STATE WATER RESOURCES CONTROL BOARD

PUBLIC HEARING

CALIFORNIA DEPARTMENT OF FISH AND GAME'S

LOWER YUBA RIVER FISHERIES MANAGEMENT PLAN

AND A COMPLAINT BY

THE UNITED GROUP AGAINST YUBA COUNTY WATER AGENCY

AND OTHER DIVERTERS OF WATER FROM THE LOWER YUBA RIVER

IN YUBA COUNTY

PAUL R. BONDERSON BUILDING

SACRAMENTO, CALIFORNIA

APRIL 3, 2000

9:00 A.M.

REPORTER BY: ESTHER F. WIATRE
CSR NO. 15164

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SACRAMENTO, CALIFORNIA

MONDAY, APRIL 3, 2000 - 9:00 A.M.

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H.O. BROWN: Good morning, everyone.

This is the continuation of the supplemental water right hearing regarding the Lower Yuba River.

Mr. Frink, you have announcements?

MR. FRINK: Yes, Mr. Brown. Good morning.

Before the hearing recessed a couple of weeks ago, I had asked Mr. Lilly if we would be able to get a copy of the feasibility report, feasibility study, on the temperature control device at Englebright Reservoir. He indicated he thought that there was a copy available in the Board's files. I checked on that and, indeed, that was the case. There are copies of it here for any of the parties who may be interested.

And I would like to have that marked and introduced as the next staff exhibit in order, which is what?

Number 12. It will be Water Resources Control Board Exhibit 12. And it really is a compilation of documents. The cover sheet is memorandum dated August 31st, 1999, from the Department of Water Resources to John Ladd of the State Water Resources Control Board. That describes the project.

Their Attachment 1 is a little more detailed description of the project. Attachment 2 is the project

proposal itself and Attachment 3 was the environmental document that was prepared for the temperature control device.

So without objection we would like that to be included in the record.

H.O. BROWN: Thank you, Mr. Frink.

Any objections?

Mr. Lilly.

MR. LILLY: Mr. Brown, we do not object to this document coming into the record as background material. However, we would appreciate clarification from staff on what the purpose of specifically offering this document as an exhibit is. Mr. Wilson had previously testified that while the Agency is attempting to secure funding and permit approvals for this project, it is by no means certain at this time whether or not it actually will be constructed.

H.O. BROWN: All right. Mr. Frink.

MR. FRINK: Our purpose is just to provide some background information regarding the temperature control proposal and the status of that proposal, at least as of August of '99. We recognize that it has not been approved, and it is not certain if it is going to be constructed.

H.O. BROWN: Can you hear me in the back, Mr Minasian?

MR. MINASIAN: Yes.

H.O. BROWN: We had some problems with the mikes last

time. The plan for today is to adjourn about 3:45, but we may run late tomorrow if it looks like we can finish up. So plan your schedules accordingly.

Browns Valley Irrigation District. Mr. Bezerra, you are up.

MR. BEZERRA: Good morning, Mr. Brown. Good morning, State Board staff.

I just want to make a very brief statement before Mr. Winchester testifies.

This proceeding is generally a very complex one. In relation to Browns Valley Irrigation District, however, it is relatively simple. The State Board's hearing notice asked if there is any relevant, new information concerning fish screens and fish losses at Browns Valley pump line diversion facility, and there is.

The testimony of Browns Valley manager will show that since the 1992 hearing Browns Valley has worked cooperatively with state and federal agencies, including California Department of Fish and Game and the National Marine Fishery Service to install a state-of-the-art fish screen at its pump line diversion facilities. That screen prevents fish from reaching Browns Valley diversion pumps. The State Board, therefore, does not need to take any action in relation to Browns Valley and should dismiss Browns Valley from this proceeding.

At this point, I will call Mr. Robert Winchester as a witness. Mr. Brown, Mr. Winchester was not present when you sworn witnesses at the beginning of this proceeding, and so accordingly he needs to take the oath before testifying.

(Oath administered by Hearing Officer Brown.)

H.O. BROWN: Thank you.

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DIRECT EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT

BY MR. BEZERRA

MR. BEZERRA: Good morning. Could you please state your name for the record.

MR. WINCHESTER: My name is Robert Winchester.

MR. BEZERRA: Mr. Winchester, what is your position with Browns Valley Irrigation District?

MR. WINCHESTER: I am the general manager of the irrigation district.

MR. BEZERRA: How long have you held that position?

MR. WINCHESTER: Approximately eight years.

MR. BEZERRA: Have you reviewed Exhibits S-BVID-1 through S-BVID submitted by BVID for this hearing?

MR. WINCHESTER: Yes, I have.

MR. BEZERRA: Are they true and correct copies of your testimony and exhibits to it?

MR. WINCHESTER: Yes, they are.

MR. BEZERRA: Is Exhibit S-BVID-2 a correct statement

of your qualifications?

MR. WINCHESTER: Yes, it is.

MR. BEZERRA: I am going to put up an overhead. As the overhead states, this is a copy of Exhibit S-BVID-6.

Mr. Winchester, is this a picture of Browns Valley new screen structure?

MR. WINCHESTER: Yes, it is.

MR. BEZERRA: Thank you.

Could you please summarize your written testimony.

MR. WINCHESTER: Browns Valley Irrigation District on their second effort decided that we needed to install a fish screen at our pump line diversion. With the help of the Department of Fish and Game, we went out and secured grants, and we constructed a fish screen that was approved by the technical committee and --

MR. BEZERRA: Is that fish screen currently operational?

MR. WINCHESTER: It was operational in April of '99 and has operated for a full year, yes.

MR. BEZERRA: Is it operating the way you intended it to operate?

MR. WINCHESTER: Yes. It is doing very well.

MR. BEZERRA: Is there any part of your written testimony that you would like to clarify?

MR. WINCHESTER: In my testimony I stated that we transferred some water. We did not transfer water rights.

It was a short-term water transfer.

MR. BEZERRA: Would that testimony be contained -- that is the testimony contained in Exhibit S-BVID-1 on Page 2?

MR. WINCHESTER: Correct.

MR. BEZERRA: In Paragraph 9?

MR. WINCHESTER: Yes.

MR. BEZERRA: Is there anything else you would like to clarify in your testimony?

MR. WINCHESTER: In another area we would like to emphasize that Browns Valley Irrigation District is responsible for the maintenance and operation of the fish screen facility.

MR. BEZERRA: On a continuing basis you're providing funding for keeping it working, essentially?

MR. WINCHESTER: Correct.

MR. BEZERRA: Thank you, Mr. Winchester.

Mr. Winchester is now available for cross-examination.

H.O. BROWN: All right.

Anyone here representing the National Marine Fisheries this morning?

If not, Mr. Gee, I believe you are up next, Department of Interior.

MR. GEE: I have no questions for Mr. Winchester.

H.O. BROWN: Thank you, Mr. Gee.

Mr. Baiocchi.

MR. BAIOCCHI: I have a question, Mr. Frink. Can I utilize the Draft Decision and cite it?

MR. FRINK: The Draft Decision is part of the administrative record. It isn't a part of the evidentiary record. If you would like to ask the witness his opinion or if he has any information on the statements that are stated in the Draft Decision, I think that is appropriate.

MR. BAIOCCHI: Thank you very much.

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CROSS-EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT

BY CALIFORNIA SPORTFISHING PROTECTION ALLIANCE

BY MR. BAIOCCHI

MR. BAIOCCHI: Good morning, everybody.

My concern is over water rights, Browns Valley Irrigation District's water rights.

Page 126 of the Draft Order, under Table 16, as stated, on --

MR. BEZERRA: Just a moment, Mr. Baiocchi. You are on what page of the Draft Decision?

MR. BAIOCCHI: Page 126 under Table 16 at the top.

MR. BEZERRA: I have a copy of the Draft Decision here, and I am Page 126 and I don't see a table on that page.

MR. BAIOCCHI: I have two copies of this, of the Draft Decision, and on both my copies --

MR. BEZERRA: Can I take a look at it?

MR. BAIOCCHI: Sure. I need it back, please.

MR. BEZERRA: No problem.

MR. BAIOCCHI: Thank you.

MR. BEZERRA: I just want to note for the record what I have here. It is, in fact, a Page 126, but it is dated at the top July 21st, 1994. And the draft of the decision that I have is dated April 28, 1996. I want to clarify exactly what this is that we have here.

MR. FRINK: We are not entirely aware of how this happened. There was an earlier version of the Draft Decision that was not yet complete that was obtained by some of the people who were interested in this proceeding. The only version of the Draft Decision that the Board has approved for distribution to the parties is dated April 28, 1996. There may be some similarities in wording, but they are not exactly the same throughout. I think it would be helpful if we were asking questions about the draft that it be on the one that the Board approved for distribution to the parties.

H.O. BROWN: I concur, Mr. Frink.

Is that table in the Draft Decision somewhere else on a different page?

MR. BEZERRA: I haven't reviewed it comprehensively recently, so I couldn't tell you.

H.O. BROWN: Mr. Frink, see if that table is somewhere

else in the Draft Decision.

MR. LILLY: Mr. Brown, if I may be heard on this issue?

H.O. BROWN: Yes, Mr. Lilly.

MR. LILLY: Mr. Brown, the fact that Mr. Baiocchi has a copy of a Draft Decision that was not released by the State staff and was not generally made available to the parties raises great concern in my mind as to the integrity of the State Board's process. Because, of course, it is supposed to be a quasi-adjudicatory process without ex parte communications. And particularly if a Draft Decision, an earlier decision, was leaked to certain parties, whether inadvertently or on purpose, at a time when it was not distributed to all the parties, that raises great concerns.

I would appreciate it if Mr. Baiocchi could state for the record how he obtained this 1994 draft which was not made available to the parties to this hearing.

H.O. BROWN: Thank you, Mr. Lilly. That is a concern, obviously, to the State Board too, and others.

MR. BAIOCCHI: Mr. Brown, I am not a witness.

H.O. BROWN: Wait a minute. Let me finish. Mr. Baiocchi, wait.

MR. BAIOCCHI: Yes, sir.

H.O. BROWN: Wait. That issue is of concern. I don't know that we are here to resolve that now, Mr. Lilly. But the main question before us is that table somewhere in the

Draft Decision that we now are working with, Mr. Frink?

MR. FRINK: Yes, it is. I gave Mr. Baiocchi a copy of the most recent copy of the Draft Decision that was distributed to parties. I believe the table is the same.

Bob, could you refer --

MR. BAIOCCHI: Can I have that back, counsel?

MR. FRINK: Could you refer to the table and page number in the 1996 version of the Draft Decision, please?

MR. BAIOCCHI: For the record, Mr. Brown, I did not receive a copy of this.

MR. BEZERRA: Could you just state for the record --

H.O. BROWN: What is this?

MR. BAIOCCHI: The document is the 1996 April 28th Draft Decision. I did not receive it, a copy of it, sir.

MR. FRINK: Mr. Jackson was listed as the representative of the California Sportfishing Protection Alliance, and we did mail a copy to Mr. Jackson. He is not representing the California Sportfishing Protection Alliance at this stage of the hearing. But he was the person who had been designated as the representative prior to this stage of the proceeding.

MR. BAIOCCHI: Mr. Jackson did not provide me with a copy of this. Would it be possible that you could -- you folks could provide me with a copy of it?

MR. FRINK: I will get one at the break, Bob.

MR. BAIOCCHI: Would you prefer that I hold this off until I get a copy of it and cross-exam in Browns Valley later?

H.O. BROWN: Talk to me, Mr. Baiocchi. Mr. Frink is my advisor.

MR. BAIOCCHI: I apologize, Mr. Brown.

H.O. BROWN: It is your call. If that table that is before you, if that is the same table you were addressing. And if that is in the Draft Decision, then you may proceed. Is that the statement table that you were --

MR. BAIOCCHI: I am looking it over right now, Mr. Brown.

It appears to be the same. I don't know whether or not the language that follows the table is the same, though. It might have been changed.

H.O. BROWN: It is your call. If you would like some time to review that and come back to it a little later --

MR. BAIOCCHI: I would like time to review it. I would appreciate it. But I need a copy of this document.

H.O. BROWN: All right.

MR. BAIOCCHI: Thank you.

MR. BEZERRA: Could we find out what he is referring to?

H.O. BROWN: It may help if you were to ask the question and then if you feel you're ready to answer it, it

may save some time. Why don't you go ahead and ask the question. Let's see where we go with it.

MR. BAIOCCHI: Thank you.

MR. LILLY: Mr. Brown, none of this dialogue has resolved my concern. Are you ruling that my concern is not going to be addressed at this time?

H.O. BROWN: Yes, Mr. Lilly. I have no way of addressing that. We are aware that a draft copy got out without the approval of the Board, obviously. I do not know how it got out. We were very concerned, and Board Members were. I would, I think, saying quite upset is appropriate that it did get out. It certainly did not receive our -- it certainly did not get out with the Board Members' concurrence or knowledge.

So, if you find out, let us know. Maybe next time we can do something about it.

MR. LILLY: Thank you, Mr. Brown. I appreciate the clarification. If it is appropriate, we will pursue inquiry on that tissue.

H.O. BROWN: Mr. Cook.

MR. COOK: I would like to ask for a little clarification insofar as Board approval is concerned. From what I gather here, there was approval of the release of the '96 Draft, I believe. There was not approval of the release of the '94 4draft. There was some changes which apparently

are not very significant.

I would like clarification as to what the approval amounted to. When the Board approved the release of the '96 Draft, did it approve any of the contents or any of the conclusions in the '96 Draft? Or was it -- did they even know what was in it?

I would just like a little clarification on what their approval was and what it amounted to.

H.O. BROWN: Mr. Frink, you want to explain that?

MR. FRINK: Yes.

I guess using the word "approval" was a bit of a misnomer. When it become apparent that Board Members were interested in holding another hearing in order to receive evidence that was not available at the time of the prior hearing, and with the awareness that for unknown reasons an earlier draft had been obtained by some of the parties, staff advised the Board we believed it was appropriate to distribute the most recent draft so there wouldn't be any confusion.

