yes.

12 CO-HEARING OFFICER DODUC: Okay. Then we'll  
13 take our lunch break then.

14 MR. HITCHINGS: Okay. Thank you.

15 Dr. Greenwood, do you expect that there would  
16 be debris loading on the North Delta diversion intake  
17 fish screens when water is diverted during high-flow  
18 storm events?

19 WITNESS GREENWOOD: I believe there -- there  
20 may be some debris loading, yes.

21 MR. HITCHINGS: And in your opinion, would a  
22 sweep -- sweeping velocity of 0.4 feet per second be  
23 sufficient to manage the expected levels of debris  
24 loading?

25 WITNESS GREENWOOD: I haven't specifically

1 assessed it. I understand that the -- there is a -- a  
2 screen-cleaning device that is intended to help with  
3 the management of debris that may be on -- in the  
4 screen area.

5 MR. HITCHINGS: Are you aware of any analysis  
6 by the Bureau of Reclamation indicating that if the  
7 ratio of sweeping velocity to approach velocity is less  
8 than five, there can be a high degree of debris loading  
9 on fish screens?

10 WITNESS GREENWOOD: Only inasmuch as I've  
11 looked at this handout that was provided. I see it  
12 written in here.

13 MR. HITCHINGS: Okay. Well, let's --

14 WITNESS GREENWOOD: I believe that's what  
15 you're referring to.

16 MR. HITCHINGS: Other than having seen --  
17 You're referring to the GCID-23 exhibit that I  
18 distributed to counsel and I put at your seat there.

19 (Exhibit displayed on screen.)

20 MR. HITCHINGS: Other than seeing that for the  
21 first time, were you aware of any other Bureau of  
22 Reclamation study?

23 WITNESS GREENWOOD: I'm not of -- I'm not -- I  
24 haven't -- I'm not aware of any other study.

25 MR. HITCHINGS: Okay. Well, let's pull up --

1 Oh, okay. It looks like we have GCID-23 up there. And  
2 the title is (reading):

3 "Fish Protection at Water  
4 Diversions, A Guide for Planning and  
5 Designing Fish Exclusion Facilities."

6 And this is a document that I did e-mail out  
7 to the service list on Wednesday. I -- I e-mailed the  
8 full document but it's over 400 pages, so I just have  
9 an excerpt here.

10 So if we could go to .pdf Page 6, which is  
11 Roman Numeral IV-29.

12 (Exhibit displayed on screen.)

13 MR. HITCHINGS: And if you can refer to the  
14 last paragraph, first two sentences as I have them  
15 highlighted, it states (reading):

16 "The ratio of VS to VA affects how  
17 debris passes a screen. Generally,  
18 higher ratios of VS to VA shed debris  
19 better than low ratios."

20 Do you see that sentence? Those sentences, I  
21 should say.

22 WITNESS GREENWOOD: I -- I see that, yes.

23 MR. HITCHINGS: Then do you understand that  
24 the -- the VS refers to sweeping velocity, the VA  
25 refers to approach velocity?

1 WITNESS GREENWOOD: Yes.

2 MR. HITCHINGS: Do you agree with those  
3 statements?

4 WITNESS GREENWOOD: I haven't -- I haven't  
5 given it specific consideration, although I think in  
6 general I would -- I would agree with that.

7 MR. HITCHINGS: Okay. If we could refer to  
8 the next page, Roman Numeral IV-30.

9 (Exhibit displayed on screen.)

10 MR. HITCHINGS: At the top is a description of  
11 ranges of sweeping flow velocity to approach velocity  
12 ratios.

13 Do you see those ranges that are listed there?

14 WITNESS GREENWOOD: Yes, I see them.

15 MR. HITCHINGS: And the first line indicates  
16 that (reading):

17 "Where the ratio is less than  
18 5-to-1, there is a high debris  
19 impingement on the screen."

20 Would you agree with that conclusion?

21 WITNESS GREENWOOD: I haven't specifically --  
22 I -- I don't know the basis for it as far as why it's  
23 specifically talking about these numbers.

24 MR. HITCHINGS: Okay. In the second full  
25 sentence -- or the second full paragraph, first



1 sentence, this indicates that (reading):

2                   "Ratios in the range of 5-to-1 to  
3                   10-to-1 are the most commonly used for  
4                   fish screen designs."

5                   Do you see that?

6                   CO-HEARING OFFICE DODUC: Miss Ansley.

7                   MS. ANSLEY: I'd like to make an objection:

8 Mainly vague and ambiguous. And perhaps what I'm  
9 really requesting a clarification.

10                  I think it's unclear whether these are  
11 reporting laboratory results using specific types of  
12 screens as shown on the previous page just under the  
13 highlight or whether these are some sort of general  
14 rules of thumb of application.

15                  And I think that if Mr. -- if Dr. Greenwood  
16 needs more time or familiar -- He said he was not  
17 familiar, I think, with the specifics of this document.  
18 I just want to make sure that we are giving him the  
19 time to put the appropriate -- this -- these numbers in  
20 the appropriate context.

21                  And if the questioner can put it in context,  
22 that's fine. I'm just trying frame the reading.

23                  CO-HEARING OFFICE DODUC: Mr. Hitchings.

24                  MR. HITCHINGS: Well, I'd ask Dr. Greenwood if  
25 he has the context or not.

1 CO-HEARING OFFICER DODUC: Okay.

2 WITNESS GREENWOOD: I understand the general  
3 context.

4 CO-HEARING OFFICE DODUC: Are you able to  
5 answer the question, given that you have already said  
6 you haven't given this much consideration?

7 WITNESS GREENWOOD: So, can you repeat what  
8 the last question was?

9 MR. HITCHINGS: That that sentence, the second  
10 full paragraph, first sentence, that it indicates that  
11 (reading):

12 "Ratios in the range of 5-to-1 to  
13 10-to-1 are the most commonly used for  
14 fish screen designs."

15 WITNESS GREENWOOD: Do I agree with that?

16 MR. HITCHINGS: Yes. That's -- That's the  
17 question.

18 WITNESS GREENWOOD: I -- I don't know if those  
19 are the most commonly used for screen designs.

20 MR. HITCHINGS: Well, let's get to the --  
21 the -- the end question here.

22 Do you agree that achieving lower levels of  
23 debris imprinting on the North Delta diversion intake  
24 screens should be more protective of listed Salmonids?

25 WITNESS GREENWOOD: I believe -- I believe so,

1 yes. And that -- that's -- I think the -- the  
2 structure includes screening mechanisms to limit the  
3 amount of debris on the structure that could pose a  
4 risk to juvenile Salmonids.

5 MR. HITCHINGS: But with regard to preventing  
6 impingement via the use of sweeping velocities, it's  
7 your testimony that those sweeping velocities will be  
8 approximately 0.4 feet per second; correct?

9 WITNESS GREENWOOD: I don't know specifically  
10 what the -- I mean, .4 feet per second or -- or greater  
11 during diversion.

12 MR. HITCHINGS: But the -- the limit on  
13 approach velocities in order to protect Delta Smelt is  
14 0.2 feet per second, which you testified to; correct?

15 WITNESS GREENWOOD: That's my understanding,  
16 yes.

17 MR. HITCHINGS: And so if that's the maximum  
18 approach velocity rate, then the maximum sweeping  
19 velocity would be 0.4 feet per second; correct?

20 WITNESS GREENWOOD: I wouldn't say it's the  
21 maximum sweeping velocity. It's at least .4 feet per  
22 second or greater.

23 MR. HITCHINGS: Okay. Let me refer you to  
24 your testimony, DWR-1012.

25 (Exhibit displayed on screen.)

1 MR. HITCHINGS: At Page 39.

2 (Exhibit displayed on screen.)

3 MR. HITCHINGS: And Lines 17 through 19.

4 (Exhibit displayed on screen.)

5 MR. HITCHINGS: And your testimony here  
6 indicates that predation losses at the North Delta  
7 diversion intakes have been estimated as high as  
8 12 percent of the winter-run Chinook juvenile Salmonid  
9 population; is that correct?

10 WITNESS GREENWOOD: That's as -- as an  
11 example, yes, based on the assumption of 5 percent  
12 mortality per screen.

13 MR. HITCHINGS: And do you consider that level  
14 of predation losses to be reasonably protective of  
15 winter-run Salmon?

16 WITNESS GREENWOOD: That level of predation  
17 would not be . . . reasonably protective.

18 MR. HITCHINGS: Dr. Greenwood, fish passage  
19 times and exposure to the North Delta diversion intake  
20 screens during operations are important variables in  
21 termin -- in determining the risk of predation losses.

22 Would you agree with that?

23 WITNESS GREENWOOD: Sorry. Can you repeat the  
24 question?

25 MR. HITCHINGS: Yeah.

1           Are fish -- fish passage times and exposure to  
2 the North Delta diversion intake screens during  
3 operations important variables in determining the risks  
4 of predation losses?

5           WITNESS GREENWOOD: Potentially so, although  
6 I'm not -- I haven't seen -- I don't believe I'm aware  
7 of specifics relating to predation as a function of  
8 screen exposure time.

9           Could you -- Sorry. Could you repeat the  
10 whole thing again?

11          MR. HITCHINGS: The -- The question was  
12 whether fish passage times and exposure times in the  
13 North Delta diversion intake screens during operations  
14 are important variables in determining risk to  
15 predation losses.

16          WITNESS GREENWOOD: The -- They may -- They  
17 may be in terms of generally influencing the risk of  
18 predation, which -- which . . . is -- can be related to  
19 passage time generally, although I have not seen  
20 specifics in relation to passage past screens, timing,  
21 and predation.

22          MR. HITCHINGS: Okay. Are you aware of any  
23 other fish screen facilities with estimated fish --  
24 fish passage times that are comparable to the estimated  
25 times we discussed earlier?

1 WITNESS GREENWOOD: I'm not recalling any  
2 specific screens with those potential passage times.

3 MR. HITCHINGS: Okay. If we could refer to  
4 State Water Board Exhibit 106 -- that's the NMFS  
5 BiOp -- at Page 592.

6 (Exhibit displayed on screen.)

7 MR. HITCHINGS: And the second-to-last  
8 paragraph there.

9 (Exhibit displayed on screen.)

10 MR. HITCHINGS: If you'd just take a moment to  
11 skim that.

12 That describes numerous permanent in-water  
13 structures associated with the three North Delta  
14 diversion intakes, such as sheet pile training walls  
15 sheet pile cutoff walls during -- running the length of  
16 the screens, floating debris booms along the length of  
17 the screens, and four debris boom piles to support the  
18 floating debris booms.

19 Do you see that description there?

20 WITNESS GREENWOOD: I believe we want  
21 Page . . .

22 MR. HITCHINGS: 592.

23 WITNESS GREENWOOD: 592, which would be 596.

24 MR. HITCHINGS: And it's the second-to-last  
25 paragraph there. It starts with (reading):

1                   "The permanent in-water  
2                   infrastructure for the three NDDs . . ."

3                   WITNESS GREENWOOD: Yes, I see.

4                   MR. HITCHINGS: And is that your understanding  
5 of the -- those types of structures associated with  
6 CWF -- CWF H3+ designs?

7                   WITNESS GREENWOOD: These -- These types of  
8 structures, I believe, based on my understanding, can  
9 create habitat -- potentially create habitat for  
10 predatory fish.

11                  And, as I mentioned during my testimony, the  
12 pre-construction phase will be looking at the studies  
13 to inform the design to limit the potential for such  
14 habitat to be created.

15                  And then following construction, there will be  
16 additional studies to assess whether, indeed, there are  
17 predatory fish essentially in those areas.

18                  MR. HITCHINGS: Okay. Well, we'll get to  
19 that. I have some questions about that in particular.

20                  But it -- it sounds like the last sentence of  
21 that paragraph states (reading):

22                         "These structures create habitat  
23                         that provides holding . . . for  
24                         predators."

25                  It sounds like you agree with that conclusion;

1 is that correct?

2 WITNESS GREENWOOD: I'm saying that they --  
3 they -- they . . . create the potential -- They -- They  
4 have habitat that can potentially be used for -- by  
5 predatory fish, yes. There -- There may be some  
6 features of those structures that create habitat for  
7 predatory fish.

8 MR. HITCHINGS: Is -- Is there anything in  
9 that last sentence that you do not agree with?

10 MS. ANSLEY: Objection: Asked and answered.

11 This is the second time Dr. Greenwood has  
12 given his understanding of this paragraph.

13 CO-HEARING OFFICER DODUC: Let's --

14 WITNESS GREENWOOD: The --

15 CO-HEARING OFFICE DODUC: -- overrule for now.

16 WITNESS GREENWOOD: I guess the -- the fact  
17 that the structure is there and it's creating  
18 habitat -- The sentence says that it provides holding  
19 cover for predators.

20 I think that's something that needs to be  
21 assessed whether, in fact, predatory fish are -- are  
22 using those areas and the extent to which they're using  
23 them.

24 I agree that those types of habitat can  
25 provide holding and cover -- can provide habitat for



1 potential occupancy by predatory fish.

2 MR. HITCHINGS: Okay. Thank you.

3 On -- For the last paragraph of Page 592, last  
4 sentence, that states (reading):

5 "In addition, riprap and artificial  
6 structures provide physical and hydraulic  
7 conditions that may attract certain  
8 predatory fish species such as Striped  
9 Bass, Largemouth Bass, Smallmouth Bass  
10 and Sacramento Pikeminnow . . .  
11 potentially increase their ability to  
12 ambush juvenile Salmonids and other  
13 fishes."

14 Do you see that sentence?

15 WITNESS GREENWOOD: Yes, I see it.

16 MR. HITCHINGS: Do you agree with that  
17 conclusion?

18 WITNESS GREENWOOD: Yes, I agree with that  
19 conclusion.

20 MR. HITCHINGS: And if we go to Page 533.

21 (Exhibit displayed on screen.)

22 MR. HITCHINGS: The second paragraph.

23 In this paragraph, the BiOp explains that  
24 floating booms in front of each of the North Delta  
25 diversion intake locations (reading):

1           ". . . Will be supported by 32 to 40  
2           pilings . . ."

3           So this would translate to more than a total  
4 of 100 pilings directly in front of the three North  
5 Delta intakes; correct?

6           WITNESS GREENWOOD: Yes.

7           MR. HITCHINGS: And the last sentence of this  
8 paragraph states (reading):

9                    "Each piling and the associated  
10           floating log boom will provide both  
11           structure and shade in an offshore  
12           environment. This will likely attract  
13           both predators and prey."

14           Do you see that.

15           WITNESS GREENWOOD: I see that.

16           MR. HITCHINGS: Do you agree with those  
17 statements?

18           WITNESS GREENWOOD: I think that there's the  
19 potential for predators and prey to be attracted to  
20 those structures, yes.

21           And I think the extent of predatory fish  
22 occurring in those will be what is assessed, as I  
23 mentioned in my testimony. And then the need for  
24 additional actions is essentially the basis of that.

25           MR. HITCHINGS: Okay. As we discussed

1 earlier, the fish transit times past two of the three  
2 intake screens are anticipated to be approximately 56  
3 minutes; correct?

4 WITNESS GREENWOOD: That's my recollection,  
5 yes.

6 MR. HITCHINGS: And given the structural  
7 elements of the intakes and the estimated exposure time  
8 of Salmon to potential predators along the intake  
9 screens, in your opinion, could that have a significant  
10 adverse effect on Salmon?

11 WITNESS GREENWOOD: There could be an adverse  
12 effect.

13 And, as I mentioned, the -- the structures  
14 themselves will be designed in such a way through the  
15 work of the Fish Facilities Technical Team to limit the  
16 potential risk.

17 There will be assessment of the risk in  
18 comparison to pre-construction baseline. And then  
19 there will be an assessment regarding the potential for  
20 actions to -- the need -- sorry -- for actions to  
21 address predatory fish issues that may be -- that -- if  
22 there are predatory fish issues at the intakes.

23 MR. HITCHINGS: Well, that -- Let's go to  
24 that.

25 So on Page 594 of the BiOp.

1 (Exhibit displayed on screen.)

2 MR. HITCHINGS: The second and fourth  
3 paragraphs.

4 The second paragraph talks about winter-run  
5 exposure and risk.

6 The second (sic) paragraph talks about  
7 spring-run exposure and risk.

8 And if you -- if you have a moment to just  
9 look at those.

10 In both of those paragraphs, the NMFS BiOp  
11 explains that (reading):

12 ". . . Studies and monitoring at the  
13 intakes (sic) will be important to  
14 improve understanding of the  
15 potential . . . impacts . . ."

16 Of the associated structures on Salmon.

17 Do you agree with that?

18 WITNESS GREENWOOD: Yes, I do.

19 MR. HITCHINGS: Do you agree with -- It sounds  
20 like, from your prior testimony here, you agree with  
21 that conclusion?

22 WITNESS GREENWOOD: Yes, I do.

23 MR. HITCHINGS: So what happens if the future  
24 studies and monitoring demonstrate that the impacts on  
25 Salmon are significant?

1           In your opinion, what could be done to reduce  
2 those impacts to lower levels?

3           WITNESS GREENWOOD: The -- Obviously, the Fish  
4 Facility Technical Team for the North Delta diversions  
5 will -- would be assessing a variety of different  
6 mechanisms.

7           But if the example situation that you're  
8 talking about involved . . . a concentration, for  
9 example, of predatory fish, then removal of predatory  
10 fish or relocation of predatory fish from those areas  
11 is -- is one thing that could be considered through  
12 adaptive management.

13           MR. HITCHINGS: Okay. Well, let's take an  
14 example, then.

15           WITNESS GREENWOOD: And -- Sorry. I'd just  
16 like to -- There may be other actions, but this is just  
17 one example that I'm fam -- I'm familiar with.

18           MR. HITCHINGS: Okay. Well, let's use the  
19 refugia example.

20           Are -- Are you aware of any fish screen  
21 facilities built with refugia elements to minimize  
22 predation?

23           MS. ANSLEY: Objection.

24           Can you -- Just to make sure it's clear, what  
25 do you mean by "refugia"?

1 MR. HITCHINGS: Refugia, as listed in the  
2 BiOp. In particular, I'm going to get to some  
3 questions that refer to this.

4 But I think my questions will answer that,  
5 unless -- I don't know if there's an objection.

6 CO-HEARING OFFICE DODUC: Do you need  
7 clarification at this time, Dr. Greenwood?

8 WITNESS GREENWOOD: I don't need  
9 clarification.

10 I just -- It was -- The way refugia were  
11 brought up, you said in -- in the refugia example. I  
12 don't think I specifically mentioned refugia yet but  
13 looks like we're getting to that.

14 MR. HITCHINGS: Well, you mentioned it in your  
15 written testimony as to --

16 WITNESS GREENWOOD: Ah, yes. Sorry.

17 MR. HITCHINGS: -- the screens, as to some of  
18 the testing for monitoring --

19 (Exhibit displayed on screen.)

20 MR. HITCHINGS: -- in post-construction;  
21 correct?

22 WITNESS GREENWOOD: Yes, I did.

23 MR. HITCHINGS: And, so, are you aware of any  
24 fish screens built with refugia elements to minimize  
25 probation -- predation?

1 WITNESS GREENWOOD: I'm aware . . .

2 Well, yes, I'm aware of -- of some, um-hmm.

3 MR. HITCHINGS: Can you describe what -- what  
4 those are that you're aware of.

5 WITNESS GREENWOOD: Where they are -- sorry --  
6 or . . .

7 MR. HITCHINGS: Yes. What -- Some examples of  
8 some projects.

9 WITNESS GREENWOOD: To my knowledge -- Well,  
10 one I'm aware of that had test refugia was the Sankey  
11 water intake in the Sacramento River, which I believe  
12 is just north of the Delta.

13 MR. HITCHINGS: Any others?

14 WITNESS GREENWOOD: I believe I've heard that  
15 the Red Bluff diversion screen was to be tested  
16 for . . . refugia, although I can't confirm that it  
17 actually was.

18 MR. HITCHINGS: But you're not familiar with  
19 the specific refugia elements that were studied or used  
20 there; is that correct?

21 WITNESS GREENWOOD: No.

22 MR. HITCHINGS: That's not correct?

23 WITNESS GREENWOOD: Sorry. I'm not familiar  
24 with the specifics.

25 MR. HITCHINGS: Okay. Are -- Are you aware

1 whether the effects of refugia elements have ever been  
2 tested in the field on fish screens as large as the  
3 ones at the North Delta diversion intakes.

4 MS. ANSLEY: Okay. Just -- Objection: Vague  
5 and ambiguous.

6 Do we mean now -- Just based on earlier  
7 questioning, are we talking about each individual  
8 intake, the size of the individual intake? Because  
9 you're earlier questions were somehow questions that  
10 were combining the total length of all intakes. I just  
11 want to make sure that we're -- we're all on the same  
12 page.

13 MR. HITCHINGS: Well, let's start with the  
14 individual intakes.

15 If you took the Intake 2, which is the same  
16 dimension as 5, I believe, as far as the fish screen  
17 length, are you aware of any refugia elements ever  
18 being tested in the field on screens as large as  
19 Screen 2 -- Intake 2?

20 WITNESS GREENWOOD: I mean, I -- I don't think  
21 I'm aware, no. I'm not aware of such study.

22 MR. HITCHINGS: So in -- in your testimony --  
23 If we could back to 1012.

24 (Exhibit displayed on screen.)

25 MR. HITCHINGS: Page 37.



1 (Exhibit displayed on screen.)

2 MR. HITCHINGS: And then I'll refer you to  
3 Line 17 going through Page 38, Line 8.

4 In -- In this section of your testimony on  
5 those two pages, you discuss pre-construction studies  
6 and monitoring after operations begin to assess fish  
7 screen effectiveness; is that correct?

8 WITNESS GREENWOOD: Can you tell me the  
9 specific lines again where those . . .

10 MR. HITCHINGS: I'm sorry. Yeah. It's  
11 Page 37, Line 17 through Page 38, Line 8.

12 WITNESS GREENWOOD: (Examining document.)

13 Yes. And the question again, please?

14 MR. HITCHINGS: Just that, in this section of  
15 your testimony, you discuss the pre-construction  
16 studies and monitoring, after operations begin, to --  
17 to assess fish screen effectiveness; is that correct?

18 WITNESS GREENWOOD: These ones, I believe, are  
19 the ones that are specific to Salmonids. I think this  
20 section is talking about Salmonids, so I don't -- I  
21 don't repeat the earlier studies I mentioned in the  
22 context of Delta Smelt.

23 MR. HITCHINGS: Yeah, and that's fine.

24 So it's -- These are the ones for listed  
25 Salmonids; is that correct?

1 WITNESS GREENWOOD: These are the -- These are  
2 the ones that are most focused, yes, I think, on listed  
3 Salmonids.

4 MR. HITCHINGS: Were you or are you involved  
5 in formulating and developing any of these studies?

6 WITNESS GREENWOOD: No.

7 MR. HITCHINGS: So if we could go back to the  
8 NMFS BiOp, State Board Exhibit 106, Page 573.

9 (Exhibit displayed on screen.)

10 MR. HITCHINGS: And in this table,  
11 "Preconstruction Studies of the North Delta  
12 Diversions," Table 2-157.

13 As to the refugia study . . . there's a -- a  
14 pre-construction action study Number 4. It's referred  
15 to as "Refugia Field Study."

16 Do you see that in the fourth row?

17 WITNESS GREENWOOD: Yes.

18 MR. HITCHINGS: And if you look over at the --  
19 the far right column, it indicates that that -- it's a  
20 two-year timeframe to perform that study, and it must  
21 be completed prior to final intake design?

22 WITNESS GREENWOOD: Yes. I see that.

23 MR. HITCHINGS: In -- In your opinion, is that  
24 an adequate amount of time to perform such a study and  
25 account for variable intake operations and water year

1 types?

2 WITNESS GREENWOOD: I would have to consider  
3 it more to offer a . . . to offer a -- a more informed  
4 opinion on it.

5 It's being cross-referenced from the Fish  
6 Facilities Working Team document, so I don't know all  
7 the considerations there for what the potential details  
8 may be.

9 MR. HITCHINGS: Let's go to the next page, if  
10 we could.

11 I'm sorry. Not the next page. Page 576.

12 (Exhibit displayed on screen.)

13 MR. HITCHINGS: And for post-construction --  
14 Actually, if you could scroll back up. I'm  
15 sorry. I just wanted to list the reference to this  
16 table.

17 (Exhibit displayed on screen.)

18 MR. HITCHINGS: So this is monitoring actions  
19 for listed species of fish for north of Delta intakes.  
20 It's Table 2-158.

21 And if we scroll down to 576.

22 (Exhibit displayed on screen.)

23 MR. HITCHINGS: The third study here is  
24 proposed action number 3, referred to as "Refugia  
25 Effectiveness."

1           And on the far right column, you see that it  
2 states there's an approximately six-month timeframe  
3 identified to perform that study.

4           Are you -- Are you familiar with those study  
5 specifics or outlines?

6           WITNESS GREENWOOD: Generally.

7           Like I said, I did attend some of the meetings  
8 of the Fish -- of this, as it's described, Fish  
9 Facility Technical Team, and I have seen the report.

10          I've -- What was the question again? Sorry.

11          MR. HITCHINGS: Well, let me just ask this:

12          If -- Looking at the timeframe in the far  
13 right column for refugia effective -- effectiveness  
14 action, is -- is that an adequate amount of time to  
15 perform that study and account for variable intake  
16 operations and water year types?

17          WITNESS GREENWOOD: The -- It says,  
18 "Approximately six months."

19          Presumably, there would be the potential to  
20 increase the timing, I think. These are initial  
21 general descriptions of these studies, so I think  
22 depending on the conditions that were observed, there  
23 would be the potential to -- depending on the  
24 information that was gained --

25          MR. HITCHINGS: But -- But --

1           WITNESS GREENWOOD:  -- there would be the  
2 potential to adjust -- I mean, that may be an adequate  
3 time.  I -- I -- It would be hard to tell based on not  
4 knowing what the conditions would be that the study be  
5 undertaken -- under which the study would be  
6 undertaken.

7           MR. HITCHINGS:  But these studies that we just  
8 talked about, they form part of the basis of your  
9 opinion that would -- your opinion that CWF H3+  
10 provides for reasonable protection of Salmonid species;  
11 correct?

12           WITNESS GREENWOOD:  They do form part of the  
13 basis.

14           MR. HITCHINGS:  And -- And you list these in  
15 your written testimony; correct?

16           WITNESS GREENWOOD:  I -- I do, yes.

17           MR. HITCHINGS:  But you don't know how long  
18 this study will take to be performed and whether it may  
19 change over time; is that correct?

20           MR. MIZELL:  Objection:  Misstates the  
21 witness' previous answer.

22           He indicated that the initial approximation is  
23 six months and it may change based upon additional  
24 information gained.  That is different than he does not  
25 know.

1 MR. HITCHINGS: I think I can move on.

2 CO-HEARING OFFICE DODUC: Thank you,  
3 Mr. Hitchings.

4 MR. HITCHINGS: If I could refer you,  
5 Dr. Greenwood, to the final part of your testimony,  
6 Pages 54 through 73.

7 If we go to 54, at least.

8 (Exhibit displayed on screen.)

9 MR. HITCHINGS: I just want to confirm that  
10 the -- the intent of this portion of your written  
11 testimony is to provide an overview of the biological  
12 modeling methods that are referenced in your testimony;  
13 is that correct?

14 WITNESS GREENWOOD: That's correct.

15 MR. HITCHINGS: And, as far as I can tell, in  
16 looking through this section of your testimony, there  
17 are no biological modeling methods specifically listed  
18 in that section to support your opinions that CWF H3+  
19 North Delta diversions will be screened and operated to  
20 meet Salmonid protection standards and will be subject  
21 to numerous pre- and post-construction studies to  
22 provide a reasonable protection of listed Salmonids; is  
23 that correct?

24 WITNESS GREENWOOD: Can you repeat it so I  
25 can --

1 MR. HITCHINGS: Well, let's --

2 WITNESS GREENWOOD: -- be sure to answer.

3 MR. HITCHINGS: -- just go to the -- the --

4 Maybe it'll be easier just go to the last section.

5 If we go to Pages 61 to 63.

6 (Exhibit displayed on screen.)

7 MR. HITCHINGS: And in looking at your  
8 testimony, you -- you reference in this last section of  
9 your testimony the biological modeling methods to  
10 support various opinions that you've expressed above.

11 And your opinion on Page 36 is the opinion  
12 that I just recited from your testimony that (reading):

13 ". . . CWF H3+ North Delta diversions  
14 will be screened and operated to meet  
15 (sic) Salmon protection standards,"  
16 et cetera.

17 Is it correct that you don't specifically list  
18 any biological modeling methods in this section of your  
19 testimony to support that opinion?

20 WITNESS GREENWOOD: That's correct.

21 This -- This . . . This section is only  
22 giving an outline of the quantitative methods,  
23 biological modeling methods, that I used in forming --  
24 in -- in forming the opinion the -- regarding the . . .  
25 the specifics of the things that you mentioned that

1 aren't included in here. But that is more of a  
2 qualitative discussion in relation to, for example, the  
3 pre- and post-construction studies.

4 MR. HITCHINGS: So, just to be clear, there --  
5 you don't identify any biological modeling methods to  
6 support that opinion I just stated of yours or recited  
7 of yours.

8 WITNESS GREENWOOD: Sorry. I'm --

9 MR. HITCHINGS: Let -- Let me rephrase that.

10 Do you identify any biological modeling  
11 methods in your testimony to support that opinion that  
12 was recited of yours?

13 WITNESS GREENWOOD: Can you repeat the  
14 opinion? Sorry.

15 MR. HITCHINGS: It's the opinion on Page 36 of  
16 your testimony.

17 (Exhibit displayed on screen.)

18 MR. HITCHINGS: And it's with the heading  
19 "Number 4."

20 WITNESS GREENWOOD: (Examining document.)

21 MR. HITCHINGS: And I was limiting it to  
22 Salmonids, not Green Sturgeon.

23 MS. ANSLEY: Are we saying that the heading is  
24 the conclusion that you're pointing to? I mean, the --

25 MR. HITCHINGS: That -- That --



1 MS. ANSLEY: -- the phrasing of the  
2 conclusion?

3 MR. HITCHINGS: I understand that that is a --  
4 a statement of your opinion on this subject; is that  
5 correct?

6 WITNESS GREENWOOD: Yes. I'm sorry. I was  
7 confused.

8 So, the -- the -- the modeling methods  
9 overview, I didn't cross-reference any modeling methods  
10 for which the quantitative modeling -- biological  
11 modeling method, I didn't cross-reference any methods  
12 in that section that -- that then needed an overview  
13 in -- in the -- in the -- the final section of the  
14 document.

15 MR. HITCHINGS: Are there any biological  
16 modeling methods described anywhere else in your  
17 testimony that support this opinion?

18 WITNESS GREENWOOD: This opinion -- Well, this  
19 opinion is reflecting the information in the opinion.

20 I -- I'd need to look again to see if it's  
21 specifically cross-referencing. But I think in --  
22 in -- generally, it is a qualitative discussion  
23 cross-referencing the . . . the particular sections.

24 MR. HITCHINGS: Okay. If we could move to  
25 Page 38 of your testimony, Lines 20 to 23.

1 (Exhibit displayed on screen.)

2 MR. HITCHINGS: And here you state your  
3 opinion that (reading):

4 "In light of screening the North  
5 Delta diversions to Salmonid protection  
6 standards and refining final screen  
7 design and operations, as well as  
8 monitoring of screen effectiveness,  
9 through adaptive management, it is my  
10 opinion that CVP H -- CWF H3+ will  
11 reasonably protect juvenile listed  
12 Salmonids and Green Sturgeon."

13 Do you see that?

14 WITNESS GREENWOOD: Yes.

15 MR. HITCHINGS: As you sit here today, though,  
16 you don't know what the final fish screen design and  
17 operations will be; correct?

18 WITNESS GREENWOOD: I don't know the -- I  
19 don't know all of the specifics.

20 My opinion is based on the existence of the --  
21 the framework, the general parameters of the -- of the  
22 screen criteria, approach velocity, sweeping velocity,  
23 but also the -- the important element of these pre- and  
24 post-construction studies to inform the effects or the  
25 potential for effects to perform a final design for

1 reasonable protection, and then the assessment of the  
2 effects of the facilities once constructed to that  
3 protective design through the work of the Fish  
4 Facilities Technical Team.

