

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

In the Matter of:)
)
)
PUBLIC HEARING TO CONSIDER TAKING)
AN EMERGENCY DROUGHT-RELATED WATER)
RIGHTS ACTION ON A PETITION FOR)
TEMPORARY URGENCY CHANGE FILED BY)
THE DEPARTMENT OF WATER RESOURCES)
AND THE UNITED STATES BUREAU OF)
RECLAMATION REGARDING TEMPORARY)
RELAXATION OF THE)
FEBRUARY DELTA OUTFLOW AND THE SAN)
JOAQUIN RIVER FLOW OBJECTIVES IN)
RESPONSE TO CURRENT DRY CONDITIONS)
)
~~~~~ )

JOE SERNA JR./CalePA BUILDING  
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SACRAMENTO, CALIFORNIA

VOLUME II

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LICENSE NUMBER 13196

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Dr. Jonathan Rosenfield, The Bay Institute

Mr. Bill Jennings, California Sportfishing Protection  
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## INDEX OF PROCEEDINGS

--o0o--

|                                                                         | Page |
|-------------------------------------------------------------------------|------|
| Opening Remarks                                                         | 1    |
| Opening Statement, Russ Brown                                           | 1    |
| Opening Statement, The Bay Institute                                    | 19   |
| Opening Statement, California<br>Sportfishing Protection Alliance       | 134  |
| Closing Statement, Kern County Water<br>Agency, State Water Contractors | 163  |
| Closing Statement, Butte<br>Environmental Council                       | 166  |
| Closing statement, The Bay Institute                                    | 170  |
| Closing Statement, California<br>Sportfishing Protection Alliance       | 172  |
| Closing Statement, South Delta Water<br>Agency                          | 175  |
| Closing Statement, County of San<br>Joaquin                             | 178  |
| Closing Statement, Department of<br>Water Resources                     | 184  |
| Closing Comments, Co-Hearing Officer<br>Baggett                         | 188  |
| Adjournment                                                             | 190  |
| Certificate of Reporter                                                 | 191  |

--o0o--

## INDEX OF EXAMINATION

--o0o--

## WITNESSES CALLED BY DR. RUSSELL T. BROWN:

|                                  | Page |
|----------------------------------|------|
| DR. RUSSELL T. BROWN             | 2    |
| DIRECT TESTIMONY BY DR. BROWN    | 2    |
| CROSS-EXAMINATION BY MR. JACKSON | 9    |
| CROSS-EXAMINATION BY MR. BOBKER  | 14   |
| CROSS-EXAMINATION BY MR. WAGNER  | 15   |

## WITNESSES CALLED BY THE BAY INSTITUTE:

|                                    | Page |
|------------------------------------|------|
| DR. JONATHAN ALAN ROSENFELD        | 23   |
| DIRECT EXAMINATION BY MR. BOBKER   | 23   |
| CROSS-EXAMINATION BY MR. HERRICK   | 29   |
| CROSS-EXAMINATION BY MR. JACKSON   | 35   |
| CROSS-EXAMINATION BY MR. WAGNER    | 49   |
| CROSS-EXAMINATION BY MR. RUBIN     | 52   |
| CROSS-EXAMINATION BY MR. SCHULZ    | 88   |
| CROSS-EXAMINATION BY MS. CROTHERS  | 101  |
| REDIRECT EXAMINATION BY MR. BOBKER | 118  |
| RE-CROSS-EXAMINATION BY MR. RUBIN  | 121  |

## WITNESSES CALLED BY CALIFORNIA SPORTFISHING PROTECTION ALLIANCE:

|                                   | Page |
|-----------------------------------|------|
| BILL JENNINGS                     | 137  |
| DIRECT EXAMINATION BY MR. JACKSON | 137  |
| CROSS-EXAMINATION BY MR. RUBIN    | 146  |
| CROSS-EXAMINATION BY MR. SCHULZ   | 154  |

--o0o--

## INDEX OF EXHIBITS

--o0o--

|         | Ident                                                                                                                                                | Evid |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|         | Dr. Russell Brown                                                                                                                                    |      |
| Brown1  |                                                                                                                                                      | 19   |
| Brown2  |                                                                                                                                                      | 19   |
| Brown3  |                                                                                                                                                      | 19   |
|         | The Bay Institute                                                                                                                                    |      |
| TBI1    |                                                                                                                                                      | 131  |
| TBI2    |                                                                                                                                                      | 131  |
| TBI3    |                                                                                                                                                      | 131  |
|         | San Luis & Delta-Mendota<br>Water Authority and<br>Westlands Water District                                                                          |      |
| SLDMWA1 |                                                                                                                                                      | 133  |
| SLDMWA2 |                                                                                                                                                      | 133  |
|         | California Sportfishing<br>Protection Alliance                                                                                                       |      |
| CSPA1   |                                                                                                                                                      | 157  |
| CSPA2   |                                                                                                                                                      | 157  |
| CSPA3   | 3a through 3d                                                                                                                                        | 157  |
|         | Official Notice                                                                                                                                      |      |
| SWRCB1  | 2009 California Department<br>of Fish and Game smelt<br>larvae survey                                                                                | 158  |
| SWRCB2  | Biological Opinion issued<br>December 2008 by the US<br>Fish and Wildlife Service                                                                    | 158  |
| SWRCB3  | Letter dated 26<br>September 2008 from the<br>State Water Resources<br>Control Board Executive<br>Director to Mr. Phil<br>Isenberg, Bay-Delta Vision | 158  |
| SWRCB4  | California Department of<br>Fish and Game 2009 spring<br>Kodiak survey, September 9,<br>2009 to September 13, 2009                                   | 159  |



1 P R O C E E D I N G S

2 --o0o--

3 CO-HEARING OFFICER BAGGETT: Let's go back on  
4 the record and continue the hearing from last night.

5 Why don't we start backwards. We've completed  
6 the South Delta, Butte Environmental Council, and they  
7 did send a note with their closing brief, arguments, I  
8 think last night or this morning, which everyone  
9 should -- will get a copy of.

10 And EDF is not here, but they completed --  
11 they said they'd send in their closing statement by  
12 noon.

13 So with that, let's just start at the bottom  
14 here and go to the top. Let's start with Russ Brown,  
15 and then we'll go to the Bay Institute, and then CSPA.

16 DR. BROWN: Thank you. Good morning. My name  
17 is Russ Brown, and I believe I'm just representing  
18 myself as a citizen.

19 Based on my working experience in the Delta, I  
20 have some additional information that I'd like to  
21 present to the Hearing Officers and the staff. I think  
22 it's directly related to the hearing.

23 It's really on key Issue Number 8 which asks  
24 whether there were additional conditions or variances  
25 that might be granted at the same time that this

1 episode of an emergency request was occurring.

2 I sent a letter to Mrs. Rice on the 9th of  
3 February because I saw this issue emerging, and so it  
4 was sort of right on top of DWR and Reclamation's  
5 request. And what I am wanting to testify this morning  
6 to is somewhat in that letter, the issues are.

7 And then I prepared what is my Exhibit 3,  
8 which I hope you have, and it is just the main points  
9 that I'm going to summarize now.

10 So I am suggesting to the Board that this  
11 might be a fruitful opportunity to reconsider the  
12 allocation of water during low inflow periods such as  
13 we experienced in January and the first part of  
14 February; and I am trying to present this information  
15 in the form of an allocation table, and so I have that  
16 as my Table 1 which I'm hoping that you have a copy of  
17 that I can refer to for the remainder of my testimony.

18 DR. RUSSELL T. BROWN

19 Called by RUSS BROWN

20 DIRECT EXAMINATION BY DR. BROWN

21 DR. BROWN: What this table is is just  
22 identifying that for a particular objective in D-1641  
23 during the X2 time period, and then for a given inflow  
24 that day, there is an allocation of where the water  
25 would go.

1           And I'm suggesting that there's simply three  
2 places that the water goes that's coming into the  
3 Delta. The first place it goes to all the in-Delta  
4 diverters and in-Delta uses of water.

5           So in February, the number that DWR and  
6 Reclamation assumed represents that in-Delta use is  
7 about a thousand cfs. So that is just assumed to go to  
8 those beneficial users and is really not in the  
9 allocation.

10           So the allocation tables that I am saying  
11 really are the result of the D-1641 objective is a  
12 column of numbers saying for how much outflow would be  
13 allowed for export. So if you can refer to my Table 1,  
14 I'm showing the allocation of water for both outflow  
15 and export that results from the various objectives  
16 that are in play during the X2 period.

17           Now I'm suggesting that a 4500 cfs minimum  
18 outflow which is the January minimum outflow for this  
19 year because the December runoff was less than 800,000  
20 so that leaves the outflow at 4500, it provides then  
21 the remainder of the water is allowable for exports.

22           And if this were the only objective, 4500 --  
23 so I'm just now referring to actual January  
24 conditions -- then you can see that at an inflow of  
25 10,000, which was very close to what that January

1 inflow was, the allowed exports would be 4500 which  
2 in -- I'm just showing that in green -- that would be  
3 where the outflow allocation and the export allocation  
4 balance.

5           And then as inflow got higher, then 10,000,  
6 approaching 16,000.

7           I'm just indicating in blue that at that point  
8 if this were the only objective in play, which in  
9 January that would be true -- or would be one of them  
10 in January -- then at about 16,000 inflow full exports  
11 of around 10,000 could also be made under this  
12 allocation rule.

13           And then just one further column over is  
14 showing what the allocation would be if the  
15 Collinsville X2 were in play and if that was the  
16 appropriate objective for February which would be true  
17 during some low runoff years. And as was testified  
18 yesterday, that one was sort of only in play for four  
19 days, and then for the rest of February it would have  
20 switched up or is switched up to the 11,400.

21           And I'm showing just the comparison of the  
22 allowable exports under those three different  
23 objectives, Outflow Objectives, that would have been  
24 allocated to exports.

25           And of course, nothing is as simple. Of

1 course, there are also the EI ratio which is another  
2 very adaptive objective that is in play during the X2  
3 period. The basic EI is 35 percent, but in February  
4 because the outflow -- sorry -- the runoff index in  
5 January was low, you already have in D-1641 in your set  
6 of objectives and exemptions the February EI is  
7 45 percent this year.

8           And I have the 45 percent which now is two  
9 columns over showing out of 45 percent EI ratio again  
10 for the different inflows and for 1,000 assumed used in  
11 the Delta what the allocation between outflow and  
12 exports would have been. And you can see those.

13           And because it would be at 45 percent, there  
14 would have to be an inflow of around 23,000. I'm  
15 showing to get up to an allowed export of 10,000. And  
16 the outflow at that point would be around a little more  
17 than 11,000.

18           So again, at that point, the two allocations  
19 are sort of balanced. And what I'm suggesting is --  
20 the main point I'm trying to make with this example is  
21 that the X2 standards, which are very adaptive, you  
22 have several footnotes and conditions and runoff  
23 judgments, I'm suggesting is not a, sort of the --  
24 well, I'm thinking it's not the best or most reasonable  
25 allocation of our limited water in low runoff years

1 like we've experienced.

2           And I am suggesting that a 4500 might be  
3 considered, in a sort of a modification of the X2  
4 standards for drought years like we're in, and that I'm  
5 asking -- or suggesting that the Board and staff might  
6 take this opportunity following this incident to,  
7 together with stakeholders, investigate how the  
8 allocation of water is working under the D-1641 rule  
9 set and seeing if there aren't some adjustments that  
10 should be made as a new rule so that when this storm  
11 pattern passes and we're receded to perhaps another  
12 episode of dry inflow we have sort of a new set of  
13 rules just lightly modified in the criteria and  
14 exemptions and what kind of conditions would the  
15 different outflows apply, fix this trouble that we ran  
16 into in January on a long-term basis.

17           And just to end on -- I'm certainly -- I am  
18 not telling you what the proper or what the best  
19 allocation of water is between outflow and exports.

20           And I'm suggesting that of course under  
21 D-1641, which attempts to balance all of the known  
22 beneficial uses and needs of the estuary fish and  
23 habitat, this is the balancing that needs to show up in  
24 an allocation table.

25           So again, in simple terms, my only point is in

1 the conditions that we found ourselves in, in a very  
2 low February or January runoff index controlling the  
3 February objectives, the allocation table that we were  
4 working off of had this very high outflow allocation.

5           And just assuming that the choice was between  
6 7100 and 4500, that is 5,000 acre feet a day. And I'm  
7 suggesting in my letter that you can sort of attach  
8 some value or some potential uses to that water. It's  
9 about two and a half million dollars' worth of water.  
10 It could have the annual water supply for 10,000  
11 families. Or it could irrigate two and a half square  
12 miles.

13           If our choice is between the 11-4 and the 7-1  
14 during low runoff periods like we're experiencing, then  
15 it's a choice -- that choice each day is 8,000 acre  
16 feet. And so that would be even more value attached to  
17 the water or potential beneficial uses of that water.

18           And so what that needs to be balanced with --  
19 and I'm not giving you the answer; I do not have the  
20 answer -- is what are the equivalent or appropriate  
21 benefits or needs of the estuary that could be balanced  
22 against this allocation of water that is inherent in  
23 following the current objectives.

24           So I've maybe gone over my five minutes.

25           But my point is asking that you would use this

1 opportunity from this episode that occurred to  
2 reexamine the low end of the X2 objectives and see if  
3 this is the most appropriate allocation rule to apply  
4 to these low runoff year conditions or low runoff  
5 months -- which I'm not saying is going to happen more  
6 this year.

7           But we might be in a '77 or '90 or '91 where  
8 we are going to have subsequent months of low runoff,  
9 and so I'm saying: How about using this chance to  
10 rethink your allocation of water for these lowflow  
11 periods?

12           Thank you.

13           CO-HEARING OFFICER BAGGETT: Thank you. Have  
14 a seat here, and we'll -- let's go off the record just  
15 a second.

16           (Discussion off the record)

17           CO-HEARING OFFICER BAGGETT: Let's go back on  
18 the record, and we'll go -- and you did take the oath  
19 yesterday?

20           DR. BROWN: Yes, I did.

21           CO-HEARING OFFICER BAGGETT: With that, any  
22 cross-examination from the Department of Water  
23 Resources?

24           MS. CROTHERS: No.

25           CO-HEARING OFFICER BAGGETT: From the Bureau?



1 Mr. Herrick, et al.?

2 MR. HERRICK: No.

3 CO-HEARING OFFICER BAGGETT: CSPA.

4 MR. JACKSON: Yes.

5 CO-HEARING OFFICER BAGGETT: Mr. Jackson.

6 CROSS-EXAMINATION BY MR. JACKSON

7 FOR CALIFORNIA SPORTFISHING PROTECTION ALLIANCE

8 MR. JACKSON: Mr. Brown, if I understand your  
9 testimony, it is actually not about an urgency permit.

10 DR. BROWN: Well, I think it's very -- I think  
11 it's directly connected to the urgency request.

12 MR. JACKSON: How?

13 DR. BROWN: Because Issue 8 asked: Are there  
14 additional conditions that should be considered at the  
15 same time? And so I'm saying that it's relevant in  
16 that regard.

17 MR. JACKSON: So you're not here on any of the  
18 other seven items?

19 DR. BROWN: Well, I'm generally saying that my  
20 analysis supports the request for an exemption during  
21 the low flow periods that we had in early February; but  
22 primarily, I'm addressing these additional changes that  
23 I feel the Board could make during this drought  
24 condition to sort of rework the low end of the X2  
25 objective scenarios.

1           MR. JACKSON: Are you talking about changes  
2 the Board could make outside of the February 1,  
3 February 28 request for this urgency petition?

4           DR. BROWN: I'm suggesting that what I am  
5 asking for would be an additional relaxation that they  
6 could grant in the February period. And I'm suggesting  
7 that they consider extending it via a modified rule for  
8 drought years into the next two months.

9           MR. JACKSON: Have you had any conversations  
10 about extending this with any members of DWR?

11          DR. BROWN: No. I am submitting this  
12 information just based on my awareness that this part  
13 of the water allocations is problematic in dry years,  
14 and it came up this year, and just contributing this  
15 information or this viewpoint to these proceedings.

16          MR. JACKSON: Do you -- have you worked for  
17 DWR within the last three or four years?

18          DR. BROWN: Yes. I've worked for many of the  
19 water parties in my day job.

20          MR. JACKSON: But this is outside your day  
21 job? Is that --

22          DR. BROWN: This is. This is just myself as  
23 an informed citizen offering this request.

24          MR. JACKSON: And your request is that D-1641  
25 should be -- standards for outflow should be set aside

1 permanently in this hearing?

2 DR. BROWN: I'm saying that D-1641 is full of  
3 year-type conditions, monthly conditions, and water  
4 runoff triggers and thresholds and interpolations.

5 And I'm saying that that is a great adaptive  
6 management approach to -- you know, it's a set of rules  
7 that are intended to be followed in all subsequent  
8 conditions.

9 But what I think we have potentially here is  
10 an allocation rule set that just is not appropriate at  
11 dry, drought conditions considering the common good of  
12 all Californians who need water supply and the estuary.

13 So it's that balancing that I'm suggesting  
14 does not work out at the low end of the existing X2  
15 rule set.

16 MR. JACKSON: But your purpose in being here  
17 is to use Item 8 to set aside the outflow rules on a  
18 permanent basis?

19 DR. BROWN: I am not setting aside any rules.

20 I'm suggesting that the staff and stakeholders  
21 take an opportunity to reevaluate the allocation that  
22 results from the existing objectives and possibly make  
23 modifications to that. These modifications, of course,  
24 would be made in appropriate procedures and would  
25 become then the new allocation rules.

1 MR. JACKSON: For the future?

2 DR. BROWN: For the future.

3 MR. JACKSON: Mr. Baggett, I would move to  
4 strike the testimony on the grounds it's outside the  
5 scope of this hearing.

6 The idea of changing D-1641 rules without a  
7 hearing and without notice to anyone else seems to me  
8 to be outside the procedures. It wasn't noticed for  
9 this purpose.

10 DR. BROWN: Of course, I'm not suggesting  
11 rules be changed, Mr. Jackson.

12 I'm suggesting that this episode trigger an  
13 investigation or study by the Board and their staff so  
14 that this allocation could possibly be modified.

15 And I wrote my letter not knowing there was a  
16 hearing, and I'm using the hearing as an opportunity to  
17 let you hear these same ideas as well the Board.

18 MR. JACKSON: And I think that reemphasizes  
19 what I'm saying.

20 The people who would be affected by the change  
21 that he's talking about, or the investigation he's  
22 talking about, are not here because of the limited  
23 nature of the notice lasting only through February.

24 What he's asking for now is something that  
25 could be noticed on its own.

1           So I would move to strike his testimony  
2 completely.

3           CO-HEARING OFFICER BAGGETT: I think the  
4 evidence he's presented is relevant. Whether his  
5 request is -- legally, is not the corpus of the -- I  
6 would agree with that.

7           But we will accept the information into the  
8 record. The technical information is relevant, is on  
9 point. He's discussing options for flows.

10           But his conclusion or why he's presenting it  
11 is not evidence. That's a legal argument; I would  
12 agree with you, and that's not an issue before us,  
13 future.

14           So for that purpose, it's not acceptable.  
15 It's acceptable as alternative flow pattern.

16           Just the technical evidence, I see no  
17 prejudice to any party. I would agree the legal  
18 argument's not on point, but we won't accept it as a --  
19 how do we phrase that?

20           We are not allowing the new issue to be  
21 raised.

22           SENIOR STAFF COUNSEL MAHANEY: Perhaps I could  
23 clarify.

24           I understand the -- your broader desire to  
25 have the Board look at these issues. But with respect

1 to this hearing, you said you were addressing Issue  
2 Number 8; is that correct?

3 DR. BROWN: Yes.

4 SENIOR STAFF COUNSEL MAHANEY: And is that as  
5 pertains to the petition pending before the Board right  
6 now?

7 DR. BROWN: Right. I'm suggesting the Board  
8 should entertain an even lower minimum outflow  
9 requirement during drought.

10 CO-HEARING OFFICER BAGGETT: I'll accept the  
11 evidence. But I understand what the evidence is used  
12 for is to go to Issue 8, not to go to a new proceeding.

13 Okay. Where are we at now? Bay Institute?

14 CROSS-EXAMINATION BY MR. BOBKER

15 FOR THE BAY INSTITUTE

16 MR. BOBKER: Hi, Russ.

17 DR. BROWN: Hi, Gary.

18 MR. BOBKER: Russ, in making your  
19 recommendations about changes to minimum outflows, did  
20 you do any analysis of the effects on abundance or  
21 other habitat conditions of changing those outflows in  
22 dryer years?

23 DR. BROWN: I did an analysis of the changes  
24 in salinity. As you know, going from flow to fish  
25 requires that we track what actually the flow

1 changes -- the most physical thing, the thing we can  
2 actually analyze or evaluate, is how the salinity field  
3 changes.

4           And then of course my answer is no, I have no  
5 way of knowing how a slightly shifted salinity field  
6 will affect the abundance of fish.

7           And that is what the Board -- and that is  
8 the -- that's the problem, isn't it? That we don't  
9 have a quantitative way of identifying fish benefits in  
10 the same way that we can identify salinity changes or  
11 flow changes. That's what makes this allocation  
12 difficult.

13           But I could take it as far as showing that the  
14 shift in salinity will be relatively minor compared to  
15 the habitat regions that the fish inhabit during this  
16 early spring period, as Dr. Chotkowski mentioned  
17 yesterday.

18           But I did no independent abundance analysis.

19           MR. BOBKER: Thanks.

20           CO-HEARING OFFICER BAGGETT: EDF is not here.  
21 Butte Environmental Council?

22           CROSS-EXAMINATION BY MR. WAGNER

23           FOR BUTTE ENVIRONMENTAL COUNCIL

24           MR. WAGNER: I'm Keith Wagner with Butte  
25 Environmental Council.

1           A question I have: You mentioned that if the  
2 X2 standards were changed, that would result in less  
3 water being -- flowing to the Delta, more being stored  
4 for potential uses including urban and agricultural  
5 uses; is that correct?

6           DR. BROWN: That is correct.

7           MR. WAGNER: And do you view that amount of  
8 water that would be saved for such purposes to be  
9 substantial?

10          DR. BROWN: I think it would be very  
11 substantial.

12          MR. WAGNER: Thank you.

13          CO-HEARING OFFICER BAGGETT. San Luis, Delta,  
14 Butte, State Water Contractors? Stockton East? No  
15 questions. I don't think there's any redirect.

16          Would you like to submit your testimony into  
17 the record, your evidence?

18          DR. BROWN: If I could, I have organized it as  
19 directed. So my Exhibit 1 is my resume. My Exhibit 2  
20 is the February 9 letter to Ms. Rice. And Exhibit 3 is  
21 my written testimony for today.

22          CO-HEARING OFFICER BAGGETT: Any objection?

23          MR. JACKSON: Yes. On the same grounds.

24          I believe it lacks relevance. I believe it's  
25 outside the scope of his testimony -- is outside the



1 scope of the hearing notice, and should be stricken  
2 entirely.

3 MR. HERRICK: Mr. Chairman, John Herrick,  
4 South Delta. I would join in that request.

5 Both the written testimony and the verbal  
6 testimony by Mr. Brown clearly state that he's asking  
7 the Board to reexamine and make long-term changes in  
8 D-1641. That's not the subject here.

9 His evidence or testimony with regard to the  
10 issues of this hearing are that he thinks it would be  
11 better to reallocate the waters of the state of  
12 California.

13 That does not go to any of the issues before  
14 the Board today which are urgency; public health and  
15 safety, perhaps; unreasonable effects on fish and  
16 wildlife. And none of his testimony goes to those  
17 issues.

18 I don't think it should be accepted as  
19 evidence.

20 CO-HEARING OFFICER BAGGETT: Anyone else wish  
21 to speak? Without going through line by line --  
22 there's no prejudice to Exhibit 1, the resume. Accept  
23 that.

24 Exhibit 2, technical background -- or the  
25 letter. I'm trying to struggle with a way -- some of

1 this is clearly relevant and will be useful. Without  
2 going through it line by line, I think we could accept  
3 it for -- we could accept the evidence as relevant to  
4 the Issue 8 raised in the hearing, which is why he  
5 presented it; and the Board will not rely on any  
6 evidence submitted in its order, treat it as hearsay  
7 and not rely -- make findings on any order unless it's  
8 specifically on point to Issue 8.

9           Otherwise, we'll be going through every table,  
10 I don't think that's expeditious at all.

11           With that, it's -- Mr. Rubin?

12           MR. RUBIN: I apologize for not speaking on  
13 this earlier, but there may be relevance for the  
14 information beyond Issue 8.

15           I understand that, the limited scope of the  
16 proceeding, and I think that that needs to be  
17 respected.

18           I think that you could consider the testimony  
19 that Mr. Brown has presented in the context of the  
20 petition and whether it would be in the public interest  
21 to grant the petition before you, even if it's  
22 addressing time periods outside of the requested  
23 change.

24           And so I would ask that you deny the motions  
25 that have been made and accept it, but simply condition

1 the acceptance on consideration of the testimony as  
2 relevant to the proceeding as noticed and not limit it  
3 to condition 8.

4 CO-HEARING OFFICER BAGGETT: Any objection to  
5 that?

6 MR. JACKSON: Yes, of course.

7 CO-HEARING OFFICER BAGGETT: Deny the  
8 objection. Accept the evidence as relevant, portions  
9 that are relevant.

10 (Whereupon Exhibits Brown 1-3 were  
11 accepted in evidence.)

12 DR. BROWN: Thank you.

13 CO-HEARING OFFICER BAGGETT: Thank you.

14 With that, let's go to The Bay Institute.

15 MR. BOBKER: I'm Gary Bobker with The Bay  
16 Institute. We're here to oppose the petition submitted  
17 by DWR and the Bureau.

18 I want to start, though, by saying that the  
19 issues raised by the petitioners are not trivial. The  
20 state of the current storage in the system, low levels  
21 of storage, are real and of serious concern; and the  
22 challenges of operating the water system under -- you  
23 know, with a variety of constraints and challenges is  
24 challenging.

25 So -- and we have a lot of sympathy for that.

1     However, we have a few pretty serious concerns which we  
2     want to discuss in our testimony.

3             The first is that we don't think that The  
4     Projects have demonstrated an urgent need to do the  
5     specific relaxation that they propose.

6             It's one thing to be concerned about low  
7     levels of storage; it's another thing to actually  
8     provide the analysis to the Board on which to make a  
9     decision about whether that action will actually result  
10    in the benefits that are proposed.