The Board Members indicated they thought that was a good idea. It was not a vote. The Board does not approve the Draft Decision in terms of approving the findings or the requirements of that Draft Decision. It was just purely a way of getting everybody up to date at the same spot which was the work that had been done to the date. There was a

staff analysis that had been completed and there was a Draft Decision, and those were made available to representatives of all the parties.

H.O. BROWN: Yes, Mr. Cook.

MR. COOK: Just one question. If the '96 Draft was not approved as to content, only as to release for the purpose of bringing the parties up to date, then I see no -- I have no understanding of why the '94 Draft would not also have been released to bring the parties up to date not as approval of the content.

H.O. BROWN: That may be an interesting or appropriate question, Mr. Cook, but I don't see the bearing that it has on our decision that we are at right now.

Proceed, Mr. Baiocchi, and let's see where we go with this.

MR. BAIOCCHI: I have one question, Mr. Brown.

A complaint was filed in 1988. I filed the complaint. A hearing was held in 1992. You need to understand that we have waited seven years following the hearing to get a decision out of the Board. And probably -- and Mr. Lilly wanted explanation on my part.

Yes, we wanted the Board to act on our complaint. And for reasons unknown to me, I received a copy of the '94, July 21, 1994, Draft Decision. Who I received it from? I get a lot of mail. And I presumed it was from the State

Board. Perhaps it wasn't from the State Board, but I did receive it.

Secondly, I did not get a copy of the '96 from Mr. Michael Jackson.

H.O. BROWN: We understand that.

MR. BAIOCCHI: I find that very unfortunate because Michael Jackson no longer represents -- he's withdrawn as the attorney for CSPA. He now represents 27 counties of which, as I recall, Yuba County is one of those 27 counties. I am concerned. I will pass this on to the CSPA Board concerning the fact that this was not provided to me, 'cause I am presently their agent now. I wanted to explain that.

H.O. BROWN: Thank you.

MR. BAIOCCHI: Thank you.

H.O. BROWN: That is on the record.

Proceed. Let's see where we go.

MR. BAIOCCHI: Thank you.

On Page 145 of the Draft Decision of April 28, 1996, under Table 16, Table 16 states "Browns Valley Maximum Average Monthly Diversion Rate Under Claim of Pre-1914 Water Right." Provides month and the amount of water in cubic feet per second and acre-feet and year of maximum diversion.

To the best of your knowledge, Mr. Winchester, is that

table correct?

MR. WINCHESTER: I have no knowledge of that table. It goes back into the 1920s. The first time I have seen it.

MR. BAIOCCHI: Thank you very much.

So, would it be true then that you don't have any knowledge of the pre-1914 water rights?

MR. BEZERRA: I would like to object to that question. I believe that misstates Mr. Winchester's testimony. Mr. Winchester testified that he had no knowledge of the table.

H.O. BROWN: Yes. Perhaps you could redo the question, Mr. Baiocchi.

MR. BAIOCCHI: Are you -- Mr. Winchester, are you familiar with the Browns Valley Irrigation District's pre-1914 water rights?

MR. WINCHESTER: I have some knowledge of it, yes.

MR. BAIOCCHI: Under Table 16 for the month of January, it states that year of maximum diversion, 614 acre-feet of water was used by the district. That was in 1926.

To the best of your knowledge, do you know if that water was put to beneficial use prior to December 19th, 1914, that max amount of water, 614 acre-feet?

MR. WINCHESTER: Again, I do not have any knowledge of the 1926 diversion.

MR. BAIOCCHI: Mr. Brown, I will stay away from this. Apparently the witness doesn't have the information. Make

it easy so we can move on.

Mr. Winchester, has the district filed statements of diversion and use?

MR. WINCHESTER: Yes, they have.

MR. BAIOCCHI: When did the district commence filing statements of diversion and use?

MR. WINCHESTER: Is your question when did they start filing?

MR. BAIOCCHI: Yes. Was it two years ago? Four years ago? Six years ago? Do you know when the district first commenced filing statements of diversion and use?

MR. WINCHESTER: We file a lot of information with the state. I'm not exactly sure the dates that we did file.

MR. BAIOCCHI: Apparently the witness doesn't have that kind of information.

I would like to say that we greatly appreciate the district working with the Department of Fish and Game and NMFS and putting in a state-of-the-art fish screen.

MR. WINCHESTER: Thank you. We are very proud of the facility.

MR. BAIOCCHI: Thank you very much.

That concludes my cross-examination.

H.O. BROWN: Thank you, Mr. Baiocchi.

Mr. Cook.

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CROSS-EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT

BY MR. COOK

MR. COOK: Mr. Winchester, were you familiar with the BVID diversion from Yuba River prior to the installation of the fish screen?

MR. WINCHESTER: Yes, I am.

MR. COOK: At that time there was no method of preventing juvenile salmon and steelhead from entering the pumps; is that true?

MR. WINCHESTER: There was a previous effort and cooperation with the Department of Fish and Game to build a gabion rock barrier there which failed. That was a voluntary effort on part of BVID.

MR. COOK: In fact, BVID voluntarily removed that gabion screen for a period of time, did they not?

MR. WINCHESTER: Yes, they did.

MR. COOK: And at that time was there a limitation on the amount of water that could be pumped out of the river for which BVID had no obligation for screening the fish? I hope that question is not too compound.

MR. BEZERRA: I would like to object on the basis that term "limitation" is vague. What kind of limitations are you talking about? Technical limitation?

H.O. BROWN: Mr. Cook.

MR. COOK: Yes.

Is it true that prior to the installation of the new screen the BVID assumed or apparently was under the ability to pump 40-some cubic feet per second without having a fish screen, but could not exceed that?

MR. WINCHESTER: I am confused with the phrase "under the ability."

MR. COOK: Was there a limitation of approximately 40 cfs on the amount of water BVID was entitled to remove from the river without screening the pump?

MR. BEZERRA: Once again I would like to object to the term "limitation" as vague and ambiguous. I would like to have some explanation as to what kind of limitation are we talking about.

H.O. BROWN: Mr. Cook, do you mean a physical limitation with the diversion facility or a limitation as to water right?

MR. COOK: A limitation as to water rights. I'm sorry.

MR. BEZERRA: Thank you, Mr. Brown.

MR. WINCHESTER: I believe that is correct, 40 second-feet.

MR. COOK: Since the screen, has that water right limitation been increased?

MR. WINCHESTER: The screens were designed for 65 cfs.

MR. COOK: Are you pumping 65 cfs at the present time?

MR. WINCHESTER: We are not pumping at all at the present time.

MR. COOK: During the season of pumping, are you doing that?

MR. WINCHESTER: Occasionally we reach 65. Normally our diversion is in the 45 to 50 cfs range.

MR. COOK: However, at times it does exceed the 47 cfs; is that correct?

MR. WINCHESTER: We pumped to the allowable 65 cfs, yes.

MR. COOK: So you're saying then that there is an allowable 65 cfs pumping, a maximum pumping rate, that is presently allowed?

MR. WINCHESTER: Yes.

MR. COOK: I call your attention to BVID Exhibit 1, S-BVID-1, Page 4, and you have indicated costs of the screen. You have indicated that there was $346,000 budgeted to install a new screen; is that correct?

MR. WINCHESTER: That is correct.

MR. COOK: I have added, and if my math is correct, I have added the amounts that you have indicated you received in grants, and my figures show that you received in grants, according to the grants that you have listed, a total of $326,500.

Is that correct?

MR. BEZERRA: If the witness can have a moment to take a look at the numbers.

MR. COOK: Certainly.

MR. WINCHESTER: I think I can clarify. BVID was obligated for approximately 19,000 of their own contribution to the project.

MR. COOK: Did BVID contribute $19,000?

MR. WINCHESTER: No. The total project came in under budget at around $290,000. Therefore, percentagewise the total cost went down to each participate for the grants.

MR. COOK: How much then did BVID contribute toward the cost of the new screen?

MR. WINCHESTER: I would have to subtract it out. It is mathematical. Everybody had a percentage of the project, according to their grants.

MR. COOK: Was it is a percentage then of the difference between the 246,000 budgeted amount and the 200 and some thousand figure that you set as the ultimate screen cost?

MR. WINCHESTER: Each grant had a percentage in the project. Therefore, each grant was not drawn to the full amount, if that answers your question.

MR. COOK: Well, for a little bit of a clarification. BVID then contributed somewhat less than $19,000; is that correct?

MR. WINCHESTER: That would be correct.

MR. COOK: Just looking at this very generally, that would be somewhere in the neighborhood of, say, $15,000?

MR. WINCHESTER: I haven't done the math, but probably be a little less than that, maybe.

MR. COOK: I am still a little confused. You indicated that BVID, according to your words in your testimony, applied for and received a grant of $114,750 from the Bureau of Reclamation. And as I read this, and you indicated in your testimony that BVID actually received the grants which are listed specifically on Page 4.

Did BVID receive those grants in the amounts stated or were those grants reduced?

MR. BEZERRA: I would like to object to the term "grant" as he is using it. We seem to be having a misunderstanding of the term "grant." Mr. Cook is saying did you receive the money, and Mr. Winchester is saying we receive a commitment for that money. So I would like Mr. Cook to clarify what he means by the term "grant."

H.O. BROWN: Mr. Cook.

MR. COOK: Mr. Brown, I am using the express words he used in his written testimony. I can ask him specifically on one of the sentences, for example. That may clear it up, clear up any confusion.

H.O. BROWN: Let's try that.

MR. COOK: Did you testify on Page 4 that BVID applied for and received a grant of $114,750 from U.S. Bureau of Reclamation through the Federal Central Valley Improvement Act and Anadromous Fish Screen program? Did you say that?

MR. WINCHESTER: I believe it is in my testimony, yes.

MR. COOK: Is that a true statement?

MR. WINCHESTER: Yes, it is.

MR. COOK: And what about the other amounts of money that you have testified in that same paragraph that BVID received apparently as the same kind of grants?

MR. WINCHESTER: We received a grant against a budget, and we submitted actual figures against these grants, and they were a percentage each month or each period. And as I said before, we did not utilize the whole grant.

MR. COOK: Well, I don't know how to clarify it much more. Perhaps -- you have indicated in your testimony in Paragraph 20 that BVID, in fact, received these moneys.

Is that a correct statement or is that incorrect?

MR. BEZERRA: I would like to object. I think that misstates the testimony. That goes back to what I was saying. Mr. Winchester is saying we got a commitment that these moneys might be put. Mr Cook is emphasizing, suggesting, they were received. I want to clarify so Mr. Winchester can testify accurately.

H.O. BROWN: All right.

Mr. Winchester was using the word "grant" generically?

MR. BEZERRA: I believe that is the case. Mr. Winchester is using it to state that he got a commitment for those funds.

H.O. BROWN: And Mr. Cook is using it specifically.

MR. COOK: I am following his words where he testified that BVID, in fact, received grants of a certain amount. The paragraph has one, two, three, four, five moneys specifically listed that he has testified to, as I understand Paragraph 20, that BVID, in fact, received this amount of money, which then is in excess of the amount of the cost of the screen.

And I am trying to find out if, in fact, BVID received the money and if they did, as he has testified, then what happened to the surplus.

H.O. BROWN: I understand your question very clearly, Mr. Cook, very succinctly. I believe I understand Mr. Winchester's answer. There was a grant that was a commitment to that amount. But, in fact, you received something less than that when the project was completed; is that correct?

MR. WINCHESTER: That is correct, Mr. Brown.

H.O. BROWN: Does that help, Mr. Cook?

MR. COOK: Well, he used the word "received" in his testimony so I would like to ask if that is an incorrect

statement. If he, in fact, did not receive this money, or BVID.

H.O. BROWN: I will permit that question.

MR. BEZERRA: Can I just -- I would like to object. If Mr. Cook can state the question before he answers, that would be helpful.

H.O. BROWN: Restate the question, Mr. Cook.

MR. COOK: The amounts of money in Paragraph 20 that you have testified that BVID received as grants, was that amount of money, in fact, received or did BVID receive something less?

MR. WINCHESTER: BVID received something less than the actual commitment of the grant.

MR. COOK: Would you then say by the word "received" is incorrectly used in that paragraph?

MR. BEZERRA: I would like to object. Once again, he is depending on a definition of grant that is different than what Mr. Winchester's saying the grants were. He seems to be trying to catch Mr. Winchester in a lie, and I don't believe that there is one here. This is simply a misunderstanding of what grant means.

H.O. BROWN: I understand the question. I understand the answer. And if you are looking for Mr. Winchester to restate his testimony, that is your option, or you may proceed as it is written with the explanation given.

MR. BEZERRA: We are perfectly willing to proceed with the testimony, with the meaning that they got a commitment for these funds. The fact that they brought it under budget doesn't seem to be detrimental to me.

H.O. BROWN: It is in the record. I think you've made your point, Mr. Cook.

MR. COOK: Thank you. That is all I have.

H.O. BROWN: Thank you, Mr. Cook.

Mr. Sanders, you came in just a few minutes late.

MR. SANDERS: About a half hour.

H.O. BROWN: You did not hear the direct testimony. Maybe you had some prepared questions.

MR. SANDERS: No, I have no cross-examination for this witness.

H.O. BROWN: All right, Mr. Sanders.

Mr. Lilly.

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CROSS-EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT

BY YUBA COUNTY WATER AGENCY

BY MR. LILLY

MR. LILLY: Mr. Winchester, as you know, I am Alan Lilly, attorney for Yuba County Water Agency.

You might want to turn off the overhead. It helps the Court Reporter hear the testimony if there is not a hum in her ear.

MR. BEZERRA: Thank you, Mr. Lilly.

MR. LILLY: Mr. Winchester, in the last ten years has the Browns Valley Irrigation District annexed any lands to the district?

MR. WINCHESTER: We completed an annexation of approximately 2500 and, say, 30 acres.

MR. LILLY: When was that started and when was that completed?

MR. WINCHESTER: I believe it was started in '88 and finally culminated in, I believe, '97.

MR. LILLY: Were those lands irrigated before they were annexed to the district?

MR. WINCHESTER: Only a small portion of them.