5           So that -- that's what's forming the basis for  
6 my opinion.

7           MR. HITCHINGS: And you don't know what the  
8 results will be of monitoring screen effectiveness --  
9 effectiveness through adaptive management; correct?

10           WITNESS GREENWOOD: The . . .  
11           My conclusion is informed by the existence of  
12 the team and this framework to address potential  
13 effects, so . . . my -- I'm concluding that this  
14 framework is reasonably protective.

15           MR. HITCHINGS: Okay. I think that's all I  
16 have.

17           Thank you very much, Dr. Greenwood.

18           CO-HEARING OFFICE DODUC: Thank you,  
19 Mr. Hitchings.

20           MR. HITCHINGS: Thank you.

21           CO-HEARING OFFICE DODUC: Does anyone object  
22 to breaking for lunch 10 minutes early?

23           Let me use this time, however, to note,  
24 Mr. Mizell and Miss Ansley, that Mr. Porgans just  
25 submitted his list of cross-examination questions for

1 this panel.

2           Please take a look at it and I would like to  
3 hear from you later this afternoon, or at least before  
4 we adjourn today, whether you intend to object to any  
5 of his questions and, if so, we will then discuss a  
6 time for you to do so in writing, so that Mr. Porgans  
7 and others might have a chance to respond as well.

8           MR. DEERINGER: Just --

9           MR. MIZELL: Thank you.

10          MR. DEERINGER: -- a minor point of order.

11          It's my understanding that Mr. Porgans hasn't  
12 served the entire service list with those yet.

13          CO-HEARING OFFICE DODUC: Oh.

14          MR. DEERINGER: So we're trying to ascertain  
15 whether that was his intent. And, if so, then imagine  
16 it will be served on the entire service list very soon.

17          CO-HEARING OFFICE DODUC: But have you  
18 received them?

19          MR. MIZELL: No. That was the only point I  
20 was going to make.

21          I have not yet received anything from  
22 Mr. Porgans.

23          CO-HEARING OFFICE DODUC: Well, let's make  
24 sure that -- that we get them out.

25          Thank you.

1           With that, we will get extra time for lunch.

2 We'll return at 1 o'clock.

3           (Luncheon recess taken at 11:50 a.m.)

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1 Friday, March 2, 2018 1:00 p.m.

2 PROCEEDINGS

3 ---000---

4 CO-HEARING OFFICE DODUC: All right. Good  
5 afternoon, everyone. Welcome back.

6 I see Mr. Bezerra is all set to go.

7 Are any -- Are there any housekeeping items we  
8 need to address?

9 All right. Mr. Bezerra.

10 MR. BEZERRA: Thank you very much, Chair  
11 Doduc.

12 So, I have three parts of this cross:

13 The first part is, I think, relatively short  
14 for Dr. Greenwood regarding spring outflows.

15 I then have a coordinated cross-examination of  
16 Mr. Reyes, Mr. Miller, Dr. Hsu, Ms. White and  
17 Ms. Parker.

18 I think -- That will cover the following  
19 subjects: Reclamation's role in the Project;  
20 clarifying the models; operationalization of modeling;  
21 spring outflow modeling and operal --  
22 operationalization; monthly assumptions and modeled  
23 exports; Lower American River temperatures; and Folsom  
24 Reservoir storage.

25 And then I have a set of questions for

1 Dr. Wilder on his analytical methods, his analytical  
2 standard, real-time operations, and Lower American  
3 River temperatures.

4 CO-HEARING OFFICER DODUC: Okay.

5 CROSS-EXAMINATION BY

6 MR. BEZERRA: So good afternoon,  
7 Dr. Greenwood.

8 My name is Ryan Bezerra. I represent the  
9 Cities of Folsom, Roseville, Sacramento Suburban Water  
10 District and San Juan Water District.

11 If -- Miss Gaylon, if we could pull up  
12 Dr. Greenwood's testimony, Exhibit DWR-1012, and refer  
13 to Page 25, please.

14 (Exhibit displayed on screen.)

15 MR. BEZERRA: Dr. Greenwood, do you see the  
16 sentence that begins on Line 1 that states (reading):

17 "There is a positive correlation  
18 between Longfin Smelt abundance (Fall  
19 Midwater Trawl Index) and average X2 from  
20 January through June."

21 Do you see that sentence?

22 WITNESS GREENWOOD: Yes.

23 MR. BEZERRA: The Fall Midwater Trawl Index  
24 you're talking about there is the California Department  
25 of Fish and Wildlife's index; correct?

1 WITNESS GREENWOOD: Correct.

2 MR. BEZERRA: And average X2 is a measure of  
3 Delta outflow essentially; correct?

4 WITNESS GREENWOOD: It indicates the extent of  
5 Delta outflow; it's related to Delta outflow, yes.

6 MR. BEZERRA: Okay. Thank you.

7 And the index is a calculation rather than a  
8 numerical value based from sampling results; correct?

9 WITNESS GREENWOOD: Sorry. Can you repeat  
10 that?

11 MR. BEZERRA: Sure.

12 The -- The Fall Midwater Trawl Index is a  
13 calculated number that involves weighting -- weighting  
14 of certain index sample results; correct?

15 WITNESS GREENWOOD: Yes, I believe so.

16 The catch is of Longfin Smelt and the Fall  
17 Midwater Trawl Survey.

18 The weighting is applied based on the catches  
19 in different areas to account for different areas being  
20 different sizes, essentially.

21 MR. BEZERRA: Okay. Thank you.

22 On Line 4 of your testimony, there's a  
23 sentence that states (reading):

24 "The actual mechanisms underlying  
25 the observed correlation are uncertain."



1 Do you see that?

2 WITNESS GREENWOOD: Yes.

3 MR. BEZERRA: And Mr. Obegi asked you a number  
4 of questions a couple of days ago about a statistical  
5 analysis involving Longfin and spring outflows.

6 Is the observed correlation referenced in your  
7 testimony what Mr. Obegi was discussing with you?

8 WITNESS GREENWOOD: Sorry. Can you repeat  
9 that?

10 MR. BEZERRA: Sure.

11 You -- You state in this sentence (reading):

12 "The actual mechanisms underlying  
13 the observed correlation are uncertain."

14 WITNESS GREENWOOD: Yes.

15 MR. BEZERRA: And that -- that correlation  
16 is . . .

17 Longfin abundance correlated with spring Delta  
18 outflows; correct?

19 WITNESS GREENWOOD: The -- I'm not sure of the  
20 specific thing. We're talking about correlation  
21 between an abundance index, Fall Midwater Trawl Index,  
22 and specifically X2, which is an indicator of Delta  
23 outflow, yes.

24 MR. BEZERRA: Okay. I think we can simplify  
25 this a little bit.

1           If we could please bring up Exhibit SWRCB-103.

2           That's the 2017 Scientific Basis Report.

3 Mr. Obegi used it so I figured we can use this to  
4 simplify the record.

5           (Exhibit displayed on screen.)

6 MR. BEZERRA: And please go to Page 3-56.

7           (Exhibit displayed on screen.)

8 MR. BEZERRA: There you go.

9           And Figure 3.5-3.

10          (Exhibit displayed on screen.)

11 MR. BEZERRA: This figure depicts the observed  
12 correlation described in your testimony; correct?

13 WITNESS GREENWOOD: Not this particular  
14 figure.

15 MR. BEZERRA: Okay.

16 WITNESS GREENWOOD: The -- My -- My statement  
17 is general.

18           There's been a number of different analyses  
19 relating Fall Midwater Trawl Index to X2 or Delta  
20 outflow, depending on the analysis.

21           But this one here is actually looking at  
22 probability of population growth and Delta outflow,  
23 which is not quite what I'm referencing in that  
24 sentence in my testimony.

25 MR. BEZERRA: Okay. Can you explain the

1 difference between what this figure's ex -- indicating  
2 and what's described in your testimony?

3 WITNESS GREENWOOD: In my testimony, I'm  
4 thinking more in terms of the relationship between Fall  
5 Midwater Trawl Index and -- so that would be an index  
6 of abundance -- and Delta outflow, or X2 specifically.

7 This is looking at population growth, which is  
8 an index in one year divided by an index in a previous  
9 year.

10 MR. BEZERRA: I see. Okay.

11 All of the analyses you just mentioned, they  
12 are all statistical correlation analyses; correct?

13 WITNESS GREENWOOD: Yes.

14 MR. BEZERRA: Okay. And that sort of  
15 correlation does not necessarily indicate there's any  
16 causal relationship between the two factors; correct?

17 WITNESS GREENWOOD: It doesn't necessarily  
18 indicate that.

19 MR. BEZERRA: Okay. And different  
20 environmental conditions can exist in the Delta at the  
21 same level of flow; correct?

22 WITNESS GREENWOOD: Yeah. I don't know  
23 exactly the timeframe, but yes.

24 MR. BEZERRA: So -- Just as an example: So a  
25 first flush in any rainy season may produce different

1 environmental conditions than later wet hydrology in  
2 the same season at the same level of flow; correct?

3 WITNESS GREENWOOD: Potentially so, yes. I  
4 haven't looked at it in great detail, but I would say  
5 that's generally probably true.

6 MR. BEZERRA: Okay. Now, I believe you stated  
7 that the data reflected in this figure, or in a similar  
8 correlation analysis, are unpublished.

9 What do you mean by "unpublished" in that  
10 context?

11 WITNESS GREENWOOD: The -- Well, in that  
12 context, I was meaning something that hadn't been peer  
13 reviewed, published, so pub -- published in a  
14 peer-reviewed journal.

15 MR. BEZERRA: And I believe you also stated  
16 that some version of this was submitted for a  
17 peer-review journal but was not ultimately published.

18 Is that accurate?

19 WITNESS GREENWOOD: Yes.

20 MR. BEZERRA: And can you explain what  
21 happened there, to the best of your knowledge?

22 WITNESS GREENWOOD: I'm not sure what the  
23 reasons were for -- for the -- I'm not sure why -- I  
24 don't know why.

25 MR. BEZERRA: Okay. Do you recall what

1 journal was involved?

2 WITNESS GREENWOOD: I believe that it was  
3 Estuaries and Coasts Journal, if I'm remembering.

4 MR. BEZERRA: Okay. Thank you.

5 Now -- And these correlation analyses -- Well,  
6 I asked that question already.

7 The correlation analyses like this one are --  
8 are based on the calculated Trawl Index, not the actual  
9 raw data from the survey; correct?

10 WITNESS GREENWOOD: They are -- Depending on  
11 the particular analysis, they're mostly based on the  
12 Fall Midwater Trawl Index, which is a -- an annual, as  
13 we talked about earlier, like a weighted . . . so a  
14 weighted index accounting for the different areas that  
15 are represented by different stations, a catch over  
16 several different months.

17 MR. BEZERRA: Okay. So I'm -- I'm going to  
18 hand you a couple of exhibits, but, in the meantime, if  
19 we could please pull up Exhibit BKS-261.

20 And this is one of the copies I'll give you,  
21 Dr. Greenwood.

22 (Exhibit displayed on screen.)

23 MR. BEZERRA: For the record, Exhibit BKS-263  
24 (sic) is a 2008 scientific paper published by Ken  
25 Newman of the United States Fish and Wildlife Service.

1 Dr. Greenwood, are you familiar with this  
2 paper?

3 WITNESS GREENWOOD: Yes, I am.

4 MS. GAYLON: Sorry. Did you want 261 or 263?

5 MR. BEZERRA: I'm sorry. 26 -- I'm sorry.

6 263. My apologies.

7 (Exhibit displayed on screen.)

8 MR. BEZERRA: So, for the record, BKS-263 is a  
9 2008 paper published by Dr. Newman.

10 You're familiar with this paper,  
11 Dr. Greenwood?

12 WITNESS GREENWOOD: Yes, I'm somewhat familiar  
13 with it.

14 MR. BEZERRA: Okay. Could you please turn to  
15 Page 2 under the heading "Criticism of the Indices."

16 And there's a sentence that begins at the very  
17 bottom on the right-hand column. It's a long sentence.

18 It starts with (reading):

19 "The first criticism is two-fold."

20 And describes the weighting associated with  
21 the calculation of the Fall Midwater Trawl Index.

22 Are -- Are you familiar with this topic?

23 WITNESS GREENWOOD: I'm generally familiar.

24 MR. BEZERRA: Are you aware that this paper  
25 expresses a criticism that the weighting of the trawl

1 data has been criticized as not necessarily accurate?

2 WITNESS GREENWOOD: I'm not sure regarding  
3 "not necessarily accurate" what -- what a specific --  
4 what you specifically mean regarding this.

5 MR. BEZERRA: Do you understand what the  
6 criticism is regarding the weighting of the trawl data  
7 expressed in this paper?

8 WITNESS GREENWOOD: I'd have to look at it  
9 some more to --

10 MR. BEZERRA: Okay.

11 WITNESS GREENWOOD: -- really form and give  
12 opinion.

13 MR. BEZERRA: That -- That's fine. Thank you  
14 very much.

15 So let's -- If we could go to the next -- If  
16 we could pull up Exhibit BKS-262.

17 (Exhibit displayed on screen.)

18 MR. BEZERRA: For the record, this is a paper  
19 published by Dr. Robert Latour in 2015 in a  
20 peer-reviewed journal Estuaries and Coasts.

21 Dr. Greenwood, are you familiar with this  
22 paper?

23 WITNESS GREENWOOD: Yes, I'm familiar with it.

24 MR. BEZERRA: And, to the best of your  
25 knowledge, was this paper published after scientific

1 peer review?

2 WITNESS GREENWOOD: Yes.

3 MR. BEZERRA: Okay. If we could please turn  
4 to the first content page of the paper, which is  
5 journal Page 233, although that gets lost with the  
6 staple.

7 (Exhibit displayed on screen.)

8 MR. BEZERRA: Do you see in the paragraph --  
9 in the abstract paragraph the sentence (reading):

10 "Studies have documented declines in  
11 survey catch per unit effort of several  
12 fishes in the Sacramento and (sic)  
13 San Joaquin Delta . . ."

14 Do you see that?

15 WITNESS GREENWOOD: Yes.

16 MR. BEZERRA: Are -- Are you familiar with the  
17 catch -- catch per unit of effort type of analysis for  
18 fisheries?

19 WITNESS GREENWOOD: Yes.

20 MR. BEZERRA: Can you please explain what that  
21 sort of analysis involves.

22 WITNESS GREENWOOD: It's basically looking at  
23 the catch per unit of effort. So that would be the  
24 number of fish caught per -- If the unit of effort is  
25 trawl, it might be per trawl, or for area, or volume



1 trawled that might be expressed.

2           Depending on the purpose of the study, it may  
3 be expressed as an annual catch per unit effort, or at  
4 some smaller or larger time scale, or indeed could be  
5 spatial, for example.

6           MR. BEZERRA: Is -- Is that sort of analysis a  
7 standard analysis to determine the relationship between  
8 fish abundance and environmental factors?

9           WITNESS GREENWOOD: It has often been used,  
10 yes.

11           MR. BEZERRA: And when you say "it's often  
12 been used," is that throughout the United States,  
13 throughout the environmental community?

14           WITNESS GREENWOOD: It -- I'm familiar with  
15 examples from the United States as well as elsewhere.

16           MR. BEZERRA: Okay. Now, in the next sentence  
17 of the abstract, it -- it states, "This paper extends  
18 research" -- Excuse me.

19           It states (reading):

20                   "This paper extends previous  
21 research by applying statistical models  
22 to 45 years (1967 to 2012) of trawl  
23 survey data to quantify the effects of  
24 covariates measured at different temporal  
25 time (sic) scales on . . . four species."

1           And then it describes those

2           species . . ."

3           Can you explain what a covariate is?

4           WITNESS GREENWOOD: Covariates are . . . I  
5 guess, potential explanatory variables for patterns of,  
6 in this case, catch of fish.

7           So that -- that might be, for example, the  
8 temperature that occurred at the time that the trawl  
9 was taken. It could be other factors like turbidity,  
10 for example.

11           So it's different -- It's variables other than  
12 the variable -- other than the -- for example, the  
13 catch in this case that are -- that are measured or are  
14 in some way related of interest or varying in  
15 association with the -- the response variable, which is  
16 the fish, the catch of fish, for example, in this case.

17           MR. BEZERRA: And, to the best of your  
18 knowledge, Dr. Latour analyzed the raw trawl data  
19 rather than the Calculated Abundance Index; correct?

20           WITNESS GREENWOOD: That's my recollection of  
21 this paper, yes.

22           MR. BEZERRA: And the relevant species  
23 Dr. Latour analyzed included Longfin Smelt; correct?

24           WITNESS GREENWOOD: Yes.

25           MR. BEZERRA: If we could please turn to

1 Page 141 in the paper and specifically the paragraph at  
2 the bottom that begins, "Based on AIC statistics."

3 (Exhibit displayed on screen.)

4 MR. BEZERRA: Dr. Greenwood, do you understand  
5 what "AIC statistics" mean in this context?

6 WITNESS GREENWOOD: Yes.

7 MR. BEZERRA: And can you explain that,  
8 please.

9 WITNESS GREENWOOD: They are a measure of  
10 assessing different models, explaining the patterns in  
11 the fish catch data. So comparing different models  
12 that have different covariates within them.

13 MR. BEZERRA: And, again, so that would mean  
14 it would be a model to explain fish abundance versus  
15 some sort of environmental variable; correct?

16 WITNESS GREENWOOD: Yes.

17 MR. BEZERRA: Okay. And do you see that  
18 sentence where it says (reading):

19 "Based on AIC statistics, the  
20 annualized variable TSS received the most  
21 empirical support for all species."

22 And TSS in this context means total suspended  
23 solids; correct?

24 WITNESS GREENWOOD: Yes.

25 MR. BEZERRA: Okay. And do you understand

1 based on this that Dr. Latour concluded that total  
2 suspended solids was the environmental variable that  
3 corresponded more closely with the variates in Longfin  
4 Smelt populations?

5 WITNESS GREENWOOD: Could you -- Could you say  
6 the last part again, please, or just the whole  
7 question.

8 MR. BEZERRA: Sure.

9 Based on this sentence, is it your  
10 understanding that Dr. Latour concluded that total  
11 suspended solids was the covariate with the strongest  
12 relationship to Longfin upon -- based on catch per unit  
13 of effort analysis?

14 WITNESS GREENWOOD: To Longfin catch.

15 So they annualized variable TSS was the most  
16 empirical support for explaining the va -- was most  
17 supported for explaining the variability in the catch  
18 of Longfin Smelt in that survey.

19 MR. BEZERRA: All right. And just referring  
20 back to your testimony.

21 This is a different statistical analysis than  
22 the correlation analysis that is referenced in your  
23 testimony; correct?

24 WITNESS GREENWOOD: Yes.

25 MR. BEZERRA: Okay. And then going back to

1 Dr. Latour's paper, there's the sentence on Page 141  
2 that states (reading):

3 "Comparatively . . ."

4 So compared to total suspended solid  
5 (reading):

6 ". . . There was no empirical support for  
7 any other annualized prey, water quality,  
8 or covariates."

9 Correct?

10 WITNESS GREENWOOD: Sorry. Where was that  
11 sentence again?

12 MR. BEZERRA: Page 241 in the right-hand  
13 column.

14 WITNESS GREENWOOD: (Examining document.)

15 Can you repeat the question?

16 MR. BEZERRA: Sure.

17 I want to make sure I'm -- we have the same  
18 understanding of this sentence. It states (reading):

19 "Comparatively . . ."

20 So compared to total suspended solids.

21 ". . . There was no empirical support for  
22 any other annualized prey, water quality,  
23 or flow covariates."

24 That means that, relative to total suspended  
25 solids, there was no statistical support for these

1 other covariates; correct?

2 WITNESS GREENWOOD: I believe -- I believe  
3 that's what it's saying, yes, within the framework of  
4 how he framed the analysis.

5 MR. BEZERRA: Okay. Could you please go to  
6 Page 243 of the paper, which is Table 2.

7 (Exhibit displayed on screen.)

8 MR. BEZERRA: This table uses a statistical  
9 indicator "Delta AIC."

10 Do you understand what that is?

11 WITNESS GREENWOOD: Yes.

12 MR. BEZERRA: And can you explain what Delta  
13 AIC is.

14 WITNESS GREENWOOD: It is a means of assessing  
15 the relative ability of different models to explain the  
16 variability in the response; in this case, the catch of  
17 fish.

18 MR. BEZERRA: And, again, in this case, the  
19 catch of fish is the Fall Midwater Trawl; correct?

20 WITNESS GREENWOOD: Yes.

21 MR. BEZERRA: And in this sort of analysis,  
22 what does it mean for one of the covariates to have a  
23 zero associated with it?

24 WITNESS GREENWOOD: The zero indicates that  
25 that particular model was the model that was able to

1 best explain -- to explain the most variability in the  
2 catch data.

3 MR. BEZERRA: And so, in this case, in  
4 Table 2, total suspended solids has the zero, so that's  
5 the environmental variable that is most able to explain  
6 variability in catch of Longfin Smelt; correct?

7 WITNESS GREENWOOD: Yes.

8 MR. BEZERRA: Okay. And with this Delta AIC  
9 analysis, if you have numbers rather than zero, what  
10 does that mean, to have different numbers as the Delta  
11 AIC value?

12 WITNESS GREENWOOD: So larger -- Sorry.

13 Positive Delta AIC values mean that a given  
14 model is -- explains less of the variability in the  
15 response data, so the fish catch data in this case.

16 MR. BEZERRA: So, for instance, if the Delta  
17 AIC value was 10, what would that mean as to the  
18 relative utility of an environmental covariate in  
19 explaining the fish catch?

20 WITNESS GREENWOOD: That that covariate is  
21 less supported in terms of its ability to explain the  
22 variability than the -- the best-explaining variable.

23 MR. BEZERRA: And -- And -- And what does it  
24 mean as the Delta AIC numbers get larger?

25 WITNESS GREENWOOD: As they get larger, the

1 variation explained is less.

2 MR. BEZERRA: Okay. So if you look at this  
3 table, there's a series of -- And I'll try to cut  
4 through this quickly.

5 WITNESS GREENWOOD: Can I clarify one thing?

6 MR. BEZERRA: Yeah, sure.

7 WITNESS GREENWOOD: The -- The AIC also takes  
8 into account the -- It's not just concerning the  
9 variability explained, but it's also taking into  
10 account the number of covariates, I think, that are in  
11 the model. So it's not quite simply as -- It's not  
12 quite as simple as explaining -- how well it explains  
13 the variabilities considering how many parameters are  
14 in the model, as well as the variability explained.

15 MR. BEZERRA: Thank you.

16 So do -- do you see that there are a series of  
17 flow variables in Table 2, beginning with A11,  
18 "Historical outflow January through June," and variable  
19 A26 "Unimpaired inflow March through May, one-year  
20 lag."

21 Do you see those?

22 WITNESS GREENWOOD: Yes, I see them.

23 MR. BEZERRA: So this table indicates that  
24 Dr. Latour compared the value of all of these flow  
25 variables versus other variables such as total



1 suspended solids; correct?

2 WITNESS GREENWOOD: He did, yes.

3 MR. BEZERRA: And by my reading of those flow  
4 variables, the lowest Delta AIC value is . . . for  
5 variable A15, 17 -- excuse me -- variable A15  
6 "Historical inflow January through June" with a Delta  
7 AIC value for Longfin Smelt of 171.8.

8 What does a Delta AIC value of 171.8 tell you  
9 about the utility of that covariate?

10 WITNESS GREENWOOD: It -- It says that there  
11 is . . . little support in relation to the . . . the  
12 best model.

13 MR. BEZERRA: So, just for my attorney brain,  
14 that means that that covariate has little support in  
15 explaining fish catch of Longfin Smelt relative to  
16 total suspended solids; correct?

17 WITNESS GREENWOOD: Yes, as a -- as an  
18 alternative potential explanatory variable.

19 MR. BEZERRA: Okay. And so just for a  
20 variable that's relatively important in the hearing,  
21 variable A24 "Unimpaired inflow March through May" has  
22 a Delta AIC value of 463 (sic); correct?

23 What does that Delta AIC value tell you about  
24 the utility of that variable relative to total  
25 suspended solids?

1 CO-HEARING OFFICE DODUC: I'm sorry. 463?

2 MR. MIZELL: I think it's --

3 MR. BEZERRA: I'm sorry. 643.

4 CO-HEARING OFFICE DODUC: Thank you.

5 You were just testing me; right?

6 MR. BEZERRA: We'll go with that.

7 And so I'll ask the question again.

8 Variable A24 "Unimpaired inflow March through  
9 May" has a Delta AIC value of 643.

10 What does that tell you about that variable's  
11 utility in explaining fish catch relative to total  
12 suspended solids?

13 WITNESS GREENWOOD: Within the framework of  
14 this analysis, this is indicating that it's less  
15 well -- well supported than total suspended solids is  
16 explaining the pattern in the catch data for Longfin  
17 Smelt.

18 MR. BEZERRA: Okay. And so returning to your  
19 testimony, Exhibit DWR-1012.

20 (Exhibit displayed on screen.)

21 MR. BEZERRA: And the sentence on Lines 1  
22 through 3 (reading):

23 "There is a positive correlation  
24 between Longfin Smelt abundance . . . and  
25 average X2 . . ."

1           That is a completely different statistical  
2 analysis than what Dr. Latour conducted; correct?

3           WITNESS GREENWOOD: It's diff -- Yes, it's  
4 certainly different. It is different, yeah.

5           MR. BEZERRA: And so when you say -- In your  
6 testimony, you say "positive correlation."

7           It is possible, based on analysis like  
8 Dr. Latour's, that some other variable besides average  
9 X2 explains much more about Longfin catch per unit of  
10 effort; correct?

11          WITNESS GREENWOOD: Yes. There -- There is  
12 some uncertainty in terms of the -- the mechanisms. I  
13 think I indicate later on on the page the -- the  
14 uncertainty of the mechanisms potentially underlying  
15 the observed abundance X2 relationship will be  
16 addressed through the adaptive management process for  
17 California WaterFix Project.

18          MR. BEZERRA: Okay. And total suspended  
19 solids is an en -- environmental condition that's  
20 generally associated with wet hydrology; correct?

21          WITNESS GREENWOOD: I think there's total  
22 suspended solids . . . much of the time. All the time,  
23 I would hazard to say.

24          MR. BEZERRA: Let me be -- Let me be a little  
25 more explicit.

1 Higher levels of total suspended solids tends  
2 to be correlated with wetter hydrology; correct?

3 WITNESS GREENWOOD: I haven't examined it  
4 specifically, but I would say I think that to be the  
5 case, yes.

6 MR. BEZERRA: Okay. Thank you very much.

7 That's all I have for Dr. Greenwood.

8 CO-HEARING OFFICE DODUC: As you are  
9 searching, let me interrupt you for a minute because I  
10 don't want Miss Wehr to stay here the entire afternoon  
11 to have her one question answered.

12 So, Mr. Reyes, were you able to confirm during  
13 the lunch break with respect to your testimony  
14 responding to Miss Wehr's cross-examination earlier  
15 today?

16 WITNESS REYES: Yes. Miss Parker and I  
17 examined the weights for Refuge deliveries in the model  
18 and compared them with the -- the delivery RX4 CVP  
19 Service Contractors in the same way. And so, in terms  
20 of being delivered in the model, they're -- they have  
21 the same priority.

22 And, further, I just want to say that the --  
23 the allocations to CVP Service Contractors, however,  
24 are not made until after the Refuge allocations are --  
25 are met at their contract levels.

1 CO-HEARING OFFICE DODUC: Thank you.

2 Miss Wehr, does that address your question?

3 MS. WEHR: Yes, it -- it does. Thank you,  
4 Mr. Reyes.

5 And I have a housekeeping matter about the  
6 timing of my panel, but would it be more appropriate to  
7 bring that up on -- on the break?

8 CO-HEARING OFFICE DODUC: With Mr. Bezerra's  
9 indulgence.

10 MS. WEHR: I don't want to -- I don't want to  
11 interrupt. I'm sorry.

12 My panel is scheduled to present after  
13 San Luis Delta-Mendota Water Authority, which is after  
14 the third panel by Petitioners.

15 I am trying to figure out whether to fly one  
16 of my witnesses down here on Monday. And, so, if it  
17 looks like we will get to our panel by Monday, I'll  
18 have him here. If not, I know you -- you might not be  
19 able to answer this.

20 CO-HEARING OFFICE DODUC: I may not be able  
21 to.

22 Mr. Mizell, your estimated time for direct?

23 MR. MIZELL: Our estimate for direct will be  
24 under two hours.

25 The level of cross-examination of the

1 terrestrial biologist who will also be discussing  
2 adaptive management, though, is something that I -- I  
3 could not give you an estimate of.

4 CO-HEARING OFFICE DODUC: For those who are  
5 here today, could you give me an estimate in terms of  
6 cross-examination of Panel 3?

7 MR. BEZERRA: I think our -- my particular  
8 cross-examination is probably half an hour.

9 MS. NIKKEL: Five minutes.

10 CO-HEARING OFFICE DODUC: Five minutes.

11 Miss Meserve, recognizing there are a lot of  
12 parties not here.

13 MS. MESERVE: Yes. I have at least an hour of  
14 cross-examine for Panel 3, perhaps more.

15 And I know Mr. Keeling had some cross-exam for  
16 Panel 3. So my guess would be that we would not finish  
17 Panel 3, especially if Panel 2 bled over into Monday,  
18 although I think that's a question we don't know right  
19 now.

20 CO-HEARING OFFICER DODUC: Okay.

21 Mr. Riess.

22 MR. RIESS: Yes. About 45 minutes for  
23 Panel 3.

24 CO-HEARING OFFICE DODUC: All right. Would  
25 anyone object to adjourning early on Monday if we

1 happen to finish with Panel 3? I think it might be a  
2 nice break.

3 MR. MIZELL: Would that be so that San Luis  
4 Delta-Mendota, which I believe goes before Grasslands  
5 would, then they would not start on Monday?

6 MS. WEHR: I won't speak for them but I  
7 believe they are hoping to present on Monday.

8 CO-HEARING OFFICER DODUC: Okay. Then I hope  
9 we get to them.

10 MS. WEHR: Okay. Thank you.

11 I will tell my witnesses to be ready on  
12 Thursday. Thanks very much.

13 CO-HEARING OFFICE DODUC: Thank you.

14 Okay. Thank you, Mr. Bezerra, for that  
15 interruption.

16 MR. BEZERRA: Certainly.

17 CO-HEARING OFFICE DODUC: But I didn't want  
18 Miss Wehr to sit here the entire afternoon. Not that  
19 I'm not sure she would find the cross --

20 MR. BEZERRA: I'm sure she would find it  
21 absolutely fascinating, which is her loss, but . . .

22 CO-HEARING OFFICE DODUC: Which is why she's  
23 heading out the door right now.

24 MR. BEZERRA: It is a Friday.

25 Okay. So I'd like to start with a few

1 questions for Ms. White.

2 Ms. White, today, Reclamation has not issued a  
3 Record of Decision approving the California WaterFix  
4 Project; correct?

5 WITNESS WHITE: That's correct.

6 MR. BEZERRA: And today, Reclamation has not  
7 issued a Record of Decision approving any Environmental  
8 Impact Statement for California WaterFix; correct?

9 WITNESS WHITE: Yes. I'm not sure how that  
10 differs from the first question. Maybe I misunderstood  
11 the first one.

12 MR. BEZERRA: Well, the potential is slightly  
13 different decisions. They're frequently both made in  
14 the same Record of Decision, I think, but . . .

15 WITNESS WHITE: I'm not aware of any Record of  
16 Decision that's been assigned for California WaterFix.  
17 Hopefully that answers.

18 MR. BEZERRA: That's -- That's fine. Thank  
19 you very much.

20 Okay. Mr. Reyes, I want to move to the next  
21 topic. I want to sort through some of these models to  
22 make sure I understand them before diving into the  
23 substance of them.