11            There's -- there was no -- no probability  
12    analysis of the ability of The Projects using the  
13    relaxation to provide particular levels of protection  
14    of salmon upstream, no real quantitative or probability  
15    analysis of the effects of different ways of managing  
16    storage, export operations, deliveries, et cetera  
17    throughout the season, the effect that that would have  
18    on the ability to provide salmon protections later.

19            The petition claims to balance interests, but  
20    it doesn't give you the information to do that. And  
21    there is some serious question about whether the  
22    benefits that they propose would actually accrue, and  
23    our testimony will raise some of the questions that we  
24    think would need to be addressed in order to be able to  
25    determine whether in fact you would get those upstream

1 protections.

2 I'll also note that, you know, in effect the  
3 Board has already made a balancing decision. It has  
4 decided that, you know, by designing the X2 -- the  
5 Delta Outflow Objectives are very sensitive to  
6 hydrological conditions. You've done a balancing.

7 And if you're asked to rebalance, you really  
8 need quite a bit of information, I think, to do that.  
9 And I don't think you have been given that, and we'll  
10 address that in our testimony.

11 The second is that the proposed relaxation  
12 would cause significant adverse impacts to estuarine  
13 fish and fish habitat conditions. And the petition  
14 just dismisses the very strong scientific evidence that  
15 reduced outflow will have significant impacts on the  
16 abundance of estuarine species.

17 The flow abundance relationships on which the  
18 Delta Outflow Objectives are based are strong, they're  
19 continuous across the range of flows, and the  
20 implications of reducing outflow on the abundance of  
21 species which are at record low levels of abundance,  
22 which are at dire risk of extinction, is a very serious  
23 implication for the action that you've been asked to  
24 approve.

25 The petition also really misinterprets or

1 misrepresents much of the basis for the Delta Outflow  
2 Objectives. It confuses theories about underlying  
3 causal mechanisms with the fact of the relationship  
4 itself.

5           And we'll address these concerns about the way  
6 the petition either underestimates the effects or  
7 misrepresents the scientific basis in our testimony.

8           Finally, the petition does not address the  
9 effects of export operations on conditions for  
10 estuarine fish and estuarine habitat when outflows are  
11 reduced. The fact is that there is a strong  
12 relationship between outflow conditions and the effects  
13 of exports on entrainment and distribution, and we'll  
14 discuss those in our testimony.

15           And in fact, we have seen that, since  
16 obviously this petition is about actions that have  
17 already taken place, during the period when outflow  
18 were not being met, The Projects did increase exports.

19           We had a lot of testimony about that  
20 yesterday. I think it's uncontested that they  
21 increased exports at most of their minimum critical  
22 health and safety levels by up to about 2,000, 2500  
23 cfs.

24           That -- not only could that amount of water  
25 have been used to partially or wholly meet the standard

1 on some days which, because the relationships between  
2 flow and abundance are continuous meant you would have  
3 gotten benefits, but also we actually experienced take  
4 of fish and changes in the distribution of populations  
5 in the Delta.

6 Our Exhibit 1 testimony and Dr. Rosenfeld's  
7 testimony will address that point. Exhibit 3 merely  
8 summarizes the information posted on the Department of  
9 Water Resources' website about the level of exports.

10 That concludes my opening statement, and we  
11 have Dr. Jon Rosenfield of my staff here to testify.

12 DR. JONATHAN ALAN ROSENFELD

13 Called by The Bay Institute

14 DIRECT EXAMINATION BY MR. BOBKER

15 MR. BOBKER: His written testimony is  
16 contained in Exhibit 1 with attachments A and B. His  
17 statement of qualifications is in Exhibit 2.

18 Jon, is Exhibit 1 a true copy of your  
19 testimony?

20 DR. ROSENFELD: It is.

21 MR. BOBKER: And is Exhibit 2 a true copy of  
22 your qualifications, statement of qualifications?

23 DR. ROSENFELD: It is.

24 MR. BOBKER: Okay. I'd like to ask  
25 Dr. Rosenfield at this time to summarize his written

1 testimony for the Board.

2 DR. ROSENFELD: Thanks to the members of the  
3 Board for providing this opportunity to provide  
4 testimony about the Department of Water Resources' and  
5 Bureau of Reclamation's petition.

6 I want to open by saying that there may be  
7 good biological reasons to reduce releases from CVP and  
8 SWP storage facilities in the Sacramento River Basin  
9 for the protection of spawning, incubating, and rearing  
10 salmon later in the season.

11 However, the petition does not document the  
12 potential magnitude or specific allocation of the  
13 reductions by identifying runs or life stages of runs  
14 that are perceived to benefit and, from my point of  
15 view, just makes it impossible to assess the alleged  
16 benefits of enhanced upstream storage or to weigh them  
17 against the negative impacts of reducing Delta inflows  
18 and outflows.

19 I'm not sure, basically, that there will be  
20 significant benefits to salmon and steelhead upstream  
21 from this action, and I'm not convinced that the  
22 benefits are greater than the negative impacts that  
23 would result from reduced Delta outflow.

24 On page 9 of my testimony, I identify several  
25 questions that I believe the water agencies must



1 address so that the Board can understand the true costs  
2 and benefits of increasing upstream storage by relaxing  
3 Delta outflow.

4           Some of these questions are whether the  
5 agencies can meet the salmonid flow and temperature  
6 requirements and standards at all under current  
7 conditions.

8           Will the increased storage anticipated under  
9 this waiver allow for attainment of those standards?  
10 And if so, what level of protection will be provided by  
11 granting this petition?

12           The Board has to balance the benefits and --  
13 costs and benefits to salmonids against the costs and  
14 benefits to other species.

15           The proposed reductions in Delta outflow are  
16 highly likely to produce quantifiable and significant  
17 reductions in the populations of estuarine and  
18 migratory species in this estuary. The petition  
19 neglects, dismisses, and fails to document the very  
20 real and potentially large negative impacts of reduced  
21 Delta outflows.

22           Numerous species have strong freshwater flow  
23 abundance relationships including those that are listed  
24 on page 3 of my testimony. Some of these species are  
25 at dire risk of extinction.

1           The petition -- attached to the petition is a  
2 paper by Kimmerer, et al. from 2009, a recent paper,  
3 that reemphasizes, reanalyzes the abundance flow  
4 relationships and finds that they are still there, they  
5 are still in effect, they are still powerful, and they  
6 are still significant.

7           The petition itself presents an unlabeled  
8 figure. This figure --

9           MR. BOBKER: Would you reference what page  
10 it's after?

11          DR. ROSENFELD: It's after page 17 in the  
12 petition.

13          That is presented, I believe, in order to --  
14 in an effort to undermine or question whether Delta  
15 outflow and fish abundance --

16          CO-HEARING OFFICER BAGGETT: Excuse me; which  
17 page? I'm sorry.

18          DR. ROSENFELD: After page 17 in the original  
19 petition. Not in my testimony; in the petition.

20          CO-HEARING OFFICER BAGGETT: Oh, in the  
21 petition.

22          DR. ROSENFELD: Yeah. I'd give a better  
23 reference, but it's not labeled.

24          So this figure is presented in order to, I  
25 think, call into question the continued relationship or

1 strength of the relationship between outflow and  
2 estuarine species abundance. It fails to do that in a  
3 number of ways.

4 First of all, the figure -- the data are only  
5 about longfin smelt, and of course the Board has  
6 responsibility and oversight for a bunch of other  
7 species.

8 The figure contradicts the well-done analysis  
9 that is included in the Kimmerer, et al. paper attached  
10 to the petition; and it appears to violate many of the  
11 assumptions of linear statistics, which I can get into  
12 the details of.

13 But basically, I would say that this is not an  
14 analysis. It doesn't do what it purports to do.

15 The third point is that petitioners assert  
16 that the X2 standards are based on a hypothetical  
17 relationship between high outflow or low X2 and  
18 increased habitat volume for all species. And this is  
19 an incorrect assertion and also irrelevant.

20 Multiple mechanisms are likely to drive the  
21 positive freshwater flow abundance relationships of  
22 different species, and I'm not aware of any scientific  
23 paper that asserts that that particular mechanism is  
24 the one and only mechanism.

25 The paper by Kimmerer, et al. that's attached

1 to the petition actually demonstrates that the positive  
2 freshwater flow habitat volume relationships do explain  
3 or may explain a large fraction of the population  
4 response for two important species, American shad and  
5 striped bass, and that the relationship between flow  
6 and habitat volume may play a smaller role in several  
7 other estuarine species.

8           The final point is that increasing export  
9 pumping, such as to capture runoff from storm events,  
10 during a period when Delta water quality objectives are  
11 relaxed is likely to produce increased  
12 entrainment-related mortality for several at-risk  
13 species that live in or migrate through the Delta.

14           The synergistic effects of reduced Delta  
15 outflow on entrainment are particularly clear for  
16 longfin smelt, as I documented in Attachment A to my  
17 testimony.

18           And that's a summary of my testimony.

19           CO-HEARING OFFICER BAGGETT: Thank you.

20           With that, anything else? Open for cross.

21 Does the Department of Water Resources have any  
22 questions?

23           MS. CROTHERS: I would like to ask --

24           CO-HEARING OFFICER BAGGETT: Can you come up  
25 to the mic if you're going to cross-examine.

1 MS. CROTHERS: This is Cathy Crothers,  
2 Department of Water Resources. I have a few questions  
3 I would like to ask Dr. Rosenfield, but I would like to  
4 first have a moment to consult with one of the  
5 fisheries biologists that are here.

6 CO-HEARING OFFICER BAGGETT: Okay. We'll  
7 just -- I'll just continue and you can talk while we  
8 keep the hearing moving.

9 MS. CROTHERS: Thank you.

10 CO-HEARING OFFICER BAGGETT: Does the Bureau  
11 have any questions?

12 MS. AUFDEMBERGE: No, we don't.

13 CO-HEARING OFFICER BAGGETT: South Delta, et  
14 al. This is the et al. part of South Delta.

15 MR. HERRICK: Thank you, Mr. Chairman, Board  
16 Member. John Herrick with the South Delta Water  
17 Agency.

18 CROSS-EXAMINATION BY MR. HERRICK

19 FOR SOUTH DELTA WATER AGENCY

20 MR. HERRICK: Mr. Rosenfield, just a couple  
21 questions, please. I just want to highlight some of  
22 your testimony so I can -- so we're sure that we  
23 understand it.

24 You were just discussing the chart on the page  
25 following page 17 of the petition; is that correct?

1 DR. ROSENFELD: Correct.

2 MR. HERRICK: And it was your assertion that  
3 this does not accurately reflect what is currently  
4 known about population levels and Delta outflow; is  
5 that correct?

6 DR. ROSENFELD: Correct.

7 MR. HERRICK: And what was your point about it  
8 not being explained or attributed to any process or  
9 where this came from? Could you repeat that, please?

10 DR. ROSENFELD: Well, those are two separate  
11 points.

12 One is about the mechanistic, causal mechanism  
13 behind Delta outflow and fish abundance. And that's  
14 related to the Kimmerer paper that addresses that  
15 particular hypothesis.

16 This figure is demonstrated or is said to  
17 demonstrate that the relationship between Delta outflow  
18 and longfin smelt abundance is changed and weakened in  
19 recent years. And I believe that the conclusion from  
20 that is that therefore increases in flow don't affect  
21 longfin smelt, and by extension -- again, this is their  
22 argument -- by extension, that they don't affect other  
23 species.

24 MR. HERRICK: And you believe that's  
25 incorrect?

1 DR. ROSENFELD: Yes.

2 MR. HERRICK: And as part of your preparation  
3 for today, you did review the petition filed by the  
4 Bureau and DWR?

5 DR. ROSENFELD: I did.

6 MR. HERRICK: And your review included the  
7 attached paper by Dr. Kimmerer?

8 DR. ROSENFELD: Correct.

9 MR. HERRICK: Would you say that the Kimmerer  
10 paper attached to that petition stands for the  
11 proposition that there are no benefits to fish and  
12 wildlife by maintaining the February X2 flows?

13 DR. ROSENFELD: I would say that the  
14 conclusion derived from the Kimmerer paper is exactly  
15 the opposite: That freshwater flows continue to  
16 benefit multiple estuarine and migratory fish species  
17 and their prey.

18 MR. HERRICK: And you agree with what you just  
19 said, that there are benefits from maintaining that X2  
20 flow; is that correct?

21 DR. ROSENFELD: Correct.

22 MR. HERRICK: Do you know of -- let me strike  
23 that.

24 We talked about -- you talked about the water  
25 that may have been available to meet the X2 flow but

1 that was exported by The Projects during February; is  
2 that correct?

3 DR. ROSENFELD: Correct.

4 MR. HERRICK: Even if the water that was  
5 exported was allowed to go to X2, but didn't fully meet  
6 X2, would that additional water have provided  
7 additional benefits to the fish and wildlife of the  
8 system?

9 DR. ROSENFELD: As far as we know, yes.

10 The relationships between Delta outflow and/or  
11 its surrogate X2, are linear, or log linear. They are  
12 continuous, let me say that, in that incremental  
13 increases in flow seem to produce incremental benefits.

14 MR. HERRICK: And also incremental increases  
15 in exports can produce incremental detriments to fish  
16 and wildlife; is that correct?

17 DR. ROSENFELD: That's correct.

18 MR. HERRICK: And in fact, in this case, we  
19 see that when exports went up on February 11th and 12th  
20 they started taking smelt at the export pumps; is that  
21 correct?

22 DR. ROSENFELD: That's the evidence presented  
23 in Attachment B to my statement. And yes; when exports  
24 increased, smelt were taken at the pumps.

25 MR. HERRICK: Would you say that that take of



1 smelt occurring on those days indicates a potential  
2 shift in the location of some of the species of concern  
3 in the Delta?

4 DR. ROSENFELD: It indicates that the species  
5 were taken at the pump. And whether the -- that's  
6 related to a shift in distribution would be -- I'd have  
7 to look at the evidence of the distribution before and  
8 after.

9 MR. HERRICK: Does the evidence presented by  
10 the petition or the witnesses for the Department of  
11 Water Resources and the Bureau of Reclamation indicate  
12 anything about shift in populations due to the failure  
13 to meet X2 in the month of February?

14 DR. ROSENFELD: I'm sorry; could you repeat  
15 that question?

16 MR. HERRICK: Do you recall any evidence  
17 presented by DWR or the Bureau which would indicate  
18 there had not been any shift in fishery populations  
19 resulting from the failure to meet X2 in February?

20 DR. ROSENFELD: I don't recall any statement  
21 about that or any evidence in the petition.

22 MR. HERRICK: So you would agree that the  
23 record at this point doesn't show whether or not the  
24 actions taken by the Bureau and DWR adversely impacted  
25 fish?

1 I didn't say that very clearly. I'm sorry.

2 Let me move on. Forget that.

3 Let's briefly go to the cold water pool issue,  
4 if you don't mind. I understand your testimony to be  
5 that there has not -- an analysis has not been  
6 presented to the Board regarding what the benefits  
7 would be if the petition was granted; is that correct?

8 DR. ROSENFELD: I have not seen that kind of  
9 analysis.

10 MR. HERRICK: And what would that analysis  
11 include if it were presented?

12 DR. ROSENFELD: I think it would include a  
13 quantification or an estimate of the amount of water  
14 that would be stored upstream behind Central Valley  
15 Project and State Water Project dams as a result of  
16 this action, the effect of that increased storage on  
17 the cold water pool, and then a translation of the cold  
18 water pool into river miles of habitat, river miles on  
19 today's habitat that could be inundated with cold water  
20 that supports salmonid spawning and rearing.

21 MR. HERRICK: So as far as you know, we  
22 haven't been presented with any evidence regarding the  
23 amount of cold water pool that currently exists; is  
24 that correct?

25 DR. ROSENFELD: I have not seen that.

1           MR. HERRICK: And we haven't been given any  
2 information that would show how saving say 200,000  
3 additional acre feet in storage might affect that cold  
4 water pool, have we?

5           DR. ROSENFELD: I haven't seen that either,  
6 no.

7           MR. HERRICK: And so we don't know at this  
8 point whether or not the proposed actions in the  
9 petition would actually improve the cold water pool?

10          DR. ROSENFELD: We don't know the extent to  
11 which additional storage would increase the cold water  
12 pool.

13          MR. HERRICK: That's all I have. Thank you.

14          CO-HEARING OFFICER BAGGETT: Thank you.

15          CSPA. Mr. Jackson?

16          MR. JACKSON: Yes.

17          CROSS-EXAMINATION BY MR. JACKSON

18          FOR CALIFORNIA SPORTFISHING PROTECTION ALLIANCE

19          MR. JACKSON: Dr. Rosenfield, in your  
20 testimony on direct and in your answers to  
21 Mr. Herrick's cross-examination, you've indicated that  
22 there is a potential for a negative impact on species,  
23 both the species that have a significant relationship  
24 between flow and abundance and species where we simply  
25 haven't studied the results.

1           Can you tell me what negative effects on  
2 estuarine species are affected by changes in the  
3 relationship between flow and abundance?

4           DR. ROSENFELD: I'm sorry; could you ask the  
5 question again?

6           MR. JACKSON: Sure. When you indicated that  
7 you believe, on page 1 of your testimony, in line 1,  
8 that the reduction in Delta outflow proposed in the  
9 petition will have a negative effect on estuarine  
10 species, which species are you talking about?

11          DR. ROSENFELD: There are documented  
12 relationships between freshwater outflow and population  
13 abundance for Chinook salmon; American shad; longfin  
14 smelt; striped bass, both in terms of abundance and  
15 survival; Sacramento splittail; starry flounder; and at  
16 least two prey species, the bay shrimp and populations  
17 of a zooplankton, Eurytemora affinis.

18          And those have been documented -- each of  
19 those have been documented in multiple papers.

20          MR. JACKSON: And you have listed some of  
21 those papers?

22          DR. ROSENFELD: I have.

23          MR. JACKSON: What -- from those papers, what  
24 is the statistically significant positive relationship  
25 for Chinook salmon in regard to outflow in the month of

1 February?

2 DR. ROSENFELD: I can't recall the statistics  
3 or slope line off the top of my head. But the  
4 relationship is that increased output -- increased  
5 outflow -- I'm thinking particularly of San Joaquin  
6 River Chinook salmon now -- increased outflow has a  
7 very strong relationship with the population of  
8 returning adults two and a half years later.

9 MR. JACKSON: So were you present when you  
10 heard that testimony -- or were you present yesterday  
11 to hear the testimony of DWR and the Bureau that  
12 indicated that there actually was no increased storage  
13 during the period this year actually between  
14 February 1st and today?

15 DR. ROSENFELD: I don't think I was  
16 completely present for that testimony.

17 MR. JACKSON: Assuming there was no increased  
18 storage during that period of time and there was  
19 increased pumping by those agencies during February,  
20 does that have the potential of having an effect on  
21 Chinook salmon?

22 DR. ROSENFELD: Well, the -- okay. So there  
23 are two different things there.

24 By increasing storage, one could increase the  
25 cold water pool. If storage did not increase, then I

1 guess there would be no impact.

2 The other thing that you -- the other impact  
3 you described is migration through the Delta. And  
4 there's evidence that pumping decreases -- export  
5 pumping at the south Delta facilities increases the  
6 success of Chinook salmon migration through the Delta.  
7 So that would be a negative impact.

8 MR. JACKSON: So assuming, then, for the  
9 purposes of a hypothetical that there was no increase  
10 in storage during the period of time but there was an  
11 increase in pumping --

12 CO-HEARING OFFICER BAGGETT: Whatever  
13 cellphone is talking, could you go outside, please? I  
14 can hear it clear up here.

15 Okay. Mr. Schulz?

16 MR. SCHULZ: I want to object to the question  
17 as it mischaracterizes the testimony of the Bureau.

18 The Bureau did not testify that they did not  
19 gain storage. They stated that they did not make  
20 releases from storage in order to meet X2, and not  
21 making releases increases storage.

22 So just there is an improper assumption set  
23 forth in the questions, and I object to it.

24 CO-HEARING OFFICER BAGGETT: If you could cite  
25 where in the record? I don't recall that, either. But

1 if you want to raise the hypothetical feel free to do  
2 that.

3 MR. JACKSON: I just did raise it as a  
4 hypothetical.

5 Assuming that there was no increase of storage  
6 from the result of this action -- not from the rain;  
7 obviously, the rain increased storage.

8 CO-HEARING OFFICER BAGGETT: Why don't you  
9 recite it? Because at first you characterized the  
10 testimony as that, and I concur. But just -- so strike  
11 the question and start over again with the  
12 hypothetical.

13 MR. JACKSON: Assuming there was no increase  
14 in storage as a result of the Bureau's actions in  
15 February, and there was an increase of pumping as a  
16 result of the Bureau's action in February, does that  
17 have a potential for a negative effect on the Chinook  
18 salmon?

19 DR. ROSENFELD: It certainly has the  
20 potential for a negative effect on the out-migrating  
21 salmon.

22 And I should emphasis that these are two  
23 different life stages that we're talking about. So  
24 storage upstream is about spawning, holding salmon that  
25 are spawning or preparing to spawn and eggs that are

1 incubating and juveniles that are rearing.

2           And the impact there -- the impacts in the  
3 Delta from export pumping are on fish that are  
4 migrating through that are juveniles becoming smolts,  
5 so there is a little, you know, disaggregation between  
6 your classes there.

7           MR. JACKSON: Right. And the same thing would  
8 hold true in regard to the full list of species that  
9 you mentioned. The increase in pumping during February  
10 would cause potential negative effects on the list,  
11 including -- we talked about Chinook salmon -- American  
12 shad, longfin smelt, striped bass, Sacramento  
13 splittail, and starry flounder.

14           DR. ROSENFELD: I'm not prepared to comment  
15 on entrainment risks to all of those species. But  
16 certainly some of them are entrained at the state and  
17 federal pumps, and the pumps are on, and entrainment is  
18 possible. If the pumps are not on, then entrainment  
19 would not be possible.

20           MR. JACKSON: Thank you.

21           In your testimony on page 2, in the second  
22 paragraph, you indicate that the petition significantly  
23 underestimates the magnitude of the proposed Delta  
24 outflow reductions.

25           Would you tell me how you believe that it



1 significantly understates that magnitude?

2 DR. ROSENFELD: Yeah. I'm glad you asked  
3 about that because, rereading it, it's not the  
4 best-written sentence of my life.

5 The point that I'm trying to make is that  
6 the -- there's the starting gate provision of the  
7 regulations. And by waiving the starting gate or  
8 violating the necessary position of X2 earlier in the  
9 year, X2 is further to the east, then the required  
10 releases of flow don't necessarily achieve the  
11 positioning of X2 that we believe is important for  
12 estuarine species.

13 So the -- as I understand it, the regulations  
14 are about the release of water and the flow of water,  
15 not about the position of X2. But they're supposed to  
16 correlate between the release of water and the position  
17 of X2. But the final position of X2 is actually  
18 dependent on where it started.

19 And so if X2 starts further upstream, then  
20 releasing the amount of water that's required doesn't  
21 naturally achieve the objective of positioning X2 where  
22 you'd like it to be.

23 MR. JACKSON: So your point is that if the  
24 Board approves a relaxation of the starting gate in  
25 February it can have significant effects for the rest

1 of the season?

2 DR. ROSENFELD: That's my understanding,  
3 correct.

4 MR. JACKSON: Now in regard to the questions  
5 that have come up in balancing, your testimony on  
6 page 2 in the third paragraph in the last sentence  
7 indicates that the State Board chose to regulate X2  
8 because of the correlation of abundance.

9 What makes you think that's why the Board  
10 established this standard?

11 DR. ROSENFELD: That's my understanding from  
12 testimony or discussions with people who were involved  
13 in that decision-making process.

14 MR. JACKSON: And so if the Board, because of  
15 the starting gate problem that we just talked about, if  
16 the Board was to sort of validate the actions of the  
17 Bureau and DWR in starting further upstream than they  
18 would under D-1641, would that in and of itself have a  
19 potential to affect the abundance of the species we've  
20 been talking about later in the year?

21 DR. ROSENFELD: The position of X2 is  
22 believed to be important for the -- to the population  
23 levels of these species. The exact mechanisms are not  
24 worked out, and they're under scrutiny and the subject  
25 of intense research.

1           So to the extent that the position of X2 is  
2   fundamental to the mechanisms of producing these fish,  
3   then failure to position X2 where the regulations  
4   intend to position X2 would result in a reduction in  
5   the populations of these fish over what it otherwise  
6   would have been.

7           MR. JACKSON: Thank you.

8           You indicate on page 4 of your testimony in  
9   the second paragraph that freshwater flow has a  
10  powerful, significant, consistent, and widespread  
11  positive affect on productivity for these fish species  
12  and their prey.

13           Could you indicate to me why you used the  
14  words powerful, significant, consistent, and  
15  widespread?

16           DR. ROSENFELD: Sure.

17           Powerful refers to the fact that these are  
18  logarithmic relationships so that increases the order  
19  of magnitude of flow -- increases in flow by an order  
20  of magnitude increase abundance of fish species by a  
21  proportionate order of magnitude.

22           So that that's a big level effect. High  
23  magnitude. Powerful.

24           Significant meaning they are statistically  
25  significant and very much so. A paper that I published

1 on longfin smelt showed highly statistically  
2 significant correlation between productivity of longfin  
3 smelt and Delta outflow, as do numerous papers that are  
4 cited in my testimony. So they are statistically  
5 significant.

6           They are also consistent over several decades.  
7 The earliest publication that I've seen on the  
8 relationship between freshwater flow and abundance is  
9 from Stevens and Miller, 1983. That's cited in my  
10 paper.

11           Jassby did it for a bunch of species. Jassby  
12 et al. of 1995 did it for a bunch of species.

13           And there's been a kind of indication that  
14 this relationship has changed, and that's based on a --  
15 what we see as a step change, a change in the slope --  
16 or, I'm sorry -- a change in the position of the line  
17 that relates Delta outflow with species abundance.

18           But the slope of that line is unchanged for  
19 many species. So it's a consistent relationship. The  
20 proportional effect of increasing flow has not changed  
21 for most of these species regardless of the other  
22 changes that have occurred in the estuary.

23           And it's wide. This is a widespread effect  
24 because it occurs for numerous species. And really,  
25 the relationship between flow and abundance is one of

1 the most powerful relationships or widespread,  
2 consistent, significant relationships that we see in  
3 nature.

4 I mean there are other relationships out there  
5 such as that between temperature and abundance of  
6 Chinook salmon or productivity of Chinook salmon. That  
7 applies to Chinook salmon. And that's one species, and  
8 usually that's good enough to make a decision based  
9 upon the strength of that relationship.