MR. LILLY: When you saw "small," could you put any ballpark percentage on that?

MR. WINCHESTER: Out of 2500 acres I would say less than 90 acres was irrigated previously.

MR. LILLY: How many of those acres or what portion of those acres is being irrigated today? I understand not today. Exactly how many of those acres will be irrigated this summer during the irrigation season?

MR. WINCHESTER: Probably less than 200.

MR. LILLY: Are there plans for the remaining approximately 2300 acres to be developed with irrigation over time?

MR. WINCHESTER: I am told almost all of them will eventually be irrigated.

MR. LILLY: When those are irrigated, would they be irrigated with the water that the district diverts from the Yuba River?

MR. WINCHESTER: That is correct.

MR. LILLY: Just in general terms, does the district serve its customers through accounts?

MR. WINCHESTER: Yes.

MR. LILLY: Is that a correct terminology for describing how you serve your customers?

MR. WINCHESTER: That would handle it.

MR. LILLY: Has the number of accounts increased in the last ten years for the Browns Valley Irrigation District?

MR. WINCHESTER: I have been with the district eight years. When I arrived, in round numbers we had about 400 accounts. Today we are close to a thousand.

MR. LILLY: Does that -- that obviously is a significant increase in the number of accounts. Is there a corresponding increase in the amount of water that the district delivers to its customers?

MR. WINCHESTER: Our water use stayed pretty stable. We entered into quite an ambitious conservation plan with pipelines, et cetera.

MR. LILLY: Why don't you go ahead and describe in just

a little bit of detail what types of water conservation measures the district has taken in the eight years you have been manager of the district.

MR. WINCHESTER: We have accomplished about, round numbers again, 20 pipeline projects to replace canals or bring water to new services. One of our major pipelines was eight-and-a-half mile, 21-inch pipeline across the mountain. That eliminated around a 20-mile canal which had almost a 90-percent loss ratio.

MR. LILLY: With the pipeline, what is the loss in that pipeline now?

MR. WINCHESTER: We hope zero.

MR. LILLY: Close to zero, anyway?

MR. WINCHESTER: As close as we can get.

MR. LILLY: In addition to piping, are there measures taken within the district in terms of water recapture, runoff from fields, to affect water conservation or reuse of water?

MR. WINCHESTER: The district is fortunate that it's stair stepped down into the valley, and spill and incidental runoff is recaptured at the next step going downhill all the way through our system. And what waters do exit the district are picked up by an irrigation district below us.

MR. LILLY: Which district is that?

MR. WINCHESTER: Would be the Ramirez Irrigation

District.

MR. LILLY: Is laser leveling done in the rice fields within your district?

MR. WINCHESTER: I believe all rice fields in our district. I cannot think of one field that has not been laser leveled, and many three or four times.

MR. LILLY: So is it fair to say, then, in just summary terms even though your number of customers has gone up because of your water conservation measures you so far have been able to maintain stable amounts of deliveries?

MR. WINCHESTER: That's correct.

MR. LILLY: I assume as demands go up in the future there will be demands for additional deliveries in the future?

MR. WINCHESTER: We have more conservation programs, pipelines scheduled. Draining the last drop out of it is going to be hard because we tackled the big projects first. Our demand will go up as these news lands come in.

MR. LILLY: Is it fair to say, even though you will be doing all you can, there may still be a need for more water even with the additional conservation measures?

MR. WINCHESTER: Oh, very definitely.

MR. LILLY: Are there any potential demands for municipal and industrial water within the Browns Valley Irrigation District?

MR. WINCHESTER: We have had a will-serve letter out for on a development in an intermediate area between the foothills and the flatlands. The will-serve letter for the development has been written for 4,000 acre-feet of water yearly delivery.

MR. LILLY: That would be more municipal water.

MR. WINCHESTER: M&I.

MR. LILLY: Municipal and industrial?

MR. WINCHESTER: Yes.

MR. LILLY: Are the lands where that development will occur presently being irrigated?

MR. WINCHESTER: No, they are not. They are unproductive foothill lands.

MR. LILLY: Thank you, Mr. Winchester.

I have no further questions.

THE COURT: Mr. Minasian.

MR. MINASIAN: No questions, Mr. Brown.

H.O. BROWN: Mr. Morris.

MR. MORRIS: I have no cross-examination.

Thank you, Mr. Brown and Mr. Winchester.

H.O. BROWN: Mr. Cunningham.

MR. CUNNINGHAM: We have no cross-examination. Thank you very much.

Thank you to the witness.

H.O. BROWN: Staff.

MR. FRINK: Yes, we have a few questions.

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CROSS-EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT

BY STAFF

MR. FRINK: Good morning, Mr. Winchester.

I wonder, when did the planning process begin for the fish screen that was installed at the BVID diversion facilities?

MR. WINCHESTER: I have been looking at the project for probably five or six years. I believe in '97 Mr. Nelson of the Fish and Game came through my door and we started talking very seriously about it. At that time he took us by the hand and walked us through the grant process up and down the valley and in California. We came out with the funds.

MR. FRINK: When did the construction start on the fish screen?

MR. WINCHESTER: Be the fall of '98.

MR. FRINK: The fish screen was completed and operational in April of 1999; is that correct?

MR. WINCHESTER: That's correct.

MR. FRINK: When did Browns Valley Irrigation District begin the installation of pipelines as a means of conserving water?

MR. WINCHESTER: There have been an ongoing list of projects with BVID since before I arrived on the scene.

I would say probably the last 12, 15 years.

MR. FRINK: Was the installation of pipelines expanded or speeded up after you arrived and became the manager?

MR. WINCHESTER: Yes, I think so.

MR. FRINK: Do you have an estimate in terms of the percentage of deliveries that you have been able to conserve since the time you began as general manager through the installation of pipelines or other new water conservation measures?

MR. WINCHESTER: I think that would be terribly hard to answer. Even when I got there, everywhere you looked there was a project that would conserve water. And as I stated before, we tried to do the ones that gave us the best bang for the buck. Now we are down to the little ones. But I couldn't answer your question in an absolute thing.

MR. FRINK: I believe you indicated that your overall water use has remained relatively stable in recent years?

MR. WINCHESTER: Fairly static, yes. Some years we have early spring or late fall and we use a little bit more water. This year is going to be an early spring. We will use a little more water. On the average our deliveries have been pretty static, at a regular level.

MR. FRINK: I wonder if you have an idea of the additional amount of water that has been delivered for new uses since the time you began with Browns Valley Irrigation

District.

MR. BEZERRA: If I could just clarify. By new, do you mean new accounts? Do you mean different kinds of uses? Just like to clarify so he can answer.

H.O. BROWN: All right.

MR. FRINK: Yes. I don't just mean new accounts in terms of if a farm was split and now there are two accounts instead of one account. I mean irrigation of new lands or new individual uses that weren't being met before.

MR. WINCHESTER: Probably half of our -- there is two things here. One is a conservation pipeline, is a very large diameter pipeline, you might say. Whereas small projects might be 6-, 7,000 feet to bring water into a new area. So, to quantify it would be hard. Numerically, probably half the project went into a new area and half were conservation measures.

MR. FRINK: In terms of the overall acre-feet of water that the district delivers, do you have an estimate on how much of that has gone for new uses?

MR. WINCHESTER: I hesitate to put a number on it. It might be -- no way to put a number on it right here at the moment. I could dig it out for you at a later date, but I don't have an accurate answer for you.

MR. FRINK: I wonder if you can give us a ballpark estimate. Is it third or more of the water that you are

delivering now being delivered to uses that weren't being met eight or nine years ago?

MR. WINCHESTER: Ballpark answers tend to come back and bite you. I would rather take some time and give you a correct answer.

MR. FRINK: I understand. I appreciate that.

You mentioned that you have a potential increase of 4,000 acre-feet of water for new municipal and industrial uses. Is that all expected to be primarily industrial, or are you going to be serving some domestic users as well that you haven't previously served before?

MR. WINCHESTER: We are currently wholesaling water to a domestic system. To answer your question, a large percentage of it would be domestic, potable water use.

MR. FRINK: What area is that going to be served to? Of the additional 4,000 acre-feet how much of that and where will the domestic use occur?

MR. WINCHESTER: The plans are for the usage to be between the foothills and the flatlands where we have rice production. Does that answer your question?

MR. FRINK: Will it be domestic use in that area that you have rice production?

MR. WINCHESTER: Yes, there is a planned community in that area.

MR. FRINK: Will that replace some area that is

currently being irrigated for rice production?

MR. WINCHESTER: No. To my knowledge there is no irrigated agricultural in that area today, or has been.

MR. FRINK: Do you know offhand the approximate number of people that you expect to serve in that area?

MR. WINCHESTER: I should, but I can't recall the exact number, but it was laid out in the plan.

MR. FRINK: That is all the questions I have.

MR. MONA: Morning, Mr. Winchester. I am Ernie Mona.

On Paragraph 4 of your testimony you state that your district currently serves approximately 50,000 acres of land, with rice representing the largest crop grown in the district. Could you please state how many acres of rice are served within the district currently of that 50,000?

MR. WINCHESTER: Probably 4,500 acres total.

MR. MONA: When is the irrigation season for those acres, generally speaking?

MR. WINCHESTER: This year we will start probably on the 12th of April, and we will run through to about Labor Day.

MR. MONA: Does the district provide -- divert water out of the Yuba River for waterfowl enhancement purposes?

MR. WINCHESTER: Yes. We have several large projects in our service area.

MR. MONA: That would include all the total acreage of

rice currently served? Those are the areas you are going to flood for ducks?

MR. WINCHESTER: There are special areas for habitat alone within the rice field areas and also receive water.

MR. MONA: Those diversions for duck flooding that begins when, usually?

MR. WINCHESTER: As a rice harvest proceeds, generally the water follows behind the columbines, so let's talk about maybe the 20th of September to the 1st of October.

MR. MONA: You also testified that a technical committee approved the construction of your fish screen. Could you identify who were the members of that committee?

MR. WINCHESTER: Bureau of Reclamation, National Marine Fisheries, Department of Fish and Game. I hope I haven't let anybody out. They were very helpful, and we enjoyed working with them.

MR. MONA: Thank you very much.

That is all I have.

H.O. BROWN: Mr. Bezerra, do you have any redirect?

MR. BEZERRA: I just have one question.

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REDIRECT EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT

BY MR. BEZERRA

MR. BEZERRA: Mr. Winchester, in answering a question from Mr. Cook you stated that you had diverted approximately

47 cfs under your pre-1914 right. Is it your understanding that your actual pre-1914 right is 47.2 cfs; is that the maximum?

MR. WINCHESTER: That is correct.

MR. BEZERRA: Thank you, Mr. Winchester.

H.O. BROWN: Recross, anyone?

H.O. BROWN: Mr. Baiocchi.

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RECROSS-EXAMINATION OF BROWNS VALLEY IRRIGATION DISTRICT
BY CALIFORNIA SPORTFISHING PROTECTION ALLIANCE
BY MR. BAIOCCHI

MR. BAIOCCHI: Mr. Winchester, you just testified that the maximum pre-14 water right is 47.2 second-feet?

MR. WINCHESTER: Yes.

MR. BAIOCCHI: What is the season of diversion?

MR. WINCHESTER: April through October, I believe.

MR. BAIOCCHI: What you are saying is you don't have a pre-14 water right other than outside that period?

MR. WINCHESTER: I believe we do.

MR. BAIOCCHI: Let's start all over again. Your pre-14 water right is 47.2 second-feet; is that correct.

MR. WINCHESTER: That's correct.

MR. BAIOCCHI: Season of diversion is when?

MR. BEZERRA: I believe he just answered that question.

H.O. BROWN: Answer it again. I am not clear on what the answer is.

MR. WINCHESTER: I believe it is a year-round water right.

MR. BAIOCCHI: You previously testified that it was from April the 12th, I believe, to Labor Day. Now you are contradicting that statement.

MR. BEZERRA: I would like to object. That misstates his testimony. He stated that at some point in time that is what their diversion season was. I don't believe that is their water right.

MR. BAIOCCHI: Mr. Brown.

H.O. BROWN: Would you like to clarify it? Ask the question to clarify.

MR. BEZERRA: I would like to clarify the question, Mr. Brown. I just wanted him to accurately state what the testimony was.

H.O. BROWN: Ask the question again, Mr. Baiocchi.

MR. BAIOCCHI: I am a little bit lost. What question? Pertaining to what?

MR. BEZERRA: I believe you just stated that the diversion season was April 2nd to September 20th. And I don't think that that is what Mr. Winchester's testimony was.

H.O. BROWN: We can have the reporter read it back, but

I believe it was the water right. You did make a question on water right, I remember.

MR. BAIOCCHI: My concern is the season of diversion based on their claim to pre-1914 water rights.

H.O. BROWN: It might be quicker to ask that question. Are you talking about water right or the season or diversion?

MR. BAIOCCHI: Mr. Brown, I have asked him twice. He has contradicted a second time. He said the right was year-round. Prior to that, his statement was that it was not. That is why --

H.O. BROWN: I think --

MR. BAIOCCHI: That is in the Draft Decision. I was trying to get to that point, trying to find out just season of diversion and how much water they are diverting during certain months.

H.O. BROWN: Good question, Mr. Baiocchi. Let's give him a third chance and let's see if he can get this on one on target.

MR. BAIOCCHI: Mr. Winchester, the district's pre-14 claimed rights is 47.2 second-feet; is that true?

MR. WINCHESTER: The pre-1914, correct.

MR. BAIOCCHI: Thank you.

Mr. Winchester, what is the season of diversion based on your pre-14 water rights?

MR. LILLY: I am going to object. I might be able to help this. Season of diversion is ambiguous. Mr. Baiocchi either means authorized season of diversion or the actual season of diversion that the district has exercised. I think if you can clarify which one of those two he's talking about, he can get through them a lot quicker and with an accurate record.

H.O. BROWN: Mr. Baiocchi.

MR. BAIOCCHI: I deal with water rights and a pre-14 water right, there has to be a season of diversion. It's clear you can look at the various documents that the State Board has prepared. The season of diversion has to be identified.