24 So could we please pull up Exhibit BKS-253 --  
25 (Exhibit displayed on screen.)



1 MR. BEZERRA: -- which is excerpts of Exhibit  
2 SB-108.

3 And, for the record, this is the "Developments  
4 After Publication of the Proposed Final Environmental  
5 Impact Report," a document issued by DWR.

6 Can we please go to Page 134.

7 (Exhibit displayed on screen.)

8 MR. BEZERRA: Thank you.

9 If we could please explain -- expand on that  
10 graph.

11 (Exhibit displayed on screen.)

12 MR. BEZERRA: Okay. Mr. Reyes, this document  
13 contains a -- a set of modeling results conducted by  
14 DWR -- or results of modeling conducted by DWR;  
15 correct?

16 WITNESS REYES: Yes, I believe so.

17 MR. BEZERRA: And --

18 (Cellphone ringing.)

19 MR. BEZERRA: -- the model run identified as  
20 CWF BA NAA\_ELT, that is modeling from the Biological  
21 Assessment; correct?

22 WITNESS REYES: That's correct.

23 MR. BEZERRA: And the modeling identified as  
24 CWF BA PA\_ELT, that's the Biological Assessments  
25 With-Project scenario; correct?

1 WITNESS REYES: Yes, I believe that is.

2 MR. BEZERRA: What is the curve for Revised  
3 Alt 4A? Is that the same as CWF H3+?

4 WITNESS REYES: Yeah, I think that's my  
5 understanding.

6 MR. BEZERRA: Okay. And all of these model  
7 runs are based on the 2015 version of CalSim; correct?

8 WITNESS REYES: That's correct.

9 MR. BEZERRA: And your Exhibit DWR-1069 also  
10 depicts results generated from the 2015 version of  
11 CalSim; correct?

12 WITNESS REYES: That's correct.

13 MR. BEZERRA: Okay. Could we please pull up  
14 Mr. Reyes' testimony, DWR-1016, and go to Page 2.

15 (Exhibit displayed on screen.)

16 MR. BEZERRA: And, in particular, Mr. Reyes,  
17 do you see the sentence on Page 2 on Line -- beginning  
18 on Lines 12. It says (reading):

19 "The Adopted Project is referred to  
20 as CWF H3+."

21 Is that the same Project that's modeled as  
22 depicted in the SB-108? It's the same -- It's the same  
23 as revised Alternative 4A; correct?

24 WITNESS REYES: That is my understanding, but,  
25 yeah, I'm not absolutely sure.

1 MR. BEZERRA: Okay. I want to be clear here  
2 so we're dealing with all the same models.

3 The model results Revised Alternative 4A, I  
4 believe you just testified are the same as CWF H3+;  
5 correct?

6 WITNESS REYES: Correct.

7 MR. BEZERRA: Thank you.

8 Now, in -- in your testimony there on the --  
9 in the sentence that begins on Line 13, it says  
10 (reading):

11 "Additional information is also  
12 referenced in this testimony from  
13 document" -- excuse me -- "documents  
14 released prior to July 2017 . . ."

15 And later on it says (reading):

16 ". . . And the Biological Opinions . . ."

17 Are the Biological Opinions included in  
18 CWF H3+?

19 WITNESS REYES: No, I don't believe so. I  
20 think, as I understand it, these Biological Opinions,  
21 they made some modifications to what is represented in  
22 CWF H3+.

23 And CUF -- CWF H3+ that we're presenting here  
24 is consistent with the Notice of Determination.

25 MR. BEZERRA: Okay. So CWF H3+ does not

1 include as modeling assumptions the terms of the  
2 Biological Opinions issued for California WaterFix?

3 Is --

4 CO-HEARING OFFICER DODUC: Mr. --

5 MR. BEZERRA: -- that correct?

6 CO-HEARING OFFICE DODUC: Mr. Mizell.

7 MR. MIZELL: Yes. I want to raise an  
8 objection at this point.

9 This is information that was gone over at  
10 length with Miss Buchholz. This pertains to what is  
11 the Project Description and where does it fall in the  
12 chain of permitting and Project revisions that have  
13 taken place.

14 We spent several days with her on this item.

15 CO-HEARING OFFICE DODUC: Are you inquiring,  
16 Mr. Bezerra, about what is being modeled?

17 MR. BEZERRA: Yes. I'm trying to understand  
18 the modeling.

19 MR. MIZELL: I'm confused, then, because he  
20 continues to say "was included in CWF H3+ as a Project  
21 Description" rather than what the assumptions are  
22 behind the model.

23 MR. BEZERRA: I can reask the question.

24 CO-HEARING OFFICE DODUC: Please do,  
25 Mr. Bezerra.

1 MR. BEZERRA: So, Mr. Reyes, the CWF H3+  
2 modeling that you have presented in this testimony does  
3 not include the terms of the Biological Opinions for  
4 California WaterFix as modeling assumptions; correct?

5 WITNESS REYES: I don't believe they do. But  
6 what is included -- And I provided that information as  
7 to what it has been assumed.

8 So there's a -- There's a spring outflow  
9 component that has terms that are defined, and then  
10 there's also a modification of your October-November  
11 OMR requirements, and that's also identified in -- in  
12 what I've presented in my testimony.

13 MR. BEZERRA: Okay. The spring outflow terms  
14 and the additional terms you just described, they are  
15 included in the CWF H3+ modeling?

16 WITNESS REYES: Yes. There's a version of  
17 them. And what that version is, is described in my  
18 testimony, yes.

19 MR. BEZERRA: But that version is not the  
20 version defined by the Biological Opinions; correct?

21 WITNESS REYES: As I stated earlier, I'm not  
22 absolutely sure what's in the Biological Opinion model.

23 And it's different than CWF H3+.

24 MR. BEZERRA: Okay. Okay. So continuing on  
25 in your testimony on Page 2, beginning at Line 17, it

1 states (reading):

2                   "Similarly, after July 2017 the  
3                   California Department of Fish and  
4                   Wildlife issued a 2081(b) Incidental Take  
5                   Permit . . ."

6                   The terms of the Incidental Take Permit are  
7 not assumptions included in the CWF H3+ modeling;  
8 correct?

9                   WITNESS REYES: I believe that's correct,  
10 yeah.

11                   And this is where I'm getting confused, too.  
12 There's several processes ongoing, and so . . .

13                   What the exact terms of the spring outflow  
14 are, I don't -- it's so involving depending on the --  
15 on the ITP, whether it was application or the actual  
16 Permit.

17                   But the terms that -- I presented in my  
18 testimony what's being modeled, essentially.

19                   MR. BEZERRA: Okay. Thank you. I appreciate  
20 the clarification.

21                   Okay. Moving on to Page 7 of your testimony  
22 and Footnote 1 at the bottom of Page 7.

23                   (Exhibit displayed on screen.)

24                   MR. BEZERRA: And -- And that states, for the  
25 record (reading):

1           "Appendix 5G of the FEIRS . . .  
2           included a sensitivity analysis comparing  
3           the FEIRS Alternative 4A, which is based  
4           on CalSim II 2010, and the BA H3+, which  
5           was based on CalSim II 2015."

6           So DWR conducted two different modeling  
7 analyses of the Project using different versions of  
8 CalSim; correct?

9           WITNESS REYES: Yeah, and I think we went over  
10 this largely in Part 1.

11          MR. BEZERRA: Okay. What -- What are the  
12 differences between the 2010 and the 2015 versions of  
13 CalSim?

14          WITNESS REYES: There were updates to the  
15 model that -- I think some of them were . . . sort of  
16 error corrections to different items of the 2010  
17 modeling that were discovered and then, in 2011, there  
18 was a -- an update. And also -- And then . . .

19          So, when we say the 2010 version, I mean,  
20 there are models that existed post-2010 that we still  
21 call the 2010 version, because that is the seed model.

22          Also, the modeling is shifted from looking at  
23 the late long-term climate change to the early  
24 long-term climate change in -- in 2015, because I think  
25 the -- the permitting changed also. I think it went

1 from -- I don't know the exact terms, but it went from  
2 a . . .

3 Well, I -- I shouldn't speculate on that.

4 But it -- it was due to a change in -- in  
5 the . . . the period of -- of completion of  
6 construction, I think was what it was.

7 MR. BEZERRA: Okay. And in this footnote, the  
8 BA H3+ modeling, that is not the CalSim modeling for  
9 CWF H3+; correct? Those are two different model runs.

10 WITNESS REYES: That's correct. Those are two  
11 different model runs.

12 And what that -- That SWRCB-108 that you  
13 pulled up earlier, the point of that document, or at  
14 least one of the points of it, was the comparison made  
15 between the BA H3+ and the CWF H3+.

16 And that analysis essentially said that  
17 there -- that there -- there are no implications to  
18 water supply or water quality between those two  
19 different versions.

20 MR. BEZERRA: And -- And, actually, you read  
21 my mind.

22 So the next sentence, if we could scroll down  
23 to the bottom of Page 8 of Mr. Reyes testimony, which  
24 is the continuation of Footnote 1.

25 (Exhibit displayed on screen.)



1 MR. BEZERRA: The -- The second sentence there  
2 states (reading):

3 "This comparison showed that the  
4 incremental changes in the system-wide  
5 operations with CWF were similar when  
6 compared to the NAA."

7 So are -- Are you saying that the . . . the --  
8 Using different versions of CalSim indicated that in  
9 both cases they produced similar results?

10 WITNESS REYES: I think this footnote -- You  
11 may be referring to a different thing.

12 So if we could go up a page --  
13 (Exhibit displayed on screen.)

14 WITNESS REYES: -- and it says -- it says  
15 Footnote 1.

16 And can we find the cite where that -- that  
17 is, where -- where it's tying back to the words first  
18 referenced?

19 (Exhibit displayed on screen.)

20 MR. BEZERRA: It's right there in Line 28 --  
21 26. Excuse me.

22 WITNESS REYES: 26, okay.

23 (Examining document.)

24 So, there's two different things that -- that  
25 took place.

1           One was, during Part 1, we shifted in the EIR  
2 from a 2010 version of the model to a 2015 version of  
3 CalSim. And so that footnote is merely talking about  
4 that.

5           And there was an analysis in the E -- in the  
6 Final EIR that analyzed that difference looking at 2010  
7 to 2015 modeling and seeing, you know, in that change  
8 of -- of model base, was there any appreciable  
9 difference when we looked at things incrementally. And  
10 I think that analysis also concluded that there wasn't.

11           And then the SWRCB-108 reference is  
12 specifically talking about two versions of 2015, being  
13 one, the BA H3+ and comparing that against the CWF H3+.

14           MR. BEZERRA: Okay. So in Footnote 7 --  
15 again, the bottom part at the end of Page 8 --

16           (Exhibit displayed on screen.)

17           MS. ANSLEY: I think that's Footnote 1?

18           MR. BEZERRA: I'm sorry.

19           WITNESS REYES: Yes. Footnote 1 continues, I  
20 believe.

21           MR. BEZERRA: Page 8, Footnote 1. Thank you.

22           That second sentence (reading):

23           "This comparison showed that the  
24 incrementally changes in the system-wide  
25 operations with CWF were similar when

1 compared to the NAA."

2 What do you mean by "similar" in this context?

3 WITNESS REYES: So, what it was doing was  
4 looking at the 2010 incremental differences from CWF  
5 and NAA, comparing that against the 2015 version of CWF  
6 versus NAA and looking at those incremental  
7 differences, comparing the incremental differences  
8 system-wide -- so looking at storage, it's looking at  
9 exports, looking at Delta outflows, looking at water  
10 quality -- and saying that -- overall, that the two  
11 provided similar incremental differences.

12 MR. BEZERRA: Okay. Could we please pull up  
13 Exhibit BKS-252. This is excerpts of Appendix G of the  
14 2016 Final FEIR/EIS.

15 MS. ANSLEY: Pardon me. Is this Exhibit 5G --  
16 or Appendix 5G?

17 MR. BEZERRA: 5G. I'm sorry if I said  
18 something wrong.

19 And this is -- These are excerpted from  
20 Exhibit SWRCB-102.

21 (Exhibit displayed on screen.)

22 MR. BEZERRA: And, so, Mr. Reyes, I think you  
23 just described this appendix. It compares the results  
24 from differing model runs -- different versions of the  
25 model that modeled California WaterFix; correct?

1 WITNESS REYES: Model bases, I would call  
2 them, yeah.

3 MR. BEZERRA: Model bases.

4 So it's comparing 2010 CalSim results versus  
5 2015 CalSim results; correct?

6 WITNESS REYES: Incrementally.

7 MR. BEZERRA: Incrementally.

8 Okay. So could we please go to Page 5G.11 of  
9 this -- of BKS-252.

10 (Exhibit displayed on screen.)

11 MR. BEZERRA: And, Mr. Reyes, these -- these  
12 results depict end-of-May and end-of-September Folsom  
13 storage results; correct?

14 WITNESS REYES: Yes, what it looks like.

15 MR. BEZERRA: Okay. So I want to make sure I  
16 understand what the lines represent.

17 The red and blue lines represent BA modeling,  
18 Biological Assessment modeling; correct?

19 WITNESS REYES: It's kind of difficult for me  
20 to see from where I'm sitting.

21 So the blue and red . . . The BA and  
22 then . . .

23 So what was your question?

24 MR. BEZERRA: The red and blue lines that  
25 start with "CWF" in the end here, those are from

1 Biological Assessment modeling based on the 2015 build  
2 of CalSim; correct?

3 WITNESS REYES: Correct.

4 MR. BEZERRA: And the blue -- The light blue  
5 and orange lines with boxes are Final EIR modeling  
6 based on the 2010 build of CalSim; correct?

7 WITNESS REYES: Correct.

8 MR. BEZERRA: And do you see in -- in this  
9 figure that there's approximately a 150,000 acre-foot  
10 difference in approximately the 5 percent of dryest  
11 conditions between the results from the two builds of  
12 CalSim in Folsom Reservoir storage?

13 WITNESS REYES: Yeah, I do.

14 And so what this modeling analysis was looking  
15 at was, like I said, it's the incremental difference.  
16 So if you look at the -- the light blue and yellow  
17 boxed lines . . . so that's a comparison of the Alt 4A  
18 to the NAA.

19 You see they're pretty similar or -- or  
20 they -- they're close to each other.

21 And when you look at the dark blue line and  
22 the red line that are the CWF and the NAA, they're also  
23 very close together.

24 And so it's -- The incremental difference that  
25 we're seeing is very close.

1 MR. BEZERRA: Okay. But --

2 WITNESS REYES: In other words, that it --  
3 it -- There -- The WaterFix, as portrayed in each of  
4 these cases, is not causing much of a change comp --  
5 compared to the No-Action of that particular case.

6 MR. BEZERRA: Okay. But as modeled in -- in  
7 these charts in the EIR, the difference between the  
8 2010 CalSim build and the 2015 CalSim build can make a  
9 difference of 150,000 acre-feet in the dryest  
10 conditions in Folsom Reservoir storage; correct? The  
11 difference in the two models.

12 WITNESS REYES: Yes. The difference -- Or the  
13 two models are producing a result that is different in  
14 a . . . in its exceedance case for -- for this month in  
15 Folsom that is, about, I guess what you say, 150,000  
16 acre-feet.

17 MR. BEZERRA: And 150,000 acre-feet is roughly  
18 15 percent of the total capacity of Folsom Reservoir;  
19 correct?

20 WITNESS REYES: Yeah, it's roughly, yeah.

21 MR. BEZERRA: Okay. If we could scroll down  
22 to the next chart, which is the end-of-September  
23 storage.

24 (Exhibit displayed on screen.)

25 MR. BEZERRA: This indicates that it's not as

1 severe. But this also indicates that there is a . . .  
2 75,000 acre-foot difference in some conditions,  
3 depending on the 2010 versus the 2015 build of CalSim;  
4 correct?

5 CO-HEARING OFFICE DODUC: Mr. Mizell.

6 MR. MIZELL: Yes. I'd like to raise an  
7 objection that this is asking Mr. Reyes questions about  
8 a use of the model that he indicated just a moment ago  
9 is incorrect.

10 The comparison between the Project alternative  
11 and the no-Project alternative is what Mr. Reyes said  
12 was appropriate to look at.

13 Mr. Bezerra's continuing to essentially misuse  
14 the modeling data in his line of questioning.

15 CO-HEARING OFFICE DODUC: Mr. Bezerra.

16 MR. BEZERRA: I think that it's important --  
17 If there's a significant difference between two  
18 different model builds that the Department has used in  
19 the EIR, it's important to understand the potential  
20 variability in the modeling results.

21 I -- I understand Mr. Reyes prefers to use  
22 these for purposes of comparing the two different runs,  
23 but these are results the Department has relied on in  
24 indicating the impacts of the Project in the EIR. I  
25 think they're perfectly relevant.

1 CO-HEARING OFFICE DODUC: Overruled.

2 MR. BEZERRA: So, going back to my question:

3 This figure end-of-September Folsom storage  
4 indicates that the difference between using the 2010  
5 build of CalSim and the 2015 build of CalSim can make a  
6 difference of 75,000 acre-feet in very dry conditions  
7 at Folsom Reservoir; correct?

8 WITNESS REYES: I think, when I see was --  
9 What I see is that the No-Action case as defined in  
10 2010 compared to the No-Action -- to the WaterFix case  
11 in 2010, or the 2010 version, are similar. And the  
12 No-Action case in the 2015 model and the -- and the  
13 WaterFix case in the 2015 model are very similar.

14 MR. BEZERRA: Okay. And let's -- let's unpack  
15 that a little bit.

16 So using just the 2015 build, which is the red  
17 and the blue lines, there's at least one year there  
18 where there's a significant difference; correct?

19 WITNESS REYES: Yes, at least one year.

20 MR. BEZERRA: Thank you.

21 Okay. I'd like to try to clear up another  
22 item on the modeling.

23 So, we had a discussion about the Incidental  
24 Take Permit modeling, and I just want to clear up what  
25 that was for the record.



1 So I --

2 WITNESS REYES: Excuse me, Mr. Bezerra.

3 MR. BEZERRA: Yeah.

4 WITNESS REYES: I just want to clarify:

5 When I said "one year," I should say "one  
6 instance," because this is an exceedance chart so --

7 MR. BEZERRA: Okay.

8 WITNESS REYES: -- not a particular year  
9 but --

10 MR. BEZERRA: I appreciate that. Thank you.

11 So if we could please pull up Exhibit  
12 DWR-1036.

13 (Exhibit displayed on screen.)

14 MR. BEZERRA: And Appendix 4D, "D" as in  
15 "dog."

16 (Exhibit displayed on screen.)

17 MR. BEZERRA: I just -- I want to clarify.

18 In the end -- I think it was Monday -- the  
19 panel ultimately concluded that this appendix is the  
20 model -- reflects the modeling done for the  
21 Department's Incidental Take Permit Application;  
22 correct?

23 WITNESS GREENWOOD: I can try and answer that  
24 one --

25 MR. BEZERRA: Sure.

1 WITNESS GREENWOOD: -- if it's helpful.

2 This was . . . This -- This shows the two  
3 main Proposed Project scenarios that were included in  
4 the Incidental Take Permit Application.

5 So maybe we could scroll down quickly just to  
6 look at one of the graphs or tables.

7 MR. BEZERRA: Yes. Could we scroll down to  
8 Page -- one more page, please. I would have questions  
9 about the Table 4D.

10 (Exhibit displayed on screen.)

11 WITNESS GREENWOOD: What I was going to  
12 explain was: The -- The "PP" in this case, as we spoke  
13 of on Monday, is the BA H3+ modeling scenario.

14 The PPLFS is what I was kind of calling it an  
15 intermediate scenario that had the Spring Outflow  
16 Criteria in it but didn't have the fall OMR change  
17 that's in CWF H3+.

18 MR. BEZERRA: Thank you.

19 And this Table 4D-3 indicates that both of  
20 those Proposed Project scenarios reduced Folsom  
21 Reservoir storage by at least 8 percent in dry water  
22 years on average; correct?

23 MR. MIZELL: Ob -- Objection: Incomplete  
24 question.

25 Let's specify the month we're looking at here

1 and then I'll withdraw my objection.

2 MR. BEZERRA: September.

3 WITNESS GREENWOOD: The average -- The  
4 average -- The difference between the averages is -- in  
5 dry years is 8 percent for the PP, as I mentioned, the  
6 BA H3+ modeling scenario compared to a 10 percent  
7 difference -- 10 percent less, for what's called there  
8 the PPLFS so that's the BA H3+ by including the Spring  
9 Outflow Criteria compared to the No-Action Alternative.

10 MR. BEZERRA: Thank you.

11 So I'd like to move on to Mr. Miller and the  
12 subject of operationalizing -- I am never going to be  
13 able to pronounce that -- operationalzizing (sic) the  
14 model.

15 If we could please pull up Exhibit DWR-1011,  
16 please.

17 (Exhibit displayed on screen.)

18 MR. BEZERRA: And Page 2, beginning at  
19 Line 27.

20 (Exhibit displayed on screen.)

21 MR. BEZERRA: That sentence states -- The  
22 sentence that begins on that line states (reading):

23 "My testimony demonstrates how DWR  
24 might operationalzize (sic), or  
25 implement, key modeling assumptions . .

1 ."

2 Mr. Miller, what do you mean by your testimony  
3 might -- or demonstrates how DWR might do that?

4 Is it -- Is this just a theoretical exercise  
5 as to what DWR's options would be?

6 WITNESS MILLER: "Might" in this instance is  
7 "could." Like, this is an example of how something  
8 could be operationalized.

9 MR. BEZERRA: I congratulate you. You're able  
10 to pronounce the word.

11 WITNESS MILLER: I've practiced a lot.

12 MR. BEZERRA: DWR has made no commitments that  
13 you actually would operate in the way described in your  
14 testimony; correct?

15 WITNESS MILLER: Can -- Can you clarify?

16 MR. BEZERRA: Yes.

17 You -- You've stated in relation to a number  
18 of parameters, spring outflow being one, how DWR might  
19 operationalize (sic) the modeling.

20 DWR has made no commitments that you will  
21 operate that way; correct?

22 WITNESS MILLER: Well, it would be dependent  
23 on what is actually in our -- our Permits and whatever  
24 comes out of this proceeding.

25 MR. BEZERRA: Okay. Leaving aside your

1 Permits and whatever comes out of this proceeding, as  
2 of today, DWR has made no commitments to operate in the  
3 ways described in your testimony; correct?

4 MR. MIZELL: Objection: This is -- This is  
5 repetitive questioning. We've been over this point  
6 before.

7 The Department has made extensive testimony  
8 available stating that it will operate to the  
9 regulatory requirements.

10 The examples given by Mr. Miller, he has  
11 previously testified as to how that is done to meet the  
12 regulatory requirements.

13 So that to continue to ask whether or not  
14 we're going to further commit to meeting the regulatory  
15 requirements is maybe not an efficient use of time.

16 CO-HEARING OFFICE DODUC: Mr. Bezerra, that is  
17 a good point.

18 MR. BEZERRA: Yes.

19 I want to understand -- Mr. Miller's testimony  
20 is completely about how they will implement modeling  
21 assumptions in their actual operations, or they -- how  
22 they might implement them.

23 I'd like to understand a level of certainty  
24 about to what extent that will actually occur.

25 CO-HEARING OFFICE DODUC: And how might he be

1 able to answer that when he does not know yet what the  
2 requirements would be?

3 MR. BEZERRA: His testimony is about very  
4 specific modeling scenarios and assumptions re --  
5 related to --

6 CO-HEARING OFFICE DODUC: And, Mr. Bezerra, if  
7 you -- if you want to question him on -- now I'm going  
8 to have to try to say that word -- oper --  
9 operationalizing in order to meet the conditions he  
10 used as example in his testimony, then you may pursue  
11 that.

12 But to ask him about future potential  
13 requirements that he may have to operationalize would  
14 be a bit unfair.

15 MR. BEZERRA: That's fine. I can ask him  
16 about specific things.

17 CO-HEARING OFFICE DODUC: Thank you.

18 That really is a hard word to say.

19 WITNESS MILLER: You did it very well.

20 CO-HEARING OFFICE DODUC: Thank you.

21 MR. BEZERRA: Okay. If we could please move  
22 down to Page 3 --

23 (Exhibit displayed on screen.)

24 MR. BEZERRA: -- Line 13 in Mr. Miller's  
25 testimony.

1 (Exhibit displayed on screen.)

2 MR. BEZERRA: It states (reading):

3 "The term 'real-time operations'  
4 describes the process of day-to-day SWP  
5 and Central Valley Project . . .  
6 operations and should not be confused  
7 with adaptive management."

8 So how does that work on a day-to-day basis,  
9 deciding how to operationalize (sic) certain modeling  
10 assumptions?

11 WITNESS MILLER: Well, the operationalization  
12 does not occur on a day-to-day basis. The  
13 operationalization occurs once a criteria is developed  
14 so that you can operate on a day-to-day basis.

15 MR. BEZERRA: Okay. So, let's -- Let's go to  
16 the spring outflows.

17 Page 10 of your testimony.

18 (Exhibit displayed on screen.)

19 MR. BEZERRA: And specifically Line 23.

20 (Exhibit displayed on screen.)

21 MR. BEZERRA: In the (reading):

22 ". . . Modeling testimony . . .  
23 maintaining the existing outflow is  
24 accomplished by applying an Eight-River  
25 Index . . . based outflow target in March

1 and the . . . 2009 BO action IV.2.1 . . .

2 San Joaquin -- (SJRIE) in April and May."

3 So let's -- let's focus on the April and May  
4 target.

5 On a day-to-day basis, for purposes of  
6 describing how you will implement the modeling  
7 criteria, how would you go about determining that on a  
8 day-to-day basis?

9 WITNESS MILLER: This is specific to the  
10 San Joaquin import-to-export ratio?

11 MR. BEZERRA: For now, yes.

12 WITNESS MILLER: So the 2009 NMFS Biological  
13 Opinion defines that. And we operate that today using  
14 a 14-day running average where the -- we take the  
15 San Joaquin from the prior day and today's exports --  
16 so there's a one-day lag -- and that ratio on a 14-day  
17 average vis-à-vis the requirements in the 2009 NMFS  
18 Biological Opinion.

19 MR. BEZERRA: And, Ms. White, do you agree  
20 that's how you implement it relative to the Central  
21 Valley Project?

22 WITNESS WHITE: Yes. We would be coordinating  
23 with DWR on -- on doing those calculations.

24 MR. BEZERRA: Now, is your testimony that you  
25 have, in fact, identified how you would do those things



1 relative to the modeling assumptions used for the  
2 CWF H3+ modeling for spring outflows? Is that -- That  
3 is how you would do those things?

4 WITNESS MILLER: I -- I just -- I just  
5 provided an example of how that could be  
6 operationalized.

7 MR. BEZERRA: And, again, you're saying that's  
8 how it could be operationalize -- That's how it could  
9 be implemented, not how DWR has committed to do it;  
10 correct?

11 WITNESS MILLER: This particular one is -- is  
12 an example based on our Incidental Take Permit  
13 Application, not what is in the Incidental Take Permit.

14 MR. BEZERRA: Can I unpack that a little bit.  
15 You just made a distinction between the  
16 application and the Permit. What did you mean by that?

17 WITNESS MILLER: The . . . On Line 27, it  
18 talks about -- I guess starting on Line 26 -- this is  
19 (reading):

20 "Based on . . . modeling analysis  
21 completed for the ITP Application . . ."

22 MR. BEZERRA: And how is that different than  
23 the Permit?

24 WITNESS MILLER: The -- The Permit -- I think  
25 we talked about this a little bit -- I forget who now.

1           But the -- the Permit has slightly  
2 different -- a slightly different method of determining  
3 the monthly target.

4           MR. BEZERRA:   Okay.   Yeah, I understand.  
5 We'll get to that in a little bit.

6           So, going to Page 4 of your testimony --  
7           (Exhibit displayed on screen.)

8           MR. BEZERRA:   -- beginning on Line 1, you  
9 state (reading):

10           ". . . It is impossible to perfectly  
11           predict the nuances, or variables, of any  
12           one year within the planning process  
13           because there are too many potential  
14           outcomes."

15           Does that consideration affect your statement  
16 about how you would implement modeling assumptions?  
17 Can you determine now how you would implement modeling  
18 assumptions based on this portion of your testimony?

19           WITNESS MILLER:   I should know, but can you  
20 tell me what line you were just at?

21           MR. BEZERRA:   Sure.  
22           Page 4, Line 1 in your testimony.

23           WITNESS MILLER:   Oh, okay.   Can you restate  
24 your question, please.

25           MR. BEZERRA:   Sure.

1           And I'm going to summarize here.

2           You just talked about how you would  
3 implement -- for lack of a pronounceable word --  
4 certain modeling assumptions related to spring  
5 outflows.

6           Now, this portion of your testimony states  
7 it's (reading):

8           ". . . Impossible to perfectly  
9 predict . . . any one year within the  
10 planning process because there's (sic)  
11 too many potential outcomes."

12           How do you reconcile saying it's impossible to  
13 predict how you would operate with your statement about  
14 how you would implement modeling assumptions in the  
15 future with California WaterFix?

16           WITNESS MILLER: So, this goes to . . .

17           This -- So, the prediction here is looking  
18 at -- we might be looking at planning our operations  
19 for April, but we don't know exactly what April will  
20 bring us.

21           So -- So that is some of those nuances, is  
22 that the amount of water that actually shows up in  
23 April will be one of those variables that we will have  
24 to operate to once we get to April.

25           Speaking of this coming April.

1 MR. BEZERRA: Okay. So, again, you're --  
2 you're stating that even planning for an April, it's  
3 uncertain how you'll need to operate; correct?

4 WITNESS MILLER: Well, we -- We know that  
5 we're going to have to operate to the San Joaquin  
6 inflow-to-export ratio in April.

7 But at this point in time, we don't know what  
8 the -- the water year type will be when we get to  
9 April. That's going to be dependent on when we  
10 actually arrive there.

11 MR. BEZERRA: On a little bit different  
12 subject related to operationalization.

13 In a number of cases, you used 2016 as an  
14 example of how you would operationalize (sic) the  
15 modeling assumptions; correct?

16 WITNESS MILLER: I -- I used an example year  
17 2016.

18 MR. BEZERRA: Okay. And 2016 is in the past,  
19 so it doesn't involve any projected climate change that  
20 may occur by the time California WaterFix is  
21 implemented; correct?

22 WITNESS MILLER: That's right.

23 MR. BEZERRA: And, to the best of your  
24 knowledge, would climate change be likely to affect the  
25 hydrology that would occur when these modeling

1 assumptions would be implemented with Cal WaterFix in  
2 place?

3 MS. ANSLEY: Objection: Relevance as to --  
4 Mr. Miller was using a -- a set hydrology of 2016 as an  
5 example how -- How climate change would affect the  
6 hydrology back in 2016 seems like an irrelevant  
7 question.

8 CO-HEARING OFFICE DODUC: Mr. Bezerra, perhaps  
9 you could explain your question to me again.

10 MR. BEZERRA: Sure.

11 The modeling all assumes a level of climate  
12 change.

13 Mr. Miller is testifying about how the  
14 modeling assumptions would be implemented in real  
15 operations.

16 So it's relevant as to what the synchronicity  
17 is or not between the hydrologic conditions under which  
18 the modeling assumptions would actually be implemented.  
19 He's presenting those 2016 scenarios as examples of how  
20 the modeling would be implemented.

21 If there's a difference between the hydrology  
22 in 2016 and the assumed hydrology in the models, that's  
23 relevant.

24 MS. ANSLEY: His example is the hydrology for  
25 2016, because it's a known hydrology. Obviously,

1 climate change will affect hydrology in the future. We  
2 don't know if there will be a future year exactly like  
3 2016, but we assume there will be a range of hydrology.

4 But in terms of his example, climate change is  
5 irrelevant.

6 CO-HEARING OFFICE DODUC: Understood.

7 Sustained.

8 MR. BEZERRA: Thank you.

9 Could we please pull up Exhibit BKS-254.

10 CO-HEARING OFFICE DODUC: And as that is being  
11 pulled up, Mr. Bezerra --

12 (Exhibit displayed on screen.)