10 This relationship applies to numerous species,  
11 and it's similarly strong and significant for each of  
12 those species.

13 MR. JACKSON: Did you find any of that  
14 explained in the petition to your satisfaction?

15 DR. ROSENFELD: No.

16 To the contrary, I found there was suggestion  
17 this relationship was inconsistent, weak, declining.  
18 And the figure that deals with that that I referred to  
19 earlier that comes after page 17 is presented to try  
20 and make that point.

21 But as I said earlier, the statistical  
22 analysis, if there is any, is flawed. And I know that  
23 because I have done that analysis on this fish species  
24 and published it in a peer-reviewed paper.

25 MR. JACKSON: Did it surprise you to find that

1 this analysis was being challenged using this evidence  
2 in this hearing?

3 DR. ROSENFELD: Well, I guess "surprise" is a  
4 measure of my level of cynicism.

5 But I was surprised to find that this analysis  
6 was presented together with the analysis in Kimmerer,  
7 et al. 2009 which analyzes the same data and additional  
8 data for this species and finds there is still a  
9 statistically significant relationship between outflow  
10 and abundance and that that analysis uses --  
11 appropriately uses the logarithm of abundance to  
12 establish that the slope of the relationship as  
13 indicated by the two different lines presented in this  
14 figure is actually -- that those lines are parallel to  
15 each other. There's not a change in the slope of the  
16 relationship when you look at abundance as the  
17 logarithm of abundance which is the appropriate thing  
18 to do in the world of linear statistics.

19 MR. JACKSON: Calling your attention to page 6  
20 of your testimony, you indicate that export pumping by  
21 the state and federal water projects is likely to  
22 exacerbate the impacts of the proposed relaxation of  
23 Delta water quality standards.

24 How do you see it exacerbating the impacts of  
25 the relaxations requested by the Bureau and the DWR in

1 this hearing?

2 DR. ROSENFELD: The -- I think the clearest  
3 example of that is in Attachment A to my testimony.

4 The -- when -- so that attachment describes  
5 the relationship between the log of Delta outflow and  
6 the log of entrainment for longfin smelt over the years  
7 1981 to 2007, and that's data from the Department of  
8 Fish and Game for the entrainment and from the  
9 Department of Water Resources for Delta outflow.

10 And what it shows is that, as Delta outflow  
11 increases, entrainment of longfin smelt decreases.  
12 This is consistent with the life history of this fish,  
13 in particular because they spawn kind of near the --  
14 they appear to spawn near the mixing zone of fresh and  
15 saltwater which is located near the position of X2.

16 As X2 moves upstream, the fish move upstream.  
17 Their spawning distribution moves upstream, and we find  
18 their larvae further upstream.

19 The further upstream the adults are and the  
20 larvae are, the more time and the better positioned  
21 they are to be entrained at pumping facilities, and  
22 that's exactly what we see happening for both adults  
23 and juveniles.

24 MR. JACKSON: Now as X2 moves upstream, it  
25 moves out of the shallow water habitat in Suisun Bay

1 into the more -- into the deeper water habitat near  
2 Collinsville.

3 Which of the two locations is more productive  
4 for -- as habitat for the fish that you've listed, the  
5 position at Chipps Island or the position at  
6 Collinsville?

7 DR. ROSENFELD: As I said earlier, there is a  
8 continuous relationship between the position of X2 and  
9 abundance of longfin melt, and longfin smelt in  
10 particular, where the further downstream X2 is  
11 positioned, which is a smaller number of X2, the higher  
12 the subsequent abundance of longfin smelt.

13 MR. JACKSON: Is there anything in the science  
14 that you are aware of that indicates why that would be  
15 true?

16 DR. ROSENFELD: The mechanisms behind the X2  
17 or Delta outflow relationships and fish species  
18 abundance, as I've said, are being worked on, studied,  
19 for most species.

20 For longfin smelt, I think the jury is still  
21 out on what the exact mechanism is. For other species,  
22 there is a pretty good understanding of the mechanism.

23 MR. JACKSON: And what species are those?

24 DR. ROSENFELD: Well, for instance, for  
25 Sacramento splittail, the mechanism that relates



1 freshwater flow to abundance appears to be inundation  
2 of floodplains and inundation of shallow habitats, and  
3 that relationship is pretty clear.

4 I should also say that there will be -- it's  
5 very likely that there are multiple mechanisms for any  
6 one species so that floodplain inundation mechanism  
7 seems to benefit Chinook salmon as well. And at a  
8 different stage in their life cycle as they move  
9 through the Delta, the mechanism may be related to  
10 transport of those fish through the Delta and to saline  
11 environments.

12 MR. JACKSON: Thank you, sir.

13 I think that's all the questions I have.

14 DR. ROSENFELD: Thank you.

15 CO-HEARING OFFICER BAGGETT: Butte  
16 Environmental Council have any questions?

17 CROSS-EXAMINATION BY MR. WAGNER

18 FOR BUTTE ENVIRONMENTAL COUNCIL

19 MR. WAGNER: Keith Wagner, Butte Environmental  
20 Council.

21 You say you've reviewed the petition that was  
22 submitted in these proceedings; is that correct?

23 DR. ROSENFELD: I have, yes.

24 MR. WAGNER: There was also an environmental  
25 document that was submitted in support of that

1 petition. Are you familiar with that document, or did  
2 you take a look at it at all?

3 DR. ROSENFELD: Which document are you  
4 referring to?

5 MR. WAGNER: Environmental Information for  
6 Petitions?

7 DR. ROSENFELD: Can you say what page that  
8 is?

9 MR. WAGNER: It's actually a separate document  
10 that was submitted with the application that we found  
11 on the Board's website.

12 DR. ROSENFELD: I think I probably did not  
13 review that document.

14 MR. WAGNER: Okay. Well, if I were to tell  
15 you that that Environmental Information for Petitions  
16 has a line in it at Item No. 7 which says that the  
17 environmental setting for this project is not  
18 applicable, that no environment is affected by this  
19 project, would you agree with that statement?

20 DR. ROSENFELD: I would not. I would say  
21 that the geography is extremely important.

22 MR. WAGNER: Can you describe for us what  
23 environment would be affected by this project?

24 DR. ROSENFELD: The -- certainly the  
25 environments downstream of Central Valley Project and

1 State Water Project reservoirs.

2 We're talking about releases of flows, so  
3 following that water all the way downstream, any  
4 environment downstream that's affected, either by the  
5 rate of flow or by the potential to inundate shallower  
6 habitats with flow.

7 Hydrodynamics in the Delta are in part  
8 determined by freshwater flow in and where that  
9 freshwater flow is coming from, whether it's San  
10 Joaquin tributaries or the Sacramento River.

11 Obviously the position of the mixing zone and  
12 its correlate X2 are impacted. And things that depend  
13 on the position of the mixing zone tend to disperse --  
14 fish tend to disperse, so I'm thinking a large portion  
15 of the brackish and saline parts of the estuary would  
16 also be impacted by this action.

17 MR. WAGNER: Thank you.

18 CO-HEARING OFFICER BAGGETT: Mr. Brown, do you  
19 have any questions?

20 DR. BROWN: No.

21 CO-HEARING OFFICER BAGGETT: Mr. Rubin? Let's  
22 go off the record for just a minute.

23 (Discussion off the record)

24 CO-HEARING OFFICER BAGGETT: Let's go back on  
25 the record.

1                   CROSS-EXAMINATION BY MR. RUBIN  
2   FOR SAN LUIS & DELTA-MENDOTA WATER AUTHORITY, WESTLANDS  
3                   WATER DISTRICT

4                   MR. RUBIN: Good morning. Jon Rubin for San  
5   Luis & Delta-Mendota Water Authority and Westlands  
6   Water District.

7                   Dr. Rosenfield, I have a few questions, first  
8   about your curriculum vitae. Is it correct to state  
9   that you have significant knowledge about studies of  
10  the San Francisco Bay-Delta?

11                  DR. ROSENFELD: I'm familiar with studies of  
12  the San Francisco Bay-Delta, yes.

13                  MR. RUBIN: And how far does your familiarity  
14  with those studies go? How long of a period have you  
15  been involved in Bay-Delta issues?

16                  DR. ROSENFELD: I was involved with Bay-Delta  
17  issues beginning in the early 1990s. Then there was a  
18  hiatus during which time I, you know, was aware of some  
19  of the work being done here. And then again more  
20  intensively starting in 2002.

21                  MR. RUBIN: And it looks like from 2005 to  
22  2008 you provided consulting services; is that correct?

23                  DR. ROSENFELD: That's correct.

24                  MR. RUBIN: And the consulting services that  
25  you provided from 2005 to 2008 dealt with habitat

1 restoration projects primarily?

2 DR. ROSENFELD: They dealt some with habitat  
3 restoration. There is work done indicated on the Delta  
4 Risk Management Strategy which a project of the  
5 Department of Water Resources which did not deal  
6 with -- well, did not deal directly with restoration  
7 but more with catastrophic floods.

8 MR. RUBIN: As part of the work that you did  
9 do for the Delta Risk Management Strategy, your  
10 curriculum indicates that you developed quantitative  
11 models to assess the impacts to ecosystems from  
12 catastrophic levee collapses?

13 DR. ROSENFELD: I believe it says I led an  
14 expert panel in the development of quantitative models.  
15 I'm not so much of a modeler myself.

16 MR. RUBIN: You weren't involved in the  
17 development; You just were --

18 DR. ROSENFELD: I was involved in the  
19 development by leading that panel and the staff that  
20 worked on developing those ideas.

21 MR. RUBIN: As part of the work that you did  
22 leading the panel, were you involved in any discussions  
23 that looked at the quantitative effects on abundance of  
24 fish from levee failures?

25 DR. ROSENFELD: Yes.

1           MR. RUBIN: Dr. Rosenfield, as part of your  
2 written testimony, you have a number of reports or  
3 cited literature at the end of the written testimony;  
4 is that correct?

5           DR. ROSENFELD: That is correct.

6           MR. RUBIN: Are you familiar with all of those  
7 reports that are cited?

8           DR. ROSENFELD: To different degrees, yes.

9           MR. RUBIN: How familiar are you with the 1995  
10 Jassby report?

11          DR. ROSENFELD: I've read it several times  
12 but not in the last several months.

13          MR. RUBIN: And how about the Kimmerer report  
14 which is referenced as Kimmerer W.J. 2002, and then in  
15 parentheses the letter B?

16          DR. ROSENFELD: Again, I've read that paper,  
17 the one that's 2002(b), it's been a little bit longer  
18 since I've read that directly; but I did reference it  
19 for production of this testimony.

20          MR. RUBIN: And there was talk today about a  
21 2008 or 2009 Kimmerer report. Do you recall that  
22 discussion?

23          DR. ROSENFELD: Kimmerer is fairly  
24 productive, so there's both 2008 and 2009. But I  
25 believe I was talking about 2009 so far.

1           MR. RUBIN: And the 2009 Kimmerer report is  
2 the report that's been attached to the petition that  
3 was filed by the Department of Water Resources and  
4 Bureau of Reclamation?

5           DR. ROSENFELD: That's correct.

6           MR. RUBIN: How familiar are you with the  
7 report by Kimmerer that's attached to the petition?

8           DR. ROSENFELD: I have read it, and I have  
9 discussed it with the author.

10          MR. RUBIN: And in fact, it's referenced in  
11 your written testimony; is that correct?

12          DR. ROSENFELD: It is.

13          MR. RUBIN: Thank you.

14          Now if I understood your testimony, you  
15 believe that the X2 objective is intended to provide  
16 protection for estuarine -- the ecosystem as a whole;  
17 is that correct?

18          DR. ROSENFELD: Can you define ecosystem as a  
19 whole?

20          MR. RUBIN: Let me -- as the expert, what do  
21 you believe the purpose of X2 -- the X2 objective is?

22          DR. ROSENFELD: I believe -- my understanding  
23 of the X2 objective is that it's designed to provide  
24 protection for fish and wildlife species of the San  
25 Francisco Bay-Delta and its tributaries. But I don't

1 know that it's designed to --

2 MR. BOBKER: I'm sorry. Are you asking the  
3 witness as a biologist on what the purposes of this  
4 objective are? Or are you asking about what the  
5 regulatory purpose of this objective is? Which I don't  
6 think the witness has expertise on.

7 MR. RUBIN: That's a fair question.

8 As a biologist, I'm asking -- and as the  
9 witness for The Bay Institute -- how you perceive the  
10 purpose of the X2 objective.

11 DR. ROSENFELD: I perceive the purpose of the  
12 X2 objective as to protect fish and wildlife species of  
13 the San Francisco Bay-Delta and its tributaries.

14 MR. RUBIN: And do you believe the protection  
15 for fish and wildlife is specific to specific species,  
16 or is it a general protection for fish and wildlife  
17 within the estuary?

18 DR. ROSENFELD: I believe it's partially  
19 protective of multiple species.

20 MR. RUBIN: And are there specific -- which  
21 multiple species do you believe it's protective of?

22 DR. ROSENFELD: Some of the species that it's  
23 protective of are referenced in my testimony on page 3.

24 MR. RUBIN: Dr. Rosenfield, do you believe  
25 that the location of X2 is correlated with Delta



1 inflow?

2 DR. ROSENFELD: It's my understanding that  
3 Delta inflow is part of the -- or is the -- one of the  
4 main drivers of position of X2. Obviously there are  
5 things that happen to inflow before it gets to the  
6 location of X2 though.

7 MR. RUBIN: Let me re-ask my question again,  
8 make sure you -- that I characterized it correctly.

9 There is a term, Delta outflow. What is your  
10 understanding of Delta outflow?

11 DR. ROSENFELD: Well, Delta outflow is more  
12 directly responsible for the position of X2.

13 MR. RUBIN: And -- well, is Delta outflow  
14 different than Delta inflow?

15 DR. ROSENFELD: They can be different, yes.

16 MR. RUBIN: And by the term, Delta inflow, is  
17 that the -- do you believe that is the amount of water  
18 that flows into the Delta?

19 DR. ROSENFELD: I think that's safe to say,  
20 yeah.

21 MR. RUBIN: And X2 is correlated with Delta  
22 outflow?

23 DR. ROSENFELD: Yes.

24 MR. RUBIN: And is X2 also correlated with  
25 with Delta inflow?

1 DR. ROSENFELD: Yes. And I don't have the  
2 statistics in front of me, but I would imagine that  
3 it's correlated to a slightly lesser extent.

4 MR. RUBIN: But do you have statistics to  
5 support the statement that the correlation between X2  
6 and outflow is greater than the correlation between X2  
7 and inflow?

8 DR. ROSENFELD: Not at hand right now, no.

9 MR. RUBIN: Dr. Rosenfield, in your written  
10 testimony, I believe you conclude that:

11 The reduction in Delta outflow proposed  
12 in the petition will likely have a  
13 negative effect on the estuarine species  
14 for which a significant relationship  
15 between flow and abundance has been  
16 documented.

17 Is that correct?

18 DR. ROSENFELD: That's correct.

19 MR. RUBIN: And again, which species do you  
20 believe will be negatively affected?

21 DR. ROSENFELD: Well, again, the correlations  
22 between the position of X2 and the abundance of  
23 estuarine species are documented in that Kimmerer paper  
24 as well others.

25 MR. RUBIN: I understand that Kimmerer might

1 have documented species. You have a statement -- I  
2 believe it's on page 1 of your written testimony --  
3 where you indicate that estuarine species will be  
4 negatively affected. And I would like to know from you  
5 which species you believe will be negatively affected?

6 DR. ROSENFELD: I believe that the reduction  
7 in Delta outflow is likely to have a negative effect on  
8 estuarine species, including longfin smelt, striped  
9 bass, and starry flounder as well as bay shrimp and the  
10 populations of *Eurytemora affinis*.

11 MR. RUBIN: One species that you did not just  
12 mention was Delta smelt. Do you believe that if the  
13 petition were granted there would be a negative effect  
14 on Delta smelt?

15 DR. ROSENFELD: There's not a statistical  
16 correlation between position of X2 and populations of  
17 Delta smelt, if that's what you are asking.

18 MR. RUBIN: I appreciate that information. I  
19 think that is an important piece of information, but  
20 let me follow up with that.

21 Because there is no statistical correlation, I  
22 believe you said, between outflow and Delta smelt, do  
23 you believe that there will be no negative effect on  
24 Delta smelt if the petition before the Board were  
25 granted?

1 DR. ROSENFELD: I wouldn't go so far as to  
2 say that because of the relationship with entrainment.

3 MR. RUBIN: Okay. And so again, you have a  
4 statement on page 1 of your written testimony where you  
5 conclude that there will be negative effects on species  
6 if the petition were granted, and you believe Delta  
7 smelt could be negatively affected if the petition were  
8 granted?

9 DR. ROSENFELD: Its possible.

10 MR. RUBIN: Do you believe that there would be  
11 a negative effect?

12 DR. ROSENFELD: I would want to look at the  
13 data on that. So I don't have a statement to make  
14 about Delta smelt.

15 MR. RUBIN: Thank you.

16 Now I believe you indicate that there is a  
17 significant relationship between flow and abundance of  
18 certain species?

19 DR. ROSENFELD: That's correct.

20 MR. RUBIN: Do you know if the relationship is  
21 between the species and outflow or the species and  
22 inflow?

23 DR. ROSENFELD: I know that the relationships  
24 that are documented between -- for some species are  
25 between outflow and abundance and between the position

1 of X2 and abundance.

2 I know specifically that for longfin smelt  
3 I've studied the relationship between Delta outflow and  
4 abundance and found it to be extremely significant and  
5 strong.

6 MR. RUBIN: Have you studied the relationship  
7 between inflow and abundance of striped bass?

8 DR. ROSENFELD: Have I studied that?

9 MR. RUBIN: Yes.

10 DR. ROSENFELD: No.

11 MR. RUBIN: Are you aware of anyone who  
12 studied the relationship between inflow and striped  
13 bass?

14 DR. ROSENFELD: I would have to review the  
15 paper by Stevens and Miller 1983, but I believe it does  
16 study that.

17 MR. RUBIN: And do you know what the  
18 conclusions of Stevens and Miller were?

19 DR. ROSENFELD: Again, I would want to look  
20 at the paper again.

21 MR. RUBIN: Sitting here today, you don't know  
22 if there is a relationship between inflow and striped  
23 bass or outflow and striped bass?

24 DR. ROSENFELD: Sitting here today, at this  
25 moment, no.

1           MR. RUBIN:  What about bay shrimp?  Do you  
2 know if there's a relationship between the abundance of  
3 bay shrimp and inflow?

4           DR. ROSENFELD:  I'm not aware of any study  
5 that looked into that question.

6           MR. RUBIN:  And what about the relationship  
7 between inflow and Eurytemora?

8           DR. ROSENFELD:  Again, I'm not aware of  
9 any -- I can't recall any study that looked at that  
10 relationship.

11          MR. RUBIN:  Turning to a little bit of a  
12 different issue, does the amount of inflow affect the  
13 inundation of floodplains?

14          DR. ROSENFELD:  Can you repeat the question?

15          MR. RUBIN:  Does the amount of inflow into the  
16 Delta affect the inundation of floodplains?

17          DR. ROSENFELD:  I'd say the two are related,  
18 yeah.

19          MR. RUBIN:  And would you say inflow is more  
20 important or outflow is more important to the  
21 inundation of floodplains?

22          DR. ROSENFELD:  I'd say the flow at the  
23 position of the floodplain is most important.

24          MR. RUBIN:  And in terms of the Delta, is  
25 there more floodplain in the north of the Delta versus

1 in the Delta?

2 DR. ROSENFELD: I believe that's the case,  
3 but I don't have the data in front of me.

4 And of course it depends on the definition of  
5 the Delta, the geography that you're talking about.  
6 Some people would include the Yolo Bypass as part of  
7 the Delta.

8 MR. RUBIN: And is the Yolo Bypass affected by  
9 the amount of inflow into the Delta more so than the  
10 amount of outflow from the Delta?

11 DR. ROSENFELD: Is the -- could you restate  
12 that question?

13 MR. RUBIN: Sure. Is the amount of floodplain  
14 within the Yolo Bypass area, as you've referenced it,  
15 affected predominantly by inflow?

16 DR. ROSENFELD: That's my understanding,  
17 yeah.

18 MR. RUBIN: And I believe you testified  
19 earlier that for splittail, a driving factor in the  
20 relationship for its abundance is inundation of  
21 floodplain?

22 DR. ROSENFELD: That's correct.

23 MR. RUBIN: Thank you.

24 MR. BOBKER: I'm just wondering about the  
25 relevance of the line of questioning.

1           Because Dr. Rosenfield's testimony -- with all  
2 due respect, Jon -- focuses on the statistical flow  
3 abundance relationships; and he does not offer  
4 testimony on the effects based on assumptions about  
5 causal mechanisms about the relationship.

6           I mean they're interesting questions, but I'm  
7 just not sure they're relevant to the testimony.

8           CO-HEARING OFFICER BAGGETT: Okay.

9           MR. RUBIN: They -- I do think they are  
10 relevant to the testimony and particularly the  
11 conclusions that the witness has presented.

12           I don't know if that matters, though, under  
13 the State Board rules for the evidentiary proceeding.  
14 They are relevant to this proceeding, and I think  
15 that's the most important point.

16           I do have -- I'm going to move to a different  
17 topic, but I think the issue of exports as a concern  
18 here is a misnomer that -- and I -- what I'm trying to  
19 get to is testimony as to what is driving the  
20 relationship between the species abundance and X2 and  
21 whether it is outflow --

22           CO-HEARING OFFICER BAGGETT: That is relevant.  
23 Overruled. Move to your next line.

24           MR. RUBIN: Thank you.

25           Dr. Rosenfield, would you agree that there is



1 uncertainty about how flow influences estuarine  
2 species?

3 DR. ROSENFELD: Do you mean the mechanisms?

4 MR. RUBIN: I can ask --

5 DR. ROSENFELD: The relationship between flow  
6 and estuarine species is well-established and  
7 well-documented in the papers, so if that's what you  
8 mean by understanding, then no.

9 MR. RUBIN: Do you think that there is  
10 uncertainty between how -- the mechanism that relates  
11 flow to species abundance within the Bay-Delta Estuary?

12 DR. ROSENFELD: I think there is always  
13 uncertainty. And I think that we're reducing that  
14 uncertainty through research.

15 MR. RUBIN: And do you think there is  
16 uncertainty on when the mechanism or mechanisms that  
17 influence -- well, strike that.

18 Do you believe there's uncertainty about when  
19 flow influences species that are dependent upon the  
20 Bay-Delta Estuary?

21 DR. ROSENFELD: Can you restate that?

22 MR. RUBIN: Do you believe that there's  
23 uncertainty as to when flow influences species that are  
24 dependent upon the Bay-Delta Estuary?

25 DR. ROSENFELD: I do believe that there is

1 some uncertainty for some species.

2 I would say, though, that we have a fairly  
3 good idea of where certain species exist and when they  
4 exist there.

5 MR. RUBIN: I'm going to read you a statement  
6 from a paper that W.J. Kimmerer prepared in 2002. It's  
7 physical, biological, and management responses to  
8 variable freshwater flow into the San Francisco  
9 Estuary.

10 I believe it's one of the papers we talked  
11 about earlier and referenced -- or cited; excuse me --  
12 after your testimony. I'd like to know if you agree or  
13 disagree with this statement.

14 It says:

15 The standard is in effect from February  
16 to June, a long period made necessary by  
17 uncertainty about how and when flow  
18 influences biological populations.

19 For purposes of your answer, whether you agree  
20 with that or not, assume the reference to standard is  
21 the X2 standard.

22 DR. ROSENFELD: Can you come again with the  
23 quote?

24 MR. RUBIN: Okay. I'm going to read you a  
25 quote, and for purposes of what I read assume the

1 reference to standard is to the X2 objective or  
2 standard.

3 MR. BOBKER: I'm sorry. You mean the Delta  
4 Outflow Objective?

5 MR. RUBIN: Delta Outflow Objective.

6 So the reference to the standard is the Delta  
7 Outflow Objective, and I'm going to read you a  
8 statement and ask whether you agree or disagree with  
9 the statement:

10 The standard is in effect from February  
11 to June, a long period made necessary by  
12 uncertainty about how and when flow  
13 influences biological populations.

14 DR. ROSENFELD: I agree with that statement  
15 in part.

16 MR. RUBIN: Thank you.

17 And I see that Mr. Bobker is writing material  
18 to you. Can you read into the record what he wrote?

19 MR. BOBKER: I wasn't writing material. I  
20 dispute your characterization of what I was doing, but  
21 I'm happy to read what I wrote. I wrote: Overlapping  
22 periods for different species.

23 MR. RUBIN: Okay. I appreciate the --

24 MR. BOBKER: I'm left-handed. I'm a  
25 left-handed writer, Jon, so, you know --

1           MR. RUBIN: I appreciate your knowledge and I  
2 respect your knowledge of the Delta, but you're not  
3 here as a witness.

4           And it does make difficulties having a good  
5 record for this proceeding as to Mr. Rosenfield's  
6 opinions, and I did notice Mr. Rosenfield reading --  
7 trying to read, at least, what you were writing.

8           MR. BOBKER: I wish --

9           CO-HEARING OFFICER BAGGETT: One at a time.

10          MR. BOBKER: I wish I were able to coach this  
11 witness. I think it's unlikely.

12          CO-HEARING OFFICER BAGGETT: Thank you.  
13 Proceed.

14          MR. RUBIN: Well, and with that, it probably  
15 leads to a good segue to my next question.

16          The benefits of flow enhancement occur during  
17 different seasons and for different intervals for  
18 different species depending upon the estuary; is that  
19 correct?

20          DR. ROSENFELD: That's correct, and that's  
21 why I answered the previous question as in part.

22          MR. RUBIN: Thank you.

23          Now, Dr. Rosenfield, you are familiar with the  
24 studies, the underlying studies, that found the flow  
25 species abundance relationships upon which the Outflow

1 Objective were based?

2 DR. ROSENFELD: I'm not sure that I'm  
3 familiar with all of them, no.

4 MR. RUBIN: Do you know if the studies  
5 compared X2 with species abundance.

6 DR. ROSENFELD: I know that the Jassby, et  
7 al. 1995 paper compared species abundance and position  
8 of X2.

9 MR. RUBIN: Do you recall which species the  
10 Jassby, et al. study considered?

11 DR. ROSENFELD: I don't have a complete list  
12 of that offhand, no.