H.O. BROWN: I understand the question. Answer if you know it.

MR. WINCHESTER: This is a year-round water right. It is the oldest water right on the Yuba River. To clarify one other statement, I was asked what the season for rice diversions were, and I mentioned the April through October 1st or September 20th time. We do divert water many months during the year as needed. I hope that clarifies that.

MR. BAIOCCHI: To clarify it, you are -- the district is using its pre-1914 water rights year-round?

MR. WINCHESTER: We are using the river diversion as needed on a year-round basis, correct.

MR. BAIOCCHI: The capacity of the canal is 65 second-feet?

MR. WINCHESTER: The capacity of the pipeline canal is 65 second-feet, possibly a little more, but doubtful.

MR. BAIOCCHI: Your pre-14 water rights is 42.7 second-feet.

MR. WINCHESTER: Is that a question?

MR. BAIOCCHI: Thank you.

H.O. BROWN: Redirect, anyone else?

Mr. Bezerra, do you have some exhibits you'd like to submit?

MR. BEZERRA: I would like to move exhibits S-BVID-1 through S-BVID-15 into the record.

H.O. BROWN: Are there any objections to the offering of those exhibits?

Seeing none, they are so accepted.

MR. BEZERRA: Thank you very much, Mr. Brown.

Thank you very much, Board staff.

H.O. BROWN: Thank you, Mr. Bezerra.

Mr. Winchester, thank you for being here.

Mr. Morris, do you have direct?

Your witnesses?

MR. MORRIS: Yes. Good morning, Mr. Brown.

I would like to make a brief opening statement, and then you are correct. We need to swear a couple of my

witnesses. If you'd rather do it now or after my opening statement.

H.O. BROWN: Proceed.

MR. MORRIS: Thank you.

I am here representing Western Aggregate Company and Western Water Company. Both are owners of real property in the area known as the Yuba Goldfields. Both also are water right holders of Yuba River water within the Goldfields.

In previous hearings there was one exhibit submitted, and that was YG Development Company Exhibit YG Exhibit 1. I want to state and clarify for the record Western Water Company and Western Aggregates are successors in interest to the YG Development pre-1914 riparian water rights that we talked about in earlier hearings.

Our main purpose presenting the testimony today is to correct what we believe are inaccuracies that are in the Draft Decision and in the findings presented by Board staff. In particular, we wish to address dicta that is potentially harmful to our water rights. We want to correct some statements about the consumptive use of water, and we would like to provide the Board some additional information regarding underflow of groundwater, delineations on the Goldfields.

We are only going to present three witnesses today. So hopefully we can do that rather quickly. The first one is

Mr. Joe Scalmanini who will discuss the underflow of groundwater and to some extent the consumptive use issue. Second, we have Mr. Michael George, Western Water Company, and he'll discuss consumptive use, Western Water's marketing attempts to put their water to beneficial use. And then we are going to have Mr. Ramon Garcia. He's got some additional information on additional calculations on where additional storage can be created through the Goldfields dredging process.

We are going to submit the bulk of our legal argument during the written closing statement process, and with that we would like to begin with Mr. Scalmanini.

H.O. BROWN: They need to take the oath?

MR. MORRIS: I believe Mr. Garcia has been sworn.

MR. GARCIA: Yes, I have.

(Oath administered by H.O. Brown.)

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DIRECT-EXAMINATION OF

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.

BY MR. MORRIS

MR. MORRIS: Good morning, Mr. Scalmanini.

MR. SCALMANINI: Morning.

MR. MORRIS: Could you please state your name for the record.

MR. SCALMANINI: Joseph C. Scalmanini.

MR. MORRIS: Could you tell the Board what your occupation is.

MR. SCALMANINI: I am a civil and mechanical engineer.

MR. MORRIS: Do you have before you what is known as S-WWC/WA Exhibit 1?

MR. SCALMANINI: I do.

MR. MORRIS: Would you please state for the record what that exhibit is?

MR. SCALMANINI: Copy of my resume.

MR. MORRIS: Have you reviewed that recently?

MR. SCALMANINI: I have.

MR. MORRIS: It is accurate?

MR. SCALMANINI: Yes.

MR. MORRIS: Could you please -- or do you have Exhibit S-WWC/WA-2 before you?

MR. SCALMANINI: I do.

MR. MORRIS: Can you state for the record what that exhibit is?

MR. SCALMANINI: That is some written testimony, including four figures, which I have prepared.

MR. MORRIS: It is accurate, and do you wish to make any corrections to those?

MR. SCALMANINI: No. Yes, it is accurate. No, I don't wish to make any corrections.

MR. MORRIS: Thank you.

Could you please summarize for the Board your written testimony.

MR. SCALMANINI: I will try to quickly.

I was asked by Western Water to investigate two questions. One was the occurrence of groundwater beneath and in the vicinity of the Yuba Goldfields and, secondly, to look at the question of consumptive use of water during and since surface mining in the area for precious metals.

Most of what is in my testimony addresses the first of those two subjects and a small piece on the second.

Regarding the first, I looked at a number of geologic and hydrologic pieces of information to address the physical occurrence of groundwater in the area I just mentioned. I can walk through the figures, which sort of tell the story pretty quickly. But in simple summary, sort of before going through all that, it appears that shallow groundwater in the vicinity of the Goldfields may occur as the underflow of the river, but deeper groundwater is both separated from shallow groundwater, flowing in a different direction and not connected to the river. So I didn't conclude that that was the underflow of the river.

To walk through that real quickly, the first -- this is a geologic cross-section, basically, parallel to the Yuba River on south side that was prepared by Bookman-Edmonston Engineering as part of groundwater resources and

investigation for the Yuba County Water Agency in 1992.

MR. MORRIS: Mr. Scalmanini, excuse me. Just so the record is clear, this is Figure 1 taken directly out of your testimony?

MR. SCALMANINI: Correct.

And for purposes of this discussion I would just like to highlight that there is an upper rather, I will call it, extensive formation that is shaded on that figure and labeled recent alluviums to the far left.

And then there are several sections of blank area but notably more or less continuous white area immediately beneath that; that the base of that is probably in the general vicinity of 80 to 125 feet below the ground surface. And then there are fine grained materials which are the blank or whitish areas and then some discontinuous lenses of sands and gravels, which are shaded, at depths below that that extend down to well in excess of a couple hundred feet.

Such as we have will talk in detail about groundwater levels and flow directions, differentiate between that recent alluvium that is the shallow materials down to 80 to 125 feet below the ground surface and the older alluvial and other materials that are at greater depth than 125 feet.

One more thing about that is that we will talk in detail, if I can stand up here and point to it because I

forgot to grab a pointer, we will talk in detail about the Yuba Goldfields area which is basically right or eastern half of that cross-sectional area and not about any of the groundwater farther to the west, other than just the fact that water does flow from east to west as we will talk about over the next few minutes.

The second illustration is the second figure out of my testimony, which basically is a plan view of the area that I just described, the eastern half of that geologic cross-section. The location of that cross-section is illustrated in about the middle of this where you can see an arrow pointing east and west and labeled Cross-Section Line, Figure 1. The Yuba Goldfields are the area that is rather called busily mapped area, the upper half of this figure. And we will talk about groundwater levels and flow directions as developed from the network of wells that are illustrated on the lower half of this, basically between that cross-section line and the Yuba Canal down to the vicinity of the Marysville Smartville Road.

As you can see on this illustration, there are several wells that do exist. Some have existed for several decades. Water levels conveniently have been measured in a number of those for some time. Specifically, on this figure there are long-term groundwater level measurements available for wells as labeled on their 15 north/5 east which are the

township and range numbers and then Well 6R1, Well 7K1 and Well 13A1, which are located, if I can point just to get everybody oriented, here, here and here.

I can come back to this later, but I will separately talk about the fact that one of those is obviously completed in a shallow part of the formation or the upper aquifer I was just talking about. The other two are fairly obviously completed in a deeper aquifer, and there are notable differences in groundwater elevations amongst those wells, shallow being quite different from deep. For introductory reference, as part of some gravel mining permitting operations about ten years ago, some dedicated monitoring wells were installed at locations A, B and C, as illustrated. Kind of a triangular format in the same general area.

Those have been continuously meeting monthly measured for groundwater level since that time, and that water level information is used in this analysis in developing the conclusions that I introduced a couple minutes ago.

Figure 3 from my testimony is a hydrograph of groundwater levels as measured semiannually. I am not sure measured by the Department of Water Resources. The records are certainly maintained by them. And as you can see, with an exception of a couple data points in the early 1990s, there has been a relatively constant groundwater elevation

in this well from the mid 1960s through present, typically in the range of -- groundwater elevation relative to mean sea level of 80 to 90 feet.

This is the Well 6R1, which is the northern most or the one closest to the Yuba River of the three I illustrated just a moment ago. When one looks at the other two wells that have long-term record, this is Figure 4 from my testimony, you can see that in the early 1960s to the 1970s to the early 1980s, that groundwater elevations were on the order of 30 to 40 feet above sea level or several tens of feet lower in those two wells, which are fairly close to the well I just had up here than in that particular well.

Then beginning with the delivery of surface water from the South Yuba Canal which was illustrated on the last figure to first the Brophy Water District and subsequently the South Yuba Water District which, I think, was in the mid 1980s. Then groundwater levels notably recovered and as you can see to the right side of both of those hydrographs in those deeper wells that water levels recovered in the vicinity of 60 to 70 feet mean sea level. Still lower than the shallow well that is just to the north.

Well, in looking at all that information it appeared that if you took it all by itself that it would be a gradient for flow that would be perpendicular to the river, that it would be very steep and the groundwater would be in

groundwater terms almost plunging from the river into the deeper aquifer materials to the south of the river. That doesn't make a lot of fundamental hydrological sense. So, using the shallow wells that I have mentioned a few minutes ago that were purposely installed about ten years ago as part of some planning for surface mining for aggregate, for sand and gravel, not as part of precious-metal mining, we took the water surface elevations in those wells and recognized that they are, for all practical purposes, they are identical to or very consistent with the shallow water levels that are illustrated in Figure 3 that I had a minute ago.

Since the wells are located in a triangular configuration, it is possible to extract a groundwater flow of direction and gradient. And it is quite obvious from looking at that consistently from month to month to month over the last almost ten years that there has been a westerly flow in the shallow aquifer materials, that it is, as I just said, unchanges from month to month. The gradient is about 12 feet per mile or in numerical terms 0.002, and the groundwater surface elevation is very close to that in the Yuba River.

It would appear that the shallow groundwater is flowing in both the same direction as the river and is likely a hydraulic connection with the river. The deeper groundwater

on the other hand, you could take a network of triangularly located deeper wells, and do the same type of analysis, you find a groundwater flow direction that is much more southwesterly away from the river, diverted away from the parallel direction of flow in the shallow aquifer materials, that the gradient is notably flatter or almost exactly half that in the shallower materials, about seven feet per mile in this case or about 0.001 in numbers. Well, so those points.

Based on those pieces of information -- I know, and at a notably greater depth, that the groundwater in the lower aquifer is at a notable greater depth, separated by anywhere from 10 to, say, 40 feet of hydraulic head difference and would appear to be physically disconnected from the river. Based on those pieces of information, I conclude that shallow groundwater, down to a depth of about 100 to 125 feet, at least in the area of the Goldfields, that is on the south side of the river up to about one and a half to two miles from the river, which was the area illustrated on that figure, appears to be flowing in both the same direction and in likely hydraulic connection with the Yuba River. It may be the underflow of the river. But to fully conclude that would take a much wider spatial investigation than I undertook.

In contrast, the groundwater in the deeper aquifer

materials below a depth of 125 felt, again in the same geographic area, occurs at a lower groundwater elevation, flows in the different direction and flows under a different hydraulic gradient than the shallow groundwater that I just described. And based on that, would not appear to be the underflow of the Yuba River since it is disconnected, flowing in a different direction under a different hydraulic gradient.

Finally, on the subject of consumptive use, I was asked a question that there were -- I was first told and later read for myself, that there was a minor comment in a draft decision that said that water used for the surface mining by dredging operations in that area was not consumptive. Recognize that there was no export of material other than precious metals themselves from the site. For example, in typical surface and gravel mining operations there would be export of material which would have moisture content and water would go with the product, some water would go with the product, and that could be considered a consumptive use along with whatever else took place in the mining operation.

In the case of the dredging operations, there was no export of materials. There was no off-site transport of water that could be considered consumptive.

On the other hand, the mining operation itself and the,

if you want to call it that, the reclamation of the land or the leaving behind of what is there today, which is a lot of open water surface, the mining itself created open excavations to groundwater which exposed the groundwater and the reclamation left behind those open excavations into groundwater, which appear to be lakes or ponds at this time.

We didn't make any attempt to quantify the surface area that is open to the atmosphere, but others have told me it is in the range of a thousand to 2,500 acres. Regardless of the area, which is not the point here, an open water surface in that area could be expected to evaporate on the order of four to five acre feet per acre per year. So based on that, the historical dredging which opened up those excavations and exposed groundwater and the ongoing reclamation of those lands leaving behind of ponds, did create and continues to have a consumptive use of water that probably amounts to several thousand acre-feet per year based on just evaporation from the open water surface.

That is a summary of my testimony.

MR. MORRIS: Thank you, Mr. Scalmanini.

Could you please place on the overhead your Figure 2, just to clarify one point.

MR. SCALMANINI: Sure.

MR. MORRIS: I believe you testified that the flow

direction for the shallow groundwater in deeper groundwater were different directions. I realize that the river isn't on there, but just for clarity -- I guess it is on there -- could you try to point out which directions both of those are flowing?

MR. SCALMANINI: Sure.

I probably should have put it on there. The prevailing gradient in the shallow aquifer is pretty close to this line, this cross-section line. It might be just slightly to the -- a little more to the southwestern, generally parallel to the river. The river being partially up the top left half of this figure.

And conversely, the deep groundwater to which I referred would be deflected from that I would say 40 to 45 degrees to the southwest. And so it is flowing diagonally down to the lower left-hand corner of that Illustration.

MR. MORRIS: Thank you.