13 CO-HEARING OFFICER DODUC: -- I would like to  
14 give the court reporter a break no later than 2:30  
15 so --

16 MR. BEZERRA: This will be a wonderful place  
17 to take a break.

18 CO-HEARING OFFICE DODUC: Then we'll take a  
19 break.

20 We will return at 2:30.

21 (Recess taken at 2:16 p.m.)

22 (Proceedings resumed at 2:30 p.m.):

23 CO-HEARING OFFICE DODUC: All right.

24 Mr. Bezerra, let's do a little bit of a time check.

25 How long do you estimate you will need?

1 MR. BEZERRA: My best guess at this point --  
2 best guess -- is that I think I can finish this by  
3 around 4:00 but --

4 CO-HEARING OFFICER DODUC: Okay.

5 MR. BEZERRA: -- it might be a little after  
6 that. That's a best guess.

7 CO-HEARING OFFICER DODUC: All right.

8 Miss Nikkel.

9 MS. NIKKEL: About 10 minutes.

10 CO-HEARING OFFICE DODUC: Thank you.

11 You are loved by all of them.

12 (Laughter.)

13 CO-HEARING OFFICE DODUC: And me.

14 All right.

15 CO-HEARING OFFICER MARCUS: I love all the  
16 smiles out there.

17 CO-HEARING OFFICE DODUC: Yes. All the love  
18 is pouring to us. Miss Nikkel.

19 Mr. Bezerra, you are in the way.

20 (Laughter.)

21 MR. BEZERRA: I am very conscious of the fact  
22 I am operating during a Friday afternoon.

23 CO-HEARING OFFICE DODUC: Continue, please.

24 MR. BEZERRA: Thank you.

25 So if we could go back to Mr. Reyes'

1 testimony -- I'm sorry -- Mr. Miller's testimony,  
2 DWR-1011, please.

3 (Exhibit displayed on screen.)

4 MR. BEZERRA: And Page 11, Line 22.

5 (Exhibit displayed on screen.)

6 MR. BEZERRA: Okay. The sentence on --  
7 beginning on Line 22 states (reading):

8 "The CWF H3+ target outflow for  
9 April and May is determined by using the  
10 criteria used today for the SJRIE."

11 And just for clarity, SJRIE is the San Joaquin  
12 inflow-export ratio from the current Biological  
13 Opinions; correct?

14 WITNESS MILLER: Yes. The NMFS Biological  
15 Opinion defines that one.

16 MR. BEZERRA: Okay. And -- And so the fact  
17 that you're referring to CWF H3+ here means that the  
18 modeling assumes that spring outflows would be  
19 operationalized applying San Joaquin, i.e., to both the  
20 South Delta and North Delta diversions; correct?

21 WITNESS MILLER: I -- I would refer back to  
22 Mr. Reyes on the modeling assumptions for California  
23 WaterFix H3+.

24 WITNESS REYES: Could you repeat the question.  
25 Could you repeat the question, please.



1 MR. BEZERRA: Sure.

2 CO-HEARING OFFICE DODUC: He's just trying to  
3 make you say that word again.

4 MR. BEZERRA: Yeah, really.

5 The CWF H3+ generates in the modeling the  
6 spring outflow for April and May by applying the  
7 San Joaquin inflow-to-export ratio to both the South  
8 Delta and proposed North Delta diversions; correct?

9 WITNESS REYES: I want -- I want to take a  
10 minute to review this; okay?

11 (Examining document.)

12 WITNESS REYES: I think as I understand,  
13 that's correct.

14 MR. BEZERRA: So that means that, in the  
15 modeling for CWF H3+ for April and May, diversions at  
16 the proposed North Delta diversions would be controlled  
17 by San Joaquin River inflows; correct?

18 WITNESS REYES: Yeah, that's correct.

19 MR. BEZERRA: Even though the North Delta  
20 diversion would divert from the Sacramento River;  
21 correct?

22 WITNESS REYES: The intent of this criteria is  
23 to -- is to produce outflow, and that's the -- that's  
24 the actual objective.

25 MR. BEZERRA: And so, again, for purposes of

1 the CWF H3+ modeling, combined South Delta and North  
2 Delta diversions in April and May would be controlled  
3 by San Joaquin River inflows; correct?

4 WITNESS REYES: Yeah. The San Joaquin would  
5 dictate the inflow portion of that criteria.

6 WITNESS MILLER: Can I just clarify a little  
7 bit that the -- on your question.

8 The San Joaquin inflow-to-export ratio would  
9 be used to develop a -- an outflow target in April and  
10 May.

11 MR. BEZERRA: And, then, combined North Delta  
12 and South Delta diversions to meet that target would be  
13 a function of San Joaquin River inflows; correct?

14 WITNESS MILLER: That is what was in the ITP  
15 Application and -- Yes.

16 MR. BEZERRA: Thank you.

17 Which is a nice segue.

18 I'd like to talk now about the Incidental Take  
19 Permit itself. I want to walk through that so I can  
20 understand it to start with.

21 So could we please bring up Exhibit BKS-254.

22 CO-HEARING OFFICE DODUC: I'm sorry. Before  
23 you leave.

24 MR. BEZERRA: Yes.

25 CO-HEARING OFFICE DODUC: Oh, too late.

1           If I might ask Mr. Miller:

2           On Line 26 where it says, "where exports are  
3 limited," would that be South Delta exports or both  
4 South and North?

5           WITNESS MILLER: Currently, it is the South  
6 but . . . for the example I used, it would have been  
7 both.

8           CO-HEARING OFFICE DODUC: Thank you.

9           MR. BEZERRA: Thank you.

10          So if we could please pull up Exhibit BKS-254.

11          (Exhibit displayed on screen.)

12          MR. BEZERRA: This is excerpts of the  
13 Incidental Take Permit, so it is excerpts of -- I  
14 believe it's State Water Board Exhibit 107.

15          So could we please go to Page 181.

16          (Exhibit displayed on screen.)

17          MR. BEZERRA: And this is -- Mr. Reyes,  
18 Mr. Miller, whichever one of you feels most qualified  
19 to answer this next set of questions, feel free.

20          So specifically on Page 181, there is the  
21 parameter spring outflow, and it states that the spring  
22 outflows from March 1 through May 31 are governed by  
23 Sub Table B; correct?

24          WITNESS MILLER: Correct.

25          MR. BEZERRA: And we'll get to Sub Table --

1 Table B.

2 But this portion of the Incidental Take  
3 Permits indicates that, to meet the flows in Sub  
4 Table B, you would not have to reduce exports below  
5 1500 cfs; correct?

6 WITNESS MILLER: Yeah. The -- The -- The  
7 intent is to meet this with export reductions down to  
8 1500 cfs.

9 MR. BEZERRA: Okay. So could we please go to  
10 Page 185.

11 (Exhibit displayed on screen.)

12 MR. BEZERRA: And do you see at the bottom Sub  
13 Table B?

14 (Exhibit displayed on screen.)

15 WITNESS MILLER: Yes.

16 MR. BEZERRA: And, in particular, this Sub  
17 Table states the March through May spring outflows that  
18 the Central Valley Project and the State Water Project  
19 would have to meet under this Permit with California  
20 WaterFix in place; correct?

21 WITNESS MILLER: Are you able to -- Sorry.  
22 Were you reading something or are you just done?

23 Or maybe you can ask the question again.

24 MR. BEZERRA: Sure.

25 We previously talked about operationalizing

1 spring outflows.

2           The Incidental -- Under the Incidental Take  
3 Permit, it is the values in this table that, under this  
4 Permit, DWR and Reclamation would have to actually  
5 implement with California WaterFix in place; correct?

6           WITNESS MILLER: Yeah. This is the -- the --  
7 the methodology that DFW put in their ITP, yeah.

8           MR. BEZERRA: This is a permanent term that  
9 applies to California WaterFix; correct?

10          WITNESS MILLER: Yes, and -- and clarified by  
11 the clarification memo also within SWRCB-107.

12          MR. BEZERRA: Okay. I was going to get to  
13 that later, but why don't -- why don't we do that now.

14           If we could go to SWRCB-107.

15           (Exhibit displayed on screen.)

16          MR. BEZERRA: And if you could scroll down to  
17 the bottom.

18           (Exhibit displayed on screen.)

19          MR. BEZERRA: Oh, I'm sorry. I think it's at  
20 the bottom of this page.

21           (Exhibit displayed on screen.)

22          MR. BEZERRA: There you go.

23          CO-HEARING OFFICE DODUC: Yes. This is the  
24 Miss Nikkel document.

25   (Laughter.)

1 MR. BEZERRA: And, Mr. Miller, you've  
2 referenced this a number of times.

3 This is a letter from a -- from Carl Wilcox, a  
4 policy advisor from California Department of Fish and  
5 Wildlife, to Department of Water Resources; correct?

6 WITNESS MILLER: Yes.

7 MR. BEZERRA: This is not an amendment to the  
8 earlier-issued Incidental Take Permit; correct?

9 WITNESS MILLER: That -- That is something  
10 I -- Sounds like a legal terminology.

11 I -- I'm not aware of what would constitute an  
12 amendment --

13 MR. BEZERRA: Well, I --

14 WITNESS MILLER: -- or a clarification of --

15 MR. BEZERRA: I'm trying to clarify.

16 There is an Incidental Take Permit.

17 WITNESS MILLER: (Nodding head.)

18 MR. BEZERRA: And then there is this letter.

19 WITNESS MILLER: (Nodding head.)

20 MR. BEZERRA: Correct?

21 WITNESS MILLER: Yes.

22 MR. BEZERRA: And on multiple occasions, you  
23 have referred to this letter as clarifying the Permit;  
24 correct?

25 WITNESS MILLER: Yes.

1 MR. BEZERRA: This letter is not part of the  
2 Permit; correct?

3 MR. MIZELL: Objection.

4 CO-HEARING OFFICE DODUC: Ground?

5 MR. MIZELL: Yes. At this point, it's asked  
6 and answered.

7 Mr. Miller has explained that it's his  
8 understanding this letter is a clarification of the  
9 Permit.

10 To ask a lay person to make a legal conclusion  
11 as to whether or not this constitutes an amendment to a  
12 Permit, I think, goes beyond the scope of his  
13 expertise.

14 CO-HEARING OFFICE DODUC: Mr. Bezerra.

15 MR. BEZERRA: Mr. Miller's testimony explains  
16 and discusses the Incidental Take Permit in -- quite a  
17 bit, I believe, so --

18 CO-HEARING OFFICE DODUC: And -- And,  
19 Mr. Miller, when you discuss the Incidental Take Permit  
20 in your testimony, are you referring to both the Permit  
21 and this memo?

22 WITNESS MILLER: What I explained in my  
23 testimony was how to operationalize the ITP  
24 application.

25 MR. BEZERRA: Okay. Let -- Let's unpack that

1 a little bit.

2 The Incidental Take Permit Application is  
3 different than the Incidental Take Permit; correct?

4 WITNESS MILLER: Yes.

5 MR. BEZERRA: And this letter is different  
6 than the both the Application and the Permit; correct?

7 WITNESS MILLER: So this -- this letter, as I  
8 understand it, is . . . clarifying the -- the Permit  
9 Number 281-2016-055-03, and I'm assuming that is the  
10 Incidental Take Permit.

11 MR. BEZERRA: You're assuming this letter is  
12 part of the Permit?

13 WITNESS MILLER: I'm assuming that number --  
14 permit number up there would be consistent with the  
15 Incidental Take Permit number.

16 MR. BEZERRA: Okay. Thank you.

17 Okay. Could we please go back to Exhibit  
18 BKS -- I believe it's 254.

19 (Exhibit displayed on screen.)

20 MR. BEZERRA: Okay. Back on Sub Table B.

21 Sub Table B expresses a relationship between  
22 what's referenced here as ELT Eight-River Index and  
23 certain mandated Delta outflows; correct?

24 WITNESS MILLER: I'm sorry. Where are you --  
25 Where are you reading?



1 MR. BEZERRA: The second clause of the  
2 sentence following the heading states (reading):

3 ". . . Permittee shall provide average  
4 Delta outflow for LFS based on the  
5 50 percent exceedance forecast for the  
6 current month's ELT Eight-River Index, as  
7 described in Condition Approval --  
8 Condition of Approval 9.9.4.3."

9 And this table indicates the outflows that  
10 must be achieved when certain conditions exist under  
11 the ELT Eight-River Index; correct?

12 WITNESS MILLER: That -- That is what it says.

13 MR. BEZERRA: Okay. And what is the ELT  
14 Eight-River Index?

15 WITNESS MILLER: I don't know.

16 MR. BEZERRA: You're not aware of what the ELT  
17 Eight-River Index explained in the Incidental Take  
18 Permit is; correct?

19 WITNESS MILLER: It -- It might be defined  
20 above, but I don't know if the Eight-River Index is. I  
21 would have to guess that the ELT as . . .

22 MR. BEZERRA: Okay. What -- What is the  
23 Eight-River Index?

24 WITNESS MILLER: So, the Eight-River Index is  
25 a hydrologic indicator of the conditions in the Central

1 Valley. It's a measure of unimpaired flow in eight of  
2 the major rivers.

3 MR. BEZERRA: And, Mr. Reyes, you understand  
4 what the acronym "ELT" means in this context?

5 WITNESS REYES: It's referring to the early  
6 long-term, which is a climate condition.

7 And, as explained to me, the -- for this  
8 criteria, it was largely developed through modeling  
9 and -- and . . . and . . .

10 I guess the objective of this criteria is to  
11 produce outflow that is similar to current condition  
12 outflow for the months of March through May.

13 And the mechanism to -- to do that, or what it  
14 came up with some of the flows here is, using an  
15 Eight-River Index to set certain levels of flow.

16 And the reason they use an ELT Eight-River  
17 Index, meaning an Eight-River Index that has  
18 information about climate changes, so that, when  
19 the . . . the modeling for the future condition is  
20 done, that it provides an outflow that's consistent  
21 with current condition outflow.

22 MR. BEZERRA: Okay. And so is it your  
23 understanding that this Sub Table B states the spring  
24 outflow requirements for California WaterFix under the  
25 Incidental Take Permit?

1 WITNESS REYES: Could we scroll down some  
2 more, please, so I can see the numbers there.

3 (Exhibit displayed on screen.)

4 WITNESS REYES: So, I think, like Mr. Miller  
5 described, the letter has a different objective than  
6 this. And -- And I -- At least the way we modeled it,  
7 is, it's based on the letter.

8 MR. BEZERRA: Can -- Can you explain that?  
9 You modeled -- What model was involved in modeling it  
10 based on the letter?

11 WITNESS REYES: So in the Cal WaterFix H3+  
12 modeling, the criteria for the spring is from March to  
13 use an Eight-River Index variable to determine an  
14 outflow target, and then from April and May, to reduce  
15 exports consistent with the San Joaquin River EI ratio  
16 up to the point of 1500 cfs.

17 MR. BEZERRA: Okay. And that -- that gets to  
18 my question.

19 This table for spring outflows in the  
20 Incidental Take Permit does not depend on the  
21 San Joaquin River inflow-export ratio at all; does it?

22 WITNESS MILLER: No. But when I looked at my  
23 example, I actually -- after this came out, I -- I did  
24 look at how my example compared to this criteria, and  
25 it is substantially the same in terms of the results.

1 MR. BEZERRA: Okay. But just to confirm:  
2 This actual term of the Incidental Take Permit governs  
3 spring outflows by a metric completely different than  
4 the San Joaquin inflow-to-export ratio; correct?

5 CO-HEARING OFFICE DODUC: Hold on.

6 Miss Morris.

7 MS. MORRIS: Thank you.

8 Objection: Misstates the testimony.

9 CO-HEARING OFFICE DODUC: How?

10 MS. MORRIS: The witness testified earlier  
11 that the table wasn't the only thing that governed it,  
12 and he pointed to the clarification letter.

13 And now Mr. Bezerra is saying that this table  
14 is what controls, and I think that misstates the  
15 testimony.

16 CO-HEARING OFFICE DODUC: Mr. Bezerra, do you  
17 wish to clarify?

18 MR. BEZERRA: Yes. This is the Incidental  
19 Take Permit issued by the California Department of Fish  
20 and Wildlife for California WaterFix. It contains a  
21 term here, and I'm just confirming the witness'  
22 understanding that this term is not driven by the  
23 San Joaquin River inflow-to-export ratio.

24 CO-HEARING OFFICER DODUC: Can answer the  
25 question, Mr. Miller?

1 WITNESS MILLER: The -- This table is . . . is  
2 developed on -- using an Eight-River Index for March,  
3 April and May, and providing a -- a target outflow for  
4 each one of those months.

5 CO-HEARING OFFICE DODUC: So the answer to  
6 Mr. Bezerra's question is that it is indeed not  
7 based --

8 MR. BEZERRA: Yes.

9 WITNESS MILLER: This is not based on the  
10 San Joaquin inflow-to-export ratio.

11 CO-HEARING OFFICER DODUC: Okay.

12 MR. BEZERRA: And the CWF H3+ modeling for  
13 April and May outflows is based on the San Joaquin  
14 River inflow-to-export ratio; correct?

15 WITNESS MILLER: As --

16 WITNESS REYES: Correct. It is consistent --  
17 Sorry, Aaron. I didn't mean to speak over  
18 you.

19 It's consistent with the clarification letter,  
20 which is clarifying this very requirement here.

21 WITNESS MILLER: And both methods get to the  
22 same -- are a way to get to the same objective,  
23 maintaining the three-month average outflow to the  
24 existing conditions in March, April, May.

25 MR. BEZERRA: And the California Department of

1 Fish and Wildlife issued this Incidental Take Permit  
2 based on the Eight-River Index; correct?

3 MR. MIZELL: Objection: Again, I believe  
4 Mr. Bezerra is trying to confuse the witnesses.

5 This question has been asked and answered.  
6 And should he want to confirm what the witnesses have  
7 stated many times now, the question should be phrased  
8 as in, "this Permit as clarified by the memo."

9 CO-HEARING OFFICE DODUC: Sustained.

10 MR. BEZERRA: Thank you.

11 Okay. Could we please turn to Page 188.

12 (Exhibit displayed on screen.)

13 MR. BEZERRA: And, again, at the bottom of the  
14 page.

15 (Exhibit displayed on screen.)

16 MR. BEZERRA: Mr. Miller, this sentence that  
17 reads (reading):

18 "Reduction in combined exports below  
19 minimum health and safety requirements  
20 (1500 cfs) is not required by the  
21 Condition of Approval."

22 This is consistent with your understanding of  
23 what exports are only required to do to meet spring  
24 outflows under this Permit; correct?

25 WITNESS MILLER: Yeah. In -- In operating to

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1 this target, the Projects would only be required to  
2 reduce the exports down to 1500 cfs in an attempt to  
3 meet those monthly targets.

4 MR. BEZERRA: Okay. Could we please move on  
5 to Page 189.

6 (Exhibit displayed on screen.)

7 MR. BEZERRA: And the first sentence reads  
8 (reading):

9 "These targets are intended to be  
10 provided through the acquisition of water  
11 from willing sellers and through  
12 operations of the CVP/SWP."

13 As a Project Operator, Mr. Miller, what is  
14 your understanding of the phrase "operations of  
15 CVP/SWP"?

16 WITNESS MILLER: So, I -- I think we probably  
17 need to go back to the clarification memo which does  
18 cover this Condition of Approval 9.9.4.3.

19 MR. BEZERRA: Wait. Don't -- No. I -- I  
20 would like to get an answer to my question as to what  
21 the phrase "operations of the CVP/SWP" generally means  
22 to you as a Project Operator.

23 MR. MIZELL: And I'd like to object.

24 CO-HEARING OFFICE DODUC: Hold on.

25 Mr. Miller, in referring back to the

1 clarification memo, will you be addressing specifically  
2 the term "operations of the CVP and SWP" as intended in  
3 this sentence?

4           Or are you pulling up the -- the clarify --  
5 clarification memo to explain how these targets will be  
6 achieved?

7           Because you did that in response to  
8 Mr. Jackson's very thorough questioning of Mr. Miller  
9 with respect to the issue of willing sellers.

10           So, Mr. -- And the reason I think there was  
11 not an objection earlier was, Mr. Bezerra focused not  
12 on the -- the -- the willing sellers aspect but on the  
13 operations of CVP/SWP aspect.

14           Do you still need that clarification memo to  
15 clarify what is meant there when you say "operations of  
16 the CVP and SWP"?

17           WITNESS MILLER: I won't read it again. Okay.

18           So, the interpretation of "operations of the  
19 CVP and SWP" are exports only.

20           MR. BEZERRA: So, Mr. Miller, is it your  
21 understanding that the phrase "operations of the  
22 CVP/SWP" in this term of the Incidental Take Permit has  
23 effectively been deleted by the clarification letter?

24           MR. MIZELL: Objection: Both misstates his  
25 previous answer but also calls for a legal conclusion



1 as to the effect of the clarification memo on this  
2 Permit term.

3 CO-HEARING OFFICE DODUC: What is the effect  
4 of the clarification memo on . . . your application --  
5 your -- What is the word now?

6 MR. BEZERRA: This is the Permit.

7 CO-HEARING OFFICE DODUC: Yes.

8 On -- On -- As an -- As an operator of the  
9 Permit, what is your understanding of the effect of  
10 that clarification memo on operations?

11 WITNESS MILLER: My -- My understanding based  
12 on the clarification memo is that the outflow targets  
13 will be met through reducing exports down to 1500 cfs  
14 in an attempt to meet those targets.

15 MR. BEZERRA: And so your understanding is  
16 that no other potential CVP or SWP operations,  
17 including storage releases, would be necessary to meet  
18 the terms -- the spring outflow terms of the Incidental  
19 Take Permit; correct?

20 CO-HEARING OFFICE DODUC: As an operator.

21 MR. BEZERRA: As an operator.

22 WITNESS MILLER: That is correct. My  
23 understanding is exports only, no need to release  
24 additional storage.

25 MR. BEZERRA: Moving out of the Incidental

1 Take Permit.

2 In your general role as an operator, do the  
3 operations of the CVP and SWP generally include  
4 releases from storage?

5 WITNESS MILLER: At least on the State Water  
6 Project side, and on what Kristin confirmed --  
7 Miss White confirmed on the CVP side.

8 But, yes, operations involve scheduling  
9 exports and releases in order to meet the regulatory  
10 requirements.

11 MR. BEZERRA: And, Ms. White, do you agree  
12 with that for purposes of operation of the Central  
13 Valley Project?

14 WITNESS WHITE: I would. I would consider CVP  
15 operations to be operating reservoirs, exports and any  
16 other related facilities.

17 MR. BEZERRA: Thank you.

18 Okay. If we could please pull up Exhibit  
19 BKS-251, which is excerpts of the NMFS Biological  
20 Opinion that is Exhibit SWRCB-106.

21 And, in particular --

22 (Exhibit displayed on screen.)

23 MR. BEZERRA: -- this BKS exhibit is excerpts  
24 of it. Appendix A2.

25 If we could please go to Page 3-86.

1 (Exhibit displayed on screen.)

2 MR. BEZERRA: This is a question for  
3 Mr. Reyes, Mr. Miller, Ms. White or Ms. Parker.

4 In the parameter "Spring Outflow," do you  
5 understand those criteria to be the Biological  
6 Opinion's spring outflow requirements for California  
7 WaterFix?

8 WITNESS MILLER: We're looking at the middle  
9 column?

10 MR. BEZERRA: Correct.

11 WITNESS MILLER: (Examining document.)

12 Yes.

13 MR. BEZERRA: Okay. Do you see it also has  
14 Footnote 38 associated with spring outflow?

15 WITNESS MILLER: I see that's referencing  
16 Footnote 38, yeah.

17 MR. BEZERRA: And under "criteria," in -- in  
18 general, this refers to the existing criteria for  
19 spring outflows under the existing Biological Opinions;  
20 correct?

21 MR. MIZELL: If we might bring up Footnote 38  
22 so he can --

23 MR. BEZERRA: Well, wait, wait. No. I'd like  
24 to get an answer to the question of the understanding  
25 of this criteria first.

1 WITNESS MILLER: Are -- Are you asking what  
2 would -- What part are you asking? I'm sorry.

3 MR. BEZERRA: Okay. Let me -- Let me clarify.  
4 For parameter "Spring Outflow," there is a  
5 criteria; correct?

6 WITNESS MILLER: For -- For California  
7 WaterFix H3+?

8 MR. BEZERRA: In this Biological Opinion, yes.

9 WITNESS MILLER: Yes. And this is SWRCB one  
10 oh . . .

11 MR. BEZERRA: 106.

12 WITNESS MILLER: Okay.

13 MR. BEZERRA: And that criteria box indicates  
14 that March through May outflow would occur . . . with  
15 the initial operations pursuant to the existing  
16 Biological Opinion's Operational Criteria; correct?

17 WITNESS MILLER: Yes.

18 MR. BEZERRA: And is it your understanding  
19 that those existing Operational Criteria are the  
20 limitations on exports associated with the San Joaquin  
21 River inflow-to-export ratio?

22 WITNESS MILLER: The . . . Yes.

23 MR. BEZERRA: Okay. If we could please scroll  
24 down to Footnote 38.

25 (Exhibit displayed on screen.)

1 MR. BEZERRA: Do you see where it indicates  
2 that the (reading):

3 ". . . 2081 . . . ITP is expected to  
4 include final operations related to  
5 spring outflow."

6 WITNESS MILLER: Yeah. Looks like they're  
7 pointing to the 2081.

8 MR. BEZERRA: So, just to clarify: This  
9 Biological Opinion refers to the then forthcoming  
10 Incidental Take Permit as potentially setting spring  
11 outflows for California WaterFix; correct?

12 WITNESS MILLER: I believe so.

13 MR. BEZERRA: Thank you.

14 So if we could please go to Page 3-80 in this  
15 exhibit.

16 (Exhibit displayed on screen.)

17 MR. BEZERRA: Do you see the highlighted text?

18 WITNESS MILLER: (Examining document.)

19 I -- I'm -- I'm reading it.

20 MR. BEZERRA: Okay. Thank you.

21 WITNESS MILLER: (Further examining document.)

22 Okay.

23 MR. BEZERRA: Is it your general understanding  
24 this states the methods by which the Biological  
25 Opinion's spring outflow terms would be implemented?

1 MR. MIZELL: Objection.

2 CO-HEARING OFFICE DODUC: What is the basis of  
3 your objection?

4 MR. MIZELL: That that misstates the text on  
5 the screen.

6 This does not purport to quote the ITP, and,  
7 in fact, if Mr. Bezerra could include the appropriate  
8 caveats that are in the highlighted text, I think the  
9 witnesses would be better informed.

10 CO-HEARING OFFICE DODUC: I'm confused.

11 MR. BEZERRA: I didn't ask about the  
12 Incidental Take Permit. I asked how this Biological  
13 Opinion would be implemented.

14 CO-HEARING OFFICE DODUC: Mr. Miller.

15 WITNESS MILLER: Well, if the Biological  
16 Opinion was referring to the . . . the Incidental Take  
17 Permit, I would assume that we would use the Incidental  
18 Take Permit criteria.

19 MR. BEZERRA: Well, I -- My -- My actual  
20 question was:

21 Is it your understanding that this text  
22 describes the methods that this Biological Opinion  
23 contemplates will be used to implement spring outflow  
24 requirements under this opinion?

25 MR. MIZELL: I'm going to object: It's now

1 asked and answered.

2           And, again, if Mr. Bezerra would include the  
3 criteria. Looking in the sentence two above the  
4 highlighted text, it states specifically that it would  
5 be implemented through the CESA Permit.

6           So, again, this is a reference to the ITP.

7           MR. BEZERRA: The California Endangered  
8 Species Act and the Federal Endangered Species Act are  
9 separate statutes requiring separate Permits.

10           This is a Biological Opinion issued under the  
11 Incidental Take Permit. There also needs to be a  
12 California Endangered Species Act Permit, but this is a  
13 Biological Opinion under the Federal Act. So they are  
14 different.

15           MR. MIZELL: And the requirement should be  
16 read in its entirety if Mr. Bezerra would like the  
17 witness to answer the question appropriately.

18           The requirement states -- It re -- references  
19 the CESA Permit.

20           CO-HEARING OFFICE DODUC: At this point, I'm  
21 not sure that poor Mr. Miller can answer anything.

22           MR. BEZERRA: Well, let -- let me -- let me  
23 try to simplify and cut through.

24           CO-HEARING OFFICE DODUC: Please.

25           MR. BEZERRA: Mr. Miller, do you see -- do you

1 see where it states (reading):

2                    "If sufficient water cannot be  
3                    acquired for this purpose, the Spring  
4                    Outflow Criteria will be accomplished  
5                    through operations of the CVP/SWP to the  
6                    extent an obligation is imposed on either  
7                    the SWP or CVP under Federal or  
8                    applicable State law."

9                    Do you see that?

10                   WITNESS MILLER: I see that. And it seems  
11 very similar to what is stated in the Incidental Take  
12 Permit, and that's probably why they refer to it in the  
13 two sentences before -- or the sentence before.

14                   MR. BEZERRA: To the best of your knowledge,  
15 has a National Marines Fishery Service issued any  
16 clarification letter affecting the content of this  
17 portion of their Biological Opinion?

18                   MR. MIZELL: Object: Again, misstating the  
19 purpose of this.

20                   It says, "to the extent an obligation is  
21 imposed."

22                   Now, we can either go into a legal --

23                   CO-HEARING OFFICER DODUC: Hold on.

24                   MR. MIZELL: -- interpretation of the --

25                   CO-HEARING OFFICER DODUC: Hold on.



1 MR. MIZELL: -- criteria or --

2 CO-HEARING OFFICE DODUC: Let's ignore this  
3 document.

4 Mr. Bezerra, ask your last question again.

5 MR. BEZERRA: Mr. Miller, or anyone else on  
6 the panel, to the best of your knowledge, has the  
7 National Marine Fisheries Service issued any sort of  
8 clarification of this portion of the Biological Opinion  
9 for California WaterFix?

10 CO-HEARING OFFICE DODUC: Can anyone answer?

11 WITNESS WHITE: Can you clarify: A written,  
12 public clarification? Is that what your asking?

13 CO-HEARING OFFICE DODUC: Any.

14 MR. BEZERRA: Any --

15 WITNESS WHITE: I --

16 MR. BEZERRA: -- clarification.

17 WITNESS WHITE: I ask because typically after  
18 Biological Opinions are developed, we -- we meet and  
19 talk about clearing up just any general  
20 misunderstandings.

21 There have been meetings where we've talked  
22 about different aspects, but I haven't seen any written  
23 public document.

24 MR. BEZERRA: Okay. So let me back up.

25 We've talked quite a bit about a clarification

1 letter that has been issue related to the Incidental  
2 Take Permit; correct?

3 Are you aware of any written letter/memorandum  
4 issued by the National Marine Fisheries Service,  
5 quote-unquote, clarifying this portion of the  
6 Biological Opinion?

7 WITNESS WHITE: Not at this time, no.

8 MS. ANSLEY: Yeah. Objection: Asked and  
9 answered.

10 She answered that already, that she was not  
11 aware of a written clarification, now twice.

12 CO-HEARING OFFICE DODUC: Is that your -- Is  
13 that your answer, Miss White?

14 WITNESS WHITE: Yes.

15 No, I don't know of a written letter at this  
16 time.

17 CO-HEARING OFFICER DODUC: Okay.

18 MR. BEZERRA: Okay. Now, do you see in that  
19 sentence the phrase "operations of the CVP/SWP"?

20 WITNESS WHITE: Can I ask what section of the  
21 Biological Opinion this is in?

22 MR. BEZERRA: Certainly. We can pull back  
23 and . . .

24 (Exhibit displayed on screen.)

25 MR. BEZERRA: We can -- We can pull up the

1 entire Biological Opinion, if necessary.

2 WITNESS WHITE: Just trying to get the header  
3 of where -- what context this is in, if it's just  
4 describing the other processors or not.

5 CO-HEARING OFFICE DODUC: I don't know. It's  
6 an excerpt.

7 MR. BEZERRA: We can -- Yes. We can -- We can  
8 back up to I believe it's Staff Exhibit SWRCB-106, and  
9 it's Appendix A2 to that, as I recall.