13 MR. RUBIN: Thank you.

14 Do you recall if, for purposes of determining  
15 whether there was a relationship, whether X2 was  
16 considered over a period of time for each species  
17 considered?

18 DR. ROSENFELD: My recollection is that the  
19 relationships were drawn between species abundance and  
20 X2 as an average within years, an average over a period  
21 of time. And what that time period was, I don't  
22 recall.

23 MR. RUBIN: So for the species that were  
24 considered and were used to provide the foundation for  
25 the Outflow Objective, you don't know what averaging

1 period of X2 was used?

2 DR. ROSENFELD: I don't recall the exact  
3 period right now, no.

4 MR. RUBIN: Would it affect your conclusions  
5 today if the averaging period for some of the species  
6 did not include February?

7 DR. ROSENFELD: No, it wouldn't.

8 MR. RUBIN: And so if X2 were based on data  
9 that excluded February, it wouldn't affect your  
10 conclusion as to whether a change in X2 during February  
11 affected a particular species?

12 DR. ROSENFELD: That would not be the  
13 conclusion that I would reach. And I'd just want to  
14 see the comparison between different data sets.

15 MR. RUBIN: Well, let me --

16 DR. ROSENFELD: I should just add that the  
17 expected benefit of outflow ought to be when the  
18 species are present to experience that outflow. And  
19 for species that are present to experience the outflow  
20 in January and February, I would expect outflow to have  
21 an effect in January and February.

22 MR. RUBIN: Would you also expect to have an  
23 effect only if there was a relationship between the  
24 operational parameter and the species that has been  
25 analyzed?

1 DR. ROSENFELD: I'm afraid I don't understand  
2 the question.

3 MR. RUBIN: Let's take a species, starry  
4 flounder. If I were able to establish a relationship  
5 between flow and abundance of starry flounder, and that  
6 was based upon data from March 1st through June 1st,  
7 could you make a conclusion based upon that, the  
8 analysis of the data, whether a change in flow would  
9 affect starry flounder in February?

10 DR. ROSENFELD: A conclusion?

11 MR. RUBIN: Yes.

12 DR. ROSENFELD: No, I couldn't reach a  
13 conclusion.

14 MR. RUBIN: Thank you.

15 And so if there were relationships that formed  
16 the foundation for the Outflow Objective that were  
17 based upon data from March 1st through some period  
18 later in the year, you couldn't conclude for that for a  
19 species -- excuse me; strike that.

20 If the Outflow Objective was based upon data  
21 for a particular species, that data set was from  
22 March 1st to June 1st, you couldn't conclude if there  
23 were a change in outflow whether -- during February --  
24 whether that species would be affected?

25 DR. ROSENFELD: Not based on that evidence,

1 no.

2 MR. RUBIN: Thank you.

3 Now, I think it was during earlier testimony  
4 you talked about mechanisms; is that correct?

5 DR. ROSENFELD: Yep.

6 MR. RUBIN: And what do you mean by  
7 mechanisms?

8 DR. ROSENFELD: I mean the causal  
9 relationship between one variable and another.

10 MR. RUBIN: And so while there is a  
11 relationship between flow and certain species, there is  
12 still a lot of uncertainty as to why that flow provides  
13 the benefit to the abundance of the species.

14 DR. ROSENFELD: There is -- I'm sorry. An --  
15 I would say there is also a -- well, never mind.

16 MR. RUBIN: Let's get to a little bit of  
17 understanding what the uncertainty is or what the  
18 certainty is.

19 Do you -- are you aware of any studies that  
20 show flow being the mechanism that improves the  
21 abundance of species that are within the Bay-Delta  
22 Estuary?

23 DR. ROSENFELD: I'm afraid I need you to be a  
24 little more specific with your question for me to  
25 understand it.



1           MR. RUBIN: Well, I asked you whether you are  
2 aware of any studies that demonstrated that flow was  
3 the mechanism that is correlated to the abundance of  
4 species.

5           DR. ROSENFELD: Well, correlation and  
6 causation are not the same thing. That's why I need  
7 you to be a little bit more specific.

8           MR. RUBIN: And that's why I'm asking: Is  
9 flow the mechanism that affects the abundance of  
10 Bay-Delta species? Are there any studies to prove  
11 that?

12          DR. ROSENFELD: And again, to prove it is not  
13 the way that science works. Actually, you'd have to  
14 fail to disprove it.

15          MR. RUBIN: But are you aware of any studies  
16 that relate the abundance of any species within the  
17 Bay-Delta to flow -- is flow the mechanism that  
18 improves or adversely affects abundance?

19          DR. ROSENFELD: The studies that I've cited  
20 show a very strong relationship across orders of  
21 magnitude and across decades and that implies quite  
22 strongly that there's a mechanistic relationship there.

23                 That's why it receives so much attention from  
24 the scientific community.

25                 There are studies that get into the details of

1 different hypotheses around flow, and I'm aware that  
2 some of those studies demonstrate a relationship  
3 between flow, for instance, and entrainment which is,  
4 you know, an impact to populations.

5 MR. RUBIN: So is it your testimony today that  
6 flow is the mechanism or a significant mechanism that  
7 affects the abundance of species within the Bay-Delta  
8 Estuary?

9 DR. ROSENFELD: The weight of the evidence  
10 over many years for many species strongly indicates  
11 that some mechanism related to flow is responsible for  
12 population responses in these species.

13 MR. RUBIN: I understand that there's a  
14 relationship between flow and abundance.

15 But as I understand your testimony today,  
16 there is a difference between a relationship and the  
17 underlying mechanism that's affecting the abundance.  
18 Is that correct?

19 DR. ROSENFELD: Yeah, there can be a  
20 difference.

21 MR. RUBIN: And is it your testimony today  
22 that you do not believe that there is a difference in  
23 this circumstance, that flow is the mechanism that's  
24 affecting abundance of Bay-Delta -- species within the  
25 Bay-Delta Estuary?

1 DR. ROSENFELD: Well, let me step back a  
2 little bit.

3 There's very strong evidence that flow is --  
4 flow and the level of flow is the causal mechanism for  
5 some life stages of some fish.

6 MR. RUBIN: And which fish do you believe it  
7 is the causal mechanism for?

8 DR. ROSENFELD: I think it's fairly well  
9 demonstrated that the level of flow is -- provides a  
10 mechanism.

11 MR. RUBIN: I didn't ask you whether it  
12 provides. I want to know whether the flow is the  
13 mechanism.

14 DR. ROSENFELD: Again, I'm just -- I'm not  
15 trying to be difficult, but I mean water flowing in  
16 rivers is necessary for species that live in rivers.

17 So, you know, the flow -- the flow has several  
18 attributes to it. Rate creates levels, elevation  
19 levels, in the river which affect for instance the  
20 flooding of floodplains, so --

21 MR. RUBIN: Well, then why don't you go  
22 through -- you were going to identify the species in  
23 which you believe flow is the mechanism that affects  
24 abundance. Which species are those?

25 DR. ROSENFELD: Flow has been a -- the level

1 of flow has been fairly well shown -- well, the level  
2 of flow affects floodplain inundation, and floodplain  
3 inundation has been shown to be a very important  
4 mechanism for recruitment of splittail and in the  
5 growth and survival of Chinook salmon.

6 MR. RUBIN: Okay. So you've identified  
7 splittail and salmon as two species.

8 Are there any others where flow is the  
9 mechanism you believe that is the driving factor on  
10 abundance?

11 DR. ROSENFELD: Well, I do believe it's the  
12 mechanism. But those are two species where there's  
13 peer-reviewed literature on the topic.

14 MR. RUBIN: Are there any other species where  
15 there's peer-reviewed literature on the topic?

16 DR. ROSENFELD: Demonstrating the mechanism;  
17 is that your question?

18 MR. RUBIN: Yes.

19 DR. ROSENFELD: The Kimmerer paper, 2009,  
20 that's attached to the petition analyzes one of the  
21 potential mechanisms and finds support for that  
22 mechanism for two species, American shad and striped  
23 bass.

24 The mechanism that he studied -- they studied,  
25 rather -- is the relationship of the position of X2 to

1 the abundance or the volume of habitat those two  
2 species occupy. So there is support for that mechanism  
3 for those two species.

4 MR. RUBIN: And I believe that the report by  
5 Kimmerer 2009 that you just referred made some  
6 conclusion to other species; is that correct?

7 DR. ROSENFELD: I believe it does.

8 MR. RUBIN: And I believe that it concludes  
9 that:

10 Although increases in quantity of  
11 habitat may contribute, the mechanism  
12 chiefly responsible for the X2  
13 relationship for longfin smelt remains  
14 unknown.

15 Is that correct?

16 DR. ROSENFELD: That quote sounds familiar.  
17 And so here's an appropriate point to add in that --  
18 actually, can I ask you to repeat that quote?

19 MR. RUBIN: Well, as I read it, Kimmerer  
20 et al. in 2009 concluded that:

21 The mechanism chiefly responsible for  
22 the X2 relationship for longfin smelt  
23 remains unknown.

24 DR. ROSENFELD: It was the portion you read  
25 before that.

1 MR. RUBIN: (Reading:)

2 Although increases in quantity of  
3 habitat may contribute, the mechanism  
4 chiefly responsible for the X2  
5 relationship for longfin smelt remains  
6 unknown.

7 DR. ROSENFELD: Okay. So this makes the  
8 point that there are probably multiple mechanisms  
9 operating for each of these species.

10 And what Kimmerer, et al. found is that the  
11 sign, the nature of the direction of the relationship  
12 between the position of X2 and abundance for species  
13 like longfin smelt, is consistent with the hypothesis  
14 that increased habitat is created for longfin smelt by  
15 Delta outflow.

16 And what he is saying is that it's not chiefly  
17 responsible, but not that it's not -- not that it  
18 doesn't contribute that effect.

19 So again, this is an analysis of the  
20 mechanisms, and there are likely to be multiple  
21 mechanisms, and we're stepping through the mechanisms.

22 MR. RUBIN: And maybe I'm missing something  
23 here. But Kimmerer, et al. in 2009 speaks of increases  
24 in the quantity of habitat.

25 Do you understand that to mean inundated

1 floodplain? Or let me ask it differently.

2           What do you -- how do you interpret that  
3 statement?

4           DR. ROSENFELD: Well, I interpret it the way  
5 they described it. They created a metric of habitat --  
6 very simple metric of habitat, I might add -- based on  
7 salinity and depth. And, no, floodplain was not  
8 included. They didn't analyze the creation of  
9 splittail habitat in that paper.

10           MR. RUBIN: Okay. Let me see if you agree  
11 with another statement that Kimmerer, et al. made in  
12 2009, and that statement is:

13           Abundance of Delta smelt did not vary  
14           with X2

15           Do you believe the data support that  
16 statement?

17           DR. ROSENFELD: Abundance and outflow do not  
18 appear to be correlated for Delta smelt. It certainly  
19 varies.

20           MR. RUBIN: Thank you.

21           DR. ROSENFELD: With outflow.

22           MR. RUBIN: Now, we've been talking about  
23 mechanisms. Do you believe that there have been a  
24 number of mechanisms identified for the species that  
25 reside within the Bay-Delta Estuary that affect

1 abundance for those species?

2 DR. ROSENFELD: There are a number of  
3 potential mechanisms that I have identified, yes.

4 MR. RUBIN: And do you believe that some of  
5 those mechanisms have been ignored from a regulatory  
6 standpoint?

7 DR. ROSENFELD: I'm not qualified to comment  
8 on that.

9 MR. RUBIN: Okay.

10 CO-HEARING OFFICER BAGGETT: How much longer?

11 MR. RUBIN: I just want to go through my notes  
12 and see if I have anything else. Couple more  
13 questions.

14 Are you familiar with the 1995 Water Quality  
15 Control Plan?

16 DR. ROSENFELD: In a limited way. It's been  
17 a long time.

18 MR. JACKSON: I'm going to object to the  
19 relevance of these questions.

20 It's -- I too would like to have this  
21 transcript because it's going to be great for lots of  
22 other cases. But what we're doing here is discovery at  
23 this point.

24 MR. RUBIN: I disagree. I'm laying some  
25 foundation, and if you --



1 CO-HEARING OFFICER BAGGETT: Continue.

2 Overruled.

3 MR. RUBIN: Are you familiar with the 2006  
4 Water Quality Control Plan?

5 DR. ROSENFELD: No, I'm not.

6 MR. RUBIN: And are you familiar with State  
7 Water Resources Control Board Decision D-1641?

8 DR. ROSENFELD: In a limited way.

9 MR. RUBIN: In the context of your knowledge  
10 of the 1995 Water Quality Control Plan and Decision  
11 1641, do you believe that the State Water Resources  
12 Control Board did balancing between the needs for  
13 beneficial uses?

14 MR. BOBKER: I'm sorry, Jon, but -- you know,  
15 this witness is an ecologist, a biologist. I think  
16 you're venturing into areas beyond the expertise and  
17 beyond the testimony that we offered.

18 And, you know, again I ask for the Board --  
19 I'm not an attorney -- I ask for your guidance on this,  
20 but I think we're kind of venturing --

21 MR. RUBIN: I can respond.

22 What I'm trying to understand is the  
23 foundation for the witness's opinions. He's rendered  
24 opinions about the effect that the petition, if  
25 granted, would have on species.

1           Clearly, there are some -- there is relevance  
2   in terms of 1641, Decision 1641 and the Water Quality  
3   Control Plan, as the relief that's been requested in  
4   the petition relates directly to those documents.

5           And I'm trying to explore that and as well as  
6   the -- some of the differences between what existed  
7   when the Board issued those, the Water Quality Control  
8   Plan and the Decision, versus today.

9           CO-HEARING OFFICER HOPPIN: I believe that  
10   Mr. Bobker is stating that is outside this witness's  
11   field of expertise as far as the analysis of 1641.

12           Is that correct, Mr. Bobker?

13           MR. BOBKER: This witness has expertise on the  
14   ecology of the ecosystem. He's offered testimony on  
15   potential effects of the proposed action.

16           Asking him to weigh in on balancing that's  
17   been done by the Board I think is very inappropriate.

18           MR. RUBIN: I will -- I'll ask my question a  
19   little bit differently.

20           CO-HEARING OFFICER HOPPIN: Thank you.

21           MR. RUBIN: And hopefully avoid the objection.

22           Dr. Rosenfield, do you believe that there is a  
23   requirement that could be put in place by the Board  
24   that's more protective of fish and wildlife than the  
25   Outflow Objective?

1           MR. BOBKER: I'm -- I just really do have to  
2 ask. Is this relevant to this hearing? I'm sorry,  
3 Jon.

4           MR. RUBIN: I'm trying to lay a bit of a  
5 foundation. And maybe I'll just ask it --

6           CO-HEARING OFFICER BAGGETT: Just ask the  
7 question.

8           MR. RUBIN: That's fine.

9           There have been changes in how the Central  
10 Valley Project and the State Water Project operate  
11 since the Board adopted the Outflow Objective, correct?

12          DR. ROSENFELD: That's my understanding.

13          MR. RUBIN: And a significant change is the  
14 way The Projects operate to regulate for Old and Middle  
15 River flows, correct?

16          DR. ROSENFELD: That's one way in which the  
17 operations have been affected.

18          MR. RUBIN: And the manner in which The  
19 Projects operate to affect flows in Old and Middle  
20 River flow that are new, that didn't exist when the  
21 Outflow Objective was adopted, are -- provide a level  
22 of protection, additional level of protection, for some  
23 species within the Bay-Delta?

24          DR. ROSENFELD: That's their intention.

25          MR. RUBIN: Thank you.

1           Just a couple of more -- few questions.

2           DR. ROSENFELD: I also wanted to, if you  
3 allow, to get back to your questions about mechanisms.

4           MR. RUBIN: Ask the Hearing Officers; they're  
5 running it.

6           CO-HEARING OFFICER BAGGETT: Continue.

7           DR. ROSENFELD: Just that with relation to  
8 mechanisms, there is some work that I was, that I had  
9 forgotten about, about the distribution of longfin  
10 smelt in relation to Delta outflow.

11           And so that -- that work demonstrates that the  
12 fish are closer to south Delta exports when outflow is  
13 flow, and so that's a potential mechanism behind  
14 population levels of longfin smelt.

15           MR. RUBIN: When did you conduct that study?

16           DR. ROSENFELD: I didn't conduct that study.  
17 It's conducted by staff of California Department of  
18 Fish and Game.

19           MR. RUBIN: Do you know how many longfin  
20 exist --

21           MR. HERRICK: Mr. Chairman, if I may, without  
22 sounding like a bitter party here --

23           SENIOR STAFF COUNSEL MAHANEY: Could you speak  
24 in the microphone?

25           MR. HERRICK: When we had cross-examination,

1 other parties were warned that they had three minutes  
2 left. And then when 30 minutes was up, said you've got  
3 to finish up now. And I don't know. What's it been,  
4 50 minutes now?

5 I think we should all be treated the same.  
6 And giving one party who is not putting on witnesses  
7 the ability to cross-examine twice as long as everybody  
8 else doesn't quite seem fair.

9 CO-HEARING OFFICER BAGGETT: I would take  
10 exception to that. Mr. Nomellini had an hour and a  
11 half yesterday.

12 MR. HERRICK: Mr. Chairman, I believe we  
13 covered that. Because he was representing three  
14 parties, rather than have three parties do it, he was  
15 given more time.

16 MR. RUBIN: For whatever it's worth, I only  
17 have I think maybe four questions.

18 CO-HEARING OFFICER BAGGETT: Continue.

19 MR. RUBIN: The question that I ask is do you  
20 know how many longfin exist today on this earth?

21 DR. ROSENFELD: No, I don't.

22 MR. RUBIN: And do you know how many Delta  
23 smelt exist on the earth today?

24 DR. ROSENFELD: No, I don't.

25 MR. RUBIN: Last two questions.

1           In your testimony, I believe you have some  
2 data on project operations and the take The Projects  
3 may have on certain species; is that correct?

4           DR. ROSENFELD: I'm sorry. I missed that  
5 question.

6           MR. RUBIN: I believe as part of your  
7 testimony you have a table that provides some  
8 information on how The Projects are operating and the  
9 take that they might be having on certain species.

10          DR. ROSENFELD: Are you referring to  
11 Attachment B of my testimony or to --

12          MR. RUBIN: Yes, I am looking at Attachment B  
13 or Exhibit B.

14          DR. ROSENFELD: Okay.

15          MR. RUBIN: Do you see that?

16          DR. ROSENFELD: Yes.

17          MR. RUBIN: Were there any reported take of  
18 longfin smelt during the period that you have provided  
19 data?

20          DR. ROSENFELD: This table which goes through  
21 February 12th reflects no longfin smelt take for the  
22 month of February, and I believe that I heard yesterday  
23 that fish that were previously identified as larval  
24 smelt were reclassified as larval longfin smelt. But  
25 that was from testimony offered yesterday.

1           MR. RUBIN:  And did that occur during the  
2 month of February?

3           DR. ROSENFELD:  I'm not aware of what the  
4 testimony reflected.

5           MR. RUBIN:  And it looks like according to  
6 this data there may have been some take of Delta smelt;  
7 is that correct?

8           DR. ROSENFELD:  That's correct.

9           MR. RUBIN:  And how many Delta smelt have been  
10 taken during the month of February according to this  
11 table?

12          DR. ROSENFELD:  Now in my copy of this now I  
13 can't be sure that I'm looking at the correct column  
14 here because of the quality of the reproduction.

15          MR. RUBIN:  Would it surprise you if the table  
16 showed four Delta smelt taken?

17          DR. ROSENFELD:  If you can -- if the columns  
18 to the left are the columns that reflect Delta smelt,  
19 then that's what the number says.

20          MR. RUBIN:  Last question.

21                 Do you know if this table reflects four  
22 species actually taken or if it's some sort of an  
23 expansion of what was salvaged?

24          DR. ROSENFELD:  Four species?

25          MR. RUBIN:  Were there four Delta smelt in the

1 salvage facility, or does this reflect an expansion of  
2 some number that were in the salvage facility?

3 DR. ROSENFELD: No. I'd have to look at the  
4 meta data on the website.

5 MR. RUBIN: So you don't know.

6 DR. ROSENFELD: No. I wouldn't want to  
7 testify off the top of my head on it.

8 MR. RUBIN: Thank you.

9 I have no further questions.

10 CO-HEARING OFFICER BAGGETT: Thank you. Let's  
11 take a ten-minute recess.

12 (Discussion off the record)

13 CO-HEARING OFFICER BAGGETT: With that, back  
14 on the record. Cross-examination of The Bay Institute.

15 CROSS-EXAMINATION BY MR. SCHULZ

16 FOR KERN COUNTY WATER AGENCY, STATE WATER CONTRACTORS

17 MR. SCHULZ: Cliff Schulz for the Kern County  
18 Water Agency and the State Water Contractors.

19 My first question is almost who is the witness  
20 here? In Mr. Bobker's opening statement, he made a  
21 remark that, yesterday, that increased pumping was  
22 admitted to be above health and safety needs.

23 And I -- so I want to ask the real witness:  
24 Did you make any -- have any testimony -- I understood  
25 that Mr. Bobker was summarizing your testimony.



1           Did you have any testimony with respect to the  
2 amount of pumping and whether or not it was for health  
3 and safety purposes?

4           I'm asking the witness whether he has any  
5 testimony on that.

6           MR. BOBKER: Can I -- excuse me; I just want  
7 to clarify that that -- the opening statement refers to  
8 our Exhibit 3. And I apologize if that was not clear,  
9 but the Exhibit 3 is information on export pumping. So  
10 that's what I was referring to.

11          MR. SCHULZ: And who is the sponsor of that  
12 testimony?

13          MR. BOBKER: It wasn't testimony. And again,  
14 if I violate -- am violating the rules, as a  
15 nonattorney, I -- chasten me, please.

16          MR. SCHULZ: I don't believe you were sworn as  
17 a witness, so.

18          MR. BOBKER: That exhibit is an exhibit of  
19 information taken from the DWR website on export  
20 levels.

21          MR. SCHULZ: And the DWR website said it was  
22 above health and safety needs?

23          MR. BOBKER: The critical health and safety  
24 needs, as I understand it, in excess of about 1500 cfs.

25          CO-HEARING OFFICER BAGGETT: I guess we could

1 solve this problem by having Mr. Bobker be a witness, I  
2 assume.

3 MR. RUBIN: I would object at this point for  
4 Mr. Bobker becoming a witness.

5 The data is attached to testimony for  
6 Dr. Rosenfield. And if Dr. Rosenfield is not qualified  
7 to speak on the data, then I don't think it's  
8 admissible in this proceeding.

9 DR. ROSENFELD: They are actually not  
10 attached to my testimony. They're identified as a  
11 separate exhibit, I believe.

12 And to answer your question, I have no  
13 testimony to offer on health and safety standards in  
14 pumping.

15 MR. SCHULZ: Thank you.

16 Back to your testimony now. In preparing your  
17 testimony, you obviously relied to some degree on the  
18 Jassby and 2002 Kimmerer work; is that correct?

19 DR. ROSENFELD: Correct.

20 MR. SCHULZ: Okay. And as I was reading your  
21 testimony and listening to your summaries, it sounded  
22 to me like you were trying to provide the Board with a  
23 summary of the established and pretty-well-known  
24 science on X2 flows from Jassby, Kimmerer, and others,  
25 including your work on longfin; is that correct?

1 DR. ROSENFELD: Correct.

2 MR. SCHULZ: Did you do any work in preparing  
3 your testimony to take a look at the 2009 -- February  
4 of 2009 location of longfin smelt or starry flounder,  
5 bay shrimp, Eurytemora: Did you do -- take a look at  
6 where they are this year and make any analysis of the  
7 difference to their current locations and to their  
8 habits of a change from 7100 -- from 11-4, 7100 during  
9 the month of February 2009? Did you do any fieldwork  
10 of that kind?

11 DR. ROSENFELD: I have looked at the  
12 distribution of longfin smelt larvae in February of  
13 this year.

14 MR. SCHULZ: Have you found spawning? Has the  
15 longfin started spawning this year?

16 DR. ROSENFELD: Apparently, it has because  
17 there are larvae in the system.

18 MR. SCHULZ: And where are they?

19 DR. ROSENFELD: Well, I have a map here that  
20 comes from the Fish and Game website, and it appears  
21 that they're located throughout the southern, northern,  
22 and western Delta.

23 And, yes, including in front of Clifton Court  
24 where they have this --

25 MR. SCHULZ: What's the --

1 DR. ROSENFELD: -- map.

2 The date of the survey data is February 2nd,  
3 2009 through February 5, 2009. And it's survey number  
4 3 --

5 MR. SCHULZ: Okay.

6 DR. ROSENFELD: -- of the year.

7 MR. SCHULZ: Okay.

8 And do you have an opinion on what the  
9 distribution change would be between an 11-4 and a 7-1  
10 outflow?

11 DR. ROSENFELD: The -- can you restate that?

12 MR. SCHULZ: Do you believe that that would  
13 create -- that the difference between those two flows  
14 would create a significant change in their  
15 distribution?

16 DR. ROSENFELD: I do believe that it would,  
17 yes.

18 MR. SCHULZ: What would happen?

19 DR. ROSENFELD: I believe that the  
20 distribution is likely to move further to the west.

21 MR. SCHULZ: Okay.

22 DR. ROSENFELD: These are larval longfin  
23 smelt. They don't have very great swimming ability at  
24 all, and so they, as larvae, go where the flow goes.

25 MR. SCHULZ: Okay. And are the majority of

1 the longfin in the western Delta?

2 DR. ROSENFELD: I haven't looked at the  
3 numbers to actually tabulate, and you'd have to define  
4 for me what you meant by western Delta.

5 But as I said, they are located through the  
6 southern Delta, there are some in the northern Delta,  
7 and there are some in the western Delta.

8 MR. SCHULZ: Were you here for the testimony  
9 of the Bureau of Reclamation's fisheries biologist?

10 DR. ROSENFELD: Yes, I was.

11 MR. SCHULZ: Okay. Were you here for the  
12 statements by the National Marine Fisheries Service,  
13 Department of Fish and Game, and the NOAA Fisheries?

14 MR. JACKSON: I'm going to object to that  
15 question on the grounds that those are policy  
16 statements and not relevant as evidence.

17 MR. SCHULZ: I didn't say that they were  
18 evidence. I asked him whether he was here for the  
19 statements. I don't think I used the word evidence. I  
20 was careful about that.