That is all the questions I have direct for Mr. Scalmanini. I prefer to have the panel crossed or the witnesses crossed as a panel.

H.O. BROWN: As panel. Okay.

Why don't we take our morning break now. Be back here in 12 minutes.

(Break taken.)

H.O. BROWN: Back to order.

Proceed, Mr. Morris.

MR. MORRIS: Mr. Brown, I don't know if this is appropriate. I did neglect to ask Mr. Scalmanini a question. If it is possible to do at this time?

H.O. BROWN: Go ahead.

MR. MORRIS: Mr. Scalmanini, I have a document in front of me entitled the State Water Resources Control Board Division of Water Rights Staff Analysis of Hearing Record, Fishery Resource and Water Rights Issues on the Lower Yuba River. It is dated July 1994. I see that you have that in front of you?

MR. SCALMANINI: Yes.

MR. MORRIS: On Page 29 of that document, the last paragraph on that page -- I hate to do this -- but if you wouldn't mind reading that paragraph into the record, I would appreciate that.

MR. SCALMANINI: There are extensive dredger tailings in the vicinity of Daguerre Point Dam. These dredger tailings are commonly referred to as the Yuba Goldfields. In the mining process the fine grained sediment was lost which resulted in more porous and uniform deposits. The removal of material occurred to depths of 125 feet. The aerial and vertical extent of the mining operation confines the flow of

groundwater through the Yuba Goldfields and also defines the "underflow" or the "bed and banks" of the Yuba River in this area. (Reading.)

MR. MORRIS: Thank you, Mr. Scalmanini.

Could you please comment on the accuracy of that statement for the Board, in your opinion?

MR. SCALMANINI: Well, my reaction would be that it probably would be a little too global to be sorted by the data that I just went through, for example. That, as I think I said, that in the shallow groundwater down to a depth of -- a range of 80 to 125 feet there is a gradient that is parallel to the river. The groundwater elevations are consistent with the elevation of the river, and that groundwater at least in the area where I investigated it, in the immediate vicinity of the Goldfields, appears to or let's just say may be the underflow of the river.

There is nothing in that location that would classify in my conclusion that anything at the base of that forms the, quote, bed and banks of the Yuba River. As I also said, and the reason I said a minute ago, it is too global a statement is that there is definitely groundwater at a greater depth that flows in a different direction and has a different groundwater surface elevation that appears to be disconnected from the river. So I think that that

groundwater wouldn't fit this description on Page 29 at all.

MR. MORRIS: More when you say greater depth, is it possible -- I know you haven't done any extensive study, could you be a little more specific on that?

MR. SCALMANINI: I think I have a number written down. Hang on one second.

The mapping that I have seen in the well logs I have looked at were the deeper aquifer materials, would generally fit the depth range of between 140 and 230 feet below the ground surface.

MR. MORRIS: Thank you, Mr. Scalmanini.

Our next witness is Mr. George.

Mr. George, you were just sworn; is that correct?

MR. GEORGE: Correct.

MR. MORRIS: Would you please state your full name for the record.

MR. GEORGE: Michael Patrick George.

MR. MORRIS: What is your occupation?

MR. GEORGE: I am the Chairman, President and Chief Executive Officer of Western Water Company.

MR. MORRIS: Do you have before you a copy of S-WWC/WA-5?

MR. GEORGE: I do.

MR. MORRIS: Could you please state for the record what

that is.

MR. GEORGE: It's a copy of my written testimony.

MR. MORRIS: Do you have any changes or corrections to make to that testimony?

MR. GEORGE: I don't have any changes to make.

MR. MORRIS: Thank you.

Could you please summarize for the record and for the Board that testimony at this time.

MR. GEORGE: Certainly.

I am the company's Chief Executive Officer and have been in my current position for approximately two years. And in that role I need to become familiar with history of the company and particularly as some of that history impacts on the company's water rights along the Lower Yuba River.

Our predecessor companies, generally known as the Yuba Consolidated Goldfields Company, began appropriating water from Yuba River above Marysville around the turn of the last century. The appropriation claim was perfected by 1910, and those water rights were viewed and confirmed in the course of litigation between our predecessor company and a neighboring irrigation district in 1929.

Over the years these water rights were put to a variety of beneficial and consumptive uses: agricultural, manufacturing, et cetera, but also the extensive dredge mining operation that Mr. Scalmanini has already referred

to.

The purpose of that dredge mining operation was primarily to recover gold deposits in the area around the river and in the Goldfields. The dredging operation used a huge volume of water to work those deposits. And although the amount of water actually consumed in the dredging operation is difficult to quantify, it is significant.

The dredging operation that took place on the Goldfields for many, many years, almost a century now, have created very significant increased storage capacity in the disturbed gravel compared to that area in its pristine state. Over time as the gold mining operation became economically marginal, based in part on government control of gold prices versus the increasing cost of dredging operations, the predecessor companies began to diversify their operations and to identify or to return to a series of alternative resource strategies. And over the years various affiliated or licensed companies made use of the water rights to support agriculture, aqua culture, silica mining, aggregate mining, domestic and wild animal husbandry as well as the dredge mining operation. There is still a single gold dredge that operates on the Goldfields and a second dredge that is mothballed. That is done from a significantly greater number of dredgers that worked the area at its height.

As a result of the decline in the value of gold recovery and the limitations on the amount that could be recovered from gold sales as well as the debilitating cost of litigation, our predecessor companies went through a series of difficulties, including bankruptcies and reorganizations over the years. However, as early as the 1960s, our predecessor companies explored a variety of alternative beneficial uses for its valuable senior water rights. Some of those involved potential export, but these were generally blocked by junior appropriators on the Sacramento River system and, of course, by the cost of managing the complex regulatory process involved in such an attempt.

Many times throughout that period the company ran directly into the material conflict of interest that exists within Department of Water Resources between its role as a junior appropriator and exporter of water and its role as regulator and manager of the conveyance systems. In the 1970s when the price of gold was deregulated, dredging operations picked up substantially, and the attempts to transfer water continued, I would say, fitfully over the following years.

By the early 1990s predecessor companies decided to sell the gold mining operation. And in order to preserve and protect the value of the water rights, those rights were

placed within a single corporate vehicle and were spun off to the shareholders of the predecessor companies. That company ultimately took the name Western Water Company. And our single purpose today with respect to our senior water rights on the Lower Yuba River is to put them to beneficial use for the benefit of our shareholders.

In 1991 we signed a long-term operating agreement with the Yuba County Water Agency and Western Aggregates which is, I should point out, an unaffiliated company, to develop and market water from the Goldfields water rights for transfer, sale or other beneficial use. Regulatory constraints and the actions of the junior appropriators, exporters have made such transfers impossible or uneconomic to date.

Over the years, the state and also the federal government, for that matter, have articulated consistent public policy favoring willing seller/willing buyer water transfers subject only to the appropriate protection of environment and other legal water users. And we have conscientiously attempted over that period of time to avail ourselves of the benefits of those laws to carry out appropriate water transfers in furtherance of this public policy and to benefit our shareholders.

However, our attempts to transfer and thereby put to alternative beneficial use water derived from senior water

rights have been pretty continuously thwarted through the conclusive and anticompetitive activities of entrenched governmental exporters and wholesalers by the cost complexity and instability of the transfer regulatory process itself, by unfair discriminatory pricing related to conveyance capacity, by changing statutes and shifting regulatory interpretations of those statutes and by intermittent attempts to subject those water rights to further regulation and to create other burdens and barriers to such transfers.

As a result, we have been forced into a series of very costly contentious and uncertain attempts to clarify those water rights and the ability to transfer it.

Unsupported dicta in the State Water Resources Control Board staff report and in the Draft Decision in the instant case require us to defend our water rights against this appropriation without compensation. And I would cite three specific examples: unsubstantiated conclusions relating to the improper characterization of the dredge mining operation as nonconsumptive; the incorrect assertion that the Goldfields not overlie groundwater, based on the superficial analysis of the river's underflow in the area; and unsupported dicta related to the potential abandonment of our water rights, which are outside of the jurisdiction of the State Board.

That concludes my summary of my testimony.

MR. MORRIS: Thank you, Mr. George.

Our final witness today is Mr. Ramon Garcia. And Mr. Garcia is from Spain and, because of that, he has prepared, and if anybody would like it, he has prepared -- not only does he have his testimony, but he has a summary of his written testimony. He has prepared it primarily for the -- to help follow around and he may be a little difficult to understand. I am going to place that here. I am not particularly offering this as -- I am not offering this as an exhibit. If anybody is going to object to us handing this out as a courtesy, we will just hang on to it.

H.O. BROWN: Any objections?

MR. MORRIS: Anybody like a copy, here it is.

MR. MORRIS: While they are handing that out, I will do the preliminaries.

Mr. Garcia, for the record could you please state your name.

MR. GARCIA: Ramon Garcia Navarro.

MR. MORRIS: And what is your occupation, Mr. Garcia?

MR. GARCIA: I am an industrial engineer and project manager for Western Water Company.

MR. MORRIS: And do you have a copy of S-WWC/WA-3 in front of you?

MR. GARCIA: I should. Yes, I do.

MR. MORRIS: Could you please state for the record what that document is?

MR. GARCIA: Yes. This is my resume.

MR. MORRIS: Is it accurate?

MR. GARCIA: Yes, it is.

MR. MORRIS: Do you have a copy of S-WWC/WA-4 in front of you at the present time?

MR. GARCIA: Yes, I do.

MR. MORRIS: Would you state for the record what that exhibit is?

MR. GARCIA: This is the written testimony that I presented for this hearing.

MR. MORRIS: Is that accurate?

MR. GARCIA: Yes.

MR. MORRIS: Do you wish to make any changes at this time?

MR. GARCIA: No.

MR. MORRIS: Would you please summarize for the Board and staff your testimony.

MR. GARCIA: Yes. In the report that I have submitted to the State Water Resources Control Board for this hearing about the Lower Yuba River it is concluded that around 300,000 acre-feet of additional storage capacity has been created in the Yuba Goldfields as a result of the gold mining operation started at the beginning of the century.

The Yuba Goldfields is the first 10,000 acres of riparian land located ten miles northeast of Marysville. During the first half of the century as much as 21 dredges dredged these fields looking for gold. After 1960, the dredging industry in the Yuba River became less profitable and the dredging operations decreased. Today there is one dredge still working in the Goldfields. Because of these dredge operations, the storage in the Goldfields increased in two different ways.

This is just a slide about the Yuba Goldfields.

First of all, several ponds were made by the dredge which created them by digging and redepositing the material in large tailing piles. The dredge is like a boat floating in their self-made ponds. These ponds can be seen nowadays in the Goldfields.

For the purpose of this calculation, which are on the conservative side, the total surface area of the ponds has been estimated to be almost 900 acres, and the average dredging depth has been estimated as 117 feet.

H.O. BROWN: You might slow down just a little bit. Esther is good, but she may not be quite that good.

MR. GARCIA: Sure.

Secondly, and again because of the dredging operation, the porosity of the soil increased dramatically due to two different principles. To illustrate this it is important to

understand how the dredge works.

The buckets dig in the land taking the compacted material mix of gravel, clays and sand, and through the bucket-line belt it is deposited into the dredge where the materials are perfectly sorted by size. The largest gravel is dumped away to the rear part of the dredge by hydraulic force, while the finest sand is deposited just below the dredge. The two effects on the porosity are, therefore, A, creation of new scenario where the previous well compacted and mixed sedimentary materials are now well sorted, and, B, the way the dredge deposited those materials is like follows:

The large coarse gravel is deposited in the upper part while the fine sand is deposited in the lower part.

Both concepts made the soil porosity increase. This statement is not only supported by hydraulic reference, but also by the State Water Resources Control Board staff memo done by Mr. Mark Stretars and dated February 7, 1990, where it is stated that "as a result of the dredging, this material is many times more porous that in its natural state."

In order to estimate the additional storage capacity created in the Goldfields by the mining operation, I develop a model based on the total pond surface, the angle of repose of the alluvium gravel, the total depth of the dredging and

the difference in porosity. The assignation of values for the model is reasonably well supported, except perhaps the empiric value of the angle of repose. However, even if they value is varied throughout the whole range, the resulting variance in storage is less than 1 percent and in any case results in a storage value larger than 300,000 acre-feet.

In conclusion, I will say that because of the gold mining operation the water storage created in the Yuba Goldfields changed dramatically just as it can be seen now, and the increased water storage capacity is approximately 300,000 acre-feet.

I would like to thank Yuba County Water Agency and Yuba County Board of Supervisors for hosting the Goldfields visit which allowed all of us to realize the unique environment we are talking about, and I would also thank this Board for the opportunity to speak.

MR. MORRIS: Thank you, Mr. Garcia.

We are now ready for cross-examination as a panel.

H.O. BROWN: Mr. Gee.

MR. GEE: Mr. Brown, I have no questions for this panel of witnesses.

H.O. BROWN: Thank you, Mr. Gee.

Mr. Baiocchi.

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CROSS-EXAMINATION OF

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.

BY CALIFORNIA SPORTFISHING PROTECTION ALLIANCE

BY MR. BAIOCCHI

MR. BAIOCCHI: Good morning. My name is Bob Baiocchi. I am a consultant and agent for California Sportfishing Protection Alliance. I have several questions for your witnesses.

I am concerned about pre-1914 water rights. What is the amount of water that you are claiming under pre-1914 water rights in cubic feet per second?

MR. MORRIS: Are you asking somebody in specific or the panel?

MR. BAIOCCHI: The panel.

MR. GEORGE: Well, water right that was originally claimed was claimed in miner's inches, and I believe it is in the record, and I think it is -- I can't recall exactly the number.

MR. BAIOCCHI: Are you saying it is in the record? Would that number be 20.6?

MR. GEORGE: That is approximately right. I was going to say something over 20 second-feet.

MR. BAIOCCHI: Thank you.

What is the season of use based on your pre-14 water rights?

MR. GEORGE: It is a year-round water use.

MR. BAIOCCHI: And the purpose of use?

MR. GEORGE: A variety of purposes stated including --

MR. BAIOCCHI: In your testimony you have number of stated purposes of use?