10 MR. MIZELL: I believe if you go back up one  
11 level, it's a separate link.

12 (Exhibit displayed on screen.)

13 MR. BEZERRA: The text I was quoting was on  
14 Page 3-80.

15 (Exhibit displayed on screen.)

16 WITNESS WHITE: Can we just scroll back to see  
17 what the header of this section is?

18 (Exhibit displayed on screen.)

19 WITNESS WHITE: Okay. Thank you.

20 What was the question that you asked? I'm not  
21 sure if it was even to me. I just wanted to know what  
22 section this is from.

23 MR. BEZERRA: Certainly.

24 So we can scroll back down to the next page.

25 (Exhibit displayed on screen.)

1 MR. BEZERRA: And there's the sentence that  
2 begins, "If sufficient" -- Well, I'll read (reading):

3 "If sufficient water cannot be  
4 acquired for this purpose, the Spring  
5 Outflow Criteria will be accomplished  
6 through operations of the CVP/SWP to the  
7 extent an obligation is imposed on either  
8 the SWP or CVP under Federal or  
9 applicable State law."

10 And my question is: In this context, is it  
11 your understanding that the operations of the CVP/SWP  
12 could include storage releases?

13 CO-HEARING OFFICE DODUC: Miss Morris.

14 MS. MORRIS: Stefanie Morris, State Water  
15 Contractors.

16 Objection: Again, this does -- this is  
17 referring to the CESA, and they've already testified as  
18 to the clarification.

19 And this is not a requirement in the  
20 Biological Opinion. This is the Project Description.

21 And to the extent that he's asking about  
22 operations of the CVP/SWP, we already did that all  
23 through the portion that we had this questioning on the  
24 CESA and the 2081 Permit.

25 And then he asked the question, "are you done

1 already," so it's also asked and answered.

2 CO-HEARING OFFICE DODUC: Mr. Bezerra.

3 MR. BEZERRA: Yes. I'd like to understand the  
4 Petitioners' understanding of the terms of the Permits  
5 that apply to them.

6 We understand that they believe the CESA  
7 Permit has been, quote-unquote, clarified by a letter.

8 I want to understand whether they believe the  
9 Biological Opinion has received the same treatment.

10 CO-HEARING OFFICER DODUC: All right. So just  
11 answer that question, please.

12 MR. MIZELL: If we're going to talk about the  
13 terms of the Permit, maybe we can step out of the  
14 Project Description appendix and look at the terms of  
15 the BO.

16 MR. BEZERRA: I -- I want to make sure I  
17 understand. We have attorneys clarifying what their  
18 witnesses are testifying about.

19 The Proj -- Is it the position of the Bureau  
20 of Reclamation that the Project Description does not  
21 accurately describe the Project approved by the  
22 Biological Opinion?

23 CO-HEARING OFFICE DODUC: I can hear an  
24 objection now.

25 MR. MIZELL: Yes, there is an objection now.

1 (Laughter.)

2 MR. BEZERRA: It -- It's the Project  
3 Description; correct?

4 CO-HEARING OFFICE DODUC: Mr. Bezerra --  
5 Everyone -- Everyone, just chill. Take a deep breath.

6 I appreciate that this is an important point  
7 that you are trying to get at.

8 Help me understand, since we have gone through  
9 and discussed the, quote, clarifying memo, which  
10 actually didn't clarify much in this context.

11 As applied to the Incidental Take Permit, what  
12 are you specifically trying to ascertain with this line  
13 of questioning?

14 MR. BEZERRA: Yes. There is a crucial point  
15 here.

16 CO-HEARING OFFICE DODUC: Yes. Help me  
17 understand.

18 MR. BEZERRA: Which is that the Petitioners  
19 have accepted Permits requiring them to meet certain  
20 spring outflow requirements.

21 The methods by which they will meet them is  
22 crucial --

23 CO-HEARING OFFICE DODUC: Understood.

24 MR. BEZERRA: -- for upstream environmental  
25 conditions and upstream water users.

1           They are taking the position that they will  
2 never release water from storage to meet those Permit  
3 conditions, and I'm trying --

4           CO-HEARING OFFICE DODUC: As long as they  
5 limit their exports to --

6           MR. BEZERRA: Correct.

7           CO-HEARING OFFICER DODUC: Um-hmm.

8           MR. BEZERRA: Well, no.

9           They are actually taking the position that  
10 that is the only thing they will ever do to meet spring  
11 outflows --

12          CO-HEARING OFFICER DODUC: Hold on.

13          MR. BEZERRA: -- is reduce --

14          CO-HEARING OFFICER DODUC: Hold on.

15          MR. BEZERRA: -- exports.

16          CO-HEARING OFFICER DODUC: Stop.

17          MR. BEZERRA: So I have --

18          CO-HEARING OFFICE DODUC: Stop.

19          Mr. Mizell, are you disagreeing with that  
20 understanding?

21          MR. MIZELL: Yes. I -- I object to his  
22 characterization of our witnesses' testimony. They've  
23 been quite careful to explain that they would not be  
24 required to release upstream storage.

25          That is entirely different than what

1 Mr. Bezerra is trying to entrap them into saying, which  
2 is that they would never operate in a specific manner.

3 If the ITP doesn't require it, it does not tie  
4 the hands of the Department to operate the reservoirs  
5 as they feel necessary while still meeting the  
6 regulatory requirements.

7 CO-HEARING OFFICE DODUC: So are you, then,  
8 testifying, Mr. Mizell, that --

9 MR. MIZELL: No.

10 CO-HEARING OFFICER DODUC: -- perhaps  
11 reservoir releases will be necessary?

12 MR. BEZERRA: I'm not testifying to anything.

13 I am objecting to the continued  
14 mischaracterization and assertions being set forth by  
15 the questioner.

16 He's testifying as to what our witnesses said,  
17 and he's misquoting them.

18 MR. BEZERRA: I was attempting to explain the  
19 Hearing Officer's request where I was going with this.

20 My understanding -- My understanding of the  
21 testimony has been that, per the clarification letter,  
22 the Projects will never do anything but release exports  
23 or -- excuse me -- reduce exports to 1500 cfs.

24 CO-HEARING OFFICE DODUC: Stop.

25 Ask that.



1           Is that a correct statement of your testimony,  
2 Mr. Miller?

3           WITNESS MILLER: I -- I -- Can -- Can you  
4 reask it? I'm sorry. I . . .

5           MR. BEZERRA: Okay.

6           CO-HEARING OFFICE DODUC: This is -- This is  
7 Mr. --

8           MR. BEZERRA: I will --

9           CO-HEARING OFFICE DODUC: This is  
10 Mr. Bezerra's understanding of your testimony.

11          WITNESS MILLER: Okay.

12          MR. BEZERRA: My understanding of the  
13 testimony of Department of Water Resources and the  
14 Bureau of Reclamation is that the two Projects will  
15 never do anything other than reduce exports to 1500 cfs  
16 in an effort to meet spring outflow requirements.

17          CO-HEARING OFFICE DODUC: Stop.

18          Is that correct?

19          WITNESS MILLER: Can -- Could we have spring  
20 outflow requirements now?

21          Are you talking about the --

22          MR. BEZERRA: I -- I can clarify.

23          The spring outflow requirements of the  
24 Incidental Take Permits and Biological Opinions for  
25 California WaterFix.

1 WITNESS MILLER: And you said never, ever?

2 MR. BEZERRA: Correct.

3 WITNESS MILLER: We will only be required  
4 to -- under -- under the clarification memo/letter to  
5 reduce down to 1500 cfs.

6 MR. BEZERRA: And so your position is, as I  
7 understand it, the clarification letter means that the  
8 Projects, in implementing California WaterFix, will  
9 never do anything other than reduce exports to 1500 --

10 CO-HEARING OFFICER DODUC: No.

11 MR. BEZERRA: -- cfs --

12 CO-HEARING OFFICE DODUC: That is not correct,  
13 Mr. Bezerra.

14 MR. BEZERRA: Okay.

15 CO-HEARING OFFICE DODUC: I will -- I will now  
16 interrupt to say that you are extrapolating from his  
17 answer.

18 And his answer, which he has stuck to, is that  
19 his understanding is that they are re -- not required  
20 to do anything else in order to comply with the spring  
21 outflow requirements in the Incidental Take Permit  
22 other than reducing exports to 1500.

23 He is not speculating about what else they  
24 might or might not do but only that that is the  
25 requirement to which they will be operating.

1 MR. BEZERRA: Okay. I -- I have to say I  
2 didn't quite understand it, and it's a really crucial  
3 point, as to whether or not upstream storage --

4 CO-HEARING OFFICE DODUC: If you are seeking a  
5 commitment from Mr. Miller, or Petitioners, at this  
6 point that they will never, ever operate reservoirs to  
7 meet the spring outflow requirements, I don't think  
8 you're going to get it.

9 MR. BEZERRA: Well, it's not quite that.

10 It's that we have a National Marine Fisheries  
11 Service Biological Opinion and the California  
12 Department of Fish and Wildlife Incidental Take Permit  
13 that have specific terms in them.

14 Neither of those agencies has chosen to appear  
15 in this hearing to describe what exactly their Permits  
16 mean.

17 CO-HEARING OFFICE DODUC: I understand.

18 MR. BEZERRA: And so the only witnesses we  
19 have to ask about this are Department of Water  
20 Resources and Reclamation.

21 CO-HEARING OFFICE DODUC: Understand.

22 MR. BEZERRA: And they have taken the -- Their  
23 position is that those regulatory agencies will never  
24 require them to release stored water. That's what they  
25 keep saying related to the clarification letter.

1 CO-HEARING OFFICER MARCUS: Don't use the word  
2 "never."

3 MR. BEZERRA: Well, but that -- that's the  
4 point, is that they are saying these Biological  
5 Opinions and Incidental Take Permit will not require  
6 them to release stored water.

7 MR. MIZELL: And for once, I agree with  
8 Mr. Bezerra. I think he has just stated it correctly  
9 just now, which is, the regulatory agencies under the  
10 text we have now beaten into the ground is that the  
11 regulatory agencies will not require us to make  
12 reservoir releases.

13 CO-HEARING OFFICE DODUC: But that does not  
14 mean that they will never, ever do it.

15 MR. BEZERRA: Correct.

16 And they're not here to explain their Permits.  
17 Only the Project proponents are here to explain their  
18 Permits.

19 MS. ANSLEY: I'm sorry. Mr. Miller can only  
20 testify as to his understanding.

21 He's been asked a number of times -- And I can  
22 Mr. Bezerra might not be happy with the answers. But  
23 he has asked the question and he's received the answer  
24 as to Mr. Miller's understanding of the -- the outflow  
25 criteria and how these documents together say this will

1 be achieved.

2 MR. BEZERRA: And if -- The point here is --  
3 And, Ms. Ansley, I don't know if she's correct or not,  
4 but she just expressed that in terms of the  
5 understanding of the witnesses.

6 If all of that testimony is limited to what  
7 their understanding of their Permits is, that's fine.  
8 The Permits speak for themselves, obviously.

9 And these -- In my opinion, they say something  
10 different.

11 And we can drop it at that point.

12 CO-HEARING OFFICE DODUC: I think we should.  
13 It is no longer --

14 MR. BEZERRA: Thank you very much.

15 CO-HEARING OFFICER DODUC: It is no longer  
16 productive.

17 MR. BEZERRA: Thank you.

18 Okay. If we could please go back to  
19 Exhibit 254, which is the Incidental Take Permit.

20 (Exhibit displayed on screen.)

21 MR. BEZERRA: And Page 176.

22 (Exhibit displayed on screen.)

23 MR. BEZERRA: And at the bottom, it states --  
24 There's a -- Mr. Miller and Ms. White, there's a  
25 Coordinated Operating Agreement term in the Incidental

1 Take Permit; correct?

2 WITNESS MILLER: I see 9.9.1 is labeled  
3 "Coordinating Operating Agreement."

4 And it looks like it's referring to our  
5 current Coordinated Operations Agreement.

6 MR. BEZERRA: And it's referring to Condition  
7 9.9.4 of the Permit; correct?

8 WITNESS MILLER: Conditions of Approval 9.9.4  
9 and 9.9.5.

10 MR. BEZERRA: Yes.

11 So if we could please go to Page 178 of the  
12 Permit.

13 (Exhibit displayed on screen.)

14 MR. BEZERRA: That Table 9.9.4-1 is a portion  
15 of Condition 9.9.4; correct?

16 WITNESS MILLER: Can we scroll up? I missed  
17 it as it passed by.

18 (Exhibit displayed on screen.)

19 WITNESS MILLER: Okay. Yes.

20 MR. BEZERRA: And if we could scroll down to  
21 Page 185 --

22 WITNESS MILLER: Hold a sec. I'm sorry.

23 Can I just finish reading that just really  
24 quick? Sorry.

25 (Exhibit displayed on screen.)

1 WITNESS MILLER: Up just a little bit.

2 (Exhibit displayed on screen.)

3 WITNESS MILLER: (Examining document.)

4 Okay. Thank you.

5 (Exhibit displayed on screen.)

6 MR. BEZERRA: And if we could scroll down to  
7 the bottom.

8 (Exhibit displayed on screen.)

9 MR. BEZERRA: Sub Table B about Spring Outflow  
10 Criteria that we discussed previously is part of  
11 condition 9.9.4 in this Permit; correct?

12 WITNESS MILLER: I think it looks like it,  
13 yeah.

14 MR. BEZERRA: Okay. Could we please go back  
15 up to Page 177.

16 (Exhibit displayed on screen.)

17 MR. BEZERRA: Or -- I'm sorry -- 176, the  
18 bottom of Page 176.

19 (Exhibit displayed on screen.)

20 MR. BEZERRA: And this Permit term states that  
21 those conditions we just discussed will be implemented  
22 consistent with the Coordinated Operating Agreement;  
23 correct?

24 WITNESS MILLER: As follows, yeah.

25 MR. BEZERRA: Yes.

1           And if we could please scroll down to the  
2 bottom of the first paragraph there where it states  
3 (reading):

4                   "During balanced conditions in the  
5 Delta when water must be withdrawn from  
6 storage to meet Sacramento Valley and  
7 Delta requirements, 75 percent of the  
8 responsibility to withdraw from storage  
9 is borne by the CVP and 25 percent by the  
10 SWP."

11           You see that; correct?

12           WITNESS MILLER: I see that.

13           MR. BEZERRA: And in the next paragraph is  
14 (reading):

15                   "The Project operational criteria  
16 specified under the Project Description  
17 and throughout Condition of Approval 9.9  
18 shall be implemented consistent with the  
19 COA."

20           Correct?

21           WITNESS MILLER: That -- That is what it says.

22           However, it should be noted that we are  
23 currently reviewing -- The Reclamation and DWR are  
24 currently under review -- that COA is currently under  
25 review between the two Projects.



1 MR. BEZERRA: So, Mr. Miller, to the best of  
2 your knowledge, have DWR and Reclamation agreed to  
3 implement the Spring Outflow Criteria in this Permit  
4 pursuant to COA?

5 WITNESS MILLER: Pursuant to COA as it will be  
6 adjusted after review, if needed.

7 MR. BEZERRA: And, Ms. White, do you agree  
8 with that characterization?

9 WITNESS WHITE: Yes.

10 I'm a little confused when you said  
11 "consistent with COA." COA is the document where we  
12 agreed to share responsibilities and review those  
13 sharing formulas when (sic) either of the facilities  
14 over the passage of time.

15 So I think that is still the case.

16 MR. BEZERRA: And -- And so DWR and  
17 Reclamation are currently negotiating about how to  
18 implement the Incidental Take Permit under COA?

19 WITNESS WHITE: I don't know if I would say  
20 "currently negotiating" or not because I'm not involved  
21 in that process.

22 But I would say that is something that we  
23 intend to happen prior to implementation of this  
24 Project.

25 MR. BEZERRA: And so as of this point in time,

1 there is no allocation between the Central Valley  
2 Project and State Water Project about how to implement  
3 Spring Outflow Criteria under COA.

4 WITNESS WHITE: At this time, there's no  
5 revision to COA for these requirements.

6 MR. BEZERRA: And could a revision to COA for  
7 those purposes affect Project operations with  
8 California WaterFix in place?

9 WITNESS WHITE: That's a pretty large  
10 question.

11 It would depend on what revision we were  
12 talking about and where that would play out.

13 WITNESS MILLER: I might also note that COA  
14 typically is defining how the -- the two Projects share  
15 in-basin responsibilities.

16 MR. BEZERRA: And currently in-basin  
17 responsibilities under COA are considered to include  
18 Delta outflow requirements; correct?

19 WITNESS MILLER: Under -- Yes. The -- The  
20 current outflow requirements under D-1641 are shared  
21 through -- through COA.

22 The spring outflow target is -- since it's  
23 a . . . export restriction, that wouldn't necessarily  
24 be the same type of sharing.

25 MR. BEZERRA: Okay. But just, as of today,

1 there is no agreement between the Projects about how to  
2 share responsibility for the Incidental Take Permits --

3 MS. ANSLEY: Objection.

4 CO-HEARING OFFICE DODUC: Hold on.

5 MS. ANSLEY: Asked and answered.

6 CO-HEARING OFFICE DODUC: Mr. Bezerra is just  
7 affirming this. Let him ask --

8 MR. BEZERRA: Yeah.

9 CO-HEARING OFFICER DODUC: -- finish the  
10 question.

11 MR. BEZERRA: I want the record to be clear on  
12 this --

13 CO-HEARING OFFICE DODUC: Yes.

14 MR. BEZERRA: -- because, again, it's very  
15 important.

16 As of today, there is no agreement between  
17 Reclamation and DWR about how to share responsibility  
18 for the Incidental Take Permit's out -- spring outflow  
19 requirements; correct?

20 WITNESS MILLER: Yeah, that's correct.

21 MR. BEZERRA: Thank you.

22 Moving on.

23 I'd like to talk to Mr. Reyes about modeling  
24 assumptions and, hopefully, this is quickly.

25 CO-HEARING OFFICE DODUC: Let me check with

1 the court reporter.

2 THE REPORTER: I'm fine.

3 CO-HEARING OFFICE DODUC: You're fine? Okay.

4 Anytime you need a break.

5 MR. BEZERRA: Yes, any time, please.

6 Mr. Reyes, this is something covered in  
7 Part 1. I just want to confirm it. I'm not going to  
8 go into great depth about it, but . . .

9 In the model -- In CalSim modeling, there is  
10 something called an "export estimate"; correct?

11 WITNESS REYES: That's correct.

12 MR. BEZERRA: And the export estimate accounts  
13 for limitations on Delta export capacity in setting  
14 modeled water supply allocations; correct?

15 WITNESS REYES: I have to -- I mean, I know  
16 that the export estimate estimates a demand -- or an  
17 allocation in -- in -- in the water we're trying to  
18 move through exports.

19 I don't recall if we're looking at -- What did  
20 you say? Looks at capacity constraints? Did you say  
21 that?

22 Or could you just repeat your question.

23 MR. BEZERRA: Sure.

24 My understanding is that export estimate in  
25 CalSim is an assumption used to account for Delta

1 capacity constraints in setting water supply  
2 allocations.

3 Is that a correct understanding?

4 And, Ms. Parker, feel free to clarify if you  
5 like.

6 WITNESS REYES: I believe it's used to -- to  
7 ascertain what . . . what criteria may be controlling.

8 So if, for instance, we have a . . . a flow  
9 salinity relationship in the model that helps us  
10 determine how much flow would be needed to meet certain  
11 salinities -- or salinity requirements, I should say.

12 But salinity is also driven by exports. So  
13 it's a -- There's a relationship between your inflow  
14 into the Delta and how many -- how -- how much exports  
15 is taking place.

16 So, to get us at that initial estimate of how  
17 much flow is needed, we need a -- an estimate of how  
18 much export would take place.

19 MR. BEZERRA: And -- And that factor in the  
20 model is used to affect the allocations to Water Supply  
21 Contractors in a given year; correct?

22 WITNESS REYES: I think it's a bit backwards  
23 in that the allocations are -- are . . . arrived at  
24 through supply -- look -- a look at supply, available  
25 supply, and maybe a criteria that may constrain

1 exports.

2           And so there's an allocation as developed by  
3 those means, and then the export -- ex -- export  
4 estimate is developed from that allocation. That's  
5 what I'm saying.

6           CO-HEARING OFFICE DODUC: Miss Parker, do you  
7 agree with that characterization?

8           WITNESS PARKER: Yes, that's a good  
9 characterization.

10           MR. BEZERRA: And the model also contains a  
11 San Luis rule curve that affects the movement of water  
12 from upstream storage into San Luis Reservoir through  
13 the export pumps; correct?

14           WITNESS REYES: Yeah. It's a model -- a  
15 model . . . algorithm, I should say, to -- to help us  
16 decide how much water to move into San Luis storage to  
17 prepare for, I guess, times when you may be limited in  
18 your exportability and so you're going to be supplying  
19 deliveries through the storage of San Luis Reservoir.

20           MR. BEZERRA: And setting the San Luis rule  
21 curve is a discretionary decision by the modeler in  
22 that it doesn't reflect any regulatory mandate;  
23 correct?

24           WITNESS REYES: That's correct.

25           MR. BEZERRA: Okay. Could we please pull up

1 Exhibit BKS-101.

2 (Exhibit displayed on screen.)

3 MR. BEZERRA: And Page 5.A-30.

4 (Exhibit displayed on screen.)

5 MR. BEZERRA: This -- This is the appendix  
6 from the Biological Assessment reflecting modeling  
7 assumptions.

8 And, Ms. Miller (sic), I believe you testified  
9 to it previously.

10 This indicated that, in the Biological  
11 Assessment modeling, the San Luis Res -- the San Luis  
12 rule curve was set to be more protective of upstream  
13 storage with California WaterFix than in the No-Action  
14 Alternative; correct?

15 MR. MIZELL: I'd like to ask for a  
16 clarification.

17 For the record, this is the Biological  
18 Assessment from July 2016.

19 Is this the Revised Biological Assessment --  
20 in other words, the Final Biological Assessment -- or  
21 was this the previously and now superseded Biological  
22 Assessment?

23 MR. BEZERRA: This was the Biological  
24 Assessment I talked to Miss Parker about in Part 1.

25 I'm just trying to confirm what the modeling

1 assumption was.

2 CO-HEARING OFFICE DODUC: Does it matter which  
3 version it is if he's only trying to confirm the . . .

4 MR. MIZELL: It would only matter if this  
5 happens to be text that was modified in the Revised  
6 Biological Assessment, which we can't tell from this  
7 copy. We would only be able to tell from the Revised  
8 Biological Assessment which is provided in red line.

9 CO-HEARING OFFICE DODUC: Miss Morris.

10 MS. MORRIS: Thank you. Just briefly.

11 Also, this was asked and answered numerous  
12 times about the San Luis rule curve in Part 1 and it  
13 seems irrelevant at this point in Part 2.

14 CO-HEARING OFFICE DODUC: And where are you  
15 going with this, Mr. Bezerra?

16 MR. BEZERRA: I'm going to ask how the  
17 San Luis rule curve was treated in CWF H3+ modeling.

18 We can --

19 CO-HEARING OFFICER DODUC: Can we just --

20 MR. BEZERRA: -- just jump to that, I suppose.

21 CO-HEARING OFFICE DODUC: Can we just ask  
22 that?

23 MR. BEZERRA: Yes. We'll just ask that.

24 In the San Luis -- In the CWF H3+ modeling,  
25 was the San Luis rule curve varied between the



1 No-Action Scenario and the H3+ With-Action Scenario?

2 WITNESS REYES: It is the same as in the H3,  
3 H4 in comparison to the NAA, so, yes, they are  
4 different.

5 MR. BEZERRA: In the CWF H3+ modeling, was the  
6 San Luis rule curve set to be more protective of  
7 upstream storage with the Project than in the No-Action  
8 Scenario?

9 WITNESS REYES: Yes, just like it says here.

10 MR. BEZERRA: Thank you.

11 Could we please pull up SWRCB-108, Page 141.

12 (Exhibit displayed on screen.)

13 MR. BEZERRA: And, again, this is the  
14 July 17th post-FEIR document.

15 If we could scroll down to Figure 14.

16 (Exhibit displayed on screen.)

17 MR. BEZERRA: Mr. Reyes, you testified earlier  
18 today that Revised Alt 4A is the same modeling as  
19 CWF H3+; correct?

20 And, actually --

21 CO-HEARING OFFICE DODUC: 14 or 15?

22 MR. BEZERRA: I'm sorry. 14.

23 (Exhibit displayed on screen.)

24 MR. BEZERRA: Revised Alt 4A is the same as  
25 H -- excuse me -- CWF H3+; correct?

1 WITNESS REYES: Yes, as I understand it.

2 MR. BEZERRA: And, then, this figure indicates  
3 that the Revised Alt 4A actually as a long-term average  
4 results in lower CVP South-of-Delta deliveries;  
5 correct?

6 WITNESS REYES: Yeah. Let me see what exactly  
7 this figure is representing.

8 Could you back out a little bit, please,  
9 Mr. Baker or Miss Gaylon?

10 (Exhibit displayed on screen.)

11 WITNESS REYES: Okay. So it's CVP  
12 South-of-Delta deliveries, as -- as I understand it.

13 And, yes, it looks like a difference -- Well,  
14 I don't know.

15 Are you comparing against what now? Could you  
16 please ask that question again?

17 MR. BEZERRA: In the long-term average, CVP  
18 South-of-Delta deliveries with Revised Alt 4A are  
19 actually lower than in the No-Action Alternative;  
20 correct?

21 THE WITNESS: Correct, that's what it shows  
22 here.

23 MR. BEZERRA: If in that modeling you had set  
24 the -- you had left the San Luis rule curve equivalent  
25 between the No-Action Scenario and the With-Action, is

1 it possible that WaterFix would have produced greater  
2 water supply benefits for CWF -- excuse me -- CVP  
3 South-of-Delta deliveries?

4 WITNESS REYES: I don't know. I'd have to  
5 conduct that modeling to be certain.

6 MR. BEZERRA: Is it possible that it would  
7 have resulted in higher CVP South-of-Delta deliveries?

8 MR. MIZELL: Objection.

9 CO-HEARING OFFICE DODUC: Sustained.

10 MR. BEZERRA: Thank you.

11 Okay. Moving on to Folsom Reservoir storage.

12 Mr. Reyes, in your Exhibit DWR-1069, you  
13 produced end-of-month Folsom Reservoir storage results  
14 for end of May and end of September; correct?

15 And we can pull the exhibit up, if necessary.

16 WITNESS REYES: Yeah, that's correct.

17 MR. BEZERRA: Why did you not submit end of --  
18 end-of-month Folsom Reservoir storage exceedance plots  
19 for the -- the other months?

20 WITNESS REYES: May was a particular focus  
21 because -- I think it -- it may be in Mr. Miller's  
22 testimony that end-of-May storage is an indicator of --  
23 of usable cold water supply to -- to get you through  
24 the summer, as may be needed.

25 And the end of September is just showing that

1 final condition of the irrigation season. So those  
2 were the two months that were chosen.

3 MR. BEZERRA: Okay. Could we please pull up  
4 Exhibit BKS-255.

5 (Exhibit displayed on screen.)

6 MR. BEZERRA: Which is excerpts of the NMFS  
7 Biological Opinion, which is Exhibit SWRCB-106.

8 Could we please go to Page 394.

9 (Exhibit displayed on screen.)

10 MR. BEZERRA: This exceedance plot shows that  
11 the With-Project scenario in the Biological Opinion  
12 results in Lower American River temperatures being  
13 approximately 4 degrees higher in August of critical  
14 water years than the No-Action Alternative; correct?

15 And, Mr. Wilder, you rely on this as well.

16 So is that an accurate characterization of  
17 this plot?

18 WITNESS WILDER: It looks like, based on this  
19 plot, there is one year that is as high as almost  
20 4 degrees.

21 MR. BEZERRA: And there is at least one year  
22 where it's -- there are two years essentially where  
23 it's a 3 degree increase with the Project?

24 WITNESS WILDER: Yes, that looks correct.

25 So, Mr. Reyes, if end-of-May Folsom Reservoir

1 storage is essentially equivalent, to the best of your  
2 knowledge, what would be the operational changes at  
3 Folsom Reservoir that would explain this sort of  
4 temperature difference later in the summer?

5 WITNESS REYES: I'm not exactly sure. I think  
6 there's a . . . a modified operation, I guess, between  
7 the -- the P.A. and the NAA.

8 But I -- Yeah. The -- If you could ask your  
9 question again, I could think about it more.

10 MR. BEZERRA: Well, I -- You have presented  
11 end-of-May and end-of-September Folsom Reservoir  
12 storage in DWR-1069; correct?

13 WITNESS REYES: Correct.

14 MR. BEZERRA: And you just explained that you  
15 presented end of May because it's an indicator of  
16 availability of cold water for later in the year;  
17 correct?

18 WITNESS REYES: That's correct.

19 MR. BEZERRA: So do you not know of why we  
20 would have these sort of temperature increases with the  
21 Project if end-of-May storage is similar?

22 CO-HEARING OFFICE DODUC: Mr. Mizell.

23 MR. MIZELL: Yes. I'd just like to object as  
24 asked and answered.

25 Mr. Reyes just said he supposes it is some

1 sort of operational change.

2 CO-HEARING OFFICE DODUC: He also asked  
3 Mr. Bezerra to repeat the question so that he could  
4 think about it.

5 MR. BEZERRA: Yes.

6 CO-HEARING OFFICE DODUC: That's what I heard.

7 WITNESS REYES: Okay. So . . .

8 I mean, to me, now you're getting into  
9 temperatures, which I'm not an expert of. I can only  
10 speak to operations, which is why my question was as it  
11 was and my response was as it was.

12 But, yeah, I can't speak maybe to the  
13 temperatures and if -- and what they might mean also.

14 MR. BEZERRA: Dr. Hsu, do you understand based  
15 on the temperature model why this sort of temperature  
16 difference would occur if end-of-May storage is similar  
17 in Folsom Reservoir?

18 WITNESS HSU: From the monitoring perspective,  
19 I can say is that in the model -- temperature model, we  
20 have a bunch of simplified operation goal for the model  
21 because we need to give the model some assumption so  
22 that the model will be going.

23 And for the temperature operation in Folsom  
24 Reservoir, the temperature packet is set by end-of-May  
25 storage plus the June-to-September inflow.

1           So -- And then with that -- with those  
2 criteria, then it pick up a temperature schedule and  
3 then this will apply for entire year.

4           So it's much simplified opera -- temperature  
5 operation compared to real-time operation.

6           MR. BEZERRA: So in the temperature model,  
7 some sort of changed operation at Folsom Reservoir  
8 would result in up to a 4-degree increase in Lower  
9 American River temperatures in August of critical  
10 years; correct?

11          WITNESS HSU: Yeah, that's possible.

12          But, just as I say, the model uses much  
13 simplify operation rule than the real-time operation.

14          MR. BEZERRA: So is -- Is it your opinion that  
15 there is some sort of real-time operation that would  
16 resolve a 4-degree temperature increase in the Lower  
17 American River in August of critical years?

18          WITNESS HSU: Yeah. Then I -- I would not  
19 have comment on that.

20          MR. BEZERRA: Okay. Thank you.

21          WITNESS BRYAN: I have a comment on that.

22          I don't think it's appropriate to indicate  
23 that there's a 4-degree difference necessarily in the  
24 river.

25          These are exceedance plots. The -- It -- It's

1 not appropriate to look at the gap and -- and say  
2 there's a 4-degree difference. The -- The proper use  
3 of these exceedance plots is to indicate the frequency  
4 or the probability with which a given temperature's  
5 going to occur.

6 MR. BEZERRA: I have to say I don't quite  
7 understand that.

8 So, in this graph, at the 10 percent  
9 exceedance, there is a 4-degree increase from the  
10 No-Action Alternative to the proposed action; correct?

11 CO-HEARING OFFICE DODUC: Miss Smith?

12 WITNESS SMITH: With exceedance plots, it  
13 doesn't necessarily mean that that's that same year or  
14 same time period.

15 MR. BEZERRA: I -- I understand that.

16 But we're talking about 10 percent exceedance  
17 which would be essentially the same sort of conditions  
18 as they would have exceeded 10 percent of the time;  
19 correct?