21 I was asking him if he was here for those  
22 statements.

23 MR. JACKSON: Are we allowed to cross-examine  
24 on other people's policy statements?

25 MR. SCHULZ: I'm not cross-examining; I asked

1 him if he was here for it.

2 MR. JACKSON: I understand it's foundational,  
3 but it's going to go somewhere.

4 CO-HEARING OFFICER BAGGETT: I think it's  
5 acceptable foundation. He's not asking whether they  
6 were true, correct, or -- he just asked him whether he  
7 heard the policy statements.

8 DR. ROSENFELD: It seems like a long time  
9 ago, but yes, I was here for those statements.

10 MR. SCHULZ: With respect to the testimony of  
11 the Bureau witness, do you disagree with his analysis  
12 based on the current locations of fish that he felt  
13 that there would be a minimal impact of the  
14 modification in flows that were provided?

15 DR. ROSENFELD: I do disagree with that.

16 MR. SCHULZ: You disagree with that?

17 DR. ROSENFELD: Yes.

18 MR. SCHULZ: Okay. And that is your  
19 testimony, that you disagree with the Bureau witness.  
20 So you would not also reach the same conclusion stated  
21 by the fishery agencies in their policy statements?

22 MR. JACKSON: Michael Jackson on behalf of the  
23 California Sportfishing Protection Alliance. We are  
24 talking now about an opinion that's in a policy  
25 statement.

1 CO-HEARING OFFICER BAGGETT: I would sustain  
2 your objection before you make it.

3 MR. RUBIN: Can I speak to the issue?

4 I think that Mr. Schulz is referring to policy  
5 statements. And he's referring to that policy  
6 statement to explain testimony that this witness gave,  
7 to expand on the testimony.

8 And in essence, what the policy statement is  
9 is hearsay; and the rules of the Board allow for  
10 hearsay to explain testimony.

11 I don't think -- he's not saying that the  
12 policy statements are being offered into evidence, that  
13 they are asserted for the truth of the matter; but he's  
14 referring to them in asking the witness -- as I did, as  
15 you can for an expert witness -- to understand his  
16 opinions and how they relate to statements that were  
17 made, not evidence.

18 MR. JACKSON: The problem with that is that  
19 there is a -- there has been a pattern of the agencies  
20 who have all this information not submitting themselves  
21 to cross-examination, and this is just a way around it.

22 CO-HEARING OFFICER BAGGETT: I understand. I  
23 understand.

24 So I would accept -- still sustain the  
25 objection. If you can rephrase a hypothetical, you can

1 ask this expert within the realm of the expertise as  
2 you are aware --

3 MR. SCHULZ: No. I think I've gotten enough  
4 of him. He's in disagreement with the expert from the  
5 United States Bureau of Reclamation, and that's --

6 DR. ROSENFELD: I need to clarify that.  
7 Which expert are you talking about?

8 MR. SCHULZ: I can't pronounce the last name.  
9 Chotkowski.

10 DR. ROSENFELD: So maybe you can read to me  
11 what part of his testimony you're referring to.

12 MR. SCHULZ: When I summarized it, I said he  
13 reached the conclusion that the modification requested  
14 would not have a significant impact on the fisheries in  
15 February 2009. That was the --

16 DR. ROSENFELD: Right. And I disagree with  
17 that.

18 MR. SCHULZ: And you disagree with that.

19 Do you recall from your -- from the Jassby  
20 work, that he did use different three-to-four-month  
21 time periods for purposes of the X2 relationships that  
22 he found? Is that something that you remember from  
23 your review of the Jassby work?

24 DR. ROSENFELD: Yeah. Generally speaking,  
25 that's how these analyses are done.



1           MR. SCHULZ:  And isn't it also a fact that he  
2 found that the correlation existed for different month  
3 blocks for different species?

4           DR. ROSENFELD:  I don't remember specifics of  
5 that.  It would certainly make sense, given their  
6 different life histories.

7           MR. SCHULZ:  Okay.  And do you remember that  
8 in the Jassby paper he discussed why he came to that  
9 conclusion?  Do you remember that?

10          DR. ROSENFELD:  No, I don't.

11          MR. SCHULZ:  Okay.  Do you know -- I think  
12 maybe Mr. Rubin asked you this, and you said you  
13 didn't.

14                 You do not know which of the listed fish have  
15 February as a month within their correlation group; is  
16 that correct?

17                 In other words, my understanding is that  
18 certain of the species may have March through May.  
19 Others may have April through June.  Some have February  
20 through May.

21                 Do you have any recollection of which species  
22 have the month of February within their correlation  
23 group?  Correlation months?

24                 DR. ROSENFELD:  I know from my own published  
25 work that, where I looked at outflows the winter of the

1 year, including February, that that is significantly  
2 correlated with longfin smelt abundance.

3 MR. SCHULZ: Longfin smelt is the one that I  
4 recall having February in it also.

5 DR. ROSENFELD: Okay. And Stevens and Miller  
6 from 1983 did an extensive kind of month-by-month  
7 analysis, the statistics of which I'm not going to  
8 comment on. But they looked at month-by-month  
9 correlations with abundance as well, so that would be  
10 another place to look. Yeah.

11 MR. SCHULZ: Do you recall that the work is  
12 the average of this multi-month block of time for each  
13 species, the average location of X2?

14 DR. ROSENFELD: That's my recollection.

15 MR. SCHULZ: Okay.

16 DR. ROSENFELD: I mean it's important to have  
17 time scales that are matching the fall midwater trawl  
18 survey which measures abundance, is also an --  
19 technically a sum, but it incorporates several months  
20 as well.

21 MR. SCHULZ: You were asked some questions on  
22 cross-examination -- I don't remember by whom -- but  
23 about the starting gate provision. And you gave some  
24 answer that you felt the starting gate was important, I  
25 believe. Would that be correct?

1 DR. ROSENFELD: That's correct.

2 MR. SCHULZ: Okay. During the testimony  
3 yesterday, my recollection is that the testimony was  
4 that on or about the 14th of February the EC reached  
5 within about .22 EC of the starting gate number of 2.64  
6 and got to about 2.86 and that -- I believe the  
7 testimony from the DWR witnesses was that a high spring  
8 tide didn't let them get it pushed all the way down to  
9 the starting gate number.

10 So that's just sort of my recollection of what  
11 the testimony was yesterday.

12 Given the tidal situation of the Delta, do you  
13 think you can find a significant effect on fish by  
14 meeting 2.86 during the high spring tide as compared to  
15 2.64? Can you come up with a -- do you believe that  
16 would create a measurable impact on species?

17 DR. ROSENFELD: I've got to say that I'm not  
18 familiar with that testimony that you are referring to  
19 or the numbers involved, so --

20 MR. SCHULZ: Okay. Assuming hypothetically  
21 that during -- that instead of meeting 264 --

22 DR. ROSENFELD: 2.64?

23 MR. SCHULZ: 2.64 EC. Instead, they made  
24 2.86, and that was during the high spring tide: Do you  
25 think the differential between the 2.64 and the 2.86

1 under those circumstances in this estuary could be  
2 found to have a measurable impact on species?

3 DR. ROSENFELD: I really have no idea.

4 MR. SCHULZ: Okay.

5 DR. ROSENFELD: Given all the caveats to that  
6 that you laid out.

7 MR. SCHULZ: Well, I just was trying to lay  
8 out the fact that we have situations in the Delta where  
9 you could have a very strong incoming tide which will  
10 move something off of an objective and a very strong  
11 outgoing tide that means you'll -- it will be way  
12 under, and you have just this movement back and forth,  
13 and that's sort of a natural function of the -- of  
14 being in the Delta. That's what the statutes --

15 DR. ROSENFELD: That's why they use the  
16 average X2.

17 MR. SCHULZ: That's why they use the average,  
18 correct. But the starting gate number is not an  
19 average. It says on one day meet 2.64.

20 So I was trying to elicit from you whether,  
21 based on your knowledge of the estuary and your studies  
22 in the estuary, whether or not you could -- whether you  
23 had an opinion as to whether the difference between the  
24 2-64 and 2-84 for that one day is likely to have any  
25 measurable impact on species abundance?

1 DR. ROSENFELD: I have no basis to respond to  
2 that.

3 MR. SCHULZ: That is all I have for this  
4 witness.

5 CO-HEARING OFFICER BAGGETT: Thank you. DWR?

6 CROSS-EXAMINATION BY MS. CROTHERS  
7 FOR DEPARTMENT OF WATER RESOURCES

8 MS. CROTHERS: My name is Cathy Crothers from  
9 the Department of Water Resources.

10 Dr. Rosenfield, I just wanted to follow up a  
11 bit on Mr. Schulz's questions. I just wanted to  
12 clarify, because I had a similar question on the  
13 starting gate testimony and the significance of that  
14 that you gave earlier in your testimony.

15 John Leahigh testified that the starting gate  
16 requirement at Collinsville was almost met in that 2.64  
17 mmhos per -- you know, the EC requirement -- was within  
18 220 meters of Collinsville.

19 Given the distance of 220 meters east of  
20 Collinsville, what do you think the significance of  
21 that difference from being at Collinsville, the 220  
22 meters, would have on the effect of the species in the  
23 Delta that you mentioned would be harmed by that  
24 change?

25 DR. ROSENFELD: I'm sorry.

1 MS. CROTHERS: I'll repeat that. Given the  
2 background I've just explained, I won't repeat that:

3 What do you think is the significance of the  
4 220 meters east of Collinsville on not being at  
5 Collinsville, what is the significance to the fishery  
6 in the Delta?

7 DR. ROSENFELD: The position of X2 at any  
8 time is partially impacted by the inflow to the Delta  
9 and the position of X2 at a time step prior to that  
10 time. So if the X2 isohaline is not located in a  
11 particular position and is located upstream of that,  
12 then the same amount of water releases don't  
13 necessarily achieve the position of X2 that's  
14 specified.

15 As to the impact of 220 meters, I have no  
16 response to that. It really depends on the mechanisms  
17 that we got into before about how outflow -- the direct  
18 mechanisms between outflow and species abundance and  
19 whether that's the position, exact position of X2, or  
20 some other mechanism.

21 But X2 is an indicator of a lot of different  
22 variables, a lot of different hydrological variables,  
23 and it kind of boils them down.

24 MS. CROTHERS: So given that the neap -- the  
25 spring tide was a factor during the early part of

1 February which was also a graph that Mr. Leahigh showed  
2 during his testimony, that the spring tide effect,  
3 pushing the X2 east 220 meters, do you think that  
4 natural variable should be taken into account as to  
5 whether the habitat benefits were met or not?

6 DR. ROSENFELD: I think that variable is  
7 taken into account by the averaging.

8 MS. CROTHERS: So if the habitat is related --  
9 habitat benefits is what X2 is intending to measure; do  
10 you think there's a range in habitat benefits at X2  
11 that might be within the 220 meters?

12 DR. ROSENFELD: I'm not sure I follow that  
13 question.

14 MS. CROTHERS: Well, let me ask you this: Is  
15 X2 supposed to represent some habitat value?

16 DR. ROSENFELD: X2 may represent the habitat  
17 value.

18 MS. CROTHERS: Do you think there could be a  
19 reasonable range of expectation that the value would be  
20 within the 220 meters?

21 DR. ROSENFELD: I'm not sure what you mean by  
22 within the 220 meters.

23 My understanding is that these are minimum  
24 requirements for X2. There's, as I understand it, no  
25 prohibition on going beyond, pushing the salt field

1 further to the west.

2           So if you're asking me if it's bad to not meet  
3 the minimum, I would say it's not good to not meet the  
4 minimum.

5           MS. CROTHERS: Well, I guess that was the  
6 point. I'm trying to define how much badness is there  
7 for not being 220 meters short of the minimum.

8           DR. ROSENFELD: Feel like I'm in the  
9 classroom again. I have no way of defining how bad  
10 that is. But I would say that it's not good.

11           MS. CROTHERS: Okay. Thank you. I guess that  
12 was -- I was trying to get to that point.

13           Although I wanted to clarify what Mr. Schulz  
14 has been saying in terms of more in relationship to the  
15 meters that were not met, not so much the EC value.

16           Earlier in your testimony, you also mentioned  
17 that you thought that there -- in the petition that was  
18 submitted, that there may be good reasons to reduce the  
19 export of storage at this time of year for later  
20 benefits in the season. Do you recall that testimony?

21           DR. ROSENFELD: I think you might be  
22 confusing two points. One has to do with exports, and  
23 one has to do with storage.

24           MS. CROTHERS: Okay. Let me rephrase it.

25           Maybe -- was that -- you were saying there was



1 good reason to protect the storage, stored water in the  
2 reservoirs for later in the season?

3 DR. ROSENFELD: Stored water can have  
4 benefits on habitat values upstream -- or, well,  
5 downstream of the dams but upstream of the estuary.

6 MS. CROTHERS: Correct.

7 DR. ROSENFELD: Whether it has that benefit  
8 depends on how much water is actually stored and the  
9 marginal increase that you get from this action.

10 And that's the part that I've testified I'm  
11 not clear on, whether storing water upstream in this  
12 year, given these hydrological conditions, actually  
13 achieves a benefit. Because a point that there is  
14 no -- there is a threshold.

15 If you sort of provide 56 degrees through a  
16 stretch of the upper river, then -- but you violated  
17 that temperature, you -- temperature's increased above  
18 that level during incubation, then there is actually no  
19 benefit at all.

20 So what I'm not sure on is whether storing  
21 water upstream this year actually allows you to get to  
22 a point where you can provide minimal benefits to --  
23 habitat benefits to incubating Chinook salmon or  
24 rearing Chinook salmon upstream at all, and I would  
25 like to see that information developed.

1           And if there is the possibility of developing  
2 or increasing storage to the point where habitat values  
3 can be realized, how much -- how much habitat have you  
4 provided?

5           And I believe that it's possible to develop  
6 that information, and I haven't seen it.

7           MS. CROTHERS: Do you believe the information  
8 that's been submitted during the hearing would provide  
9 some of that information necessary for the Board in its  
10 decision-making?

11          DR. ROSENFELD: No. Not at all.

12          MS. CROTHERS: Well, do you recall that the  
13 testimony from DWR and the Bureau indicated that  
14 allocations to water users this year were going to be  
15 some of, if not the lowest allocations ever delivered  
16 to the water contractors? For example, that the State  
17 Water Project allocations would be 15 percent?

18          DR. ROSENFELD: I recall seeing that slide,  
19 yes.

20          MS. CROTHERS: Yes, and that CVP, the Bureau  
21 of Reclamation, had made a similar -- had similar  
22 testimony relatively -- relative to their low  
23 allocations this year?

24          DR. ROSENFELD: Yeah. And what I'm not clear  
25 on is how that produces -- what incremental -- what

1 incremental storage that produces.

2           That's talking about how much water is  
3 exported or delivered for the purpose of increasing  
4 storage. And I would like to know how much storage  
5 increases, what the effect is on the cold water pool,  
6 and what that effect is, the increase in the cold water  
7 pool, on habitat values for salmon in the upper rivers.  
8 And none of that information have I seen.

9           MS. CROTHERS: Well, would you agree, though,  
10 that by having a very reduced allocation of water as a  
11 factor in defining the expected uses of water this year  
12 by The Projects and that this water is likely, because  
13 of this scarcity of it, will likely go to those most --  
14 needs that are most important, that that is a factor  
15 that will help the Board in understanding what the uses  
16 of water will be this year?

17           DR. ROSENFELD: I understand that that's a  
18 factor in determining what the uses of water will be to  
19 the people who receive water that's removed from the  
20 system.

21           I don't see the -- how it -- how it at all  
22 defines how the water -- what water will be stored, how  
23 much water, what habitat valley will provide, and  
24 there's been nothing said that indicates that it  
25 actually will be used for the benefit of salmon and

1 steelhead upstream.

2 MS. CROTHERS: Well, are you aware that the  
3 CVP and SWP are regulated by requirements for  
4 endangered species?

5 DR. ROSENFELD: I am very aware of that,  
6 yeah.

7 MS. CROTHERS: And so if those requirements  
8 have also to be met as a requirement for operating The  
9 Projects, would you agree that those requirements also  
10 define how the water's to be used this year?

11 DR. ROSENFELD: I'm saying that in years past  
12 those requirements that you mention have not been met.  
13 And so it's a simple request to -- from my point of  
14 view to know how much water will be stored as a result  
15 of this action, what the effect on the cold water pool  
16 will be in terms of the volume of that pool, and what  
17 that converts to in terms of habitat.

18 MS. CROTHERS: Well, you mentioned that some  
19 of those requirements have not been met in the past.  
20 Could you be more specific as to what requirement  
21 you're talking about?

22 DR. ROSENFELD: There are temperature  
23 requirements for maintenance of 56 degrees Fahrenheit,  
24 for instance, during winter run Chinook salmon  
25 incubation periods through a long stretch of river.

1 And in several years, that stretch of river has been  
2 reduced because of a lack of cold water pool available  
3 to provide the full protection that's required.

4 MS. CROTHERS: Well, let me just have a brief  
5 hypothetical here.

6 If The Projects released what they had  
7 estimated earlier in February as necessary to meet the  
8 X2 requirement for February -- they had estimated about  
9 180,000 acre feet would be released from storage -- and  
10 it hadn't rained, so the The Projects do release this  
11 180,000 acre feet of storage: What would be the  
12 likelihood or the impact on the Bureau's ability to  
13 meet that cold water requirement?

14 DR. ROSENFELD: I'd love to see the answer to  
15 that question. That's what I'm saying is uncertain.

16 If, for instance, given the conditions you  
17 laid out, the analysis shows that the reservoirs would  
18 not store sufficient cold water to provide habitat  
19 conditions through any stretch of winter run Chinook  
20 salmon spawning habitat, for instance, then there is no  
21 effect of releasing more of that water.

22 If the benefit cannot be provided prior to  
23 releasing the water, then there's, you know, nothing  
24 less than zero.

25 So I'm looking for that level of analysis.

1 We're at very low reservoir storage levels, and one  
2 thing that I want to know is whether The Projects can  
3 meet the flow and temperature requirements for the  
4 various salmon populations without releasing the water  
5 or with releasing the water.

6 MS. CROTHERS: I thought that was actually the  
7 purpose of the petition in that the petition did  
8 provide some analysis as to the reservoir storage and  
9 the projected availability of water in those reservoirs  
10 for the remaining year, and that's where the 180,000  
11 acre feet was derived.

12 So I thought that was the information you're  
13 looking for, and that there would be this absence of  
14 180,000 acre feet.

15 DR. ROSENFELD: If there is an absence of  
16 180,000 acre feet, I don't know what that means in  
17 terms of the available cold water storage. What that  
18 means -- the impact of that depends on what the levels  
19 in the reservoir are now. And you could probably  
20 provide that number for me as well.

21 MS. CROTHERS: I believe it was provided.

22 DR. ROSENFELD: But without the molting of  
23 the thermocline behind the reservoirs, there is no way  
24 of knowing what that translates to in terms of cold  
25 water storage.

1           And so more cold water storage is better  
2 unless you don't have enough to meet the standard at  
3 all, in which case, you know, as long as you're below  
4 that threshold, there is no benefit.

5           MS. CROTHERS: Are you saying there should not  
6 even have been an attempt to plan for it?

7           DR. ROSENFELD: I'm saying in the attempt to  
8 plan for it there should have been an analysis of the  
9 effect of storing more water.

10           And that analysis would show whether you were  
11 able to meet the standards; and if you were able to  
12 meet -- if The Projects were able to meet the  
13 standards, how much more habitat would be created by  
14 this?

15           And that's an analysis that I believe the  
16 Bureau and DWR can do. I've seen temperature analyses  
17 and forecasting of temperature conditions in the past  
18 from those agencies, and I'm surprised to not see it  
19 now.

20           Because that gets to, from my point of view,  
21 if the Board is going to balance the benefits of this  
22 action upstream against the negatives of the action  
23 downstream, including those to Chinook salmon, then you  
24 would need to know how much benefit you provided  
25 upstream.

1           The impacts downstream can be estimated by the  
2 papers that I've cited. The impacts upstream would  
3 require some analysis that I believe Department of  
4 Interior and the Bureau can provide on how much more  
5 habitat can they provide given this increment of  
6 storage and hydrological conditions.

7           So just saying that there's more water doesn't  
8 actually tell me what I need to know in terms of fish  
9 habitat.

10           MS. CROTHERS: Well, as you understand and I  
11 guess everybody understands here, this was an action  
12 taken as an urgent matter because of changing hydrology  
13 that's been changing rapidly, and I believe Mr. Leahigh  
14 did testify that his staff are working on some analysis  
15 to better define some of these changes.

16           But the point of this petition is to help in  
17 planning to make sure that water would be available.  
18 Although I agree it. Would be good to find out more  
19 because --

20           MR. BOBKER: Are you asking a question or  
21 making a statement?

22           MS. CROTHERS: I'm going to ask a question,  
23 though, based on that foundation, is that still, given  
24 that you do -- you would like more information on this  
25 issue, wouldn't you agree that it's best to plan for



1 the need for this water given all the information that  
2 is before the Board that's been provided during this  
3 hearing?

4 DR. ROSENFELD: I would not agree with that.

5 MS. CROTHERS: Thank you.

6 DR. ROSENFELD: The impacts downstream are  
7 significant and real. The impacts upstream, from my  
8 point of view, are a matter of conjecture because I  
9 haven't seen any evidence about it.

10 So to say it would be safer by damaging  
11 species downstream -- including the same species that  
12 you're trying to protect upstream -- by reserving water  
13 upstream, that -- that's not an argument that has  
14 factual support.

15 I'm not saying it is not possible that that's  
16 the outcome, but I don't see any evidence for it.

17 MS. CROTHERS: Well, do you recall that the  
18 Fish and Wildlife Service -- well, it was a policy  
19 statement; but however, they did --

20 MR. JACKSON: I'm going to object.

21 MS. CROTHERS: Okay. I won't say --

22 MR. JACKSON: I mean this is a blatant attempt  
23 try and bootstrap a policy statement into evidence.

24 MS. CROTHERS: I won't frame it in terms of  
25 the policy statement.

1 CO-HEARING OFFICER BAGGETT: That was an  
2 objection; sustained. And I understand that the line  
3 of questions was withdrawn, so continue.

4 MS. CROTHERS: Okay.

5 I believe that the Bureau of Reclamation did  
6 testify to the fact that they did reinitiate  
7 consultation related to this change in operations; do  
8 you recall that?

9 DR. ROSENFELD: I believe so.

10 MS. CROTHERS: And during that reinitiation of  
11 consultation, didn't the Fish and Wildlife Service  
12 review the effects of the change?

13 DR. ROSENFELD: I have no idea what they  
14 reviewed. And if they didn't review the kind of  
15 evidence that I'm looking for, I would say their review  
16 is incomplete.

17 I just don't know how you can measure benefits  
18 to a species upstream without producing any estimate of  
19 the benefits. There's no estimate of the benefits.

20 Just to say that there's 180,000 acre feet of  
21 water stored upstream, and there is no provision of  
22 when it would be released or what benefit it would  
23 produce, is not establishing a benefit.

24 So, you know, how one could comment on whether  
25 it's a benefit at all and/or that the magnitude of the

1 benefit is worth the magnitude of the cost downstream,  
2 I just don't understand -- I don't think that's well  
3 documented.

4           And as a biologist, I would never trade it  
5 off -- or I won't say never -- I would not be swayed by  
6 an argument that said storing water upstream is always  
7 better for Chinook salmon regardless of the costs to  
8 them downstream or -- and/or regardless of the cost to  
9 any of the numerous other species that would be  
10 impacted downstream. I would want to see data.

11           MS. CROTHERS: Thank you.

12           One final -- few questions following up on  
13 some of the other questions. Longfin smelt data, since  
14 we're talking about data: You have gone to the website  
15 and obtained data from Fish and Game on the recent  
16 surveys for longfin smelt.

17           In that data, does it give -- I don't have it,  
18 but does it give to you the estimated numbers of  
19 longfin smelt collected over the survey locations?

20           DR. ROSENFELD: It presents average catch per  
21 unit effort which is usually used as an indicator of  
22 density.

23           But to convert that to numbers of fish in the  
24 net, I would need some more information. And  
25 converting that to numbers of fish in the area that

1 were not in the net is a different calculation.

2 MS. CROTHERS: That's -- so it does give you  
3 some sort of estimate of density you say; is that  
4 correct?

5 DR. ROSENFELD: Yeah. And it gives it to me  
6 by station number, and I'm not able to exactly match up  
7 the station numbers with their exact locations.

8 MS. CROTHERS: Does that give a general  
9 location, however, east or west of Collinsville?

10 DR. ROSENFELD: Yes, it does.

11 MS. CROTHERS: Would you -- where would you  
12 say the majority of the longfin are located in  
13 relationship to Collinsville?

14 DR. ROSENFELD: It's a little bit -- it's --  
15 I'd rather have a calculator to do that estimate. It  
16 presents the spatial distribution of the fish in terms  
17 of the density of the catch per unit effort as the size  
18 of a circle, so I'm going to -- you're asking me my  
19 impression of where the largest catch per unit effort  
20 is, and I'm going to say that it appears to occur east  
21 of Collinsville.

22 MS. CROTHERS: Okay. Thank you.

23 DR. ROSENFELD: If I'm reading the map  
24 correctly. The map is available on the website, and  
25 it's updated frequently so anybody can look at it.

1 MS. CROTHERS: Did -- well, that's fine.

2 Thank you.

3 That's all the questions I have.

4 CO-HEARING OFFICER BAGGETT: Thank you.

5 Is there any --

6 MR. JACKSON: Michael Jackson. For the  
7 clarity of the record, I believe that the maps that  
8 we're talking about which come off websites run by the  
9 government agencies are judicially noticeable. We can  
10 put the maps in on --

11 CO-HEARING OFFICER BAGGETT: With your  
12 testimony?

13 MR. JACKSON: With our testimony. Or we could  
14 put it in on rebuttal, and I just -- or you could take  
15 judicial notice of it now, since it's been used, both  
16 the smelt map and --

17 CO-HEARING OFFICER BAGGETT: To expedite it  
18 and make it cleaner for us, maybe during your testimony  
19 Mr. Jennings can give us the cite of the specific maps  
20 and we can take judicial notice.

21 MR. JACKSON: Thanks.

22 CO-HEARING OFFICER BAGGETT: Now is there any  
23 redirect?

24 MR. BOBKER: Yes. Just brief redirect, I  
25 hope.

1 CO-HEARING OFFICER BAGGETT: Well, we're out  
2 of here at quarter till one, and the hearing will be  
3 over then, so.