MR. GEORGE: Yes.

MR. BAIOCCHI: Now, on the basis of every purpose of use as so stated in your testimony, where are the places of use? We can go to your testimony.

MR. MORRIS: I don't understand the question.

MR. BAIOCCHI: Where is the water put to beneficial use? The terminology the State Board uses is places of use.

MR. GEORGE: Right. It has been put to use primarily on the Goldfields.

MR. BAIOCCHI: For all the various uses as so stated by you in your testimony?

MR. GEORGE: That is correct.

MR. BAIOCCHI: For example, you have domestic uses?

MR. GEORGE: That's right. There were also -- you know, gravel has been exported from the Goldfields for some time and obviously that exports some water with it, moisture content, if you will.

MR. BAIOCCHI: You have filed statements of diversion and use; is that correct?

MR. GEORGE: The predecessor filed an appropriation claim. Is that what you mean?

MR. BAIOCCHI: It is a terminology for a filing with the State Water Resources Control Board. They are called statement of diversion and use.

MR. GEORGE: The company has filed intermittently such statements. Basically, these are pre-1914 rights not subject to the State Board's jurisdiction.

MR. BAIOCCHI: Are you aware of the fact that the domestic use of water is consumptive use? Are you aware of that?

MR. GEORGE: I am aware of that.

MR. BAIOCCHI: Are you aware that domestic uses -- you claimed domestic uses. That that is a consumptive use?

MR. SCALMANINI: Domestic use isn't necessarily a consumptive use. Beneficial, not necessarily consumptive.

MR. BAIOCCHI: I disagree, but I won't argue.

Lets move on.

Mr. George, do you have a -- does your company have a water quality permit known as an NPDES from the Regional Water Quality Control Board for operating its dredge?

MR. GEORGE: I am not aware of it. Our company does not operate the dredge. As I testified, the gold mining operation was spun off to a separate company. It is operated by a different company.

MR. BAIOCCHI: What is the name of that company, please?

MR. GEORGE: I believe it is -- the current operator is Cal Sierra.

MR. BAIOCCHI: What party would be responsible for any effects to water quality and chinook salmon, steelhead, as a result of the operations of the dredge?

MR. GEORGE: I am not sure. I don't know. I don't know what the requirements are. I don't know who is responsible for them. As I say, our company does not operate the dredge, and I don't think our company has that responsibility.

MR. BAIOCCHI: But you do have an agreement with them, right, apparently? Do you?

MR. GEORGE: No, we don't have an agreement with them.

MR. BAIOCCHI: Now, it's been stated that due to the operation of the dredges that your company or the former companies now have a -- that that area, the Goldfields, has storage capacities of 300,000 acre-feet of water.

MR. GEORGE: In excess of what could be stored on that property beforehand; that is Mr. Garcia's testimony.

MR. BAIOCCHI: Do you have a storage right for that amount of water? When I say you, does the company have a storage right for 300,000 acre-feet of water?

MR. GEORGE: No, I am not aware of that.

MR. BAIOCCHI: Thank you.

MR. MORRIS: I would clarify that last question, if I could. When you say storage right, could you please go into a little more detail than that. I know you answered the question.

MR. BAIOCCHI: An example, the Department of Water Resources has storage rights at Oroville Reservoir for about 3.5 million acre-feet of water. They have water rights permit from the State Board to store that water and to use that water. That is where I was going with that question.

MR. GEORGE: That is what I assumed when I answered, that we do not have such a Water Resource Control Board confirmed storage right.

MR. BAIOCCHI: Going back to your pre-14 water rights, and the date would be December 19th, 1914, has the use for that operation, for the dredging operation and all the so -- all the uses you stated, was it continuous since December 19th, 1914, to the present day? By continuous, every day, every day.

MR. GEORGE: It fluctuated, obviously, day in and day out, year in and year out. It has been continuous since then, yes.

MR. BAIOCCHI: Could you say there was a delay of four, five, six or seven years with respect to the use of putting that -- putting that water to beneficial use?

MR. GEORGE: No, obviously not.

MR. BAIOCCHI: What is the basis of you stating that? Do you have a basis?

MR. GEORGE: Well, yes. The water has been continuously appropriated and used again with variations in the amount, but continuously used since it was first appropriated for a variety of uses that are recorded and continued today.

MR. BAIOCCHI: Do you have any documentation that would support that statement?

MR. GEORGE: Well, there is an enormous amount of documentation in lots of different places. Some -- when you go back that far, obviously, a lot of it is general history and so forth. But the creation of the dredging operation began and appropriative use that essential automatically appropriates water from the river, that puts it through those ponds and evaporates it off those ponds and evaporates it off the dredger tailings, and so that is just one example of a use that -- I wouldn't say -- I wouldn't point to a specific document, but I would point to just what is going on in that area, how the river and the Goldfields operate. There is a continuous appropriation.

MR. BAIOCCHI: Since December 19th, 1914?

MR. GEORGE: Before that.

MR. BAIOCCHI: Based on the testimony of the panel, I

will ask you the question. It has been stated that there has been as many as 21 dredgers operating in the Goldfields?

MR. GEORGE: That is correct.

MR. BAIOCCHI: Presently there is only one?

MR. GEORGE: One operating, one mothballed.

MR. BAIOCCHI: The question I have is, is that operation using 20.6 cubic feet per second of water?

MR. GEORGE: The answer -- I don't mean to be cute, the answer is I don't know how much it uses. My guess is that it is somewhat less than that.

MR. BAIOCCHI: Do you know how much less?

MR. GEORGE: No, I don't.

MR. BAIOCCHI: Would it be by 21-fold because there was 21 dredgers operating?

MR. GEORGE: Probably no, probably not. Because the dredge operation itself consumes a significant amount of water. Significant, let me try not to use that term. Dredging operation uses water in the process, as you bring gravel through the dredge and then use hydraulic pressure to pitch pretty good rocks off the back end and leave those rocks to evaporate their surface water in the sun, so forth. That is a significant consumption of water right there.

But the larger consumption of water is probably that which Mr. Scalmanini referred to, which is that the creation of the appropriation from the river through the infiltration

of surface water into the Goldfields and evaporation and so forth, that probably consumes a larger proportion of the total amount than the amount that is currently being consumed by that operation of the one dredge.

So, no, I wouldn't say it was 20 times as much as had historically been used than today.

MR. BAIOCCHI: It is less?

MR. GEORGE: It is less.

MR. BAIOCCHI: On your riparian rights, it has been stated that you have your -- I say you, I'm sorry, your company owns 10,000 acres of land, of riparian land?

MR. GEORGE: No. I believe I testified that our company owns water rights associated with the Goldfields. This a piece of property that has an incredibly complex ownership structure. There are many estates in the Goldfields. There is a surfaces estate. There are several mining estates. There are water estates and others. So I think it is impossible to say -- it is the fact that it is impossible to say. No one entity owns the entire estate in the Goldfields.

MR. BAIOCCHI: Now, in reading the testimony, you made a claim for riparian rights. Is that true?

MR. GEORGE: That's correct.

MR. BAIOCCHI: That claim is based on what specific land that you own that is riparian to the Yuba River?

MR. GEORGE: It's specifically stated tracts in the Goldfields area. It's most of the Goldfields with certain limited exceptions.

MR. BAIOCCHI: Have you put your riparian rights use to use, beneficial use? When I say you, it is the company. I apologize.

MR. GEORGE: Western Water Company has put some riparian water to use. Other operators in the Goldfields have also put those riparian rights to use. And I would say that it would be primarily others, and certainly today it would be other companies besides Western Water Company that are putting riparian water rights to use.

MR. BAIOCCHI: What would be the purposes of the riparian rights, purposes of use, for growing crops or whatever?

MR. GEORGE: Some limited agriculture. Also an extensive aggregate mining operation. Some domestic and wild animal husbandry.

MR. BAIOCCHI: Do you allow the public, someone like me or whoever, to access your property, the company's property, and fish the river?

MR. GEORGE: As I stated before, the ownership of the surface right in the Goldfields is very complex. And we would not claim the exclusive right to grant or withhold, for that matter, that kind of access. It is the fact that

there are operations on the Goldfields which are complex, involve a lot of heavy machinery, require the change in the path of roadways. So it is, in my view, fairly dangerous for the uninitiated to be on the Goldfields, and, in fact, I personally never go on its Goldfields without a property manager with me.

MR. BAIOCCHI: Thank you very much.

That concludes my cross-examination Mr. Brown.

H.O. BROWN: Thank you, Mr. Baiocchi.

Mr. Sanders.

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CROSS-EXAMINATION OF

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.

BY SOUTH YUBA RIVER CITIZENS LEAGUE

BY MR. SANDERS

MR. SANDERS: Good morning.

I will start with Mr. Scalmanini.

What you refer to as recent alluvium, how recent? Can you tell us a little bit about that?

MR. SCALMANINI: Probably not.

MR. SANDERS: Good enough.

The Yuba Goldfields and current Lower Yuba River are not the natural state of the river; is that correct?

MR. SCALMANINI: Say that again, please.

MR. SANDERS: The Yuba Goldfields and the current Lower

Yuba River are not the natural state of the river or of the area; is that correct?

MR. SCALMANINI: The Yuba Goldfields, I don't know about the rest of the lower part of the river. The Yuba Goldfields have been modified to a great extent to a depth of 80 to 120 feet. Whether that is a hundred percent modification, I don't know.

MR. SANDERS: The source of the gravel that we currently call the Yuba Goldfields was from hydraulic mining upstream, is that your understanding?

MR. SCALMANINI: I doubt it.

MR. SANDERS: I am trying to picture the Yuba Goldfields as a 10,000 acre pile of gravel. Where did it come from? I am trying to simplify it here. 10,000 acre, 200-feet tall pile of gravel, where did it all come from? How did it get t there?

MR. SCALMANINI: It is not probably 10,000 acres, 200-feet tall, but rather 10,000 acres, 125 feet deep. And it largely, and this goes back to your question about the age of recent alluvium, largely goes back, but I am not a geologist. I don't quickly refer to the geologic time scale from memory. But it goes back hundreds of thousands of years and is the result of, I will recall it, river deposits flowing off the western flank of the Sierra, transporting with it coarse- to fine-grain materials and depositing it in

a quieter state, getting into the vicinity of the Lower Yuba River.

MR. SANDERS: Do you know if the Yuba River was diverted from its natural streambed anytime recently?

MR. SCALMANINI: Do I know? No, I don't.

MR. SANDERS: In terms of groundwater hydrology in the Yuba Goldfields, it been significant if the river had been diverted from the original streambed, say, at the top of the Goldfields? Where the river starts flowing into the Goldfields, if the river had been diverted, would that make -- would that have an effect on the hydrology within the Goldfields?

MR. SCALMANINI: When?

MR. SANDERS: Say 1920; say 1900, recently.

MR. SCALMANINI: Relative to the subjects that I discussed this morning?

MR. SANDERS: Yes.

MR. SCALMANINI: Probably not.

MR. SANDERS: What additional studies need to be done to determine if the shallow groundwater is indeed underflow from Yuba River?

MR. SCALMANINI: Basically an extension of the type of geologic and hydrologic -- development of additional information parallel to that which I discussed for whatever reach of the river and whatever width of the river said

question wants to be answered.

So a definition of the geologic materials in the subsurface, and then a definition of the hydrologic occurrence of groundwater in those materials.

MR. SANDERS: I guess what I am getting at is, you seemed a little reluctant to say absolutely, positively that shallow groundwater is indeed the Yuba River. But you said that you seem fairly certain, but you wanted to stop. I wanted to know what additional information you would need to make that statement more certain.

MR. SCALMANINI: Can I put this figure back up?

MR. SANDERS: Sure, go right ahead.

MR. SCALMANINI: This is Figure 2, I think it is from my testimony. And it represents an area that is, I know, one and a half to two miles south of the river and, roughly speaking, a few miles long that, let's just say for right now a mile in each direction of the center of that, roughly speaking, or maybe a little bit more. Couple miles each side of the center line and only on the south side.

I wouldn't begin to try to draw a conclusion about the underflow of the river along an entire lower reach of South Yuba River from an investigation of just that location. In that location the basic criteria is the groundwater in some hydraulic connection with the river, flowing in the same direction, yes. Does that apply to a much bigger geographic

area? I don't know.

MR. SANDERS: Okay.

Now assuming that the shallow groundwater is, in fact, underflow from the Yuba River, could you predict the effects on water levels in the Yuba River if water stored -- if Western Water started to aggressively pump and export water out of the Goldfields?

MR. SCALMANINI: Could I do that?

MR. SANDERS: Yes.

MR. SCALMANINI: I know how to do it, yes.

MR. SANDERS: Again, I understand that you have limited data here and if you can't speculate, then I guess you won't.

Let's just say Western starts exporting a lot of water out of the Goldfields, what would you expect to see in these flows of the Yuba River?

MR. MORRIS: I want some clarification on that question. Are you talking about from which aquifer?

MR. SANDERS: From the shallow groundwater aquifer. Basically, if you start pumping the ponds what would happen?

MR. SCALMANINI: Boy, it's way to big a question to answer. You said a moment ago if you can't speculate, you won't, and that was a very good assumption. I don't want to speculate. It is so much a function of how much water and

at what rates and in what ponds, what time of year, and what you do you know about the characteristics, meaning what is the hydraulic conductivity of those materials, out to the river, et cetera, et cetera. It is way to big a question to answer.

As I said to you, all those factors come to into play. I know how to do it; I am not going to sit here and --

MR. SANDERS: If there is a hydraulic connection, there may be an effect on the river of pumping water out of the Goldfields?

MR. SCALMANINI: Out of what aquifer?

MR. SANDERS: Out of the shallow groundwater.

MR. SCALMANINI: There may be and there may not be.

MR. SANDERS: Good enough.

Have you looked at the effect of Daguerre Point Dam on the hydrology and the shallow aquifer?

MR. SCALMANINI: No.

MR. SANDERS: Do you happen to know when the series of ponds in the Goldfields were created?

MR. SCALMANINI: I have heard others say basically since the early part of this century to the present.