20 WITNESS BRYAN: If you look at that graphic,  
21 if you want to look at 10 percent exceedance -- Or  
22 let's look at 20 percent. That's probably easier.

23 So if you look at the No-Action Alternative,  
24 it's saying the temperatures -- Let me follow the line  
25 over.



1           So, 20 percent of the time, temperatures are  
2 above 74 degrees.

3           See? See what I mean by that? In the blue  
4 line.

5           MR. BEZERRA: Yes.

6           And in the With-Action Alternative, 20 percent  
7 of the time, temperatures are above 77 degrees;  
8 correct?

9           WITNESS BRYAN: Approximately 77 degrees,  
10 correct.

11          MR. BEZERRA: Thank you.

12          WITNESS BRYAN: But they don't necessarily --  
13 What you were trying to imply is that, operationally,  
14 something happened at the same time to drive a 4-degree  
15 difference, and that's not an appropriate  
16 interpretation of this graphic.

17          MR. BEZERRA: I wasn't implying anything.

18          At -- At the 20 percent exceedance level in  
19 operations, in both the proposed action and the  
20 No-Action Alternative, the temperature is 3 degrees  
21 higher with the proposed action than with the No-Action  
22 Alternative; correct?

23          WITNESS REYES: I would also add that, you  
24 know, I -- I count 11 points on this chart, and I don't  
25 doubt the -- what they represent. I mean, I think it's

1 calculated correctly.

2 But, in statistics, that's a pretty small  
3 sample size to draw exceedance conclusions from, I  
4 guess.

5 CO-HEARING OFFICE DODUC: I count 12.

6 WITNESS REYES: Or 12. Sorry.

7 MR. BEZERRA: Yes. And I'll be asking  
8 Dr. Miller (sic) as to the biological importance of  
9 these.

10 Thank you.

11 CO-HEARING OFFICE DODUC: Dr. Wilder.

12 MR. BEZERRA: I'm sorry. It's been a long  
13 day. Dr. Wilder.

14 CO-HEARING OFFICE DODUC: Oh, no. He's an  
15 engineer and can't answer the question.

16 MR. BEZERRA: So, moving to Folsom Reservoir  
17 storage.

18 If we could pull up Exhibit BKS-257.

19 (Exhibit displayed on screen.)

20 MR. BEZERRA: And this is the exhibit that I  
21 transmitted a few days ago.

22 Mr. Reyes --

23 And I'm going to try to cut through this  
24 quickly because I know this is going long.

25 -- do the results in this exhibit accurately

1 depict results from a CWF H3+ modeling?

2 WITNESS REYES: At this moment, I can't say  
3 because -- I mean, is this modeling that -- or  
4 information that you pulled up?

5 I'm not saying it's not right but I just  
6 haven't reviewed it.

7 MR. BEZERRA: And -- And, Ms. Doduc, this goes  
8 to the issue that Ms. Des Jardins raised yesterday that  
9 was raised again today.

10 Continuously, through this hearing, the  
11 Department has produced modeling results that are not  
12 readable by humans.

13 Some of us have the ability to access other  
14 modelers to produce results, and we have frequently,  
15 when we have attempted to cross-examine on results from  
16 those models, been met with the response that they  
17 don't know what the results are.

18 That is why I circulated these results  
19 approximately a week ahead of time so that the -- so  
20 that the experts could refer to them.

21 So I'd be happy to come back another day once  
22 Mr. Reyes has confirmed whether these results are  
23 actually from their modeling.

24 CO-HEARING OFFICE DODUC: Without that  
25 confirmation . . .

1           MR. BEZERRA: I -- I can march -- I can march  
2 through these results and ask him what they represent.  
3 But if he's not confirming that they're from their  
4 modeling, we're -- we're going to spend another hour  
5 confirming modeling results.

6           I -- I think it's -- It is --

7           CO-HEARING OFFICE DODUC: Can't you just --

8           MR. BEZERRA: It is a due process violation  
9 for them to be unable to answer cross-examination  
10 questions based on evidence that they have presented  
11 and, presumably, are authenticating in this hearing.

12           These are -- I will represent these are from  
13 Exhibit DWR-1077.

14           CO-HEARING OFFICE DODUC: You will so  
15 represent.

16           Let's proceed on that.

17           MR. BEZERRA: Thank you.

18           Mr. Reyes, do you see on the first page of  
19 BKS-257, that in -- between May of 1923 and 19 -- May  
20 of 1924, the With-Action Scenario draws the reservoir  
21 down approximately 100,000 feet more than the  
22 No-Action Alternative?

23           WITNESS REYES: So, let's -- Can I orient  
24 myself to this chart?

25           You have two lines. Let me see.

1 Blue's NAA. Is that red? That's H3+ or is --  
2 Yeah. And then your chart says "H3," so -- Yeah, not  
3 your charts but your table has "H3." And your title  
4 says "H3+" and your -- your legend for the line says  
5 H3+.

6 MR. BEZERRA: I will represent these are  
7 CWF H3+ --

8 WITNESS REYES: Okay.

9 MR. BEZERRA: -- results.

10 WITNESS REYES: So I'm only looking at two  
11 lines.

12 And then this is for May of 1923. Is that the  
13 very first point on the far left of -- of the chart?

14 MR. BEZERRA: Yes.

15 WITNESS REYES: Okay. So, could you ask your  
16 question again?

17 MR. BEZERRA: Yes.

18 These results show that between May of 1923  
19 and, let's say, January of 1924, the proposed action  
20 draws Folsom Reservoir storage down 100,000 acre-feet  
21 more relative to the No-Action Alternative; correct?

22 WITNESS REYES: This plot shows that, at the  
23 same time of model simulation for each relative model,  
24 that if you looked at the No-Action storage for  
25 January 1924 -- I don't know if that's 400, let's

1 say -- and for H3+ for January of 1924, it is 300,000  
2 acre-feet.

3           But I wouldn't say it pulled it down lower  
4 than -- than the No-Action case because, as I stated  
5 previously in -- in -- in different responses to  
6 questions, that I don't think the appropriate  
7 comparison to make is month to month or -- or selecting  
8 a particular point in time and comparing the two model  
9 results and saying that there's a difference there.

10           It's -- Again, we're trying to look at the --  
11 if there's a changed condition to certain storages in  
12 terms of what's the frequency, what's the change there.

13           And here you're looking at . . .

14           You know, if you had a question about 300,000  
15 acre-feet as -- maybe that might apply to something,  
16 then that is a question.

17           But saying that it's 100,000 acre-feet lower  
18 than the -- the No-Action case, I think that's a wrong  
19 way to -- to compare these models.

20           MR. BEZERRA: I -- I had a pretty simple  
21 question, which was:

22           In these figures, do these figures depict the  
23 With-Project scenario drawing Folsom Reservoir storage  
24 down 100 -- approximately 100,000 acre-feet more than  
25 the With-Action -- than the No-Action Alternative?

1 MS. ANSLEY: And Mr. -- Mr. Reyes --

2 CO-HEARING OFFICE DODUC: The question,  
3 Miss Ansley, was: What is shown in this figure?

4 MS. ANSLEY: I believe --

5 CO-HEARING OFFICER DODUC: And Mr. --

6 MS. ANSLEY: -- Mr. Reyes answered that.

7 CO-HEARING OFFICE DODUC: Mr. -- Mr. Reyes  
8 answered it based on his assertion of how the modeling  
9 results should be used and should be compared.

10 But that's not an answer to Mr. Bezerra's  
11 question, a direct answer to Mr. Bezerra's question.

12 MS. ANSLEY: I also believe that he did point  
13 at the graph, and he did say we're looking at -- I  
14 believe he looked at January of 1924, and he did read  
15 the graph and then he went on to provide his  
16 explanation.

17 So I think --

18 CO-HEARING OFFICER DODUC: So the --

19 MS. ANSLEY: -- it's asked and answered.

20 CO-HEARING OFFICE DODUC: And perhaps we got  
21 lost in that explanation.

22 So the answer, Mr. Reyes, to Mr. Bezerra's  
23 very direct question is simply, as shown, there is  
24 less . . . storage.

25 WITNESS REYES: So that wasn't the question I

1 heard.

2 He said draw down. I don't know what draw  
3 down means but --

4 CO-HEARING OFFICE DODUC: Ah.

5 WITNESS REYES: -- yes, there's less  
6 storage -- there is less storage.

7 CO-HEARING OFFICE DODUC: It's your fault,  
8 Mr. Bezerra.

9 MR. BEZERRA: Let me -- Let me reask, then.

10 In this graph, between approximately  
11 August 1923 and January 1924, storage in the  
12 With-Action Alternative is approximately 100,000  
13 acre-feet lower than in the No-Action Alternative;  
14 correct?

15 WITNESS REYES: I wish you would have stuck to  
16 just one month, because you're asking me the average  
17 storage over that time? I'm not --

18 MR. BEZERRA: No. These are all end-of-month  
19 storage numbers.

20 WITNESS REYES: Okay. So what's your  
21 question?

22 MR. BEZERRA: My question is: Between August  
23 of 1923 and January of 1924, the With-Action  
24 Alternative is approximately 100,000 acre-feet lower  
25 than the No-Action Alternative; correct?



1           WITNESS REYES: For each of those month  
2 comparisons, there is a storage difference of about  
3 100. And -- And you can see on that difference column  
4 that you have there what those exact numbers are.

5           MR. BEZERRA: Thank you.

6           If we could go to the next slide.

7           CO-HEARING OFFICE DODUC: Be careful how you  
8 ask --

9           MR. BEZERRA: Yeah.

10          CO-HEARING OFFICER DODUC: -- your question,  
11 Mr. --

12          (Exhibit displayed on screen.)

13          MR. MIZELL: In this --

14          CO-HEARING OFFICER DODUC: -- Bezerra.

15          MR. BEZERRA: -- slide between July of 1932  
16 and February of 1933, the With-Action Alternative is  
17 approximately -- or at least 100,000 acre-feet lower  
18 than the No-Action Alternative; correct?

19          WITNESS REYES: From what month to what month?  
20 I'm sorry.

21          MR. BEZERRA: July of 1932 to February of  
22 1933.

23          WITNESS REYES: Yeah. It looks like those  
24 numbers are around 100 or more negative.

25          MR. BEZERRA: Thank you.

1           And all of those months occur between the end  
2 of May 1932 and the end of May 1933; correct?

3           WITNESS REYES:   Could you repeat that  
4 question?   Sorry.

5           MR. BEZERRA:   Yes.

6           The months June of 1932 through February of  
7 1933 all occur between May of 1932 and May of 1933;  
8 correct?

9           WITNESS REYES:   Correct.

10          MR. BEZERRA:   Thank you.

11          On the next slide, please.

12          (Exhibit displayed on screen.)

13          MR. BEZERRA:   In this graph, between July of  
14 1961 and January of 1962, the No -- the With-Action  
15 Alternative is approximately 35,000 acre-feet lower  
16 than the No-Action Alternative; correct?

17          MS. ANSLEY:   Can I -- Can I break in?

18          I'd like to break in and, for the record,  
19 lodge an objection as to relevance.

20          What we're having Mr. Reyes do is affirm what  
21 Mr. Bezerra's charts and tables say.

22          Certainly, I assume this is part of  
23 Mr. Bezerra's case in chief.   And just having Mr. Reyes  
24 confirm what is on the screen doesn't add or subtract  
25 anything to these -- to this evidence.

1           So I'm not sure the relevancy of us sitting as  
2 Mr. Reyes reads the -- the tables.

3           CO-HEARING OFFICE DODUC: Mr. Bezerra, would  
4 you like to get to the punchline?

5           MR. BEZERRA: The relevance is that, in a  
6 substantial portion of years, Petitioners' own modeling  
7 depicts that Folsom Reservoir storage is lower in the  
8 With-Action Alternative than the No-Action.

9           They have chosen not to confirm and  
10 authenticate these results, but I'd like to read into  
11 the record what they are.

12           MS. ANSLEY: But certainly his case in chief  
13 can submit from our own modeling records whatever he  
14 wishes and whatever his expert will attest to.

15           MR. BEZERRA: Well, again this is coming back  
16 to the issue.

17           The Department has chosen not to produce the  
18 full modeling results so that human beings can read  
19 them. If they had done that, we would not have to have  
20 this exercise and we could just all brief the issue  
21 based on the results from their modeling.

22           CO-HEARING OFFICE DODUC: Fine.

23           Sit down, Miss Ansley. Let's just get through  
24 this.

25           Move quicker, Mr. Bezerra.

1 MR. BEZERRA: Yes, I'm -- Thank you very much.

2 CO-HEARING OFFICE DODUC: Because even I can  
3 see, from looking at the table, what the differences  
4 are.

5 MR. BEZERRA: Thank you.

6 CO-HEARING OFFICE DODUC: How many more graphs  
7 do you have?

8 MR. BEZERRA: I think there's two more.

9 CO-HEARING OFFICE DODUC: Let's quickly move  
10 through them.

11 MR. BEZERRA: Let me -- Let's -- Okay. Let's  
12 go to the next one.

13 (Exhibit displayed on screen.)

14 MR. BEZERRA: Okay. This is for May 1981  
15 through May of 1982.

16 Mr. Reyes, do you see that, beginning in June  
17 of 1981 through October of 1981, the With-Action  
18 Alternative (sic) is approximately -- or at least  
19 150,000 acre-feet lower than the With-Action  
20 Alternative?

21 WITNESS REYES: Yes.

22 MR. BEZERRA: Thank you.

23 I will move on from this subject.

24 And if we'd like to take a break, this would  
25 be a good place to break because I can -- my next

1 subject is for Dr. Wilder.

2 CO-HEARING OFFICE DODUC: And during the  
3 break, you will streamline your questions?

4 MR. BEZERRA: I will attempt to do so.

5 CO-HEARING OFFICE DODUC: Thank you.

6 We will take a -- How much time do you need to  
7 streamline your questions?

8 MR. BEZERRA: 10 minutes would be great.

9 CO-HEARING OFFICE DODUC: Then we'll resume at  
10 4:10.

11 And Mr. Bezerra will conclude his  
12 cross-examination with streamlined questions.

13 (Recess taken at 4:01 p.m.)

14 (Proceedings resumed at 4:10 p.m.):

15 CO-HEARING OFFICE DODUC: It is 4 -- Oh,  
16 microphone.

17 It is 4:10. We are resuming and I -- Before  
18 we get to that -- Mr. Mizell, don't go anywhere.

19 Just in case we get rushed at the end of the  
20 day and I forget, let's tend to a little bit  
21 housekeeping now.

22 I believe you have received a copy of  
23 Mr. Porgans' cross-examination questions.

24 MR. MIZELL: I have.

25 CO-HEARING OFFICE DODUC: Do you have

1 objections?

2 MR. MIZELL: I would propose that DWR provide  
3 in writing both its objections and answers in a single  
4 filing, if that is amenable.

5 CO-HEARING OFFICE DODUC: And do you have any  
6 estimated time, having -- When might you be able to do  
7 that? Given that these witnesses deserve at least  
8 Monday off.

9 MR. MIZELL: Yes.

10 Assuming we finish with this panel today so  
11 these witnesses are not on the stand Monday, if you  
12 would indulge us to get till Tuesday 5 p.m., we can do  
13 that.

14 CO-HEARING OFFICE DODUC: Tuesday 5 p.m. it  
15 is.

16 Thank you very much.

17 WITNESS MILLER: This chair has water on it.

18 CO-HEARING OFFICE DODUC: Sorry?

19 THE REPORTER: There's spilled water.

20 MR. BEZERRA: Chair Doduc, I have to extend my  
21 apologies.

22 In my effort to be efficient, I attempted to  
23 provide Dr. Wilder with my cross exhibits during the  
24 break and accidentally knocked over an open water  
25 bottle he had at his station, so this -- this -- What

1 we have going on now is entirely my fault, and I  
2 apologize.

3 CO-HEARING OFFICER DODUC: All right. If  
4 Dr. Wilder now has a dry chair, we will ignore this  
5 wasted and unreasonable use of water --

6 (Laughter.)

7 CO-HEARING OFFICER DODUC: -- and turn to  
8 Mr. Bezerra to conclude his cross-examination.

9 MR. BEZERRA: Thank you very much.

10 Could we please pull up Dr. Wilder's  
11 testimony, DWR-1013-Signed.

12 (Exhibit displayed on screen.)

13 MR. BEZERRA: And Page 53 of that testimony.

14 (Exhibit displayed on screen.)

15 MR. BEZERRA: Dr. Wilder, do you see the  
16 sentence in your testimony that begins on Line 10 --  
17 I'm sorry, not Line 10 -- Line 19 (reading):

18 "No redd dewatering field data were  
19 available in the American River."

20 So did you not use any redd dewatering data  
21 for any species from the American River in your  
22 analysis?

23 WITNESS WILDER: Yes, that's correct.

24 MR. BEZERRA: Okay. Thank you.

25 Could we please pull up Exhibit BKS-258.

1 (Exhibit displayed on screen.)

2 MR. BEZERRA: Dr. Wilder, are you aware that  
3 the United States Fish & Wildlife Service issues  
4 certain Annual Reports about their activities under the  
5 Central Valley Project Improvement Act?

6 WITNESS WILDER: Yes, I am.

7 MR. BEZERRA: Could we please turn to Page 3  
8 of Exhibit BKS-2 -- Well, first of all, let's go back  
9 to the cover. I apologize.

10 (Exhibit displayed on screen.)

11 MR. BEZERRA: Just for the record, this is  
12 Fish and Wildlife Service's Annual Progress Report for  
13 Fiscal Year 2010. The location where it is available  
14 online is at the -- we've stamped it at the bottom of  
15 the page.

16 If we could please go to Page 3 of this  
17 report.

18 (Exhibit displayed on screen.)

19 MR. BEZERRA: And in roughly the bottom  
20 quarter of the first paragraph, Dr. Wilder, do you see  
21 the sentence that begins "In 2010"?

22 WITNESS WILDER: I see two of them.

23 MR. BEZERRA: And one reads (reading):

24 "In 2010, the following fisheries  
25 investigation tasks were selected for



1 study."

2 Do you see that?

3 WITNESS WILDER: Yes.

4 MR. BEZERRA: And do you see that it states,  
5 for Number 3, one of those tasks was (reading):

6 "American and Sacramento River and  
7 Clear Creek redd dewatering monitoring."

8 WITNESS WILDER: Yes.

9 MR. BEZERRA: Are you aware of any redd  
10 dewatering monitoring that was generated as a result of  
11 this work?

12 WITNESS WILDER: I have not seen any -- any  
13 resulting locations of it, no.

14 MR. BEZERRA: Okay. Could we please turn to  
15 Page 16 of this document.

16 (Exhibit displayed on screen.)

17 MR. BEZERRA: And if we scroll.

18 (Exhibit displayed on screen.)

19 MR. BEZERRA: Dr. Wilder, do you see the  
20 header (reading):

21 "Sacramento and American River and  
22 Clear Creek Redd Dewatering Monitoring."

23 WITNESS WILDER: Yes, I do.

24 MR. BEZERRA: Are -- Are you aware of any work  
25 undertaken by the United States Fish & Wildlife Service

1 resulting in American River redd dewatering data?

2 WITNESS WILDER: Again, I'm aware that --  
3 that, based on this, that they've done the study, but  
4 I've -- I've seen no usable data.

5 MR. BEZERRA: Okay. Could we please go to  
6 Page 18 of this document.

7 (Exhibit displayed on screen.)

8 MR. BEZERRA: And, Dr. Wilder, do you see the  
9 last sentence of the first paragraph of this document,  
10 which reads (reading):

11 "On November 23rd to . . . 2009, we  
12 collected the same data for five sites on  
13 the American River that we had developed  
14 using hy -- hydraulic and structure data  
15 that we collected in 1997 to 1998, for  
16 shallow fall-run Chinook Salmon redds."

17 Are -- Did you seek to obtain any data for  
18 redd dewatering for the Lower American River from the  
19 United States Fish and Wildlife Service?

20 WITNESS WILDER: I'm sorry. Could you repeat  
21 where you found this text?

22 MR. BEZERRA: Yes.

23 It's the second half of the first paragraph  
24 here that begins, "On November 23rd through 25th 2009."

25 Did you conduct any inquiries from the United

1 States Fish & Wildlife Service about redd dewatering  
2 data for the Lower American River as part of your work?

3 WITNESS WILDER: No, I didn't.

4 MR. BEZERRA: Were you aware that the United  
5 States Fish & Wildlife Service had conducted this redd  
6 dewatering monitoring on the Lower American River?

7 WITNESS WILDER: No. I haven't seen anything  
8 published based on it, so no.

9 MR. BEZERRA: And when you say "published,"  
10 what do you mean?

11 WITNESS WILDER: Generally peer-reviewed  
12 publications is -- is preferred.

13 MR. BEZERRA: So, as part of your analysis,  
14 you would not seek to inquire with the United States  
15 Fish and Wildlife Service about the availability of  
16 redd dewatering data?

17 WITNESS WILDER: The -- The redd dewatering  
18 data . . .

19 I'm sorry. Could you repeat the question.

20 MR. BEZERRA: Yes.

21 As part of your analysis, you generally would  
22 not seek to acquire any redd dewatering data from the  
23 United States Fish and Wildlife Service?

24 WITNESS WILDER: We -- We looked on their  
25 website where we found redd dewatering results for the

1 Sacramento River and found nothing -- no -- no usable  
2 data for -- for the American.

3 MR. BEZERRA: And you did not inquire of the  
4 Service whether they had any of that data available?

5 MS. ANSLEY: Objection: At this point, I  
6 think that question's been asked a number of times.

7 CO-HEARING OFFICE DODUC: It's been asked in  
8 different ways.

9 Go ahead and answer again, Mr. Wilder --  
10 Dr. Wilder.

11 WITNESS WILDER: If you're referring to a -- a  
12 direct contact to an individual at the U.S. Fish and  
13 Wildlife Service, no, I did not.

14 MR. BEZERRA: Are you aware the United States  
15 Fish and Wildlife Service is part of the United States  
16 Department of the Interior?

17 WITNESS WILDER: Yes, I believe so.

18 MR. BEZERRA: And the United States Bureau of  
19 Reclamation is also part of the Department of the  
20 Interior; correct?

21 WITNESS WILDER: Yes.

22 MR. BEZERRA: Okay. Thank you.

23 If we could please go to Exhibit BKS-259.

24 (Exhibit displayed on screen.)

25 MR. BEZERRA: And this document is an Annual

1 Progress Report from Fiscal Year 2011, also available  
2 at the United States Fish & Wildlife Service's website.

3 Dr. Wilder, could you please refer to Page 2  
4 in this document.

5 (Exhibit displayed on screen.)

6 MR. BEZERRA: And if we could scroll down to  
7 approximately the last -- I'm sorry, one more page.

8 (Exhibit displayed on screen.)

9 MR. BEZERRA: There you go.

10 Dr. Wilder, do you see the sentence in  
11 approximately the bottom third of the first paragraph  
12 that begins, "In 2010"?

13 WITNESS WILDER: Yes.

14 MR. BEZERRA: And it states, in part  
15 (reading):

16 ". . . The following fisheries  
17 investigation tasks were selected for  
18 study: 3) American and Sacramento River  
19 and Clear Creek redd dewatering  
20 monitoring."

21 Did you seek to obtain any redd dewatering  
22 monitoring for the Lower American River based on what's  
23 explained in this report?

24 WITNESS WILDER: No.

25 MR. BEZERRA: Thank you.

1           If we could move on to Page 7 in Dr. Wilder's  
2 testimony.

3           (Exhibit displayed on screen.)

4           MR. BEZERRA:  Actually, we'll try to  
5 streamline.

6           Can we go to Page 13, please.

7           (Exhibit displayed on screen.)

8           MR. BEZERRA:  And to the bottom, Footnote 4.

9           (Exhibit displayed on screen.)

10          MR. BEZERRA:  Dr. Wilder, the "biologically  
11 meaningful" standard ex -- defined in this footnote, is  
12 that something you applied throughout your analysis, as  
13 explained in your testimony?

14          WITNESS WILDER:  I wouldn't necessarily  
15 characterize it as a standard.

16          I -- I use it to generally describe where  
17 there could -- could perhaps be an effect on the  
18 biology of the species.

19          MR. BEZERRA:  Okay.  And in that footnote, you  
20 state that (reading):

21                 "'biological meaningful' is defined  
22                 as having a substantial biological effect  
23                 on a species to the point that it will  
24                 affect the species at a population  
25                 level."

1           What do you mean by "population level"?

2           WITNESS WILDER: I believe I answered this the  
3 other day.

4           But, generally, it means that the -- the --  
5 the population -- You can see an effect to the  
6 population of fish.

7           MR. BEZERRA: And when you say "population,"  
8 do you mean the population of -- of fish in one river  
9 or the entire species or something else?

10          WITNESS WILDER: I think it depends on the --  
11 the knowledge we have for the individual species.

12          I know you're concerned with Salmon, so I'll  
13 say it's -- it's for each individual run in an  
14 individual river.

15          MR. BEZERRA: Let me make sure I understand  
16 that.

17          So you say the individual run in the  
18 individual river. So, for purposes of this standard,  
19 you are separating between, say, the Lower American  
20 River and the Sacramento River in determining whether  
21 there's a population effect; correct?

22          WITNESS WILDER: Yes, I believe that's true.

23          MR. BEZERRA: Okay. Now, the second sentence  
24 in this footnote states (reading):

25                        "This determination was made using

California Reporting, LLC - (510) 224-4476  
www.CaliforniaReporting.com

1 best professional judgment in lieu of a  
2 life cycle model for all species except  
3 winter-run . . . Salmon."

4 So, for Steelhead, you are just -- you are  
5 applying your best professional judgment as to whether  
6 or not there would be an effect on a river's population  
7 of fish; correct?

8 WITNESS WILDER: Yes, based on the -- the  
9 analyses that I conducted.

10 MR. BEZERRA: Okay. And for a river's fish,  
11 does it make any difference to your analysis whether a  
12 species is listed under the Endangered Species Act or  
13 not?

14 WITNESS WILDER: Only insofar as the  
15 population may be lower.

16 MR. BEZERRA: So, under this standard, in your  
17 opinion, it would not be a biologically meaningful  
18 effect if individual members of a listed species were  
19 injured by the Project; correct?

20 WITNESS WILDER: I don't believe I said that.

21 Could you -- Could you rephrase that or phrase  
22 it again and I can . . .

23 MR. BEZERRA: Yes.

24 I -- I believe you -- I believe you stated --  
25 and correct me if I'm wrong -- that you consider it



1 biologically meaningful if an action has an effect on  
2 the overall population of a river's fish of a given  
3 species; correct?

4 WITNESS WILDER: Correct.

5 MR. BEZERRA: So, is it your opinion that  
6 there would be no biologically meaningful effect if a  
7 project resulted in injury to individual members of a  
8 listed species?

9 WITNESS WILDER: Not necessarily.

10 MR. BEZERRA: What do you mean by "not  
11 necessarily"?

12 WITNESS WILDER: I could see at times a  
13 biologically meaningful effect being less than that.

14 MR. BEZERRA: Being less than what?

15 WITNESS WILDER: Being less than -- I'm sorry.

16 Could -- Could you repeat that question, the  
17 original question?

18 MR. BEZERRA: Yes.

19 Under your "biologically meaningful" standard,  
20 as defined in Footnote 4, would there be a biologically  
21 meaningful -- Let me -- Let me rephrase.

22 Under your standard in Footnote 4, it is your  
23 opinion that there would be no biologically meaningful  
24 effect of an action if individual members of a listed  
25 species were injured; correct?

1           WITNESS WILDER: No, not necessarily. There  
2 could -- I could see a biologically meaningful effect  
3 occur when individuals are injured.

4           MR. BEZERRA: But only -- In -- In your  
5 opinion, that would only occur if that injury resulted  
6 in an effect on the total size of the population of a  
7 river's fish; correct?

8           WITNESS WILDER: Well, I didn't say "size" but  
9 a substantial biological effect to the species.

10          MR. BEZERRA: So, again, injury to an  
11 individual member of a listed species would, in your  
12 opinion, not be a biologically meaningful effect;  
13 correct?

14          MR. MIZELL: Objection: Asked and answered,  
15 at this point twice.

16          MR. BEZERRA: I --

17          CO-HEARING OFFICE DODUC: That's not my  
18 understanding of what he said.

19          MR. BEZERRA: I'm trying to understand what he  
20 said.

21          CO-HEARING OFFICE DODUC: I know.

22          MR. BEZERRA: The footnote describes it in  
23 terms of a population level effect. I don't know how  
24 that translate -- I guess the issue is, is there a  
25 translation from --

1 CO-HEARING OFFICE DODUC: Individual?

2 MR. BEZERRA: -- individuals to a population  
3 level effect? And what is that?

4 WITNESS WILDER: The way I --

5 CO-HEARING OFFICE DODUC: Dr. Wilder.

6 WITNESS WILDER: The way I -- I generally  
7 analyze this is by looking at the -- the frequency and  
8 the magnitude of an effect given the overlap of -- of a  
9 species, both spatially and temporally, where there  
10 could be an effect happening. So, it's -- it's not  
11 looking at actual numbers of fish.

12 MR. BEZERRA: Okay. So in -- in -- in pop --  
13 In Footnote 4, how does what you just said translate to  
14 a population level effect?

15 WITNESS WILDER: It depends on the species and  
16 the life stage.

17 MR. BEZERRA: Okay. So let's be specific  
18 about this.

19 For Steelhead in the Lower American River,  
20 what portion of the population would have to be injured  
21 for you to consider that to be a biologically  
22 meaningful effect?

23 WITNESS WILDER: Again, I -- I'm not looking  
24 at it at -- in terms of numbers of the population.

25 MR. BEZERRA: How are you looking at it?

1           WITNESS WILDER:  As I thought I said, I'm  
2 looking at the -- the frequency and magnitude of -- of  
3 some potentially negative effect during the -- during  
4 and at the location -- during the period and at the  
5 location of where that effect may be occurring.

6           MR. BEZERRA:  Okay.  If we could please pull  
7 up Exhibit BKS-255.

8           (Exhibit displayed on screen.)

9           MR. BEZERRA:  And the -- This is por --  
10 excerpts of the Biological Opinion from National Marine  
11 Fisheries Service that is Exhibit SWRCB-106.

12           Could we please go to Figure 2-35.

13           (Exhibit displayed on screen.)

14           MR. BEZERRA:  And, Dr. Wilder, we talked about  
15 this previously.

16           Do you consider that, in Figure 2-35, these  
17 effects on Lower American River temperatures in August  
18 of critical years would not have a biologically  
19 meaningful effect on listed Steelhead in the Lower  
20 American River?

21           WITNESS WILDER:  Since you brought it up, I'd  
22 be happy to go to my analysis and look at the -- the  
23 table output.  I believe I can find it --

24           MR. BEZERRA:  Well, hold on.  I'd like to get  
25 an answer.

1 CO-HEARING OFFICE DODUC: Hold on. Hold on.

2 MR. BEZERRA: So --

3 WITNESS WILDER: So the quick answer is, no,  
4 not without looking at the -- I cannot look at water  
5 temperatures and know that there's any effect on any  
6 species.

7 MR. BEZERRA: Okay. And why is that?

8 WITNESS WILDER: Because you need to have  
9 biological relevance whenever possible, and looking at  
10 water temperatures in a river doesn't necessarily tell  
11 me that.

12 MR. BEZERRA: Okay. So, do you know what life  
13 stages of Steelhead are present in the Lower American  
14 River in August?

15 WITNESS WILDER: Primarily, it would be  
16 juvenile rear -- rearing.

17 MR. BEZERRA: And --

18 WITNESS WILDER: It's a little early for --  
19 for spawners.

20 MR. BEZERRA: And is it your opinion that an  
21 increase in water temperatures of 2 to 4 degrees in  
22 August of a critical water year would not have a  
23 biologically meaningful effect on juvenile Steelhead in  
24 the Lower American River at that time?

25 CO-HEARING OFFICE DODUC: I can hear the

1 objection now.

2 Mr. Mizell.

3 MR. MIZELL: Well, I'd like to object that the  
4 witness is being prevented from answering the question  
5 which he's indicated he would be happy to do if he's  
6 allowed to look at his own analysis, which has been  
7 provided in evidence, which the witness can rely upon  
8 in making his answer.