4 REDIRECT EXAMINATION BY MR. BOBKER  
5 FOR THE BAY INSTITUTE

6 MR. BOBKER: Dr. Rosenfeld, earlier you were  
7 asked whether Delta smelt would be affected by this  
8 petition, adversely affected by this petition, and you  
9 indicated some uncertainty about that.

10 In your answer, were you referring to effects  
11 on Delta smelt of changes in outflow as a result of the  
12 relaxation of objectives or to the effects on Delta  
13 smelt of export operations during the period when  
14 outflows were relaxed?

15 DR. ROSENFELD: The former. I was referring  
16 to the outflow effect on Delta smelt.

17 MR. BOBKER: Okay. Then I would ask you: Do  
18 you think Delta smelt potentially would be adversely  
19 affected by export operations during the period when  
20 outflows were relaxed?

21 DR. ROSENFELD: Yes. I believe that Delta  
22 smelt would be impacted by entrainment at the pumps if  
23 flow standards were reduced. And that's based on the  
24 particle tracking data by Kimmerer and Nobriga from  
25 2008 that showed greater entrainment. That's a

1 modeling exercise, but it indicated that for things  
2 that behave like particles floating in the water, there  
3 would be greater entrainment of the south Delta pumps  
4 with reduced Delta flows, water flows.

5 MR. BOBKER: Thank you.

6 And then my final question is: You were  
7 questioned during the questioning, the  
8 cross-examination, about flow abundance relationships.  
9 It was several times when the fact that the averaging  
10 period for some species for which the flow abundance  
11 relationships are strong falls after the February  
12 period, and I just wanted to understand.

13 Does the fact that the averaging period might  
14 cover a period after, say, beginning in March, for  
15 instance, does that mean changes in February are  
16 irrelevant to conditions for those species for whom  
17 there are strong flow abundance relationships that  
18 start after February?

19 DR. ROSENFELD: Did you say relevant or  
20 irrelevant?

21 MR. BOBKER: Are they relevant?

22 You know, is it -- if you change outflow or  
23 export -- if you change outflow conditions in February,  
24 for -- is that irrelevant to species that have strong  
25 flow abundance relationships for which the averaging

1 period might start March 1?

2 DR. ROSENFELD: No. I would say it's not  
3 irrelevant.

4 First of all, the averaging periods are just  
5 that, they are averaging, which means identifying  
6 specific moments within that averaging period that have  
7 more or less effect or -- or -- is not possible because  
8 it's been averaged.

9 Also, the flow abundance -- the flows and the  
10 flow abundance relationships are correlated across a  
11 lot of months in the winter and spring, so just because  
12 a particular researcher does an analysis of March to  
13 June doesn't mean that there wasn't an effect in  
14 February as well because high outflow Marches typically  
15 correspond with high outflow Februaries across the  
16 range of flow.

17 So no, there is no reason to dismiss a  
18 relationship or to suspect that there's not a  
19 relationship in earlier months. And in particular, if  
20 a species is present in the Delta during February, you  
21 would expect Delta outflows, if they have an effect, to  
22 have an effect when the species is present.

23 MR. BOBKER: Thank you.

24 We're finished.

25 CO-HEARING OFFICER BAGGETT: Okay. Is there



1 any recross from the Department?

2 MS. CROTHERS: No.

3 CO-HEARING OFFICER BAGGETT: From the Bureau?

4 MS. AUFDEMBERGE: No.

5 CO-HEARING OFFICER BAGGETT: South Delta?

6 CSPA?

7 MR. JACKSON: No.

8 CO-HEARING OFFICER BAGGETT: Butte? South

9 Mendota.

10 RE-CROSS-EXAMINATION BY MR. RUBIN

11 FOR SAN LUIS & DELTA-MENDOTA WATER AUTHORITY, WESTLANDS

12 WATER DISTRICT

13 MR. RUBIN: Hello again.

14 DR. ROSENFELD: Hi.

15 MR. RUBIN: Jon Rubin for San Luis &

16 Delta-Mendota Water Authority and Westlands Water

17 District. Just a couple of quick questions.

18 CO-HEARING OFFICER BAGGETT: An hour.

19 MR. RUBIN: That was pointed out to me during

20 the break, that I do represent two entities, not unlike

21 Mr. Nomellini yesterday.

22 If I understand the testimony that was

23 elicited during redirect, you have a concern with the

24 granting of the change petition because of the effects

25 it might have on Delta smelt, correct?

1 DR. ROSENFELD: Correct.

2 MR. RUBIN: And the concern that you have for  
3 Delta smelt is not related to the change in outflow;  
4 it's with the effect that the operation of the Jones  
5 Pumping Plant and the Banks Pumping Plant might have on  
6 Delta smelt, correct?

7 DR. ROSENFELD: That's the relationship that  
8 I'm speaking of that has been documented, yes.

9 MR. RUBIN: And the effect that you are  
10 concerned with is entrainment; is that correct?

11 DR. ROSENFELD: That's what I was speaking  
12 to, yes.

13 MR. RUBIN: And entrainment deals with the  
14 taking of individual fish; is that correct?

15 DR. ROSENFELD: Entrainment -- there are  
16 several terms that are commonly thrown around, and  
17 they're a little different. There's entrainment, and  
18 there's salvage, and there's loss.

19 All of them are related to the number of fish  
20 that appear in the salvage facilities at the pumps, but  
21 they are also a proxy for other effects that occur away  
22 from the pumps, so --

23 MR. RUBIN: But your certain -- I think that  
24 your testimony was that you're concerned with the  
25 increase in the entrainment that might occur if the

1 petition were granted.

2 DR. ROSENFELD: So let me clarify.

3 I'm concerned with the increase in entrainment  
4 and attendant other negative effects that are not  
5 measured.

6 I would also point out that, aside from  
7 entrainment being a proxy for effects that occur away  
8 from the pumps, they are also somewhat of a proxy for  
9 fish that actually pass through the pumps and are  
10 killed or exported out of the system that are not  
11 counted. And that would include all larval Delta smelt  
12 and all larval longfin smelt because they are too small  
13 to be caught.

14 So the point is that as entrainment goes up,  
15 that's bodies that you can look at; and there's some  
16 unknown, probably larger number of bodies that you  
17 didn't look at because the louvers did not screen them  
18 effectively.

19 MR. RUBIN: What other effects besides  
20 entrainment are you concerned with?

21 DR. ROSENFELD: Conditions in the Delta, in  
22 particular under low outflow periods, are not -- there  
23 are several things about the conditions in the  
24 freshwater parts of the Delta that are not conducive to  
25 fish survival, including predation by native and

1 nonnative fish species, water quality conditions other  
2 than salt --

3 MR. RUBIN: Is it your position that  
4 entrainment -- let me strike that.

5 Is it your position that the increase of  
6 pumping that might result if the petition were granted  
7 will affect predation by species within the Delta?

8 DR. ROSENFELD: It will to the extent it  
9 increases the resident time of fish in the Delta.  
10 That's the concern, yes.

11 MR. RUBIN: And it's also your opinion that  
12 there would be adverse effects on the water quality for  
13 Delta smelt in the Delta if pumping were increased as a  
14 result of granting the petition?

15 DR. ROSENFELD: Again, it's a -- there may be  
16 those effects, but what I was speaking to would be  
17 exposure time to those effects which increase with  
18 pumping for salmon and neutral particles that are meant  
19 to represent particle fish.

20 The longer the fish stay there, the more  
21 they're exposed to nonnative predators and native  
22 predators, and the longer they're exposed to conditions  
23 that we don't believe are conducive to their survival.

24 MR. RUBIN: And what data or literature did  
25 you review to support your opinion that you've just

1 articulated through this recross-examination?

2 DR. ROSENFELD: There is a paper that's cited  
3 in my testimony, Kimmerer and Nobriga -- now you're  
4 getting questions. That's cool.

5 MR. RUBIN: That's allowed.

6 DR. ROSENFELD: I know.

7 CO-HEARING OFFICER BAGGETT: Maybe Mr. Schulz  
8 is waiving his opportunity to cross.

9 MR. RUBIN: I'm sure he is not.

10 DR. ROSENFELD: Kimmerer and Nobriga, 2008,  
11 did a particle tracking study. And again, the plan of  
12 that is to understand how neutral particles, things  
13 that are not swimming, move through the Delta, and it  
14 was based on the results of that.

15 It was also based on -- I would have to  
16 check -- I believe Brandes and McLain reached a similar  
17 conclusion about migration rates of the salmon to the  
18 Delta --

19 MR. RUBIN: But you're talking about Delta  
20 smelt, right?

21 DR. ROSENFELD: Well, you're talking about  
22 Delta smelt.

23 MR. RUBIN: The whole line of questions went  
24 to your concerns with the effect on Delta smelt.

25 DR. ROSENFELD: So -- right.

1           In that case, I would expect, until I see  
2 evidence otherwise, I would expect that the effects  
3 that are noticed for other species that are in the  
4 similar life stage apply. I mean --

5           MR. RUBIN: That doesn't --

6           DR. ROSENFELD: You know. I can't comment on  
7 what hasn't been studied exactly. But there is -- you  
8 know, my scientific experience tells me that certain  
9 associations are likely.

10          MR. RUBIN: I think you cited three reports,  
11 one involving Kimmerer, one involving Nobriga, if  
12 that's correct, and one involving Brandes? Were those  
13 the reports you referred to?

14          DR. ROSENFELD: Let me find the papers in my  
15 statement.

16          Brandes, McLain 2001. Kimmerer, Nobriga 2008.  
17 And there might be others that I'm forgetting.

18          MR. RUBIN: I guess my question was leading  
19 to: None of those studies used data from 2009,  
20 correct?

21          DR. ROSENFELD: That's correct.

22          MR. RUBIN: All right. And so assuming those  
23 studies -- well, let me strike that.

24          What is the basis for your assumption that, if  
25 this petition were granted, pumping in the Delta by the

1 Central Valley Project and State Water Project would  
2 increase?

3 DR. ROSENFELD: I don't think I made that  
4 assumption.

5 I said that --

6 MR. RUBIN: But --

7 DR. ROSENFELD: -- that pumping under low  
8 outflow conditions, which are addressed in the  
9 petition, that the effects of pumping are exacerbated  
10 by low outflow.

11 And in fact -- I mean, evidence that was  
12 presented yesterday and that's in my testimony shows  
13 that pumping did increase. I mean it increases and  
14 decreases. In this case, when it increased, fish  
15 appeared at the salvage facility.

16 MR. RUBIN: Did I misunderstand the testimony  
17 you gave during redirect? I thought you indicated that  
18 you were concerned for the Delta smelt if this petition  
19 were granted because of the effects on Delta smelt from  
20 increased pumping by the CVP or State Water Project  
21 facilities. Is that not your testimony?

22 DR. ROSENFELD: My testimony is about the  
23 effect of pumping given under conditions of low  
24 outflow.

25 I was addressing the direction question which

1 was about Delta smelt, and I've also identified  
2 effects -- in my testimony -- about the effects of  
3 Delta outflow on entrainment of longfin smelt where low  
4 outflow is highly correlated with higher entrainment.

5 MR. RUBIN: Are you familiar with any type of  
6 regulation -- and I use that with a lower case R --  
7 that affects how The Projects operate, regulations  
8 related to Old and Middle River flow?

9 DR. ROSENFELD: I'm not aware of the  
10 regulatory state of the Old and Middle River flow. I'm  
11 aware of some of the science around it.

12 MR. RUBIN: Do you know if The Projects  
13 modified their operations to address flow in Old and  
14 Middle River?

15 DR. ROSENFELD: It's my understanding that  
16 they do.

17 MR. RUBIN: And do you know why they do in  
18 terms of is it to protect a fish species?

19 DR. ROSENFELD: I understand that Old and  
20 Middle River flows are correlated with the entrainment  
21 of some fish species and not with others.

22 MR. RUBIN: And is Delta smelt a species which  
23 is believed to be correlated with entrainment and flows  
24 in Old and Middle River?

25 DR. ROSENFELD: At the moment, I'm not -- I



1 can't recall which species are and which species  
2 aren't.

3 MR. RUBIN: Thank you.

4 I have no further questions.

5 CO-HEARING OFFICER BAGGETT: Thank you.

6 Mr. Schulz?

7 MR. SCHULZ: No questions.

8 CO-HEARING OFFICER BAGGETT: Thank you.

9 With that, enter your exhibits?

10 MR. BOBKER: Enter Exhibit TBI 1 with  
11 Attachments A and B, testimony of Dr. Rosenfield;  
12 Attachment 2 qualifications -- statement of  
13 qualifications, Dr. Rosenfield; Attachment 3, summary  
14 of export pumping during the first half of February.

15 MR. SCHULZ: I guess I object to the  
16 introduction of Exhibit 3 which I don't think was  
17 referred to by any witness during the process of the  
18 presentation.

19 CO-HEARING OFFICER BAGGETT: Comment?

20 MR. BOBKER: Dr. Rosenfield's testimony  
21 includes the attachment that shows changes in exports  
22 and changes in take, I believe. So I would suggest  
23 that it is -- was addressed in his testimony.

24 But I'm not as familiar as I should be  
25 probably.

1 CO-HEARING OFFICER BAGGETT: I will -- well,  
2 let Mr. Rubin speak, but it's relevant.

3 MR. RUBIN: Speaking about Attachment B? Is  
4 that correct?

5 MR. BOBKER: C.

6 MR. RUBIN: C. I have concerns with that as  
7 well as Exhibit B. I might be able to get past my  
8 concerns. Exhibit B being data.

9 And if the witness can testify that these are  
10 true and correct data from the website, I'm comfortable  
11 with that. I don't know if that has been presented.

12 MR. BOBKER: You're referring to Attachment B  
13 which is an attachment to Exhibit 1, Dr. Rosenfeld's  
14 testimony?

15 MR. RUBIN: Yes.

16 CO-HEARING OFFICER BAGGETT: He's already  
17 stated his testimony is true and correct.

18 MR. BOBKER: Right.

19 MR. RUBIN: Including the exhibits? Okay.

20 CO-HEARING OFFICER BAGGETT: I would assume  
21 that is your testimony.

22 DR. ROSENFELD: Yes.

23 CO-HEARING OFFICER BAGGETT: Exhibit 2 and  
24 Exhibit 3?

25 MR. RUBIN: And I would join in Mr. Schulz's

1 objection to Exhibit 3.

2 CO-HEARING OFFICER BAGGETT: Well, I think  
3 it's relevant. We'll allow it in. Overruled. We'll  
4 note the objection for the record.

5 MR. RUBIN: It's beyond relevance. If I  
6 understand Exhibit 3, it's a summary that was prepared  
7 by somebody that's not a witness. Am I missing  
8 something? And therefore it's hearsay.

9 CO-HEARING OFFICER BAGGETT: Right.

10 MR. RUBIN: Okay.

11 CO-HEARING OFFICER BAGGETT: Treated as --  
12 under our rules of evidence, it would obviously be  
13 hearsay since there is no one to testify to its  
14 authenticity.

15 (Whereupon Exhibits TBI 1-3 were  
16 accepted in evidence.)

17 CO-HEARING OFFICER BAGGETT: With that, let's  
18 proceed. We have got --

19 MR. RUBIN: Just procedurally, I and other  
20 witnesses questioned Dr. Rosenfield regarding several  
21 reports, particularly the Kimmerer 2009 report; and I  
22 would ask that the Board admit -- that the Hearing  
23 Officers admit that into evidence.

24 We could mark it as San Luis & Delta-Mendota  
25 Water Authority Exhibit 2.

1 I would also ask the Hearing Officers to enter  
2 into evidence the 2002 Kimmerer report and the 1995  
3 Jassby report. And I could provide copies to the  
4 people here if need be. We'd mark those respectively  
5 as 3 and 4, San Luis & Delta-Mendota Water Authority  
6 Exhibits 3 and 4?

7 CO-HEARING OFFICER BAGGETT: Is there any  
8 objection from the --

9 MR. JACKSON: Yes.

10 CO-HEARING OFFICER BAGGETT: They were used to  
11 question in cross-examination. I think it's  
12 appropriate.

13 Mr. Jackson.

14 MR. JACKSON: They were used on  
15 cross-examination. Westlands and San Luis &  
16 Delta-Mendota had no evidence to present. They didn't  
17 put forward any evidence in this case. They simply  
18 cross-examined.

19 CO-HEARING OFFICER BAGGETT: Right.

20 MR. JACKSON: If in fact you can get your  
21 evidence in through cross-examination, there probably  
22 will never be another witness on direct.

23 MR. RUBIN: Can I speak to that?

24 These are three reports that Dr. Rosenfield  
25 referenced and cited literature as part of his

1 testimony and relied upon for his opinion.

2           So I think that it's very similar to Exhibit 3  
3 which the Hearing Officers allowed in without objection  
4 from Mr. Jackson.

5           CO-HEARING OFFICER BAGGETT: Mr. Bobker.

6           MR. BOBKER: We have no objection to entering  
7 into -- as exhibits any and all of the references that  
8 Dr. Rosenfield relied upon for his testimony.

9           CO-HEARING OFFICER BAGGETT: I think it's  
10 appropriate. They were used in cross. They are  
11 admitted for that purpose. But we note your objection  
12 for the record.

13           (Whereupon Exhibits SLDMWA 2-4 were  
14 accepted in evidence.)

15           CO-HEARING OFFICER BAGGETT: Any other issues  
16 with this witness? If not, let's proceed on to the  
17 final witness, and I should announce we do have to --  
18 we have one hour and 19 minutes, then we have to be out  
19 of the room.

20           So let's proceed with CSPA; I think we can do  
21 that. But I was asking if you want closing statements,  
22 they may have to be in writing.

23           MR. JACKSON: Is there a possibility to  
24 reserve some time for closing statements?

25           CO-HEARING OFFICER BAGGETT: Depends on how

1 quick this goes. We have no more rooms.

2 MR. JACKSON: We'll try to go as quick as we  
3 can.

4 In regard to our opening statement, the  
5 purpose of this hearing was to determine whether or not  
6 there was urgency in regard to the request to suspend  
7 for the fish the most important rules that exist for a  
8 period of time.

9 The California Sportfishing Protection  
10 Alliance believes that it's important that the State  
11 Board indicate through its actions the importance of  
12 these rules.

13 There have been long hearings in regard to  
14 1641 that most of us in this room took part in. And it  
15 seems important that, unless there is an extraordinary  
16 urgency shown, that the idea of suspending the rules  
17 when it's convenient basically means there are no rules  
18 at all to protect fish and wildlife beyond endangered  
19 species.

20 And there are hundreds of critters that have  
21 no endangered species protection at the present time  
22 but could very easily need it in the future. From our  
23 point of view, it is not a really good idea to  
24 manage -- only to protect critters that have made an  
25 endangered species list. Otherwise, the endless

1 collapse will continue.

2           So we believe that it is important that the  
3 Board establish standards, both in substance, as the  
4 ones in D-1641 which are at stake here, and also that  
5 procedurally that you have a very high threshold before  
6 these standards are simply suspended.

7           So our testimony goes to what we believe are  
8 some very apparent problems here.

9           First, the State Board has determined in its  
10 Strategic Plan and has written in letters to Delta  
11 Vision indicating that there is a tremendous  
12 overappropriation of water in the Central Valley  
13 watershed and that that may be eight to ten times the  
14 amount of water that is actually available in terms of  
15 runoff.

16           The State Board indicated recently in a letter  
17 to Delta Vision that more than half of that is in the  
18 water rights held by the Central Valley Project and the  
19 State Water Project. They hold 4.5 times the average  
20 runoff in the Central Valley as water rights.

21           Most of the testimony that is -- or most of  
22 the information that's in the petition is directed  
23 toward the inability to meet the face value of those  
24 water rights, and it would be impossible according to  
25 the State Board's analysis in their Strategic Plan or

1 their letter to Delta Vision, to actually deliver all  
2 of that water, even in the wettest year in history.

3 So numbers like 15 percent don't mean a lot in  
4 terms of whether or not there is some sort of  
5 catastrophe.

6 So our testimony is to lay out the problems  
7 which we believe are created by suspending outflow  
8 requirements for the month of February.

9 They are indicative of what happens when you  
10 suspend outflow requirements in the other months, and  
11 we were particularly taken by number 8, which asks for  
12 alternatives or other things that would be necessary in  
13 an order, as Mr. Brown pointed out, because we want to  
14 make sure that this isn't -- this order, if granted, is  
15 not -- is going to end in February and is not a proxy  
16 for an extension for March, April, May, June, and July.

17 And as we will point out in our closing  
18 argument, there is enough information in front of you  
19 now that it would seem that a CEQA document would be  
20 required because the exemption for standard operation  
21 doesn't apply when they're asking to suspend rules.

22 So in that regard, Mr. Jennings will summarize  
23 his testimony.

24

25



1 BILL JENNINGS

2 Called by CALIFORNIA SPORTFISHING PROTECTION ALLIANCE

3 DIRECT EXAMINATION BY MR. JACKSON

4 MR. JENNINGS: Good afternoon. Is this on?

5 CO-HEARING OFFICER BAGGETT: Almost.

6 MR. JENNINGS: Is this on? Okay.

7 Well, I just happened to have noticed that in  
8 the September letter of last year that the State Board  
9 staff sent to the Delta Vision task force they noted  
10 that the mean unimpaired full natural flow without dams  
11 or diversions in the Delta watershed between 1921 and  
12 2003 was 29 million acre feet with a max of 73 million  
13 acre feet in '83.

14 And they identified that the State Water Board  
15 had granted some 245 million acre feet of water rights  
16 in the Delta watershed which is about eight and a half  
17 times annual mean unimpaired flow.

18 Of course, the Central Valley and State Water  
19 Projects hold 53 percent or 130 million acre feet of  
20 that or four and a half times the average -- the annual  
21 mean flow, and that the Project water rights are junior  
22 to most of the other water rights in the watershed, and  
23 that the State Board only controls post-'14  
24 appropriative and riparian water rights, and it doesn't  
25 know the full extent of pre-1914 riparian water rights.

1           And that -- and of course fish and wildlife  
2     have no water rights. I mean in the sense that the  
3     public trust is something to be set aside and protected  
4     prior to water being allocated.

5           You know, growing up on a farm in Tennessee, I  
6     learned at an early age that the last piglet in line  
7     sometimes goes hungry. In California, unfortunately,  
8     we have handed out water rights like Wall Street has  
9     passed out bonuses. And, you know, a cynic might  
10    observe that we're managing water like a giant Ponzi  
11    scheme, and we can't deliver.

12           There's certainly been a significant increase  
13    in State Water Project and CVP exports in recent  
14    decades, in -- up to between 2000, 2007 it was over six  
15    million acre feet for the -- for that period.

16           I included some of the items -- I don't need  
17    necessarily need to go over them.

18           But in State Board Resolution 2007-0079  
19    that -- which was the things the State Board was doing  
20    to protect the Delta -- what it really shows is that  
21    D-1641 has failed.

22           D-1641 was a balancing. I mean you know,  
23    having gone through the '88 and '90 hearings, and the  
24    '92 hearings, the aborted 1630 and then the 1995  
25    Bay-Delta hearings and -- or -- by the Water Quality

1 Control Plan. Then we go through the D-1641 hearings.  
2 Hundreds and hundreds of days.

3           We balance -- we balanced. We knew the  
4 hydrology incorporated years of drought, much more --  
5 drought sequences much more severe than we're  
6 experiencing right now. And notwithstanding, we  
7 established a series of standards that -- which were  
8 really worst-case, minimal standards that have to be  
9 met.

10           And we know that those standards have proved  
11 inadequate, and we know that the trustee fishery  
12 agencies, National Marine Fisheries, US Fish and  
13 Wildlife Service, and DFG, have failed.

14           Because in all of the biological opinions and  
15 whatnot, we know that we are at a catastrophic crash.  
16 We are not talking about one or two species. We're  
17 talking about a shredding of the biological tapestry of  
18 the estuary.

19           Fall and midwinter trawl between September and  
20 December of this year -- last year -- you know, the six  
21 major species, four of them were at the lowest level in  
22 the 41-year history of the trawl. The striped bass  
23 wasn't at the lowest, but the last seven years have  
24 been the seven lowest years in the 41-year history.

25           And even threadfin shad was the fourth lowest.

1 I mean you know, we've got an estuary in collapse. So  
2 you can't pick just an isolated species. We certainly  
3 got -- looking at the -- I was looking at the Grand Tab  
4 number on salmon this year. That hasn't been finally  
5 released; it's in a draft form up on DFG's website.  
6 And we're taking it in the shorts again on salmon this  
7 year. I mean it's down across the Board from last year  
8 when we shut down fisheries. So I understand farmers  
9 are suffering, but we're not going to go fishing this  
10 year for salmon either.

11 So I guess that as I was looking through a  
12 change in D-1641, I looked in vain for -- I mean this  
13 is a water quality standard, you know, promulgated  
14 under Porter-Cologne and Clean Water Act.

15 And D-1641 implements that water quality  
16 standard, and I was looking in vain for the discussion  
17 of any degradation because I think it's clear that  
18 degradation will occur, water quality degradation.

19 I mean I talked about the 303(d) listed  
20 impairments, the Toxic Hot Spot impairments, a lot of  
21 other things, the increase -- the significant increase  
22 in loads, and we have a lot of water quality problems  
23 in the Delta.

24 And as CCWD pointed out yesterday, that if  
25 this was passed they would suffer more saline waters,

1 they would suffer additional expense. I mean, because  
2 a change in chemistry -- we know that changes in  
3 hydrology alter the assimilative capacity. They alter  
4 the fate and transport of the myriad pollutants and  
5 constituents and toxicities of this estuary.

6 And insofar as you lessen the amount of water,  
7 as you increase residence time, each of these things  
8 has an effect. And we have seen no information within  
9 the petition that gives any indication of the impacts  
10 on any of these myriad constituents that are identified  
11 as impairing and polluting these waters.

12 But we do know there will be effects. Some --  
13 perhaps some marginal, but that's why we require, you  
14 know, these analyses. And before you change  
15 standards -- and what we're talking about is changing a  
16 standard -- I guess I was -- I included an exhibit in  
17 here, and this was a circus as my attorney flew in from  
18 Hawaii and we were trying to assemble this thing in the  
19 wee hours -- I mean before the hearing.

20 CO-HEARING OFFICER BAGGETT: We all appreciate  
21 it. We're all in a similar situation.