MR. SANDERS: If at some point in time all mining stopped in the Goldfields --

MR. SCALMANINI: Got to back up. It is no longer this century. It was the early part of last century.

MR. SANDERS: Yes, that is true.

Basically, you testified that evaporation is a consumptive use in this context; is that correct?

MR. SCALMANINI: Yes, sir.

MR. SANDERS: If at some point in time all mining in the Goldfields stopped, the evaporation would continue; is that correct?

MR. SCALMANINI: Yes, sir.

MR. SANDERS: So the rate of evaporation is dependent on the mining activities in the Goldfields?

MR. SCALMANINI: Not from the open stack water surfaces, no.

MR. SANDERS: I think we are going to go to Mr. George now.

Is it Western Water's position that it has a right to export 300,000 acre-feet from the Goldfields? Is that what this is all about?

MR. GEORGE: No.

MR. SANDERS: You say that the State Water Resources Control Board has no jurisdiction over your water rights; is that your testimony?

MR. MORRIS: I am going to object. I think that misstates Mr. George's prior testimony.

MR. SANDERS: I believe that is exactly what he said.

MR. MORRIS: Maybe he can clarify it.

MR. GEORGE: I believe I was referring to the pre-1914 appropriative rights, which I believe are outside the jurisdiction of the State Water Resources Control Board.

MR. SANDERS: Are all of Western Water rights based on pre-1914 and riparian rights?

MR. GEORGE: No.

MR. SANDERS: You have other water rights?

MR. GEORGE: Yes. For instance, groundwater rights.

MR. SANDERS: Okay.

How many acre-feet per year do you claim right to?

MR. GEORGE: I don't think at the present time we are able to quantify that.

MR. SANDERS: Is it your testimony that some of your water rights are based on the dredging operations in the Goldfields?

MR. GEORGE: No. The water rights are based on the claim of prior appropriation.

MR. SANDERS: I am trying to get this straight. So the dredging operations constituted an appropriation of water?

MR. GEORGE: The dredging operations were and are one beneficial use for water rights that were appropriated prior to 1914.

MR. SANDERS: So let's just get this straight. The dredging happened after 1914; is that correct?

MR. GEORGE: No. The dredging operation began in about 1905.

MR. SANDERS: Some of it continued after 1914?

MR. GEORGE: Through today.

MR. SANDERS: Some of the storage in the Goldfields was created after 1914?

MR. GEORGE: Yes. Although -- yes, some of it was created after 1914, correct. Although I would say that majority of the gravel was disturbed early in the period of time the company operated the dredges. Most of the 10,000 acres were disturbed by 1918. We know because we have a map that demonstrates that. Some of it was not disturbed initially until as late as the 1950s. Most of the dredging operation today is redredging areas that were originally disturbed long ago.

MR. SANDERS: You testified in Paragraph 3 that dredging consumes a significant amount of water. How is water consumed in the process of dredging? Can you give us a brief answer on that?

MR. GEORGE: Could we put up the slide from Ramon's testimony that shows the dredge itself, this one.

Basically, this bucket loader takes the natural gravel or in some cases now the gravel that has already been disturbed, picks it up, brings it through here. Obviously with lots of water in it. And in addition, pumps on board

the dredge pump water through the materials as a way of washing it and allowing classification of the size of the rock and gravel and so forth. And the finest materials just drop, soak through the water. And then there is other less fine materials that actually just get washed out here. The largest material, largest rocks and so forth, actually get taken up a conveyor belt and then water pressure blows it off the back here.

So that you deposit a great deal of material above water level that has both been washed all the way through here. It originated below water levels, washed through here and actually blown out with hydraulic pressure out the back.

So, what is the consumption here? It is a variety of those things. It's evaporation through here and particularly a lot of evaporation of this wet material that is exposed to the sun.

MR. SANDERS: You have no estimate of how much water a dredge consumes?

MR. GEORGE: I have no estimate of how much water the dredge consumes.

MR. SANDERS: Was there a time when no dredges were operating in the Goldfields?

MR. GEORGE: From time to time there were relatively brief cessations associated with changes of control and with

fluctuations in the value of gold.

MR. SANDERS: You are not aware of any periods of, say, five years where there was no dredge operating?

MR. GEORGE: No.

MR. SANDERS: On Paragraph 5 you testified that:

> Over the years various affiliated or licensed companies have made use of these water rights to support agriculture, aqua culture, silica mining, aggregate mining, domestic and wild animal husbandry as well as dredge mining. (Reading.)

Do you know of -- do you have an estimate on how much water was consumed by these uses?

MR. GEORGE: I don't. And to my knowledge, the company has never attempted to quantify that.

MR. SANDERS: Now to Paragraph 6. You say:

> Starting in the '60s strategies for exporting water for beneficial uses elsewhere were developed, but opposition from junior appropriators and cost managing regulatory -- and managing regulatory processes made such development practically economically impossible, particularly once the State Water Project became operational. (Reading.)

First of all, what junior appropriators? Who?

MR. GEORGE: Well, primarily the state and federal project operators.

MR. SANDERS: Specific, what proposals -- again, we are starting in the mid '60s. What proposal was there to export water from the Yuba Goldfields?

MR. GEORGE: Well, there were proposals to make water available to primarily M&I users downstream of the Goldfields along the Sacramento River or below the Delta through the conveyance facilities of state and federal project.

MR. SANDERS: Western's predecessor was proposing to make this water available; is that correct?

MR. GEORGE: That's correct.

MR. SANDERS: And you encountered resistance from junior appropriators; is that your testimony?

MR. GEORGE: That's correct.

MR. SANDERS: And cost management were the reasons why those transfers never came to fruition; is that your testimony?

MR. GEORGE: That's correct.

MR. SANDERS: Then you state:

> A material conflict of interest within the state Department of Water Resources between its role as junior appropriator or junior exporters/project operator and its role as a

regulator has stymied alternative development of these water rights ever since. (Reading.)

Can you tell us what you mean by "stymied"?

MR. GEORGE: Made difficult.

MR. SANDERS: Do you have any documents to show how the State Department of Water Resources has made it difficult to do that?

MR. GEORGE: I would say that there is a fairly extensive record of that. Not only in the case of Western Water Company, but more generally the law of prior appropriation sets up quite appropriate contention, if you will, between senior and junior appropriators; whereby junior appropriators try to limit the uses and rights of senior appropriators so as to make more water available at their level of appropriation.

So I think there is a fairly extensive record of the junior appropriators defending their water rights against any expansion or any change in the use of water rights which are senior to theirs. And as I say, that is perfectly appropriate.

What is inappropriate, what I refer to as a conflict of interest, is that that same competitor for water rights also has regulatory jurisdictions.

MR. SANDERS: On Paragraph 7 you say:

State law was amended to make it impossible

to export groundwater from the area that includes these water rights without a vote of the local county electorate. (Reading.)

What law is that? Do you know?

MR. GEORGE: You know, I am not able to cite. I could get it for you and provide it later.

MR. SANDERS: That's all right. It is somewhere in the Water Code?

MR. GEORGE: Yes.

MR. SANDERS: Skipping down to Paragraph 9, the long-term operating agreements with Yuba County Water Agency. What does the Yuba County Water Agency do under the terms of this agreement?

MR. GEORGE: I guess I would be more comfortable having Yuba County Water Agency answer that. I don't feel at liberty to answer that on their behalf.

MR. SANDERS: I am asking you to testify about a contract that your company is party to and you testified about.

What is your understanding that Yuba County Water Agency's obligations are under that agreement?

MR. GEORGE: The agreement, I believe, is part of the record. And I have not reviewed it recently, so I don't feel comfortable in particularly outlining my understanding of what their obligations are.

As a matter of fact, I just haven't reviewed it recently enough to have a point of view on that.

MR. SANDERS: Let me rephrase the question, then. You testified that you have entered into a long-term agreement with Yuba County Water Agency and Western Aggregates to develop and market water from the Goldfields water rights for transfer and sale. Can you give us a little of the specifics of what that agreement involves?

MR. GEORGE: Yes. Conceptually, it involves three major parties who have historically worked in and around the Goldfields and managed the water rights associated with this complex property. The attempt in 1991 was to bring those entities together for the purpose of protecting those water rights from creeping appropriation by the project exporters and to allow the senior water rights owners, acting in concert, to develop and market that water for alternative beneficial use and to prevent the creeping appropriation of those rights by the junior appropriators.

MR. SANDERS: Did Western Water receive any payments from Yuba County Water Agency under this agreement?

MR. GEORGE: Yes. In fact, one of the things we also did in that agreement was to make available to the Yuba County Water Agency the use of these dredger ponds as channels to convey water across the Goldfields. And we did get a payment and we continue to get payments for the use of

that conveyance capacity.

MR. SANDERS: Was there also a -- did part of the agreement also involve Yuba County Water Agency developing the deep water aquifer within the Goldfields?

MR. GEORGE: That was among the potential water rights that would be developed in concert with those other entities, Western Aggregates and Yuba County Water Agency. In fact, I believe the Agency has the right to develop a certain limited amount of groundwater under that agreement.

MR. SANDERS: Do you know how much groundwater they have the right to develop?

MR. GEORGE: I believe it is 10,000 acre-feet per year.

MR. SANDERS: Then the final sentence in Paragraph 9:

> Regulatory constraints and the actions of junior appropriators have made such transfers impossible or uneconomic to date. (Reading.)

Were there specific proposals for transfers from the Goldfields?

MR. GEORGE: From that area there have been a number of them. And I don't believe we have made any requests for transfers of water specifically denominated or allocated as water from the Goldfields. But you run into the same regulatory constraints with any senior appropriation above the exporters.

MR. SANDERS: You say that regulatory constraints and

actions of junior appropriators have made such transfers, the such referring to transfers of water from the Goldfields, impossible or uneconomical to date?

MR. GEORGE: That's correct.

MR. SANDERS: You also just testified that there hasn't been any specific proposals to transfer water out of the Goldfields?

MR. GEORGE: Well, the actions of the junior appropriators and the way in which they manage the export facilities make such transfers uneconomic or impossible. And I mean it is entirely possible that we could propose one that would be specific for the Goldfields but it wouldn't face any different limitations than those faced by any senior water rights holder in the Sacramento Valley. There is a very long history of constraints on those transfers, and we have been involved in several of them.

MR. SANDERS: I guess your last answer leads me directly to my next question. Paragraph 11, Western Water Company's attempts to transfer and thereby put to alternative beneficial use water derived from its valuable senior water rights have been continuously thwarted.

What attempts?

MR. GEORGE: Well, we have, again going back to the 1960s, attempted to sell or transfer water from areas north of the Delta to areas south of the Delta.

MR. SANDERS: Stop right there.

Who was the buyer?

MR. GEORGE: Well, we have contacted a whole lot of different water rights holders and a lot of water rights users, I should say, water users. To give you a litany of M&I and other water districts and industrial water utilities and others who we have contacted and attempted to make sales to, et cetera.

MR. SANDERS: Can you name one specific sale that was thwarted by these things that you mentioned?

MR. GEORGE: I could give you a litany of --

MR. SANDERS: I asked you to just name one.

MR. GEORGE: San Margarita Water District.

MR. SANDERS: When was that?

MR. GEORGE: Well, most recently in 1999.

MR. SANDERS: And you wanted to sell them water from the Yuba Goldfields?

MR. GEORGE: No.

MR. SANDERS: Well, that is what you testified, that is what we are talking about, sir.

MR. GEORGE: I apologize if I have been unclear. We have attempted to sell water from a variety of sources north of the Delta to a variety of buyers south of the Delta, and in each instance we have run into a series of road blocks that have made that impossible.

MR. SANDERS: I ask you to name one specific proposed sale from the Yuba Goldfields that has been thwarted due to these things that you mention. Can you do that for me?

MR. GEORGE: We have not entered into a contract for the sale of water from the Yuba Goldfields to a specific purchaser of water. And to do so would be futile in light of the experience that we do have in making transfers or attempting to make transfers from north of the Delta to south of the Delta.

MR. SANDERS: Hold on. When you say Western Company's attempts to transfer water from its valuable senior Yuba River water rights have continuously been thwarted, how can that be if you never actually had a contract to deliver water from the Yuba River?

MR. GEORGE: Because we have attempted, and our predecessor company has attempted over years, to try and create just such a transfer, and it has been impossible to do because of the regulatory and other limitations imposed.

H.O. BROWN: Hold on to that thought, Mr. Sanders.

Mr. Frink.

(Discussion held off the record.)

H.O. BROWN: Thank you, Mr. Sanders. You may proceed.

MR. SANDERS: Thank you, Mr. Brown. I am just about through here. I have couple more questions.

Are you familiar with the testimony submitted by your

predecessor in this hearing in 1992?

MR. GEORGE: I have read it.

MR. SANDERS: To your recollection, did your predecessor claim that evaporation from the dredge ponds was a consumptive use of water?

MR. GEORGE: I believe that is the case.

MR. SANDERS: And, again, from your recollection did your predecessor attempt to quantify the increased storage created by dredging?

MR. GEORGE: I am not aware that he did.

H.O. BROWN: How much more time do you need, Mr. Sanders?

MR. SANDERS: I think I am actually done.

MR. GEORGE: May I clarify one thing on this issue? I think you assume that Western Water Company in attempting to market water goes to find a specific user and then to tie that specific user into a specific source of water. In fact, Western Water Company has, if you will, a portfolio of water rights and of water that is available to us. And what we attempt to do is to identify a user to enter into a contract or at least a memorandum of understanding to supply water without identifying a specific source for that water.

So the fact that we have taken contracts and, in fact, delivered water without having identified in that contract a specific source of water, doesn't indicate a lack of attempt

on our part to qualify a variety of sources for transfer.

MR. SANDERS: Just one follow-up question.

But can you identify a specific instance where you have attempted to tap into the Yuba Goldfields and you have been thwarted by the litany of government ills that you have testified about?

MR. GEORGE: Not specifically with respect to the Goldfields.

MR. SANDERS: Thank you very much.

H.O. BROWN: Thank you, Mr. Sanders.

We are going to take our lunch break now. Be back here at 1:00.

(Luncheon break taken.)