9 CO-HEARING OFFICE DODUC: I thought you were  
10 going to object to the way Mr. Bezerra characterized  
11 the use of this chart.

12 MR. MIZELL: I am attempting to streamline my  
13 objections.

14 CO-HEARING OFFICE DODUC: Oh, thank you very  
15 much.

16 And you're streamlining your objection by  
17 suggesting that Dr. Wilder pull up his work in order to  
18 respond to Mr. Bezerra's question on this chart?

19 MR. MIZELL: I'm suggesting that Mr. Wilder be  
20 allowed to answer the question in a way that he feels  
21 informs the Hearing Officer.

22 He has already indicated that making  
23 assessment as to the biological relevance would require  
24 him to look at his analysis.

25 CO-HEARING OFFICER DODUC: All right.

1 Mr. Bezerra.

2 MS. MESERVE: As I understand his opinion, it  
3 doesn't require him to look at the rest of his work.  
4 I'm trying to understand his particular opinion about  
5 this portion of the Biological Opinion and why, in his  
6 opinion, this does not result in a biologically  
7 meaningful effect.

8 CO-HEARING OFFICE DODUC: Dr. Wilder, in order  
9 to answer that question, do you need to pull up your  
10 analysis?

11 WITNESS WILDER: I can try to answer it. And  
12 you can actually look at the bottom of that -- of  
13 what's showing here on the screen.

14 The threshold temperature -- temperatures that  
15 we used for juveniles are 63 and 69 degrees.

16 You can see that -- clearly that no  
17 temperatures are below 63 degrees, which means there's  
18 no difference between the NAA and BA H3+, which is  
19 represented as "PA" here.

20 If you go to 69, you see that it's virtually  
21 identical to -- underneath and to 69 degrees.

22 CO-HEARING OFFICE DODUC: Thank you.

23 MR. BEZERRA: So, just to clarify: Your  
24 opinion is that this -- these temperature differences  
25 do not result in a biologically meaningful effect

1 because conditions in the Lower American River are  
2 already so problematic they can't get worse for listed  
3 Steelhead; correct?

4 CO-HEARING OFFICE DODUC: There is an  
5 objection coming, I'm sure.

6 MS. ANSLEY: Yes. Objection: Vague and  
7 ambiguous and overbroad.

8 I mean, we're looking at a specific figure.  
9 He asked our witness to use his opinion to interpret a  
10 figure that he did not create; it's out of the  
11 Biological Opinions.

12 He interpreted the figure correctly. And I  
13 believe this move to ask his opinion using just this  
14 figure is vague and ambiguous, and overly broad, and  
15 assumes a lot of facts in evidence.

16 As our witness said, he would like to use  
17 biological context if he's going to offer a broad  
18 opinion as to population level effects of Steelhead in  
19 the Lower American River, which is not a matter of  
20 interpreting a simple graph.

21 CO-HEARING OFFICE DODUC: Thank you,  
22 Miss Ansley.

23 MR. BEZERRA: I --

24 CO-HEARING OFFICER DODUC: Mr. Bezerra.

25 MR. BEZERRA: I am -- I was simply attempting



1 to confirm what Mr. Wilder said so it will be clear for  
2 the record.

3 CO-HEARING OFFICE DODUC: What he said was  
4 actually quite clear, but your question was not. So  
5 perhaps you might want to try again.

6 MR. BEZERRA: Sure.

7 Dr. Wilder --

8 (Timer rings.)

9 MR. BEZERRA: -- you used 69 degrees as a  
10 threshold in analyzing these results; correct?

11 WITNESS WILDER: I used 63 and 69.

12 MR. BEZERRA: Okay. 63 was a threshold for  
13 what?

14 WITNESS WILDER: They were both thresholds  
15 for -- for juvenile rearing of Steelhead based on the  
16 literature. I believe one had to do with maybe optimal  
17 conditions, and the 69 might have been a -- you know,  
18 an upper threshold. I don't actually remember exactly.

19 MR. BEZERRA: 69 is an upper temperature  
20 threshold for what for listed Steelhead?

21 WITNESS WILDER: I would have to go back to  
22 the table to know.

23 MR. BEZERRA: Do you have that table available  
24 to you?

25 WITNESS WILDER: Sure. I don't know if it

1 says it explicitly but we can take a look.

2           If we could go to Appendix 5.D in the BA,  
3 which is DWR-1142.

4           (Exhibit displayed on screen.)

5           WITNESS WILDER: 5.D. I'm not sure we have  
6 the right . . .

7           (Exhibit displayed on screen.)

8           WITNESS WILDER: Oh, yeah, you do.

9           Table 5. D-50, I believe.

10          (Exhibit displayed on screen.)

11          WITNESS WILDER: So you can see this is a  
12 table showing all of the thresholds that we used for  
13 the American River for Steelhead. And beneath this, I  
14 believe, is -- or maybe it's above -- the life stage,  
15 the period that we analyzed, the location where we  
16 analyzed it, and then the source to the right.

17          And it looks like, for juveniles, the  
18 63-degree threshold had to do with intermediate site --  
19 values of ranges of optimal growth based on the papers  
20 that you see cited here.

21          And -- Yeah, I'm sorry. This was in 2000. I  
22 can't recall offhand what the 69 degrees necessarily  
23 means.

24          MR. BEZERRA: So you used 69 degrees as a  
25 threshold for biologically meaningful effects on

1 Steelhead; correct?

2 WITNESS WILDER: That's right, based on the  
3 source cited there, which is Sullivan 2000.

4 MR. BEZERRA: Do -- Do you know what  
5 biological threshold 69 degrees is for juvenile  
6 Steelhead?

7 Does it affect growth? Does it affect  
8 migration? Does it affect what?

9 WITNESS WILDER: Again, you can see there are  
10 a lot of sources there and a lot of thresholds, and I  
11 don't remember.

12 MR. BEZERRA: So . . . So, again, you used  
13 69 degrees but you don't recall what the biological  
14 significance of 69 degrees for juvenile Steelhead is;  
15 correct?

16 WITNESS WILDER: That's correct, I don't  
17 recall right now.

18 MR. BEZERRA: Okay. So if we could please go  
19 back to BKS-255.

20 (Exhibit displayed on screen.)

21 MR. BEZERRA: So, using 69 degrees as a  
22 biological threshold, is it your opinion that  
23 temperature increases between the NAA and the proposed  
24 action are not biologically meaningful if they occur  
25 above 69 degrees?

1 WITNESS WILDER: I didn't say that, no.

2 MR. BEZERRA: So what did you use 69 degrees  
3 as a threshold for, then?

4 WITNESS WILDER: Again, I'd need to go back to  
5 the paper to -- to know for sure.

6 MR. BEZERRA: You'd have to go back to  
7 Sullivan 2000 to understand why you used 69 degrees as  
8 a threshold; correct?

9 WITNESS WILDER: Correct.

10 MR. BEZERRA: Okay. Thank you.

11 Could we please pull up Exhibit BKS-261.

12 (Exhibit displayed on screen.)

13 MR. BEZERRA: Which is a copy of Page 11-3386  
14 from the Final EIR. The Final EIR is Staff  
15 Exhibit 102.

16 So could we please go to Page 11-3386.

17 (Exhibit displayed on screen.)

18 MR. BEZERRA: Dr. Wilder, you relied on this  
19 portion of the Final EIR in your testimony; correct?

20 WITNESS WILDER: I believe I cited it, yes.

21 MR. BEZERRA: And I -- I can point you to the  
22 page in your testimony, if you like, but . . .

23 WITNESS WILDER: I trust you.

24 MR. BEZERRA: Thank you.

25 And is it your opinion that this table shows

1 that California WaterFix would have only minor effects  
2 on Lower American River temperatures?

3 WITNESS WILDER: Could we scroll up a little  
4 bit? I just want to make sure I have the correct  
5 analysis that I'm doing.

6 (Exhibit displayed on screen.)

7 WITNESS WILDER: Okay. And could you scroll  
8 down please.

9 (Exhibit displayed on screen.)

10 WITNESS WILDER: So, yes, I would agree  
11 that -- I would agree that H3 in this case has minor  
12 effects on -- assuming this is Steelhead, based on this  
13 temperature threshold.

14 MR. BEZERRA: Okay. And I want to try to  
15 understand this table a little better.

16 The lower part of this table enabled "NAA\_ELT  
17 vs. H3\_ELT," it shows changes in temperatures of Watt  
18 Avenue between the No-Action Alternative and  
19 Alternative 4A with an H3 operating scenario; correct?

20 WITNESS WILDER: It shows the difference in  
21 the frequency -- I'm sorry.

22 It shows the frequency at which temperatures  
23 are above the threshold.

24 No, actually, I was right.

25 It is the difference in the frequency of

1 temperatures above a threshold by the given amount on  
2 the top row.

3 MR. BEZERRA: And these are all changes based  
4 on CalSims' 82-year period of record; correct?

5 WITNESS WILDER: Yes.

6 MR. BEZERRA: This table only concerns May  
7 through October temperatures at Watt Avenue; correct?

8 WITNESS WILDER: Yeah, that's what it says.

9 MR. BEZERRA: Okay. So, looking at the lower  
10 leftmost result for October, that negative one  
11 indicates that California WaterFix would cause  
12 temperatures at Watt Avenue to exceed 65 degrees by  
13 between 1 and 2 degrees in one fewer October over the  
14 period of record; correct?

15 WITNESS WILDER: Correct.

16 MR. BEZERRA: Okay. Now, looking at the line  
17 for August, that line indicates that California  
18 WaterFix would cause temperatures at Watt Avenue to  
19 exceed the temperature threshold by over 4 degrees in  
20 five more Augusts than the No-Action Alternative;  
21 correct?

22 WITNESS WILDER: It would show that for H3 --

23 MR. BEZERRA: For H3.

24 WITNESS WILDER: -- not for CWF H3+.

25 MR. BEZERRA: No. But you have -- you have

1 relied on this in expressing your opinion in your  
2 testimony; correct?

3 And we can go to your testimony, if you like.

4 WITNESS WILDER: Yes.

5 MR. BEZERRA: Okay. Thank you.

6 So, you do not consider that change in Watt  
7 Avenue temperatures in August to be a biologically  
8 meaningful effect on Steelhead in the Lower American  
9 River; correct?

10 WITNESS WILDER: No, I'm not saying that.

11 I -- I presented these results as part of the  
12 overall package of results for your consideration.

13 But CWF H3+ is the model scenario that -- that  
14 is -- should be preferentially used in these analyses,  
15 because that is the -- that is the latest Proposed  
16 Project, and it uses the refined modeling that was  
17 discussed earlier today.

18 MR. BEZERRA: You rely on these results in  
19 your -- in expressing your opinions in your testimony;  
20 correct?

21 MS. ANSLEY: Objection: Asked and answered.

22 He just answered that he presented these  
23 results for consideration but that he's speaking in his  
24 opinion as well to CWF H3+.

25 Do I have that correct? I'm sure my own

1 witness --

2 CO-HEARING OFFICE DODUC: That's what I heard.

3 MR. BEZERRA: Could we please pull up Mr. --  
4 Dr. Wilder's testimony, DWR-1013-Signed.

5 (Exhibit displayed on screen.)

6 MR. BEZERRA: And go to Page 23.

7 (Exhibit displayed on screen.)

8 MR. BEZERRA: Mr. Wilder, do you see the  
9 heading on Line 4 (reading):

10 "The FEIR/S identified only minor  
11 changes in the percent exceedance  
12 analysis between NAA and H3 and H4  
13 scenarios."

14 THE WITNESS: Yes, I see that.

15 MR. BEZERRA: And the EIR results that we just  
16 discussed, these support this conclusion in your  
17 testimony; correct? In your opinion?

18 WITNESS WILDER: They support the -- the  
19 header there, yes.

20 MR. BEZERRA: Okay. Thank you.

21 So if we could go back to that EI -- EIR  
22 table.

23 (Exhibit displayed on screen.)

24 MR. BEZERRA: Okay. Referring to the August  
25 line, that line -- if you add that line for the



1 temperature changes greater than 4 degrees and greater  
2 than 5 degrees, it indicates that the H3 scenario would  
3 cause temperatures at Watt Avenue to exceed the  
4 65-degree temperature threshold by at least 4 degrees  
5 in 16 more Augusts relative to the No-Action  
6 Alternative; correct?

7 WITNESS WILDER: Yes, that's correct.

8 Well . . .

9 No, I don't -- I don't think that's correct.  
10 These are -- These are differences between months --  
11 number of months that exceed.

12 So I -- I'm not sure at this point. I'd have  
13 to go back to the -- a table that precedes this one.

14 MR. BEZERRA: Okay. But you -- You rely on  
15 this table in expressing your opinion that, in the  
16 FEIR, H3 would result in only minor changes to Lower  
17 American River temperatures; correct?

18 WITNESS WILDER: That's right.

19 MR. BEZERRA: Do you understand what this  
20 table is presenting?

21 WITNESS WILDER: Yeah. I believe I already  
22 discussed that.

23 MR. BEZERRA: So, let me -- What are the  
24 results for August of above 4 degrees and August of  
25 above 5 -- 5 degrees? What do those represent?

1 MS. ANSLEY: Objection: I think he's -- We've  
2 beaten this table. He's asked our witnesses' opinions  
3 on this table. He may not be getting the answers that  
4 he likes, and the witness is -- would link this to his  
5 testimony.

6 You know, is he going to force our witness to  
7 say something different by going through this month --

8 CO-HEARING OFFICE DODUC: I think --

9 MS. ANSLEY: -- by month?

10 CO-HEARING OFFICE DODUC: -- he's trying to  
11 understand how the witness translates this data into  
12 his finding in his testimony.

13 MR. BEZERRA: Correct.

14 MS. ANSLEY: Maybe we can ask that one more  
15 time. But I feel like my -- our witness has answered  
16 this a number of times.

17 CO-HEARING OFFICE DODUC: I'm actually quite  
18 curious.

19 MR. BEZERRA: I'll ask an open-ended question.

20 For August with H3 for above 4 and above  
21 5 degrees, what changes do those reflect from the NAA  
22 to the H3 Alternative?

23 WITNESS WILDER: These show the difference in  
24 the number of months -- or the percentage of months  
25 that are -- that exceed -- in which the temperatures

1 exceed the given thresholds.

2 MR. BEZERRA: By particular amounts; correct?

3 WITNESS WILDER: Correct.

4 MR. BEZERRA: And so 5 percent of the time,  
5 H -- 5 percent of Augusts, H3 results in temperatures  
6 being . . . over 4 degrees higher in five more Augusts;  
7 correct?

8 WITNESS WILDER: It says the -- the exceedance  
9 above the threshold is at least 4 degrees in five more  
10 Augusts under H3.

11 MR. BEZERRA: And you consider that to be only  
12 a minor change in American River temperatures; correct?

13 WITNESS WILDER: Correct.

14 MR. BEZERRA: Okay. And for August above  
15 5 degrees, that indicates that H3 in the Final EIR  
16 would cause American River temperatures to be -- to  
17 exceed the threshold by over 5 degrees in 11 more  
18 Augusts; correct?

19 WITNESS WILDER: It's 11 percent, but, sure.  
20 11 percent more -- of more months, of more Augusts.

21 MR. BEZERRA: Well, is it 11 percent or is it  
22 11 Augusts that are 15 percent?

23 WITNESS WILDER: It's 11 percent.

24 MR. BEZERRA: Okay. And you consider that to  
25 be only a minor change in Lower American River

1 temperatures; correct?

2 WITNESS WILDER: Given the -- the rest of the  
3 results in combination, some show reductions, some show  
4 no effects, but on the whole, yes.

5 MR. BEZERRA: Okay. And -- So set -- I'm  
6 going to try to be general about this to be quicker.

7 In September, there's similar results;  
8 correct?

9 WITNESS WILDER: I would argue they're  
10 smaller, but they're -- they're positive.

11 MR. BEZERRA: They're -- They're positive.

12 So the September number for over 4 degrees,  
13 that indicates that H3 would result in higher  
14 temperatures in the Lower American River; correct?

15 WITNESS WILDER: That's correct.

16 MR. BEZERRA: Okay. And similar -- That same  
17 conclusion for over 5 degrees; correct?

18 WITNESS WILDER: It's showing a value of  
19 4 percent that's higher.

20 MR. BEZERRA: In relying on this table, did  
21 you determine whether, in the modeling, the Augusts and  
22 the Septembers where these effects of H3 would occur,  
23 occurred in the same years in the modeling?

24 WITNESS WILDER: No, I didn't. And that's --  
25 And -- And the reason for that is the same as the -- as

1 what was argued for -- by Mr. Reyes and Dr. Bryan, and  
2 that is:

3 CalSim doesn't -- It shouldn't -- CalSim's a  
4 long-term planning tool that you can't look at  
5 individual months in sequence and be able to assert  
6 whether there's -- you know, whether that is actually  
7 going to occur. You have to look at the -- primarily  
8 the exceedance plots and look at the incremental  
9 effects based on the exceedances.

10 MR. BEZERRA: If changes like this in August  
11 and September were to occur in consecutive months in  
12 the same year, would you consider that to be only a  
13 minor change resulting from California WaterFix?

14 Of H3.

15 CO-HEARING OFFICE DODUC: Consecutive months  
16 in the same year.

17 MR. BEZERRA: Yes. We have -- So, the results  
18 here are for August and September.

19 CO-HEARING OFFICE DODUC: (Nodding head.)

20 MR. BEZERRA: He just explained that, in the  
21 modeling, those are not necessarily occurring in the  
22 same year.

23 In reality, they could occur in the same year  
24 because, if you have a very dry year, they might occur  
25 in the same year.

1           So I'm asking him, if these sorts of effects  
2 occurred in August and September of the same year,  
3 whether he would consider that a minor change to Lower  
4 American River temperatures.

5           WITNESS WILDER: I'm trying to relate this  
6 back to the biology.

7           I -- And I would say that, yeah, that's --  
8 that would -- very likely could still -- I would still  
9 call that a minor change, but it really depends on the  
10 frequency at which that occurs, not just in one year.

11          MR. BEZERRA: So, in your opinion, if listed  
12 Steelhead in the Lower American River were to encounter  
13 these conditions in August and September of the same  
14 year, that would be a minor effect on that species;  
15 correct?

16          WITNESS WILDER: Again, thinking about the  
17 biology, I don't think the fish would necessarily hang  
18 around if the temperatures were that -- that high.  
19 They'd probably move upstream.

20          This is Watt Avenue, which is pretty far down  
21 the American River.

22          MR. BEZERRA: So -- Okay. Just to confirm:

23          Your opinion is that if California WaterFix H3  
24 were to result in these kind of temperature changes and  
25 fish were to be forced to move, that would be a minor

1 effect on that listed species.

2 CO-HEARING OFFICE DODUC: Objection,  
3 Miss Ansley?

4 MS. ANSLEY: Yeah. I think that misstates the  
5 testimony.

6 I think that our witness is trying to put this  
7 in a biological context because we're focusing on  
8 hypothetical situations at a specific location.

9 And I think he's trying to explain that his  
10 conclusion -- ultimate conclusion about  
11 population-level impacts to Lower American River  
12 Steelhead would depend, if we're going to get very  
13 specific, on the biological context. And that's what  
14 he was trying to do with Watt Avenue.

15 CO-HEARING OFFICE DODUC: Sustained.

16 MR. BEZERRA: Could we please move on to your  
17 testimony --

18 CO-HEARING OFFICE DODUC: Hopefully, before we  
19 move on, let me ask:

20 How much additional questioning do you have?

21 MR. BEZERRA: I -- I -- I think it's -- I  
22 think it's five minutes. I'm trying very hard to get  
23 it in by 5:00.

24 CO-HEARING OFFICER DODUC: And we will still  
25 have Miss Nikkel. Yes.

1           So at this point, it looks like we are not  
2 going to be done by 5 o'clock with this panel.

3           MR. BEZERRA: I -- I'm trying to get through  
4 this as rapidly as possible. I know we extended a  
5 little bit to --

6           CO-HEARING OFFICE DODUC: We are stopping at  
7 5 o'clock, so I'm -- I am trying to -- Oh, are we not  
8 stopping at 5:00?

9           MS. McCUE: Well, I was trying to understand.  
10           I think they might have said they'd be able to  
11 stay till 6:00, but I don't know if you want to.

12           CO-HEARING OFFICE DODUC: Well, let me ask  
13 these poor witnesses.

14           Mr. Bezerra, your remaining questions, are  
15 they only for Dr. Wilder?

16           MR. BEZERRA: Yes.

17           CO-HEARING OFFICE DODUC: Miss Nikkel, who  
18 amongst this panel are you intending to question?

19           MS. NIKKEL: Let's see.

20           Dr. Greenwood, Dr. Wilder, Mr. Miller,  
21 possibly Mr. Reyes, depending on who knows the answer,  
22 and Ms. White, although possibly Ms. Parker as well.

23           CO-HEARING OFFICE DODUC: And, Mr. Mizell,  
24 whom do you intend to redirect?

25           MR. MIZELL: I will not attempt to punish any



1 of my witnesses, if possible.

2 The only one I would request to stick around  
3 at this point in time would be Mr. Reyes.

4 CO-HEARING OFFICE DODUC: So let me ask:

5 If we are able to stay until 5:30, 6 o'clock,  
6 and get this done, would you be amenable? I'm talking  
7 to the witnesses now who are suffering through this.

8 I see nodding heads.

9 All right. Miss McCue, if you could  
10 ascertain.

11 Why don't we take a break while we ascertain  
12 that. And if the answer is yes, then we will continue.  
13 If the answer is no, then we leave for home and we'll  
14 see you on Monday.

15 (Recess taken at 4:56 p.m.)

16 (Proceedings resumed at 4:58 p.m.):

17 CO-HEARING OFFICE DODUC: We are back in  
18 business. We are able to stay until 6:00 if necessary,  
19 although I think all of us would appreciate getting out  
20 of here as soon as possible.

21 MR. BEZERRA: Yes. Thank you for the -- I  
22 appreciate the Board's efforts to do that.

23 Dr. Wilder -- Could we please go to  
24 Dr. Wilder's testimony, Page 55.

25 CO-HEARING OFFICE DODUC: Hold on.

1 Mr. Mizell?

2 MR. MIZELL: I was just conferring with  
3 Miss Nikkel, and it sounds as though potentially  
4 Dr. Bryan and Dr. Preece may not be needed.

5 CO-HEARING OFFICE DODUC: Thank you,  
6 Dr. Bryan, Dr. Preece.

7 (Witnesses Bryan and Preece were excused from  
8 the hearing room.)

9 CO-HEARING OFFICER DODUC: And Mr. Bezerra.

10 MR. BEZERRA: Yes. Thank you.

11 If we could please scroll down to Line 17.

12 (Exhibit displayed on screen.)

13 MR. BEZERRA: And, Dr. Wilder, it says here  
14 (reading):

15 "The .5 degree Fahrenheit criterion  
16 was based on: A review of the water  
17 temperature-related mortality rates for  
18 Steelhead eggs and juveniles and a  
19 reasonable water temperature differential  
20 that could be resolved through real-time  
21 reservoir operations."

22 You -- You incorporated those factors in using  
23 half a degree Fahrenheit as relevant to your  
24 biologically meaningful analysis; correct?

25 WITNESS WILDER: This -- Yeah.

1 I -- I would like to give a little more  
2 background than that, though. I know you're trying to  
3 move through this stuff.

4 MR. BEZERRA: Please, go ahead.

5 WITNESS WILDER: Yeah. So this is a -- This  
6 is an analysis that we conducted to try to make looking  
7 at temperatures more biologically relevant.

8 And in doing so, we looked at both the -- the  
9 frequency of exceedance above temperatures and also the  
10 magnitude and, collectively as a -- as a group, so this  
11 was a -- this was a group effort with multiple agency  
12 fisheries' biologists involved, and we arrived at -- at  
13 these values of a .5 degree per day exceedance and a  
14 5 percent criteria on -- of exceedance.

15 MR. BEZERRA: Thank you.

16 What real-time op -- reservoir operations at  
17 Folsom Reservoir do you understand would be possible to  
18 resolve a .5 degree temperature effect from California  
19 WaterFix?

20 WITNESS WILDER: This was -- This was really  
21 looking -- trying to take the fact that CalSim -- I'm  
22 sorry.

23 This is specific to the American River. This  
24 was really trying to take that CalSim does not include  
25 any sort of temperature considerations at all and,

1 understanding that, in real-time, there -- the --  
2 the -- the operators would be able to -- to account  
3 for -- for temperatures as -- you know, if the water  
4 gets too hot and the -- if there were a cold water pool  
5 available, they could -- they could release it.

6 MR. BEZERRA: And what is your understanding  
7 of the Folsom Reservoir operations that would be  
8 possible to resolve this sort of temperature difference  
9 in the Lower American River?

10 WITNESS WILDER: Perhaps I could turn to  
11 our -- our Reclamation folks that could describe that a  
12 little better.

13 WITNESS WHITE: I'm sorry. The question is:  
14 What is the temperature -- the real-time temperature  
15 management devices at Folsom?

16 MR. BEZERRA: Yes.

17 WITNESS WHITE: Primarily, those would be  
18 our -- our shutter system, which has a variety of  
19 different ways to operate.

20 We also have intakes that have selected  
21 withdrawal capabilities where they can pull warmer  
22 water to serve colder water.

23 MR. BEZERRA: And in real-time operations at  
24 Folsom Reservoir, does Reclamation generally what we  
25 call pull shutters to draw water from lower levels of

1 the reservoir in order to reduce water temperatures in  
2 Lower American River?

3 WITNESS WHITE: Can you repeat that one more  
4 time?

5 MR. BEZERRA: Yes.

6 At Folsom Reservoir, the intakes have  
7 different shutter levels; correct? They have different  
8 intake levels.

9 WITNESS WHITE: (Nodding head.)

10 MR. BEZERRA: And in your real-time operations  
11 at Folsom, Reclamation will attempt to reduce Lower  
12 American River water temperatures by shifting to a  
13 lower reservoir intake level; correct?

14 WITNESS WHITE: That -- That's correct,  
15 amongst the -- the three different intakes.

16 MR. BEZERRA: And is that a primary real-time  
17 operations measure that Reclamation takes in order to  
18 manage Lower American River temperatures?

19 WITNESS WHITE: Yes. We regularly operate the  
20 shutters for -- to meet lower -- Lower American River  
21 temperatures.

22 MR. BEZERRA: And when you do that, does that  
23 deplete the cold water pool eventually?

24 WITNESS WHITE: That would depend on the year.  
25 I mean, our -- our intention is not to -- to deplete

1 cold water pool but to use it most efficiently  
2 throughout the year --

3 MR. BEZERRA: And --

4 CO-HEARING OFFICE DODUC: -- throughout the  
5 season that it's needed.

6 MR. BEZERRA: And is Reclamation's operation  
7 of Folsom Reservoir also constrained by its  
8 relationship to temperature management at Shasta?

9 WITNESS WHITE: Can you be more specific?

10 Is our shutter operation specific to our  
11 temperature management at Shasta?

12 MR. BEZERRA: Is -- Is -- Do your water  
13 temperature operations at Shasta constrain your ability  
14 to operate Folsom Reservoir storage?

15 WITNESS WHITE: I would say that it's an  
16 integrated project, so constraints at Shasta can in  
17 general affect other pieces of the system, including  
18 Folsom.

19 I don't know that I would say that temperature  
20 conditions at Shasta affect shutter operations at  
21 Folsom.

22 MR. BEZERRA: And all of those operations are  
23 determined by real-world conditions in a given year;  
24 correct?

25 WITNESS WHITE: The -- The -- The . . . series

1 of different regulations and requirements that we  
2 operate to, and then we have to adjust exactly how we  
3 implement all those -- all those regulations and  
4 requirements based on the hydrology that we're seeing  
5 in that year.

6 MR. BEZERRA: And in 2014 and 2015, were  
7 Recla -- was Reclamation's ability to operate to  
8 maintain cold water temperatures in Lower American  
9 River constrained by the availability of reservoir  
10 storage?

11 WITNESS WHITE: In Folsom?

12 MR. BEZERRA: Yes.

13 WITNESS WHITE: I'd want to review the  
14 operations.

15 I know there were difficulties during the  
16 extreme drought in meeting temperatures. I'm not sure  
17 exactly whether it was a -- a shutter pool com --  
18 limitation or a storage limitation. I'm not sure what  
19 was driving.

20 MR. BEZERRA: So, in a future with California  
21 WaterFix, the ability -- Strike that.

22 So Reclamation's ability to operate Folsom  
23 Reservoir storage would be dependent on real-world  
24 conditions in a given year with California WaterFix in  
25 place as well; correct?

1           WITNESS WHITE: I'm not sure I understand your  
2 question.

3           Our ability to operate Folsom Reservoir is  
4 within Reclamation's operational realm. How we manage  
5 and what we're meeting and how we implement rules and  
6 regulations is affected by real-time operation.

7           So, what the ambient air temperature is might  
8 depend on -- might dictate or -- or inform when we're  
9 pulling shutters. But our ability to pull shutters  
10 is -- is our facility.

11           Does that make sense?

12           MR. BEZERRA: Yeah.

13           Dr. Wilder, so, you're relying on Mr. Reyes'  
14 modeling results; correct?

15           WITNESS WILDER: I'm -- I'm relying on CalSim  
16 model outputs, yes.

17           MR. BEZERRA: And on Page 55, you -- of your  
18 testimony, you state that you relied on the potential  
19 of real-world reservoir operations as a threshold for  
20 determining Cal -- the meaning -- the meaning of  
21 California WaterFix-driven operational changes;  
22 correct?

23           WITNESS WILDER: We relied on it as one of  
24 two . . . factors that -- that went into that .5 degree  
25 criteria.



1 MR. BEZERRA: So you relied on the possibility  
2 of real-time operations resolving up to a 5 -- .5  
3 degree effect in determining biological meaningfulness  
4 of temperature changes in the modeling; correct?

5 WITNESS WILDER: It was as one of two  
6 criteria -- two factors that -- that went into that  
7 criteria.

8 MR. BEZERRA: Okay. Could we please pull up  
9 DWR-1069, Figure 41.

10 (Exhibit displayed on screen.)

11 MR. BEZERRA: Thank you.

12 This figure shows that, in both the NAA and  
13 H -- CWF H3+, Folsom Reservoir is at its dead pool  
14 approximately 5 percent of the time; correct?

15 WITNESS WILDER: You have to ask a modeler.  
16 I'm -- I'm not aware of the fact -- the -- the exact  
17 values.

18 WITNESS REYES: Yeah. It looks like it's  
19 hitting around 9,000 acre-feet in the 5 percent  
20 frequency and that 9,000 acre-feet is the modeled --  
21 what we call dead pool storage.

22 MR. BEZERRA: Thank you.

23 And, Mr. Wilder, did you assume that  
24 Reclamation and DWR would exercise any real-time  
25 operations to avoid this scenario in the No-Action

1 Alternative?

2 WITNESS WILDER: That's -- That's not really  
3 something I can answer. I didn't -- I didn't pro --  
4 provide any assumptions in -- that went into the  
5 modeling of the No-Action Alternative.

6 MR. BEZERRA: No, I -- I understand.

7 But your -- You use the possibility of  
8 real-time operations with the Project in conducting  
9 your biological analysis; correct?

10 WITNESS WILDER: Again, it was one of two  
11 factors that was used to develop the criteria --  
12 criterion.

13 MR. BEZERRA: You did not assume any attempt  
14 by Reclamation or DWR to use real-time operations to  
15 provide lower water temperatures in the No-Action  
16 Alternative; correct?

17 WITNESS WILDER: Not necessarily, no.

18 I -- I -- I mean, I -- I disagree with that  
19 statement. I mean, we . . . We used that criterion  
20 or -- I'm sorry.

21 We used that standard as one of two bases for  
22 the criterion.

23 CO-HEARING OFFICE DODUC: For both the  
24 No-Action Alternative and CWF H3+?

25 WITNESS WILDER: Yes. It was the difference

1 between the two that would cause the -- that -- that  
2 drives the -- the criterion. It's a .5 degree  
3 Fahrenheit difference between No-Action and the  
4 Project.