22 MR. JENNINGS: So anyway, not everything got  
23 in. And some things got -- but I notice that we did  
24 put in from California Data Exchange Center a list of  
25 not only January's but into February's of the EC at Old

1 River at Tracy.

2 And in fact, I again checked it at 5:30 this  
3 morning, and we are again above 1000 mmhos. We've been  
4 in violation the entire year --

5 CO-HEARING OFFICER BAGGETT: Are you -- this  
6 is Exhibit 3?

7 MR. JENNINGS: Pardon me?

8 CO-HEARING OFFICER BAGGETT: I'm attempting to  
9 follow your -- Exhibit 3, is that --

10 MR. JENNINGS: Is that Exhibit 3 and 4?

11 CO-HEARING OFFICER BAGGETT: Daily water  
12 reports, is what you're referring to, pages?

13 MR. JACKSON: Yes, sir.

14 MR. JENNINGS: Yeah.

15 I just wanted to point out that the -- we're  
16 having interior -- violations of interior standards.  
17 We've had them. I mean Brandt Bridge has violated the  
18 running average. I mean we've got problems.

19 And that's what happens in dry years. That's  
20 what happens when you change. You know. When you  
21 change the hydrology, there are always these other  
22 effects.

23 And the only other thing that I would talk  
24 about I think on fisheries -- let me -- this is  
25 questionable. We heard a lot of discussions within the

1 petition on Delta smelt and their commitment to  
2 salmonids, but not the other pelagic species that are  
3 en masse, for example, and we'll introduce this into  
4 evidence and provide copies for everyone.

5 Department of Fish and Game's larval survey  
6 which is in progress and the one I'm putting in is  
7 survey 3 between the 2nd of February and the 5th of  
8 February --

9 MR. JACKSON: Mr. Jennings, for specificity,  
10 is this the survey 3 that was mentioned in the  
11 testimony of The Bay Institute witness?

12 MR. JENNINGS: Yes, it was. And it's the  
13 smelt larval survey. It's dealing with longfin smelt.  
14 It demonstrates that their spread throughout the  
15 western and even the eastern Delta, I mean coming down  
16 Old River, all four of the stations on Old River, 901,  
17 902, 915 and 918, have larval longfin smelt.

18 And I would just point out that the larval  
19 stage -- and in fact, 918 is at the virtual gates of  
20 Clifton Court Forebay. In their larval stage, they will  
21 pass right through the louvers at the pumps and not be  
22 diverted to the collection baskets, so we'll have no  
23 idea as to how much we're killing.

24 Nor will we have -- do we have any practical  
25 idea knowing what -- how much we're losing through

1 predation as they're drawn down Old River and through  
2 the pumps. But it is a potential impact that is  
3 occurring.

4           And this is the latest. January shows the  
5 same -- essentially the same distribution of survey 2  
6 as well.

7           I also have -- and I guess we'll put it in all  
8 the current spring Kodiak survey of Delta smelt which  
9 is from the 9th to the 13th of February of 2009 that  
10 shows the distribution of both male and female.

11           And we'll just -- since nobody put this into  
12 the record, I think probably we ought to have it in  
13 there. And these are taken off the Department of Fish  
14 and Game's website, and it's identified with the  
15 location. Anyone can go there. It's --

16           MR. JACKSON: We would offer those documents  
17 by official notice as public records kept in the normal  
18 course of business.

19           MR. JENNINGS: We've got copies if you want.

20           But I guess that that essentially sums up, you  
21 know, my concerns. I means really, it -- it's -- I  
22 will quote one thing, though, I observed that on page  
23 192 of US Fish and Wildlife Service's Delta smelt  
24 Biological Opinion released in December they talk about  
25 the '94 -- it says quote:



1           In the 1994 designation of critical  
2           habitat, the best available science held  
3           that Delta smelt population was  
4           responding to variation in spring X2.

5           In the intervening 14 years, scientific  
6           understanding of Delta smelt habitat has  
7           improved. The current understanding is  
8           that X2 and Old and Middle River flows  
9           both must be considered to manage  
10          entrainment and that X2 indexes  
11          important habitat characteristics  
12          throughout the year

13           So, you know, I think that certainly the  
14   Biological Opinion -- Fish and Wildlife has -- and I'm  
15   sorry they weren't here to provide testimony and to be  
16   cross-examined. But it's been a long time since we've  
17   seen a trustee agency biologist before this Board.

18           We look forward to, and I guess we're going to  
19   have to start subpoenaing them, but we believe that  
20   they have a role to play.

21           Thank you.

22           CO-HEARING OFFICER BAGGETT: Thank you. With  
23   that, Department of Water Resources?

24           MS. CROTHERS: I have no questions.

25           CO-HEARING OFFICER BAGGETT: Bureau?

1 MS. AUFDEMBERGE: No questions.

2 CO-HEARING OFFICER BAGGETT: South Delta? Bay  
3 Institute? Butte? EDF? Mr. Brown?

4 DR. BROWN: No, thank you.

5 CO-HEARING OFFICER BAGGETT: Mr. Rubin.

6 MR. JENNINGS: My feelings would you heard if  
7 you weren't.

8 (Laughter)

9 CROSS-EXAMINATION BY MR. RUBIN  
10 FOR SAN LUIS & DELTA-MENDOTA WATER AUTHORITY, WESTLANDS  
11 WATER DISTRICT

12 MR. RUBIN: I do hopefully just have a few  
13 minutes of cross-examination. Jon Rubin for San Luis &  
14 Delta-Mendota Water Authority.

15 Mr. Jennings, couple of questions. First, you  
16 made a statement about the Decision 1641 providing a  
17 balance or doing balancing. Do you recall that?

18 MR. JENNINGS: Yes.

19 MR. RUBIN: What do you mean that D-1641  
20 balanced?

21 MR. JENNINGS: Well, we went through, as --  
22 and you were there -- a long evidentiary series which  
23 had followed another series upon series upon series of  
24 evidentiary hearings.

25 And everybody was there. Everybody put in.

1 We talked about the public trust. We talked about  
2 water resources. We talked about the hydrology. We  
3 talked about all the impacts.

4 And the Board, to the best of their ability,  
5 you know, balanced the competing demands of -- for good  
6 or bad, I mean. We would point out that they, given  
7 the state of the fishery, that they fell short.

8 But the best attempt was -- is to issue  
9 minimum standards, you know, that were protective of  
10 the Delta. Interior standards, Vernalis standard, the  
11 outflow standards, and so forth.

12 MR. RUBIN: Another question, and I apologize;  
13 we're all faced with trying to deal with a lot of  
14 information fairly quickly.

15 I believe you read a portion of a document  
16 prepared by the United States Fish and Wildlife  
17 Service; is that correct?

18 MR. JENNINGS: Yes. I quoted part of their  
19 Biological Opinion.

20 MR. RUBIN: And which Biological Opinion --

21 MR. JENNINGS: It's the recent one just  
22 released.

23 MR. RUBIN: Okay. And that was released in, I  
24 believe, December --

25 MR. JENNINGS: December 2008.

1           MR. RUBIN: And the provision that you read  
2 dealt with -- well, can you reread that provision for  
3 me?

4           MR. JENNINGS: Yeah. It was page 192, it  
5 was -- it said quote:

6           In the 1994 designation of critical  
7 habitat, the best available science held  
8 that the Delta smelt population was  
9 responding to variation in spring X2.  
10          In the intervening 14 years, the  
11 scientific understanding of Delta smelt  
12 habitat has improved.  
13          The current understanding is that X2 and  
14 Old and Middle River both must be  
15 considered to manage entrainment and  
16 that X2 indexes important habitat  
17 characteristics throughout the year.

18          MR. RUBIN: And the reference was to the  
19 spring X2 earlier in the sentence; is that correct?

20          MR. JENNINGS: It just says spring X2.

21          MR. RUBIN: Do you know if the Fish and  
22 Wildlife Service considers February a month within the  
23 spring?

24          MR. JENNINGS: I do not.

25          MR. RUBIN: Just a couple of more questions.

1           In your testimony on page 3, which I believe  
2 is Exhibit 2 for California Sportfishing Protection  
3 Alliance, you have a section that's entitled: Delta  
4 Waterways Are Polluted. Is that correct?

5           MR. JENNINGS: Yeah.

6           MR. RUBIN: And in this section, you raised  
7 concerns about a number of pollutants that you believe  
8 are within the Bay-Delta Estuary?

9           MR. JENNINGS: Yes. These were the tip of the  
10 iceberg. These were formally listed and identified.

11           MR. RUBIN: Are you concerned with pollutants  
12 being discharged into the estuary?

13           MR. JENNINGS: Absolutely.

14           MR. RUBIN: And does your organization take  
15 action to try to limit the amount of pollutants  
16 discharged into the estuary?

17           MR. JENNINGS: Routinely. In fact, I enjoy  
18 our ability to not coordinate but to be on the same  
19 side in many of these efforts.

20           MR. RUBIN: But -- and therefore, what you're  
21 trying to do in these other efforts is to have  
22 regulations imposed that limit discharges of pollutants  
23 into the estuary?

24           MR. JENNINGS: Yes.

25           MR. RUBIN: On page 4 of your written

1 testimony, you indicate that reductions of flow will  
2 likely impact water quality and beneficial uses; is  
3 that correct?

4 MR. JENNINGS: Yes.

5 CO-HEARING OFFICER BAGGETT: We're going to  
6 have to take a break. They have to change a tape. So  
7 off the record.

8 (Recess)

9 CO-HEARING OFFICER BAGGETT: We'll go back on  
10 the record. We're running out of time. We have a  
11 court reporter.

12 MR. RUBIN: I think where we left off, I was  
13 asking Mr. Jennings some questions about testimony that  
14 appears on page 4 of his written testimony, California  
15 Sportfishing Protection Alliance, Exhibit 2.

16 Specifically, I was asking, there's some text  
17 under a heading: Reduction of Flow Will Likely Impact  
18 Water Quality and Beneficial Uses.

19 MR. JENNINGS: Right.

20 MR. RUBIN: Do I understand the testimony that  
21 appears under this subsection is with a concern that if  
22 the petition were granted outflow might be reduced, and  
23 therefore the effect of pollutants might increase?

24 MR. JENNINGS: Yes.

25 MR. RUBIN: And you characterize the water

1 quality in both the Sacramento and San Joaquin Rivers  
2 as relatively good quality?

3 MR. JENNINGS: No.

4 I would characterize the Sacramento River as  
5 relatively good quality for most constituents.

6 The way I phrased it, I characterize the water  
7 in the Stanislaus and Tuolumne and the Merced as fairly  
8 good. But of course, the impacts come from the west  
9 side of the valley, and so, you know, relatively good  
10 quality east side tributary water is used to dilute and  
11 transport waste.

12 MR. RUBIN: Last question.

13 In the last section of your written testimony,  
14 it says:

15 Reductions in state and federal water  
16 project exports will benefit both Delta  
17 pelagic and salmonid species.

18 Is that correct?

19 MR. JENNINGS: Yes.

20 MR. RUBIN: What's the basis for the  
21 statements provided under that bullet?

22 Specifically, I'm looking for any kind of data  
23 or scientific reports that you have to support your  
24 statement.

25 MR. JENNINGS: Well, I know for certain that

1 if there are no exports, there is no take at the pumps.  
2 There's no entrainment. There's no -- we avoid many of  
3 the predation losses that are -- that drug drug into --  
4 into the south Delta.

5 MR. RUBIN: Did you --

6 MR. JENNINGS: I have seen a lot of reports.  
7 If you mean can I draw them -- you know, I mean -- I  
8 think that the one thing that Biological Opinion -- I  
9 mean certainly the recent Delta smelt Biological  
10 Opinion, it points at the pumps as a cause -- not the  
11 only cause, you know, but a major cause of the decline.

12 MR. RUBIN: And the Biological Opinion that  
13 you're referring to again is the December 2008  
14 Biological Opinion issued by the United States Fish and  
15 Wildlife Service?

16 MR. JENNINGS: Yes.

17 MR. RUBIN: And that Biological Opinion  
18 contains reasonable and prudent measures and reasonable  
19 and prudent alternatives that effect operation of the  
20 Central Valley Project/State Water Project?

21 MR. JENNINGS: Yes.

22 MR. RUBIN: And those measures and  
23 alternatives are intended to provide a level of  
24 protection for Delta smelt?

25 MR. JENNINGS: We hope so.



1           MR. RUBIN: Is longfin considered a pelagic  
2 Delta species?

3           MR. JENNINGS: I have always considered them,  
4 you know, one of the open water species that inhabit  
5 the Delta.

6           MR. RUBIN: Do you know how many longfin have  
7 been taken by the State Water Project and the Central  
8 Valley Project from February 1st through today?

9           MR. JENNINGS: You know, I looked -- several  
10 days ago, I looked at the charts. I was thinking that  
11 Delta smelt, some of the -- you know, initially they  
12 had 12 Delta smelt taken, and they reduced that to four  
13 and transferred over to -- but I've not seen the final  
14 to where the transfer took to longfin.

15          MR. RUBIN: But the thought is that a combined  
16 12 Delta smelt and longfin had been taken during the  
17 month of February?

18          MR. JENNINGS: Well, we don't know. Because  
19 longfin are in a larval stage, and we wouldn't find  
20 them at the pumps anyway. I mean you know they would  
21 be taken full -- they would be on their way to the  
22 Tehachapis right now.

23          MR. RUBIN: You mentioned four Delta smelt  
24 being taken? Is that your understanding?

25          MR. JENNINGS: That's what I saw the -- from

1 the website. I saw the US, you know, the USBR had  
2 posted that.

3 MR. RUBIN: Do you know if that's an actual  
4 take or an expanded take number?

5 MR. JENNINGS: I assume it's an expanded take  
6 number. But of course, that also doesn't consider the  
7 inevitable predation, you know, that -- in Clifton  
8 Court and before.

9 So, you know, the numbers are almost  
10 meaningless.

11 MR. RUBIN: Thank you.

12 No further questions.

13 CO-HEARING OFFICER HOPPIN: Mr. Schulz?

14 MR. SCHULZ: I think I just have one question.

15 (Interruption)

16 CO-HEARING OFFICER BAGGETT: One thing we can  
17 establish as a fact today: You did not turn off your  
18 phone.

19 MR. SCHULZ: That's true. Failed.

20 (Laughter)

21 CROSS-EXAMINATION BY MR. SCHULZ

22 FOR KERN COUNTY WATER AGENCY, STATE WATER CONTRACTORS

23 MR. SCHULZ: You referred to a letter from the  
24 State Board that said the state and federal projects  
25 hold 153 million acre feet of water rights?

1 MR. JENNINGS: Yes.

2 MR. SCHULZ: Do you have any idea how that  
3 number was derived?

4 MR. JENNINGS: I -- all I know is that the  
5 State Board -- Delta Vision inquired of the State Board  
6 as to how many water rights, and the state staff  
7 responded, and those were the numbers that they used.

8 MR. SCHULZ: Do you consider that to be a  
9 rational or relevant number, take your pick as to which  
10 one? I mean, do you -- is it something that you would  
11 rely on in terms of worrying about the state and  
12 federal projects diverting water?

13 MR. JENNINGS: Well, I -- I took it as the  
14 indicator that -- of the obvious, that we've allocated  
15 far more water than we have, you know, water.

16 And the amounts is that -- is that -- we can  
17 never, you know -- there are going to be some years  
18 that junior water rights holders are not going to  
19 receive not just their full allocation. There are some  
20 years they're just not going to get any water.

21 MR. SCHULZ: I would ask the State Board to,  
22 quite frankly, look into how that number was derived by  
23 your staff. I mean, I'm just, you know.

24 CO-HEARING OFFICER HOPPIN: First time I've  
25 heard it. What was the total number?

1 MR. SCHULZ: 153 million.

2 CO-HEARING OFFICER BAGGETT: We could take  
3 official notice of a memo sent to the Board --

4 MR. JENNINGS: Yeah. Actually --

5 CO-HEARING OFFICER BAGGETT: You've got that  
6 letter or cite to it. We could take official notice of  
7 it.

8 MR. JENNINGS: It was actually -- in the Delta  
9 water rights, it was 245 million acre feet of Delta  
10 water rights, and 130 of those was to the state and  
11 federal projects.

12 Now my gut feeling is that they probably  
13 issued both storage and --

14 MR. SCHULZ: I decided what would happen if  
15 they diverted 10,000 for 365 days a year? With that, I  
16 can only get up to --

17 CO-HEARING OFFICER BAGGETT: Let's.

18 MR. SCHULZ: I'm only 145 million short --

19 CO-HEARING OFFICER BAGGETT: We have less than  
20 45 minutes. Can we --

21 MR. JACKSON: And it definitely includes  
22 Friant. It definitely includes settlement contracts.  
23 Definitely includes things that are not exported from  
24 the Delta.

25 CO-HEARING OFFICER BAGGETT: If somebody wants

1 to provide us a date, we can take notice of our own  
2 memo.

3 MR. JACKSON: 26 September 2008, State Board,  
4 signed for Ms. Rice, I believe, to Mr. Isenberg at  
5 Delta Vision.

6 CO-HEARING OFFICER BAGGETT: Got it.

7 MR. SCHULZ: Thank you.

8 CO-HEARING OFFICER BAGGETT: Any other  
9 parties? If not, redirect.

10 MR. JACKSON: I have no redirect. I would  
11 like to identify for the purpose of the record that the  
12 witness was Bill Jennings and his role is Executive  
13 Director of the California Sportfishing Protection  
14 alliance, for the court reporter's purposes.

15 CO-HEARING OFFICER BAGGETT: Okay.

16 MR. JACKSON: I would move our exhibits into  
17 evidence at this time.

18 CO-HEARING OFFICER BAGGETT: 1, 2 and 3. And  
19 any objection?

20 MR. JENNINGS: And 4 and 5.

21 CO-HEARING OFFICER BAGGETT: They are  
22 admitted.

23 (Whereupon Exhibits CSPAl-3 were  
24 accepted in evidence.)

25 CO-HEARING OFFICER BAGGETT: Now, official

1 notice. The Board will take official notice of the  
2 quote 2009 California Department of Fish and Game smelt  
3 larvae survey which is located at website  
4 [www.delta.dfg.ca.gov/data/SLS/CPUE\\_MAP.asp](http://www.delta.dfg.ca.gov/data/SLS/CPUE_MAP.asp).

5 And we also take official notice of the  
6 Biological Opinion issued December 2008 by the US Fish  
7 and Wildlife Service.

8 And a third SWRCB exhibit would be the, I  
9 guess, e-mail or Letter dated 26 September 2008 from  
10 the State Water Resources Control Board Executive  
11 Director to Mr. Phil Isenberg, Bay-Delta Vision.

12 And there was a fourth request. I believe it  
13 was some maps. Does anybody have a cite? Official  
14 maps that someone asked us to take notice of.

15 MR. JENNINGS: These?

16 CO-HEARING OFFICER BAGGETT: I don't think it  
17 was this map. Was there another map?

18 MR. JACKSON: There is a second map. The one  
19 in front of you is for longfin.

20 CO-HEARING OFFICER BAGGETT: Which I have  
21 noticed already.

22 MR. JACKSON: And there is one from the same  
23 website for Delta smelt.

24 CO-HEARING OFFICER BAGGETT: Okay.

25 So the fourth item we'll take official notice

1 of is from California Department of Fish and Game 2009  
2 spring Kodiak survey, September 9, 2009 to September  
3 13, 2009 located at  
4 [www.delta.dfg.ca.gov/data/SKT/displaymaps.asp](http://www.delta.dfg.ca.gov/data/SKT/displaymaps.asp).

5 So those were the four documents we'll take  
6 notice of. So your exhibits are admitted.

7 That ends testimony unless there are questions  
8 from staff?

9 With that, I told parties we'd have up to five  
10 minutes. Let's take -- we had six parties who want to  
11 do a closing?

12 MR. HERRICK: I believe we have the question  
13 of whether or not the petition itself on behalf of DWR  
14 and the Bureau is accepted into evidence. I don't  
15 think that was resolved yesterday.

16 MS. CROTHERS: I believe --

17 CO-HEARING OFFICER BAGGETT: Come up to the  
18 mic.

19 MS. CROTHERS: Thank you, John, for asking  
20 that. Some people had that question. This is Cathy  
21 Crothers with DWR.

22 I recall that what we entered into evidence  
23 for DWR was our DWR Exhibit 1, 2, and 3 except for an  
24 Exhibit 2 which was the petition. The Board decided to  
25 not include that as a DWR exhibit pending resolution of

1 whether it was authenticated, which I think  
2 Mr. Rubin -- he's done that and has submitted that  
3 document. It's the Kimmerer 2009 article.

4 That wasn't part of DWR's entered evidence.  
5 The Board withheld that part of our exhibit.

6 Otherwise, I believe the rest of the exhibits  
7 were entered as evidence on behalf of DWR.

8 MR. HERRICK: I was just clarifying the  
9 petition. I thought there was a discussion yesterday  
10 about the petition. They asked the petition be put in,  
11 and I asked does that include the Kimmerer report, and  
12 then we had a discussion, and the resolution was that  
13 would be decided later.

14 CO-HEARING OFFICER BAGGETT: And we've already  
15 admitted the Kimmerer reports.

16 MR. HERRICK: But the petition is not  
17 evidence, right?

18 MS. CROTHERS: Well, no. The petition was DWR  
19 Exhibit 2, and I thought that was admitted as evidence.

20 MR. HERRICK: The petition should be part of  
21 the record, but it's not evidence.

22 MS. CROTHERS: We offered it as our evidence,  
23 our testimony, and that's what the summary by John  
24 Leahigh was based on.

25 The information in our petition is the basis



1 of our testimony, and we stand by the information in  
2 our petition to give the basis for the Board decision.

3 I don't know why it wouldn't be acceptable  
4 evidence.

5 MR. HERRICK: I'm sorry. The petition is  
6 evidence if we don't have a hearing. If we have a  
7 hearing, then they put on evidence, so the petition is  
8 not evidence. Nobody confirmed it.

9 CO-HEARING OFFICER BAGGETT: The petition  
10 itself, I guess, would not be evidence. It is a  
11 petition. It is a motion filed before this Board.

12 The addendums attached to which the petition  
13 relies upon to make findings certainly would be  
14 evidence, it appears to me, since they put a party on  
15 to testify.

16 MR. RUBIN: I would argue at this point that  
17 the petition is evidence. It was submitted -- I mean  
18 it's -- frankly, it's signed under penalty of perjury,  
19 witnesses were available for questioning.

20 At this point, I don't see how -- why it  
21 shouldn't be considered evidence. You had  
22 representatives from the Department of Water Resources,  
23 the Bureau of Reclamation. People had opportunity to  
24 question statements made in the petition under penalty  
25 of perjury.

1           MR. HERRICK: No witness presented the  
2 petition as his or her testimony.

3           CO-HEARING OFFICER BAGGETT: I think we're  
4 arguing at this point over -- I understand.

5           So whether we accept the actual form of the  
6 petition or the evidence and facts upon the petition  
7 relied are evidence. And those will be accepted as  
8 evidence. We had a witness testifying to those very  
9 facts which the petition relied upon.

10           Now are the legal arguments raised in the  
11 petition evidence? They're legal arguments. I've  
12 never -- we've never quite had this problem. I've  
13 never seen it before.

14           MS. CROTHERS: I thought what I did was -- is  
15 ask that it be an exhibit that is the basis for John  
16 Leahigh's testimony. So it's the -- an exhibit.

17           CO-HEARING OFFICER BAGGETT: So it is accepted  
18 as an exhibit. There is a hearsay exception. We will  
19 rely upon the evidence to which there was a witness  
20 present to testify as part of that exhibit.

21           So we'll treat it like any other -- like we  
22 have a number of other exhibits to this proceeding and  
23 other proceedings before this Board. And if we rely  
24 upon -- we can only rely, unless -- on hearsay rules,  
25 which are fairly vague, as we all know.

1           We'll treat portions that are hearsay will be  
2 hearsay and not be relied upon; portions where we have  
3 a witness that testified as to the truth of those  
4 statements, then we can use that as evidence.

5           So we'll treat it as an exhibit and accept it  
6 as the Department offered, was accepted, and we'll  
7 treat it under those rules.

8           So with that, go off the record a minute.

9           (Recess)

10          CO-HEARING OFFICER BAGGETT: Back on the  
11 record. Start with either -- let's go reverse order,  
12 as usual. Stockton East? State Water Contractors,  
13 Mr. Schulz?

14          MR. SCHULZ: I'll try to make this as brief as  
15 possible.

16          Some of it goes back to things we dealt with  
17 yesterday about the definition of urgency and what the  
18 Department did this case, the Bureau did, once they  
19 realized that February was coming out of the horribly  
20 dry January, the very dry beginning of February, and  
21 the effort they made to get the emergency petition  
22 before you as quickly as possible.

23          So I have found a great deal of this testimony  
24 that talks about them violating the standards and, you  
25 know, taking up an -- almost a rogue view towards their

1 obligations under D-1641 to be venal in some ways and  
2 certainly, I think, out of character to what they have  
3 done in this case.

4           They met with the fishery agencies. They met  
5 with the WOMT team. They made sure that the Biological  
6 Opinions allowed what they were going to do. They put  
7 the document in front of you as quickly as they could,  
8 and they acted in good faith in what they felt was a  
9 real serious problem.

10           And I listened to the testimony of the  
11 Department -- Bureau of Reclamation's biologist, and I  
12 listen to the policy statements also and found out that  
13 none of the fishery agencies had an issue with this.  
14 And it doesn't surprise me because the petition  
15 wouldn't have been filed if they hadn't cleared it with  
16 the fishery agencies.

17           And I just took a look while I was waiting to  
18 make this closing statement that the two things that  
19 were introduced today from the Delta smelt and the  
20 spring Kodiak trawl survey and the longfin smelt larval  
21 survey.

22           And I look at the Delta smelt survey, and I  
23 find that they are in Cache Slough. Actually, I think  
24 they're in the deep water channel. They're down in --  
25 south of -- west of Decker Island, mainstem of the

1 Sacramento River. The Delta smelt are. And they are  
2 in Suisun Marsh, all of them far, far removed from the  
3 pumping plants and not in a situation where what was  
4 requested would have impacted them for the month of  
5 February.

6           Looking at the larval survey, I did a quick  
7 addition of the second page of that document to see  
8 what the ratio of those that were in the mainstem of  
9 the Sacramento River versus in the central Delta and  
10 down south of Franks Tract. The ratio when I added it  
11 up was 6,834 and 153.

12           In other words, they are all out miles and  
13 miles from the pump and from the risk of entrainment.

14           And again, I think this supports the testimony  
15 that was provided by the Bureau's witnesses and  
16 supports the position that Fish and Wildlife Service  
17 took as it states in the letter which was introduced in  
18 evidence on their view of the Endangered Species Act  
19 report.

20           And it -- I think the weight of the evidence  
21 simply says this was something that can be done without  
22 a significant impact on fishery. And in a way it won't  
23 have a significant impact now because, as usual, Mother  
24 Nature fooled us.

25           But nonetheless, I think what was done here

1 was done in the best of faith. It was an emergency.

2 And I think that the evidence supports the  
3 fact that this could be done with minimal, if any,  
4 measurable impact on fishery or other beneficial users  
5 of water, and we would ask that you view it from the  
6 date it was filed and approve the possession.

7 CO-HEARING OFFICER BAGGETT: Thank you.

8 Mr. Rubin?

9 MR. RUBIN: Mr. Brown?

10 DR. BROWN: No, thank you.

11 CO-HEARING OFFICER BAGGETT: Environmental  
12 Defense Fund is not here. Butte?

13 MR. WAGNER: Thank you for the opportunity to  
14 present this closing statement. My name is Keith  
15 Wagner on behalf of Butte Environmental Council.

16 Pursuant to my attempt yesterday to present  
17 our evidence -- we were not allowed to do so -- I do  
18 believe it is still relevant. We maintain our  
19 objection to the fact that the Board refused to accept  
20 our evidence on questions of CEQA compliance and also  
21 compliance with the Water Code.

22 I have, per Hearing Officer Baggett's request,  
23 not only provided a hard copy of that before the  
24 hearing but also by e-mail overnight, and I would  
25 appreciate staff's confirmation that they have received

1 that, and it will be part of the record.

2 SENIOR STAFF COUNSEL MAHANEY: Yes, I received  
3 that.

4 MR. WAGNER: With regard to issues raised, it  
5 is incredibly important to note that Water Rights  
6 Decision 1641 was approved pursuant to an EIR and an  
7 extensive hearing process in which minimum standards  
8 were imposed for environmental protection.

9 The document that's been prepared for you  
10 today in order to relieve the Department and Bureau of  
11 Reclamation from the responsibility to do so is this, a  
12 Notice of Exemption that says that a project consists  
13 of change of existing facilities, Class 1 exemption.

14 Class 1 exemption only applies in situations  
15 where there is no expansion of use. The testimony that  
16 has been rendered in this proceeding is that in fact  
17 relaxing the standards will expand the storage up to  
18 200,000 acre feet for this project.

19 CEQA does not allow for this exemption to be  
20 applied. There is no environmental document supporting  
21 this application, and it would be an abuse of  
22 discretion for this Board to approve it based on the  
23 document that's been provided.

24 In addition, the testimony that's been  
25 provided also shows that there is conflicting evidence

1 among the experts that's been presented demonstrating  
2 that there will be significant adverse effects on  
3 various species, not only in the Delta but also through  
4 the entire river system.

5           The environmental application information  
6 that's been provided states that the environment  
7 affected is not applicable. Yet, The Bay Institute sat  
8 here and testified and explained to you, and it is a  
9 fact, that anything downstream of existing storage is  
10 going to be impacted by this proposal in ways that it  
11 would not be impacted if the Department had followed  
12 the rules. If they had followed the rules.

13           What this hearing is all about is whether the  
14 Department of Water Resources and the Bureau of  
15 Reclamation have the ability to unilaterally decide  
16 when they are or are not going to comply with their  
17 permit terms. That is unacceptable.

18           And this Board should not allow itself to be  
19 drafted into this effort to essentially rewrite permits  
20 that have already been issued.

21           If they want to get a change to their permit,  
22 the way to do that is an appropriate application with  
23 an appropriate environmental document. That has not  
24 been presented to this Board.

25           Moreover, through the testimony that they



1 presented, what we understand in the objection that was  
2 raised after the case-in-chief was presented is that  
3 there is no urgency at this point. This petition is  
4 dead.

5 The question that is left in front of this  
6 Board is enforcement. It is not whether a permit needs  
7 to be changed.

8 And also, the way that this permit has been  
9 applied for is completely inappropriate. What they've  
10 done is waited halfway through the month, violated  
11 their terms of their permit, and then applied to you  
12 for dispensation.

13 This is going to happen month after month  
14 after month unless the appropriate environmental  
15 document and application is brought forward to this  
16 Board.

17 Finally, my letter that I submitted also  
18 points out violations of the Water Code that are  
19 implied by this application. The application that's  
20 been submitted specifically asked who are the  
21 downstream users that are going to be affected by this  
22 application. The application contained no information.

23 This Board has no basis upon which it can  
24 decide whether downstream beneficial users have been  
25 impacted or not.

1           As well, we have the question of impacts to  
2 fish and wildlife. Once again, they said there is no  
3 environment impacted despite the fact there is  
4 substantial evidence that there will.

5           The Water Code is not being followed, and CEQA  
6 says that you have to do an EIR if there is substantial  
7 evidence on the record that there may be a significant  
8 adverse impact on fish.

9           So therefore, Butte Environmental Council  
10 requests that the Board not act on this petition.

11           Our final objection that we have is that the  
12 Board does not have jurisdiction to act on this  
13 petition because the evidence that has been presented  
14 shows there is no urgency. There is no basis for this  
15 Board to act.

16           Thank you.

17           CO-HEARING OFFICER BAGGETT: Thank you. Bay  
18 Institute?

19           MR. BOBKER: Eric Bobker, The Bay Institute.  
20 The legitimate concern about protecting salmon,  
21 maintaining the cold water pool, and the interest in  
22 increasing storage, preserving storage to address those  
23 upstream needs does not automatically translate into  
24 rushing to decrease protection for other beneficial  
25 uses or allow noncompliance.

1           There is a responsibility to translate  
2 legitimate concerns into an adequate description of the  
3 impacts of proposed actions and the analysis of the  
4 impact -- the analysis of the impacts of those actions  
5 and the description of future operations based on the  
6 proposed action simply was really inadequate.

7           Secondly, the effect of decreasing flows. We  
8 know that the abundance associated with the decreased  
9 flows will decrease abundance. We can argue about the  
10 magnitude, but the fact is that in an estuary where  
11 several of the species that are closely related to  
12 those -- whose abundance is closely related to that  
13 flow are in dire straits really needs to be seriously  
14 taken in considering actions of this type.

15           And finally, you know, we can dispute to our  
16 hearts' content the relative effect of export  
17 operations on various species, but the point is that  
18 this action really did not -- the petitioners really  
19 did not address, in my view, the effects of their  
20 export operations during the period when they proposed  
21 to relax flows.

22           They didn't look at the effects. They didn't  
23 propose any kinds of constraints or restrictions. And  
24 there is evidence, both from research and from the --  
25 what actually happened in the course of the

1 noncompliance, that there were export effects; and I  
2 would dispute that the populations at risk were not --  
3 the populations of concern were not at risk. Certainly  
4 longfin larvae, I think, are at high risk from export  
5 operations during this period.

6 Thanks.

7 CO-HEARING OFFICER BAGGETT: Thank you.

8 CSPA. Mr. Jackson?

9 MR. JACKSON: In order to save time, I would  
10 like to adopt the closing arguments of Mr. Wagner and  
11 Mr. Bobker so I don't have to go back through that.

12 I think the best way to figure out what to do  
13 in this regard is to simply read the petition and  
14 compare it to the evidence. And so I'm going to point  
15 out in the petition a number of places where I think  
16 the petition fails because of the evidence.

17 On page 5 of the petition, it's indicated that  
18 water rights decision D-1641 is the primary means to  
19 implement the water quality objective of the 1995 Water  
20 Quality Control Plan. And then a primary objective of  
21 the plan in D-1641 is protection of fish and wildlife  
22 beneficial uses, and that doesn't mean simply  
23 endangered species.

24 On page 7, there is an indication in the  
25 petition that the fishery significance of the salinity

1 starting gate is considered to place next to generally  
2 west of the export influence of The Projects and in the  
3 Suisun Marsh. So by moving from Suisun to the marsh,  
4 the whole fisheries significance of the salinity  
5 starting gate is missed.

6 And as the evidence indicates, that has a  
7 cascading effect through the rest of the summer. And I  
8 believe that that's actually why we're still here after  
9 the urgency is gone.

10 The next part of the petition is it's an  
11 urgent need for the change. That's changed since the  
12 time that it was filed, through no fault of anybody,  
13 and through the great benefit of the rain. But the  
14 point is: It's a very important decision for you to  
15 decide whether or not the hearing matters and whether  
16 or not the time in which the urgency is judged is today  
17 or before.

18 On page 10, and repeatedly throughout this  
19 document, DWR and Reclamation request that the X2  
20 requirement at Chipps Island be waived to allow  
21 conversion of cool water in upstream reservoirs, and  
22 that is not proven in this hearing. They indicate  
23 there has been no difference in actuality. We  
24 didn't -- they didn't have to use any cold water and  
25 deplete anything.

1           They indicate on page 11 that this could  
2 result in 200,000 acre of water just to meet February.  
3 The real answer was none, and therefore the urgency  
4 disappears.

5           The requested change may be made without  
6 injury to other legal users. They didn't even identify  
7 who the legal users were in the permit, and you have  
8 heard from other beneficial uses and legal users of  
9 water that there is a potential effect on them.

10           They indicate that the requested change may be  
11 made without unreasonable effect on fish and wildlife  
12 and instream beneficial uses. They admit in the  
13 petition that by relaxing the requirement there may be  
14 a reduction in optimal habitat for some Delta fish, an  
15 omission on their part that has nothing to balance it  
16 with because they didn't lose any cold water for  
17 salmon.

18           They indicate that the proposed changes on  
19 page 14 are not expected to result in a substantial  
20 reduction in rearing habitat for larval Delta smelt or  
21 increased entrainment.

22           I would argue that substantial is something  
23 that you balance against; and since there is no  
24 upstream problem, any effect you should protect by not  
25 allowing a suspension of D-1641.

1 Thank you very much.

2 CO-HEARING OFFICER BAGGETT: Thank you.

3 CO-HEARING OFFICER BAGGETT: Mr. Herrick?

4 MR. HERRICK: John Herrick, South Delta Water  
5 Agency.

6 We're arguing about the effect and conditions  
7 and preferences which are moot. The evidence was  
8 twofold, what might have happened before the recent  
9 storms occurred and what the current conditions are  
10 after the recent storms.

11 The petitioners seek two things: One, the  
12 relaxation of the standard for the rest of February  
13 during which we expect the standards to be met. As a  
14 matter of law, that cannot be an urgency.

15 Secondly, they seek the relaxation of the  
16 standards for prior acts or decisions the first half of  
17 February which resulted in the violation apparently of  
18 the permit terms and conditions and D-1641 X2  
19 requirements.

20 As a matter of law and procedure, the Board  
21 can't retroactively approve such a violation.

22 The Bureau and DWR argue that the Board should  
23 rule as if we have gone back in time to the moment of  
24 the petition. The petition is unsupportable now.

25 What is even more troubling is The Projects'

1 argument that they have been harmed or threatened with  
2 enforcement action because the Board didn't immediately  
3 grant the petition.

4 Put it another way, they're upset that the  
5 granting of the hearing is contrary to their decision  
6 not to meet X2.

7 An urgency petition under 1435 requires  
8 certain findings. One, an urgency need. It doesn't  
9 exist. The testimony is irrefutable and clear that  
10 February's X2 is not at risk, so there cannot be an  
11 urgency.

12 Number 2, there can't be any injury to any  
13 other beneficial users of water. Neither DWR nor the  
14 Bureau put on any witness that addressed any injury to  
15 any other party.

16 Their petition concludes that there's no such  
17 harm because it says that harm only occurs if they  
18 receive inadequate -- someone receives inadequate water  
19 during times when natural flows would occur under  
20 unimpaired conditions. That is not correct.

21 Contra Costa hinted at the potential harms.  
22 And we know that the water quality standards are  
23 currently being violated. We know that X2 flows add  
24 fresh water to the Delta and might improve water  
25 quality. And we know that diminished water quality



1 might adversely affect other users and affect people's  
2 decisions on when to divert.

3           They have made no showing on that issue, so  
4 you can't grant the petition.

5           I think it's part of the record -- excuse  
6 me -- it's part of the record of D-1641 that standards  
7 contribute to other beneficial uses, not just the  
8 listed ones.

9           Lastly, we have the unreasonable effect on  
10 fish and wildlife. Their petition says they made a  
11 phone call to Fish and Game, and it wasn't answered.  
12 That's not analyzing the effects on fish and wildlife.

13           The Bureau witness and the report by Kimmerer  
14 conclude there may not be an effect on smelt, but  
15 clearly the rest of the evidence showed that there are  
16 harmful effects from less outflow.

17           In fact, the Bureau's and DWR's actions on X2  
18 resulted in additional take of smelt, a species near  
19 extinction.

20           At best, the Bureau witnesses suggest with  
21 caveats that some species are not significantly  
22 impacted by meeting X2. But the evidence shows  
23 otherwise, including the adverse effects on anadromous  
24 fish.

25           The petitioners claim that their actions would

1 be of benefit by allowing them to be in a much better  
2 position for cold water storage. They put on no  
3 evidence showing how much storage was there, how much  
4 would be increased, how that would affect their ability  
5 to meet that cold water requirement; and as we saw from  
6 The Bay Institute witness, unless the cold water is  
7 maintained for a certain duration, it doesn't provide  
8 any benefit.

9           So they completely missed any part of showing  
10 that there would be a benefit which they could offset  
11 against the detriments.

12           Again, we're running out of time. I will  
13 adopt Mr. Wagner's comments too as being very, very  
14 good.

15           And I would just end with the Board should not  
16 grant this petition but should award the rest of us our  
17 attorneys' fees.

18           (Laughter)

19           MS. GILLICK: DeeAnne Gillick on behalf of the  
20 County of San Joaquin.

21           I took Hearing Officer Baggett's comments last  
22 night to heart and typed up this morning a brief  
23 closing statement and argument, so I can provide that  
24 to the staff, and I have copies electronically.

25           Just briefly, in summary, there is an issue

1 regarding the urgency of the petition and the water  
2 rights order that was adopted by the State Board  
3 yesterday regarding the motion to -- petition for  
4 reconsideration of water rights order 2008-029 EXEC  
5 states that when an item -- a matter is moot:

6           Ordinarily a proceeding that is moot  
7           should be dismissed unless it presents  
8           substantial and continuing public  
9           interest that is capable of repetition  
10          yet evading review.

11          We submit that based upon the evidence in the  
12 record and the issues that are still before this matter  
13 in the petition there is nothing that will provide  
14 "capable of repetition yet evading review."

15          The evidence was specific yesterday that the  
16 conditions that existed in February are unique, and it  
17 was a unique water year that is not likely to occur --  
18 re-occur. And certainly, any decision regarding the  
19 temporary order could not be applied to the potential  
20 future violations that were alluded to yesterday by the  
21 witnesses that there may be new petitions that need to  
22 be filed this year regarding other requirements and  
23 other time periods.

24          So there is just nothing based upon the  
25 evidence and issues before the Board that the Board can

1 issue a decision on that has any value under the law  
2 that isn't otherwise moot.

3 In addition, DWR and the Bureau indicate that  
4 the matter is urgent. The County submits that that  
5 urgent is not because -- the urgency is not due to the  
6 fact that the Board had a hearing or that -- but can be  
7 attributed to some delay by the Bureau and the  
8 Department in predicting and moving on the inability to  
9 meet the requirements under D-1641 in February.

10 The requirement that there is going to be a  
11 requirement to meet X2 was known. Granted, they don't  
12 know the amount. But they certainly know there's going  
13 to -- may potentially be difficulty in that. And that  
14 is something that could be presented to the Board in a  
15 more timely manner.

16 And it also indicates the Bureau's and DWR's  
17 pattern of behavior that exists. In 2008, we had a  
18 similar urgency petition, and that pattern makes it so  
19 that there is an appearance that DWR and the Bureau are  
20 not taking the permit condition seriously.

21 One of the elements the Board's supposed to  
22 determine in an urgency petition is the public interest  
23 and balancing of that public interest. We heard  
24 testimony regarding that public interest, and the  
25 petitioners asserted what they deemed to be the

1 balancing of public interest factors.

2           However, it is the Board's determination and  
3 job based upon substantial evidence to make that  
4 determination. It is not to be made by vested  
5 stakeholders who have a vested interest because they  
6 hold permits and they have contracts to use the water,  
7 but should be based upon the Board.

8           The petitioners were reluctant yesterday and  
9 didn't admit in their own case that exports continued.  
10 That's an important factor this Board should consider,  
11 that exports are continuing while the X2 requirement is  
12 not being met.

13           In addition, water quality violations are  
14 being violated. And the County presented that in its  
15 case-in-chief, and that is not something the  
16 petitioners have presented.

17           We request the Board take careful  
18 consideration of this urgency petition and any future  
19 petition.

20           Thank you.

21           CO-HEARING OFFICER BAGGETT: Thank you.  
22 Bureau of Reclamation?

23           MS. ALLEN: Good afternoon, Kaylee Allen from  
24 the US Department of Interior on behalf of the Bureau  
25 of Reclamation. We would like to thank the Board for

1 allowing us this opportunity to present testimony on  
2 our petition.

3           The Board has heard evidence that Reclamation  
4 received data relating to Eight River Index at the  
5 beginning of February.

6           The Board has also heard evidence because of  
7 record flow -- sorry -- record low inflows in January,  
8 the Eight River Index may not be the appropriate metric  
9 to use in this year to determine February outflow as  
10 local runoff into the Delta is not responding in a  
11 manner typically correlated to the Eight River Index, a  
12 situation which was not contemplated in D-1641.

13           Because of these factors and based on early  
14 February forecasts, Reclamation and DWR filed this  
15 petition to seek relief from the 24-day Chipps Island  
16 outflow standard for the month of February and relief  
17 from the starting gate provision.

18           The petition was timely filed, and we are  
19 still within the window of the requested order.

20           Sufficient evidence has been presented to  
21 support the Board's grant of the petition.

22           As stated yesterday, we are unaware of another  
23 procedure to seek temporary relief from the standards  
24 in D-1641. In fact, Interior has often raised the  
25 issue that D-1641 has the potential to create conflicts

1 between upstream and in-Delta standards, particularly  
2 in dry and critical conditions.

3           The Board's response has been that the  
4 temporary urgency petition process is the process to be  
5 used when those upstream and in-Delta standards  
6 conflict. This is the exact situation that presented  
7 itself at the time the decision was filed.

8           Based on historically low inflows in January,  
9 Reclamation was faced with the situation of the outflow  
10 required by D-1641 with the potential consequence of  
11 being unable to meet upstream temperature requirements  
12 later in the year.

13           If petitions for temporary urgency change can  
14 simply be mooted out by the timing of the hearing on  
15 the petition, then the Board may need to undertake a  
16 more comprehensive review of these potentially  
17 conflicts created under 1641 in dry and critical  
18 conditions.

19           Given the water hydrology in the second half  
20 of February, there has been a lot of Monday morning  
21 quarterbacking about whether there is now an urgent  
22 need for this petition.

23           The urgency is created by the fact that the  
24 dry conditions have been off the charts, and D-1641  
25 simply does not address these extremely dry conditions.

1 Therefore, it is urgent, as Reclamation and DWR cannot  
2 meet Chipps Island outflow for the number of days  
3 indicated in D-1641.

4           You heard yesterday in policy statements with  
5 the National Marine Fisheries Service, the US Fish and  
6 Wildlife Service, and Department of Fish and Game  
7 support the petition.

8           Additionally, Reclamation has produced  
9 evidence that it has reinitiated consultation with US  
10 Fish and Wildlife Service to address issues including  
11 operations in this petition. The US Fish and Wildlife  
12 Service has found that this action is within the range  
13 of effects it analyzed in its 2008 Biological Opinion.

14           For these reasons, we ask you to grant the  
15 temporary urgency petition.

16           Thank you.

17           CO-HEARING OFFICER BAGGETT: Thank you.

18 Department of Water Resources, you're last.

19           MS. CROTHERS: My name is Cathy Crothers for  
20 the Department of Water Resources.

21           I would like to remind everybody that the  
22 overarching issue that created the circumstance here  
23 that led us to submit our petition are the drought  
24 conditions facing California at this time.

25           The Board's notice was highlighting this



1 point. In even their title of the public hearing, they  
2 named it a Drought Emergency Hearing.

3 And I would like to remind people that it is  
4 those conditions that were beyond the control of The  
5 Projects that have led us to this urgent matter.

6 And we began to realize the urgency of this  
7 issue in late January and early February because of the  
8 circumstances also of the conditions that The Projects  
9 operate under.

10 On February 5th, the Regional Director of the  
11 Bureau of Reclamation, Don Glaser, and Director of  
12 Department of Water Resources, Lester Snow, sent a  
13 letter to the Executive Director of the Board notifying  
14 her that we now recognize an urgent issue before us  
15 related to the requirements for the outflow that we're  
16 going to begin in February based on the hydrology that  
17 had just occurred in January.

18 I'd like to remind you the hydrology in  
19 January was extremely, exceedingly dry while at the  
20 same time the Eight River Index that is used to  
21 calculate the February requirements had what we  
22 consider an unusual result of a fairly high Eight River  
23 Index of 970,000 acre feet that's triggering the  
24 conditions for February.

25 We looked at this as a barely triggering

1 event, but it put us into an extremely high outflow  
2 requirement compared to the amount of reservoir storage  
3 available to reservoirs within the state.

4           And our testimony went through all those facts  
5 to provide to the Board. And we appreciate the fact  
6 that the Board, although they obtained notice  
7 February 5th of this request for a temporary urgency  
8 matter, they felt there was a benefit to holding a  
9 hearing, a public hearing, to obtain evidence regarding  
10 the petition.

11           And that was done, and I think that was  
12 appropriate.

13           But that doesn't negate the fact that the  
14 Department and Bureau of Reclamation did give notice to  
15 the Board, and we suggest the Board look at the  
16 February 5th date and relate back the petition to that  
17 February 5th date because the letter did contain  
18 substantial information which the Board could use to  
19 begin the process of considering the urgent matter and  
20 the need for a change to our water rights requirement  
21 for February.

22           So using that relation back doctrine, I  
23 suggest the Board could look at that date. And then in  
24 front of the Board then is the matter of determining  
25 what were the reasonable -- or whether there would be

1 unreasonable effects on the Fish and Wildlife Service,  
2 whether there was a harm to other water users, and  
3 whether there is a public interest here.

4           And under Water Code 1435, the statute that  
5 outlines the procedures for temporary urgency changes,  
6 we feel that those procedures are being followed.  
7 That's the procedure the Board should follow here and  
8 not get sidetracked on other issues related to events  
9 that happened after our urgent petition was submitted  
10 that we had no control over.

11           The things that we do control now are the  
12 basis to meet this requirement.

13           And if I could, I'd just like to address one  
14 final point on the CEQA matter. We did file a CEQA  
15 Notice of Exemption based on existing use of  
16 facilities. And we traditionally look at that as the  
17 use of the facilities in general over our broad range  
18 of operational parameters, and that's what we are  
19 suggesting we are operating within and will operate  
20 within.

21           Therefore the CEQA exemption is applicable.

22           Thank you.

23           CO-HEARING OFFICER BAGGETT: Thank you. That  
24 ends the closing arguments. Anyone else? Last chance.  
25 Okay.

1           With that, a couple closing comments.

2           I think it's truly a difficult hearing, as I  
3 think everybody here recognizes who are veterans of the  
4 Delta proceedings. These are always complex and a  
5 quagmire of laws and facts in these proceedings.

6           We'll take the information received under  
7 submission and expedite a decision. Granted, it is an  
8 awkward process. The law does allow for these  
9 emergency hearings. I mentioned yesterday they have  
10 been done on more than one river in this state, at  
11 least during my tenure on this Board.

12           This one is unique. We have never dealt with  
13 this particular standard, this particular issue; and  
14 therefore, we did, as has been notice by many parties,  
15 feel it was important to have an emergency proceeding,  
16 as awkward as it was. And we appreciate, I think, the  
17 cooperation of everybody to try to give us a full and  
18 complete record.

19           My only last comment was: As one who has a  
20 personal passion for quality and quantity of snow  
21 packs, I follow it quite a bit. And I've noticed that  
22 year-to-date we're at about 69 percent of normal, 2009.  
23 Last year at this time, we were at 86 percent of  
24 normal; and the year before, we were at 91 percent of  
25 normal.

1           It's anticipated March 1st, from what I've  
2 read on websites -- I don't think this is in evidence,  
3 so I'm not taking official notice, but these are  
4 official websites -- that we anticipate up to  
5 77 percent, maybe, by early March.

6           That being said, I think there was testimony  
7 in this hearing, and anybody can go on the website and  
8 can find Shasta, Oroville, and Folsom are at about  
9 one-third capacity.

10           We do have a challenge out there.

11           So I guess the only thing I would like to  
12 offer to the Bureau and Department is that if you're  
13 expecting more emergency proceedings, then we would  
14 fully appreciate and would expect a petition prior  
15 to so that we could have a proceeding prior to March  
16 1st, if we were going to deal with March. Not March  
17 5th, not March 7th, not March 9th.

18           But this is a really awkward position for  
19 everybody in this room and for staff and myself and my  
20 colleague included. And I think it is incumbent upon  
21 you if you expect to have this Board consider any other  
22 emergency exemptions.

23           You've got the information. It's all out  
24 there. We know the status of the reservoirs, and I  
25 would expect much more timely action than this time.

1           That being said, thank you for your courtesy  
2 and cooperation, and we will expedite this order.

3                               \*   \*   \*

4                               (Thereupon the WATER RESOURCES CONTROL  
5 BOARD hearing adjourned at 12:46 p.m.)

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1 CERTIFICATE OF REPORTER

2 I, LINDA KAY RIGEL, a Certified Shorthand  
3 Reporter of the State of California, do hereby certify:

4 That I am a disinterested person herein; that  
5 the foregoing WATER RESOURCES CONTROL BOARD hearing was  
6 reported in shorthand by me, Linda Kay Rigel, a  
7 Certified Shorthand Reporter of the State of  
8 California, and thereafter transcribed into  
9 typewriting.

10 I further certify that I am not of counsel or  
11 attorney for any of the parties to said meeting nor in  
12 any way interested in the outcome of said meeting.

13 IN WITNESS WHEREOF, I have hereunto set my  
14 hand this March 4, 2009.

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LINDA KAY RIGEL, CSR  
Certified Shorthand Reporter  
License No. 13196

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