5 MR. BEZERRA: And -- And we can pull his  
6 testimony back up.

7 But you assumed that that sort of temperature  
8 difference could be resolved by real-time operations  
9 with the Project; correct?

10 WITNESS WILDER: Under some circumstances.  
11 Certainly not dead pool.

12 MR. BEZERRA: You did not give the No-Action  
13 Alternative any benefit of re -- real-time operations  
14 in attempting to resolve temperature effects; correct?

15 CO-HEARING OFFICE DODUC: I'm confused now,  
16 Mr. Bezerra.

17 MR. BEZERRA: Yes. So --

18 CO-HEARING OFFICE DODUC: If he is saying that  
19 he's applying those cri -- the criterion to explain the  
20 difference between the No-Action Alternative and  
21 CWF H3+, then he's applying it to the difference.

22 MR. BEZERRA: Well, we can pull his -- pull  
23 his testimony back up.

24 Okay. If we could please go back to

25 DWR-1013-Signed, Page 55.

1 (Exhibit displayed on screen.)

2 CO-HEARING OFFICE DODUC: There it is.

3 MR. BEZERRA: It begins on Line 11.

4 CO-HEARING OFFICE DODUC: Let's scroll back  
5 up.

6 (Exhibit displayed on screen.)

7 MR. BEZERRA: I'm -- I'll -- I'll make a  
8 statement.

9 I can ask questions to try to draw this out,  
10 but this -- this biologically meaningful effect  
11 analysis uses .5 Fahrenheit -- degrees Fahrenheit as  
12 part of the criterion.

13 CO-HEARING OFFICER DODUC: Um-hmm.

14 MR. BEZERRA: Later on, it describes that it  
15 was used that way because that sort of temperature  
16 differential could be resolved by real-time reservoir  
17 operations.

18 I believe that was used that way only to  
19 resolve temperature problems caused by With-Action and  
20 was not given that benefit in the No-Action  
21 Alternative, meaning that the No-Action Alternative in  
22 reality might actually be better than the No-Action  
23 Alternative modeling.

24 And Ms. White just confirmed that, in reality,  
25 Reclamation does try to use real-time operations now.

1           So . . . Let me ask one more -- I think it's  
2 one more question.

3           Mr. -- Dr. Wilder, your method of analysis was  
4 to compare the modeling between the No-Action  
5 Alternative and CWF H3+ and then assess whether those  
6 differences in the modeling could be resolved by  
7 real-time operations; correct?

8           WITNESS WILDER: Yes, that's correct.

9           MR. BEZERRA: You did not apply any  
10 possibility of real-time operations to the No-Action  
11 Alternative; correct?

12          CO-HEARING OFFICER DODUC: I . . .

13          MR. BEZERRA: That's fine.

14          CO-HEARING OFFICE DODUC: I don't even know  
15 what that question means, Mr. Bezerra.

16          MR. BEZERRA: Yeah. That's fine.

17          I'm done.

18          CO-HEARING OFFICER DODUC: All right.

19 Miss Nikkel.

20          MS. NIKKEL: Good evening. We started the  
21 week together, might as well end it.

22          If I could have SWRCB-107, which . . .

23          CO-HEARING OFFICE DODUC: Which we're all  
24 becoming very familiar with.

25          MS. NIKKEL: It's the Incidental Take Permit

1 issued by the California Department of Fish and  
2 Wildlife.

3 (Exhibit displayed on screen.)

4 MS. NIKKEL: Oh. Actually, I'm looking for a  
5 different part of SWRCB-107. It's Attachment 5, which  
6 is the Adaptive Management Plan -- Program. Excuse me.

7 (Exhibit displayed on screen.)

8 MS. NIKKEL: And I understand that this is at  
9 least the most recent statement of the adaptive  
10 management program.

11 Could we go to Page 30, which is the start of  
12 Section 6.3 on the research --

13 (Exhibit displayed on screen.)

14 MS. NIKKEL: -- and scientific support for  
15 Salmonid and Sturgeon research.

16 And I want to focus on the first paragraph,  
17 and I have a couple of questions that are directed to  
18 both Dr. Greenwood and Dr. Wilder. And I'll ask the  
19 question once and they can each answer to try to make  
20 this as fast as possible.

21 CROSS-EXAMINATION BY

22 MS. NIKKEL: In that first paragraph, it -- it  
23 describes the -- the uncertainty in how changes will be  
24 occurring under operations of the Project in the  
25 sentence starting "Operational flexibilities" and

1 that's about the middle of that first paragraph.

2 (Reading):

3 "Operational flexibilities created  
4 by the new water project facilities may  
5 lead to . . . shifts in water release  
6 strategies."

7 Dr. Greenwood or Dr. Wilder, did any of your  
8 analyses include the impacts of those systemwide shifts  
9 in water release strategies that at this point are  
10 uncertain?

11 WITNESS GREENWOOD: For -- For me, unless  
12 these were captured in the -- in the modeling that we  
13 had available, then I haven't explicitly considered  
14 that beyond . . . the . . . the general framework  
15 that's in place under CWF H3+ for addressing  
16 uncertainties for potential effects of the Project in  
17 the operations phase.

18 MS. NIKKEL: Dr. Wilder?

19 WITNESS WILDER: I -- I analyzed the -- the  
20 operations that were presented to me as I understand  
21 were initial starting operations, so I did not analyze  
22 what's stated here.

23 MS. NIKKEL: And in the next sentence, it  
24 reads (reading):

25 "Changes in both riverine

1 hydrographs and Delta hydrodynamics will  
2 likely have a large influence on juvenile  
3 life stages of Salmon, Steelhead and  
4 Sturgeon."

5 Similarly, did either of your analyses include  
6 the influence on juvenile life stages of Salmon,  
7 Steelhead and Sturgeon that are presently uncertain?

8 MS. ANSLEY: Objection: Calls for  
9 speculation.

10 This -- These very sentences are calling for  
11 speculations. They're unknown future changes.

12 Both of our witnesses addressed uncertainty.  
13 There's been extensive testimony about that.

14 There's nothing in this sentence that that is  
15 anything specific that they could -- they could -- that  
16 they could analyze.

17 If she has specific riverine hydrographs or  
18 hydrodynamics, if there's a reference to something that  
19 she can point to and ask them if they've analyze it,  
20 that would be fine.

21 MS. NIKKEL: That's my question, is whether or  
22 not they've analyzed this. And if the answer is no,  
23 that's fine. That's just -- That's the question.

24 CO-HEARING OFFICE DODUC: That's my  
25 understanding.



1 WITNESS WILDER: I'm assuming that sentence is  
2 referring to the prior sentence with regard to changes.

3 So certainly we've analyzed changes in the  
4 riverine hydrographs associated with the -- the model  
5 scenarios that we've analyzed.

6 But in terms of if it relates specifically to  
7 the previous sentence, then no.

8 MS. NIKKEL: Dr. Greenwood.

9 WITNESS GREENWOOD: Yeah. Same -- Basically  
10 the same answer.

11 MS. NIKKEL: Okay.

12 WITNESS GREENWOOD: To the extent that it's  
13 been captured within the modeling, then we have  
14 analyzed it.

15 MS. NIKKEL: Thank you.

16 If the adaptive management program results in  
17 a change to California WaterFix operating criteria in  
18 the future, has anyone remaining on the panel analyzed  
19 whether such a change will injure a legal user of  
20 water?

21 WITNESS REYES: Could you repeat that  
22 question? Sorry.

23 MS. ANSLEY: Objection: Vague and ambiguous.

24 What change that we don't already know about  
25 that would occur as a result of the adaptive management

1 program could be studied in the here and now?

2 So if the adaptive management program results  
3 in a change, has anyone analyzed that?

4 The --

5 MS. NIKKEL: I'm asking --

6 MS. ANSLEY: -- question calls for  
7 speculation.

8 CO-HEARING OFFICE DODUC: One at a time.

9 Miss Nikkel.

10 MS. NIKKEL: Again, the question is simply  
11 whether or not anybody has analyzed it. If the answer  
12 is no, that's fine.

13 CO-HEARING OFFICE DODUC: You're setting them  
14 up to say "no," though.

15 MS. NIKKEL: That's the point of  
16 cross-examination, with all due respect.

17 (Laughter.)

18 MS. ANSLEY: And I'm objecting that it calls  
19 for speculation, so . . .

20 MS. NIKKEL: Mr. Reyes, were you going to  
21 weigh in?

22 WITNESS REYES: I just want to hear the  
23 question again. I didn't -- I didn't hear it, so . . .

24 MS. NIKKEL: If the adaptive management  
25 program results in a change to California WaterFix

1 operating criteria in the future, has anyone on the  
2 panel analyzed whether such a change will injure a  
3 legal user of water?

4 WITNESS WILDER: This seems to be a question  
5 better reserved for Dr. Earle in the third panel.

6 We're unaware -- Or I'm unaware, at least, of  
7 the full terms of the Adaptive Management Program. For  
8 example, there may be something in there, speaking of  
9 hypotheticals, that could require a reanalysis if there  
10 are changes as described in this paragraph.

11 MS. NIKKEL: And I plan to ask Dr. Earle that  
12 question during Panel 3 cross-examination.

13 But I'm -- I'm interested in whether anyone on  
14 this panel has analyzed that, and I'm not seeing any  
15 affirmative responses.

16 CO-HEARING OFFICE DODUC: Let's just assume  
17 that it's a no.

18 MS. NIKKEL: Thank you.

19 Again, I have a -- a couple of questions that  
20 are directed to both Dr. Wilder and Dr. Greenwood.

21 Have either of you -- Excuse me. Strike that.

22 Are -- Are either of you familiar with the  
23 testimony offered during Part 1 by Mr. Walter Bourez of  
24 MBK Engineers?

25 WITNESS GREENWOOD: Not really. I'm aware

1 that Dr. Bourez was a witness, but I'm not familiar  
2 with his testimony.

3 MS. NIKKEL: Dr. Wilder?

4 WITNESS WILDER: And I have not seen his  
5 testimony, no.

6 MS. NIKKEL: So it would be fair to say that  
7 neither of you analyzed the effects of operating  
8 WaterFix as testified to by Mr. Bourez during Part 1;  
9 is that correct?

10 WITNESS GREENWOOD: That's correct for me.

11 WITNESS WILDER: Yup, that's correct.

12 MS. NIKKEL: Thank you.

13 Dr. Wilder, if WaterFix operations resulted in  
14 a reduction in storage at Shasta Reservoir of  
15 approximately 200,000 acre-feet in April of a dry year,  
16 would that affect the analysis that you've offered of  
17 temperature effects on Salmonids?

18 WITNESS WILDER: No. I believe the analysis  
19 would be the same.

20 MS. NIKKEL: Fair enough.

21 Would your opinion -- Would it affect the --  
22 the results of that analysis?

23 WITNESS WILDER: I -- I can't answer that  
24 with -- you know, with that little information. I  
25 would need to look much more at the biology of the --

1 of the individuals, the presence of the different life  
2 stages that are in the river at the time.

3 MS. NIKKEL: But as you sit here today, in  
4 your professional opinion, would it affect the results  
5 of that analysis?

6 CO-HEARING OFFICE DODUC: He has answered he  
7 cannot answer.

8 MS. NIKKEL: I'll move on.

9 If I can have Dr. Wilder's written testimony,  
10 and I don't have the cite. I'm sorry. Is it this one?

11 (Exhibit displayed on screen.)

12 MS. NIKKEL: There we go, DWR-1013-Signed at  
13 Page 26, Lines 11 through 15.

14 (Exhibit displayed on screen.)

15 MS. NIKKEL: I might have a bad citation.

16 Where is it? 15?

17 Yeah. It doesn't look like I have the right  
18 line or page number. I apologize.

19 I will tell you what you said and you can --  
20 and you can tell me if it was wrong.

21 You stated that real-time operations and  
22 current modifications to the OCAP RPA are part of the  
23 basis for your opinion.

24 Do you recall including that in your  
25 testimony?

1 WITNESS WILDER: Yes, for some species --

2 MS. NIKKEL: And there --

3 WITNESS WILDER: -- and locations.

4 MS. NIKKEL: There has not been a final  
5 modification of the OCAP RPA; is that correct?

6 WITNESS WILDER: That's right. It's underway  
7 and -- and NMFS describes it in their BiOp.

8 WITNESS WHITE: Excuse me. I just want to  
9 clarify.

10 There was a revision to the 2009 Biological  
11 Opinion in 2011. You're referring to the -- the Shasta  
12 RPA provision? I just want to clarify.

13 MS. NIKKEL: I believe this is referring to  
14 the Shasta revision or the Shasta RPA revision. But  
15 Dr. Wilder can clarify if it's -- if I'm incorrect.

16 WITNESS WILDER: No. That is correct.

17 MS. NIKKEL: So if the Final OCAP RPA includes  
18 more stringent storage requirements than in the current  
19 RPA, and WaterFix is operated in a way that results in  
20 a reduction in Shasta storage, it could be more  
21 difficult to meet that RPA; correct?

22 MR. MIZELL: Objection.

23 I'm not sure that we've established that the  
24 Shasta RPA is under revision.

25 MS. NIKKEL: I believe Dr. Wilder just

1 testified to that, but perhaps I misheard.

2 MR. MIZELL: It -- It's getting late. I  
3 missed that and retract my objection.

4 WITNESS WILDER: I did say that the -- the  
5 RP -- the Shasta RPA revision is -- is currently in the  
6 process of -- of being negotiated.

7 MR. MIZELL: I withdraw my objection.

8 MS. NIKKEL: And the question is whether  
9 that -- if that -- if the result of that revision  
10 process includes more stringents -- stringent storage  
11 requirements than in the current RPA and WaterFix is  
12 operated in a way that results in a reduction of Shasta  
13 storage, then it could be more difficult to meet the  
14 revised RPA; is that correct?

15 CO-HEARING OFFICE DODUC: Are you able to  
16 answer?

17 WITNESS WILDER: Yeah, exactly. I -- I'm not  
18 an operator. I'm not a modeler that -- that works with  
19 temperature criteria, so I -- I'm really not able to  
20 answer that.

21 MS. NIKKEL: Ms. White, can you answer?

22 WITNESS WHITE: I'm getting a little lost in  
23 the hypothetical.

24 So, first, it's -- WaterFix is operated in a  
25 different manner than what we're proposing for CWF H3+

1 that results in lower Shasta storage at some period of  
2 time on a long-term average?

3 Is that correct?

4 MS. NIKKEL: Let -- We could also say results  
5 in approximately a 2,000 -- 200,000 acre-foot reduction  
6 in storage in April of a dry year, if you want to be  
7 more specific.

8 WITNESS WHITE: The reason why I'm specific is  
9 because, typically, when we look at analysis, we don't  
10 use one month of one year as -- as driving any kind of  
11 operational assumptions or how we would be able to  
12 operate.

13 MS. NIKKEL: But in the hypothetical of that  
14 one month in that one year, if we're operating in a  
15 hypothetical in which the Shasta RPA is revised in a  
16 way that has more stringent storage requirements and  
17 WaterFix results in a particular April in a reduction  
18 of storage in 200 -- 200,000 acre-feet, would it be  
19 more difficult to operate to meet that RPA?

20 CO-HEARING OFFICE DODUC: Objection, please?

21 MS. MORRIS: Yes. Incomplete hypothetical;  
22 assumes facts not in evidence.

23 I just don't think that it's -- It's too  
24 convoluted for any one person on this panel to answer  
25 without having more specific and it's just it's vague



1 and ambiguous as well.

2 CO-HEARING OFFICE DODUC: I agree, because I  
3 cannot follow it, either, Miss Nikkel.

4 MS. NIKKEL: If I could just try one more  
5 time. I understand it's late. I am trying to be as  
6 specific as I -- as possible in a hypothetical to --

7 CO-HEARING OFFICER DODUC: Okay.

8 MS. NIKKEL: -- ask the witness.

9 CO-HEARING OFFICE DODUC: So let's try it this  
10 way:

11 I understand that we wouldn't be here at this  
12 late hour trying to understand this convoluted question  
13 if it weren't the fact that it's very important to you.

14 So help me understand the importance of this  
15 hypothetical scenario.

16 MS. NIKKEL: It's to understand how WaterFix  
17 could be operated in the future.

18 We heard from Mr. Milligan during Part 1 that  
19 it would be possible to operate the Project in the way  
20 that was modeled by Mr. Bourez. And we need to  
21 understand what the effect of operating in that way  
22 would be in order to understand the effect of the  
23 Project on legal users of water.

24 MS. MORRIS: I --

25 CO-HEARING OFFICE DODUC: There is no way

1 these witnesses can answer that.

2 MS. MORRIS: And I do not think that --

3 CO-HEARING OFFICE DODUC: Because they did  
4 not -- They testified they did not -- sorry -- that  
5 they did not -- they're not familiar with Mr. Bourez's  
6 testimony and that they did not analyze . . . his --

7 MS. NIKKEL: I understand that, and so that's  
8 why I'm asking it as a hypothetical question, which is  
9 an appropriate question to ask of an expert witness.

10 MS. MORRIS: I -- I do -- I object to the --  
11 on the basis that, in Part 1, the Department of Water  
12 Resources operator John Leahigh specifically said there  
13 is no way the Department would operate the Projects in  
14 the fashion that Mr. Bezerra -- as well as their  
15 modelers.

16 So even though it's an incomplete  
17 hypothetical, it's not even a realistic hypothetical  
18 based on the evidence before us in this proceeding.

19 CO-HEARING OFFICE DODUC: Miss Nikkel, I -- I  
20 am sustaining the objection because I doubt, no matter  
21 how many times you answer that question, you will be  
22 unable to get an answer from these witnesses.

23 MS. NIKKEL: Very well.

24 I have a few followup questions. So, these  
25 are going to jump around a bit, but hopefully

1 they're -- they're quick and easy.

2           And I think these are questions that are  
3 probably best for Mr. Miller.

4           To your knowledge, has DWR decided to prepare  
5 a Supplemental EIR for operating pursuant to the  
6 October 2017 clarification letter that you've  
7 discussed?

8           MR. MIZELL: Ob --

9           CO-HEARING OFFICE DODUC: Let's not object and  
10 let -- just let him answer.

11          WITNESS MILLER: Can -- Can you repeat that  
12 question?

13          MR. MIZELL: I -- I'm going to object because  
14 it assumes that the ITP has changed the Project  
15 Description and that's not been the case. The  
16 Department has not changed its -- its Project based  
17 upon a regulatory requirement imposed upon it just as  
18 though we would not be required to change our Project  
19 Description should the Hearing Officers choose to  
20 impose regulatory requirements upon us.

21          CO-HEARING OFFICE DODUC: Did she assert that,  
22 or did she just ask whether he's aware of that  
23 document?

24          MS. NIKKEL: I am just wondering if he's aware  
25 of -- of a decision to -- As far as I know, there is no

1 such document. But my question is whether DWR has  
2 decided to prepare such a supplemental environmental  
3 document --

4 CO-HEARING OFFICER DODUC: Whether --

5 MS. NIKKEL: -- to operate --

6 CO-HEARING OFFICE DODUC: Whether he is aware  
7 of that. He.

8 MS. NIKKEL: (Nodding head.)

9 CO-HEARING OFFICER DODUC: Okay. Mr. Miller.

10 WITNESS MILLER: I -- I am not aware.

11 MS. NIKKEL: Is anyone else on the panel aware  
12 of such a decision?

13 No? Okay.

14 And, Mr. Miller, I -- I believe I heard you  
15 testify this afternoon that you reviewed a -- an  
16 analysis of modeling results that compared the  
17 operation of the Water -- the WaterFix pursuant to  
18 CWF H3+ spring outflow in April and May, which is based  
19 on San Joaquin River IE, and a set of modeling results  
20 based on spring outflow as defined in the Incidental  
21 Take Permit using the Eight-River Index.

22 Did I hear that correctly?

23 WITNESS MILLER: What -- What I saw was a -- a  
24 comparison of existing condition and the modeling for  
25 the ITP Application and the three-month per --

1 performance of meeting that spring outflow goal.

2 MS. NIKKEL: And remind me: Was the  
3 application for April and May, was it based on the  
4 Eight-River Index or the San Joaquin IE?

5 WITNESS MILLER: So the -- the application was  
6 the San Joaquin IE in April and May.

7 MS. NIKKEL: And did you compare those results  
8 with a -- a modeling scenario that included spring  
9 outflow based on the Eight-River Index?

10 WITNESS MILLER: You're referring to  
11 Eight-River Index for the -- the full three-month  
12 period?

13 MS. NIKKEL: I'm focused on April and May.

14 WITNESS MILLER: I did not make a comparison  
15 of that, no.

16 MS. NIKKEL: Okay. I -- I thought I heard you  
17 say that you compared those results and they were  
18 substantially similar.

19 Is that not what you testified earlier?

20 WITNESS MILLER: I . . . What I meant to say,  
21 if -- I don't know exactly how I said it -- was that  
22 the -- the intent of that objective was met with the  
23 ITP Application and the -- the final -- or the ITP,  
24 the -- the actual Permit.

25 And they talk about that in the clarification

1 letter in terms of how the intent of that objective was  
2 met. And I believe that was done by DFW.

3 MS. NIKKEL: Great. Thank you for that  
4 clarification.

5 And this, I think, is my last question, and  
6 hopefully it's very easy.

7 Mr. Reyes, are you aware of any materials that  
8 have been presented by DWR that compare the Final EI --  
9 EIR modeling which was based on -- which was using  
10 CalSim 2010, and CWF H3+ using CalSim 2015?

11 WITNESS REYES: No, I don't think that was  
12 done.

13 MS. NIKKEL: Thank you.

14 No further questions.

15 CO-HEARING OFFICE DODUC: Thank you.

16 And no more cross-examination.

17 Mr. Mizell, do you sub -- do you wish to  
18 subject your witnesses to any additional suffering?

19 MR. MIZELL: I believe I can limit it just to  
20 one question to Mr. Reyes.

21 CO-HEARING OFFICE DODUC: Please do.

22 MR. MIZELL: If we could bring up DWR-1016.

23 (Exhibit displayed on screen.)

24 MR. MIZELL: And you can go to Page 6, please.

25 (Exhibit displayed on screen.)

1 MR. MIZELL: And let's focus on the graphic,  
2 please.

3 (Exhibit displayed on screen.)

4 REDIRECT EXAMINATION BY

5 MR. MIZELL: So, Mr. Reyes, you discussed with  
6 Mr. Bezerra whether or not the CWF H3+ included the  
7 terms of the U.S. Fish and Wildlife Service and  
8 National Marine Fisheries Services Biological Opinions.

9 I'd like to clarify your answer a bit if I  
10 might.

11 Isn't it true that the modeling for your  
12 testimony for CWF H3+ included the operating criteria  
13 of both the U.S. Fish and Wildlife Service and the  
14 National Marine Fisheries Service Biological Opinions  
15 as shown in your Figure 1?

16 WITNESS REYES: Yes, that's correct.

17 MR. MIZELL: No additional questions.

18 CO-HEARING OFFICE DODUC: Recross?

19 No taker. Not even Mr. Bezerra, whose name  
20 was tossed out in vain?

21 MR. BEZERRA: I have one question.

22 CO-HEARING OFFICE DODUC: All right.

23 RECROSS-EXAMINATION BY

24 MR. BEZERRA: Mr. Reyes, on this figure, it  
25 states for CWF H3+ further updated spring outflow

1 criteria.

2 That's the Spring Outflow Criteria in the  
3 Biological Opinions; correct?

4 WITNESS REYES: That's correct, as I  
5 understand it.

6 MR. BEZERRA: It is not the Spring Outflow  
7 Criteria contained in the Incidental Take Permit issued  
8 by the California Department of Fish and Wildlife;  
9 correct?

10 CO-HEARING OFFICE DODUC: And as clarified by  
11 the memo?

12 MR. BEZERRA: I'm going to start with just the  
13 Permit.

14 WITNESS REYES: Could you repeat the question.

15 MR. BEZERRA: On this figure, CWF H3+, further  
16 updated Spring Outflow Criteria is not the Spring  
17 Outflow Criteria contained in the Incidental Take  
18 Permit; correct?

19 WITNESS REYES: I think -- Yeah, I -- I  
20 believe it is. This is the -- what's in the Biological  
21 Opinions.

22 MR. BEZERRA: Okay. Could -- I -- I need to  
23 clarify that answer.

24 The question was: Further updated Spring  
25 Outflow Criteria for CWF H3+ does not include the



1 spring outflows in the Incidental Take Permit; correct?

2 WITNESS REYES: It does.

3 MR. BEZERRA: So the spring -- The CWF H3+  
4 modeling, according to you, models spring outflows  
5 based on the lookup table in Sub Table B based on the  
6 LTE Eight-River Index; correct or not?

7 WITNESS REYES: For March, yes.

8 MR. BEZERRA: For March but not for April or  
9 May.

10 WITNESS REYES: No.

11 MR. BEZERRA: And the Incidental Take Permit  
12 applies that same methodology to spring outflow through  
13 April and May; correct?

14 MR. MIZELL: Objection: It goes beyond the  
15 scope of my redirect.

16 CO-HEARING OFFICE DODUC: Your redirect --

17 MR. MIZELL: Was whether or not the CWF H3+  
18 included the Biological Opinions.

19 We're now talking about what the detail is of  
20 the Incidental Take Permit, an entirely different  
21 permit, and beyond the scope of my redirect.

22 MR. BEZERRA: Can I --

23 CO-HEARING OFFICE DODUC: Hold on.

24 Did you wish to answer?

25 MR. DEERINGER: No.

1 MR. BEZERRA: Mr. Mizell based his questions  
2 on this graphic which contains the phrase "further  
3 updated Spring Outflow Criteria" and I'm attempting to  
4 explore what those are.

5 CO-HEARING OFFICE DODUC: The graphic contains  
6 a lot of other things that he did not include in his  
7 redirect, and his redirect did focus on just the  
8 Biological Opinions.

9 So let's keep to that, Mr. Bezerra.

10 MR. BEZERRA: Okay. One -- One further  
11 question.

12 When you say that CWF H3+ included the Spring  
13 Outflow Criteria from the Biological Opinions, you are  
14 assuming that the only Project operations that DWR and  
15 Reclamation would undertake to meet those would be  
16 reductions of exports to 1500 cfs; correct?

17 WITNESS REYES: So, I'm being careful.

18 Please repeat that question. I -- I can't  
19 remember if you're talking about a requirement or an  
20 operational decision.

21 MR. BEZERRA: When you state that CWF H3+  
22 reflects the Biological Opinion's Spring Outflow  
23 Criteria, you are assuming that the only --

24 CO-HEARING OFFICE DODUC: Are you assuming?

25 MR. BEZERRA: Are you assuming that the only

1 Project operations DWR and Reclamation would undertake  
2 to meet those criteria would be reductions of exports  
3 to 1500 cfs?

4 WITNESS REYES: The modeling assumes the  
5 criteria, yeah.

6 CO-HEARING OFFICE DODUC: So that was a yes?

7 WITNESS REYES: It modeled it by reducing  
8 exports to 1500 cfs.

9 MR. BEZERRA: And so there are no storage  
10 releases in that modeling to implement the Biological  
11 Opinion's Spring Outflow Criteria; correct?

12 WITNESS REYES: Not for April and May.

13 MR. BEZERRA: How about for March?

14 WITNESS REYES: Yeah, I'm not -- I'm unclear  
15 on March. I think there may be releases in March  
16 because it's an outflow requirement.

17 MR. BEZERRA: So you're -- you're not sure if  
18 the CWF H3+ modeling includes storage releases in order  
19 to meet the spring outflow requirements in the  
20 Biological Opinions?

21 CO-HEARING OFFICE DODUC: Miss Morris.

22 MS. MORRIS: Objection.

23 I think -- One, I do think this is way going  
24 the scope of the redirect.

25 And, secondly, I think it's unclear and maybe

1 it's causing the witness confusion about the existing  
2 Biological Opinions or new requirements for spring  
3 outflow, because there are different requirements and  
4 Mr. Bezerra is not being specific.

5 CO-HEARING OFFICE DODUC: Mr. Bezerra.

6 MR. BEZERRA: I apologize for my lack of  
7 specificity.

8 I meant the California WaterFix Biological  
9 Opinions.

10 WITNESS REYES: Okay. As I read -- Sorry.

11 As I read my -- my assumptions, it's -- March  
12 is based on Eight-River Index, and to be achieved to  
13 the extent possible through total Delta exports, such  
14 as exports do not fall below 1500 cfs. So it's the  
15 same as April and May.

16 MR. BEZERRA: Thank you.

17 CO-HEARING OFFICE DODUC: Thank you,  
18 Mr. Bezerra.

19 Miss Meserve.

20 MS. MESERVE: Good evening. I just have one  
21 question followup regarding the Fish and Wildlife  
22 Service Biological Opinion.

23 RE-CROSS EXAMINATION BY

24 MS. MESERVE: Mr. Reyes, are you aware that  
25 the Fish and Wildlife Service Biological Opinion

1 SWRCB-105 does not approve actual operation of the  
2 proposed CWF?

3 CO-HEARING OFFICE DODUC: There might be --

4 MR. MIZELL: Objection.

5 CO-HEARING OFFICER DODUC: -- beyond the scope  
6 of redirect.

7 MR. MIZELL: You read my mind, yes.

8 Objection beyond the scope.

9 CO-HEARING OFFICE DODUC: Oh, please. That's  
10 a horrifying thought, Mr. Mizell.

11 (Laughter.)

12 MS. MESERVE: Well, I believe Mr. Mizell asked  
13 if the modeling for operation included the requirements  
14 of the Biological Opinions. And I think it's a  
15 misstatement to characterize for the witness to be  
16 discussing the Biological Opinion as if it -- or at  
17 least the Fish and Wildlife Service one includes  
18 operation of the Project, because it does not.

19 On Page 2 of that Biological Opinions, it says  
20 that additional approvals would be needed.

21 CO-HEARING OFFICE DODUC: Yes. We're talking  
22 about the modeling assumptions and . . .

23 I think it's understood, Miss Meserve.

24 MS. MESERVE: Okay.

25 CO-HEARING OFFICER DODUC: Okay. That's it.

1 That's all.

2 I won't keep you any longer, but let me take a  
3 moment and thank all of you and your cohorts who have  
4 already abandoned you.

5 I appreciate you providing your expertise to  
6 these proceedings. Please know that your torture was  
7 not in vain, that you have added value to this process.

8 But most of all I want to commend you on your  
9 professionalism, your patience, your -- your . . .  
10 attitude of cooperation and willingness to help all of  
11 the cross-examiners and all of us to better understand  
12 the important analysis and contribution that you've  
13 made to this Project. Your conduct has been exemplary.

14 I thank you, and you have my gratitude going  
15 forward.

16 Should Mr. Mizell seek to bring you back for  
17 rebuttal or, if necessary, for Part 3, and you wish to  
18 get a promotion or a raise, consider this an unofficial  
19 personal endorsement from me.

20 (Panel 3 excused.)

21 CO-HEARING OFFICER DODUC: And with that, we  
22 will adjourn until Monday at 9:30.

23 And are we here in this -- in this room?

24 MR. DEERINGER: We are.

25 CO-HEARING OFFICER DODUC: All right. Thank

1 you all.

2 MR. MIZELL: Thank you.

3 (Proceedings adjourned at 5:45 p.m.)

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1 State of California )  
2 County of Sacramento )

3

4 I, Candace L. Yount, Certified Shorthand Reporter  
5 for the State of California, County of Sacramento, do  
6 hereby certify:

7 That I was present at the time of the above  
8 proceedings;

9 That I took down in machine shorthand notes all  
10 proceedings had and testimony given;

11 That I thereafter transcribed said shorthand notes  
12 with the aid of a computer;

13 That the above and foregoing is a full, true, and  
14 correct transcription of said shorthand notes, and a  
15 full, true and correct transcript of all proceedings  
16 had and testimony taken;

17 That I am not a party to the action or related to  
18 a party or counsel;

19 That I have no financial or other interest in the  
20 outcome of the action.

21

22 Dated: March 8, 2018

23

24

25

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Candace L. Yount, CSR No. 2737