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AFTERNOON SESSION

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H.O. BROWN: Back on the record.

Mr. Cook, you are up.

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CROSS-EXAMINATION OF

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.

BY MR. COOK

MR. COOK: Hello, gentlemen.

I would like to start with Mr. Scalmanini.

H.O. BROWN: Pull the microphone up a little, Mr. Cook, please.

MR. COOK: I would like to start with Mr. Scalmanini.

Looking at your written testimony, get organized here, on Page 1 at the top you talk about the preparation of your testimony related to the occurrence of -- this is in the third line -- the occurrence of groundwater beneath and in the vicinity of the Yuba River.

Does your testimony include the substrata below the bed of the Yuba River?

MR. SCALMANINI: Generally, yes.

MR. COOK: And does that include the historic bed of the Yuba River?

MR. SCALMANINI: I don't know for sure.

MR. COOK: Are you acquainted with the fact that the

historic natural bed of the Yuba River had a substantial bend and that it traveled south almost a mile below where its present location is?

MR. SCALMANINI: Probably don't know that specifically, but I've read or generally aware of the fact that is not where it is today or it hasn't been.

MR. COOK: In any event you didn't take that into consideration in your study?

MR. SCALMANINI: No.

MR. COOK: Now, you also mentioned that you were reviewing the vicinity of the Yuba Goldfields in that same area. There on Page 1, beginning on Line 3 at the last word it says:

> Particularly in the immediate vicinity of the Yuba Goldfields. (Reading.)

Do you see that?

MR. SCALMANINI: Yes.

MR. COOK: Now, where are the Yuba Goldfields located?

MR. SCALMANINI: Can I have a description what kind of terms do you want the answer expressed in?

MR. COOK: Well, you used the term "Yuba Goldfields." I am wondering what you meant by that term or that phrase and its general location.

MR. SCALMANINI: This is Figure 2 in my testimony, and I am specifically talking about the area that would

generally include township 15 north, ranges 4 east and 5 east and arguably maybe slightly into township 16 north, ranges 4 east and 5 east; and that is all Mt. Diablo Basin.

MR. COOK: That would include areas that had been dredged for gold historically?

MR. SCALMANINI: Yes, sir. Some of it, not all of it.

MR. COOK: Not all of it.

MR. SCALMANINI: That's correct.

MR. COOK: You mean there are parts of the Yuba Goldfields that have never been dredged?

MR. SCALMANINI: I am talking about what I looked at; and part of the area that I looked at --

MR. COOK: Pardon me just a moment. You used the terms Yuba Goldfields. And I am asking what you meant by that particular term. And I wondering if you included in that term land that had never been dredged?

MR. SCALMANINI: I did look at groundwater beneath land that had never been dredged.

MR. COOK: Did you identify that as being part of the Yuba Goldfields?

MR. SCALMANINI: Neither identified as being part of or not part of. I just said in the vicinity of the Goldfields.

MR. COOK: You used the term "Yuba Goldfields," and I assume you meant something by that. And that if so, did

that term include lands that were never dredged, and your study included areas outside the dredged areas?

MR. SCALMANINI: Okay. Let's see. I don't remember what you just said about what you assumed. I will tell you what I looked at. I looked at groundwater --

Can I finish answering, sir?

MR. COOK: I am trying to find out not what you did, but what you meant by the phrase or the term "Yuba Goldfields." You used it; it must have had a meaning. That is what I am attempting to find out.

MR. SCALMANINI: I didn't give it a lot of thought. For purposes of answering question what I generally meant was that the disturbed area as you see it on that figure that would generally be north of the arrow-lined that extends east and west where you can see from a topographic base map the result of disturbances of the land for dredger-type mining.

I also looked at areas immediately south of that, down to the vicinity of Hammonton-Smartville Road which has been undisturbed.

MR. COOK: Referring you again to the first paragraph of Page 1 of your testimony, the second sentence beginning with "in conducting," would you mind reading that sentence for the record?

MR. SCALMANINI: Is that okay with --

In conducting my investigation I relied primarily on groundwater level data available from public agencies, on geologic descriptions of the subsurface included in water well drillers' reports and in technical reports, most notably, highlighted, groundwater resources and management in Yuba County, end of highlighting, prepared for Yuba County Water Agency (Bookman-Edmonston Engineering. Inc., 1992) and on general knowledge of mining and reclamation practices. (Reading.)

MR. COOK: Now the highlighted words "groundwater resources and management in Yuba County," that is a study that you reviewed for your investigation at this time; is that correct?

MR. SCALMANINI: Yes.

MR. COOK: I don't believe you have a copy with you. Do you have copy of that report with you?

MR. SCALMANINI: Sure don't.

MR. COOK: Mr. Brown, may I approach the witness? I have a copy of the report. We might have to share it to some extent, but I do have some questions related to the report that he referred to in his testimony.

H.O. BROWN: All right. Go ahead.

MR. COOK: Mr. Scalmanini, I show you a document entitled -- I can't see it, in a second. This particular document, is this the one you referred to in your testimony?

MR. SCALMANINI: Yes. Yes, it is.

MR. COOK: For the record, this is a booklet about three-eighths of an inch thick. It is entitled Groundwater Resources and Management in Yuba County Water Agency. At the top it says Yuba County Water Agency, Yuba County, California. At the bottom it says Bookman-Edmonston Engineering, Inc., Sacramento, California, unpublished work September of 1992.

I would like to call your attention to Figure 15 of the report, if I can find it without too much trouble. I would like to show the witness this particular page. I think maybe I can ask you some questions from over here while you are looking at that particular page.

Do you see the words "Daguerre Point Dam" on that page?

MR. SCALMANINI: Yes.

MR. COOK: Do you see the dotted line marked "boundary of groundwater basin"?

MR. SCALMANINI: Yes.

MR. COOK: Do you see the generalized area of the Yuba Goldfields reaching up into the area of the Yuba River?

MR. SCALMANINI: No.

MR. COOK: If I may approach the witness again.

MR. MORRIS: Would be easier if Joe and I switched places, change places. Might speed things up a little bit.

MR. COOK: That would be okay with me. If you like it that way, that is fine with me.

Mr. Brown.

H.O. BROWN: That is fine.

MR. COOK: Mr. Scalmanini, in referring to Figure 15 of this report, if I may just call this the Bookman-Edmonston Report, is that satisfactory to you?

MR. SCALMANINI: Fine.

MR. COOK: You notice the dotted line that represents the boundary of groundwater basin?

MR. SCALMANINI: Yes. I already answered that.

MR. COOK: Based upon the location of Daguerre Point Dam, which you've already answered, do you see the extension of that dotted line up the Yuba River?

MR. SCALMANINI: I see that, yes. That is not what you asked me a minute ago.

MR. COOK: What do you believe I asked you a minute ago.

MR. SCALMANINI: You asked me if could see the location of Yuba Goldfields extending up the Yuba River, and the Yuba Goldfields aren't identified on that map.

MR. COOK: Do you know where the Yuba Goldfields are located?

MR. SCALMANINI: Generally.

MR. COOK: Do you know that they are located along the Yuba River?

MR. SCALMANINI: Yes.

MR. COOK: Do you know if they are located above Daguerre Point Dam?

MR. SCALMANINI: Not for sure.

MR. COOK: What is your personal experience with the Yuba Goldfields?

MR. SCALMANINI: I worked on matters that I testified to this morning, and I worked on mining applications that I testified to this morning.

MR. COOK: That has been written documentation or it's been on personal on-the-ground observation?

MR. SCALMANINI: Well, the written documentation followed the on-the-ground observation.

MR. COOK: How often were you on the ground?

MR. SCALMANINI: I've forgotten. Ten years ago I was there.

MR. COOK: You have not been there for ten years?

MR. SCALMANINI: I have been there since ten years ago, but I don't remember specifically when.

MR. COOK: Could you say approximately how many times

you've been at the Yuba Goldfields?

MR. SCALMANINI: More than five, less than ten.

MR. COOK: On that Figure 15, would you look at the legend and see if you see references to existing and proposed monitoring wells?

MR. SCALMANINI: I do.

MR. COOK: Do you see the scale of miles at the bottom right?

MR. SCALMANINI: Yes.

MR. COOK: And how many monitoring wells are located within approximately two to three miles of the Yuba Goldfields? If you are not familiar with the Goldfields location, I can withdraw the question.

MR. SCALMANINI: The Goldfields aren't outlined on this map, so it is really not appropriate to say how much. Obviously, it wouldn't be very many on that map. Because just within a couple of miles of Yuba River alone there are three, four wells that suggest they are included in this monitoring report and one now.

MR. COOK: In the area of the three wells that you did check, can you find that on that map by any chance?

MR. SCALMANINI: Say again, please.

MR. COOK: Can you find on that particular map, Figure 15, the approximate location of the three wells that you checked? That is not precisely, but approximately the

general area.

MR. SCALMANINI: The three wells that I used?

MR. COOK: Yes, sir.

MR. SCALMANINI: I used probably six or eight. I can show you approximately where those are on the map.

MR. COOK: Can you see how close, based on the scale of miles, the nearest monitoring wells, both proposed and in existence, are located from the wells that you checked?

MR. SCALMANINI: Well, I think I can answer your question. But to put it in some context, this is somebody else's proposed groundwater monitoring for this countywide study. It appears it goes outside, some of the wells go outside the county, into Butte and down into Sutter, also in Placer Counties. I don't see any across Feather River, but I do see them to the south or the Bear River.

At any rate, the wells that I used were, as best I can tell, none of them is included in this Bookman-Edmonston proposed countywide monitoring.

MR. COOK: You say this is another report. Didn't you just say previously about your written testimony these words, didn't you say "most notably groundwater resources and management in Yuba County"? That is the report we are looking at that contains Figure 15. So, did not you use this most notably in preparing your investigation?

MR. SCALMANINI: Here is what my sentence said that I

read into the record as you requested. "I relied primarily on groundwater level data available from public agencies, on geologic descriptions of the subsurface included in water well drillers' reports and in technical reports, most notably this report that you are asking me.

I used this report for geologic descriptions of subsurface, which has nothing to do with Figure 15. The proposed monitoring network is totally unrelated to what I did. And I focused much more so on the section up here in the front, notably Figure 4, which shows the geologic cross-section of the system, which is exactly, not exactly, we modified it slightly and was what was included in my Figure Number 1, I think. Let me check the number.

Yes. That is how I most notably used that report.

MR. COOK: On Figure 15, which we were just looking at, what does it show geologically?

MR. SCALMANINI: Absolutely nothing.

MR. COOK: I would like to call your attention to Figure 7 in the Bookman-Edmonston Report. Do you see contour lines on that relating to subsurface water elevations?

MR. SCALMANINI: I do.

MR. COOK: Now, in this report how many of those lines are within two to three miles of Daguerre Point Dam?

MR. SCALMANINI: Probably two to three, maybe none.

The ends of a couple of lines might get into the two to three mile range of Delta Daguerre Point Dam.

MR. COOK: Would you say that particular figure is not helpful in determining subsurface water elevations in Yuba Goldfields?

MR. SCALMANINI: Well, I'd probably say it is not helpful, but it is not site-specific.

MR. COOK: Now, let's go to your Figure Number 1. Could we put that one on the overhead, please?

Is there any way we can focus that a little better or is it just my eyesight?

MR. MORRIS: Looks about as good as it gets.

MR. COOK: Thank you.

Now, is Figure 1, which you submitted in your testimony, a modified version of Figures 3 and 4 of the Bookman-Edmonston Report?

MR. SCALMANINI: No. It's only a modified part of the Figure 4.

MR. COOK: If I can call your attention to Figure 3, do you see a cross-section line south of Yuba River paralleling the Yuba River?

MR. SCALMANINI: Yes.

MR. COOK: And is that the same cross-section line used for the Figure 4?

MR. SCALMANINI: Yes.

MR. COOK: So, basically, the two, Figures 3 and 4, do go together in a sense that Figure 4 adopts the cross-section line?

MR. SCALMANINI: Figure three shows the location of the cross-section.

MR. COOK: That's right.

MR. SCALMANINI: We did not modify Figure 3. We did not include Figure 3. What I have up there is not a modification of Figure 3. It is only a modification of Figure 4.

MR. COOK: You did use the cross-section line of Figure 3?

MR. SCALMANINI: No, I didn't use the cross-section line much. I used this cross-section.

MR. COOK: Isn't Figure 4 a cross-section of that particular line?

MR. SCALMANINI: It is located at the location of that line, yes.

MR. COOK: Looking at that particular Figure 4 and your Figure 1, I believe it is, you listed on yours the Yuba Goldfields. Do you see that at the top of yours there?

MR. SCALMANINI: Yes.

MR. COOK: Two arrows in opposite directions, says Yuba Goldfields?

MR. SCALMANINI: Yes.

MR. COOK: The Yuba Goldfields extend up to where the alluvium meets the hard ground. Was that an accurate statement?

MR. SCALMANINI: Meets the hard ground. I am not sure what that means.

MR. COOK: Well, the alluvium or whatever q-a-l -- I think you called it q-a-l or q-o-l, whatever it is, q-e-l. Do you see that?

MR. SCALMANINI: Yes.

MR. COOK: That ends at the extreme right of your Figure 1, does it not?

MR. SCALMANINI: Yes.

MR. COOK: That ends about at the same location as your showing of the end of the Yuba Goldfields?

MR. SCALMANINI: Yes.

MR. COOK: Then you look at Figure 4 from the Bookman-Edmonston Report and you see another area which is called dredger tailings.

Do you see that?

MR. SCALMANINI: Yes.

MR. COOK: That is also on your map, isn't it, dredger tailings?

MR. SCALMANINI: Yes.

MR. COOK: And so the only area covered by the cross-section for this Figure 4 and your Figure 1 is that

relatively short line called dredger tailings?

Did I make that question clear or should I --

MR. SCALMANINI: I didn't hear a question. You made a statement. So what is the question?

MR. COOK: That particular plat, your Figure 1, shows an area -- do you mind if I point this out on the overhead?

H.O. BROWN: Go ahead, Mr. Cook.

How much more time do you need?

MR. COOK: I am just trying to get to the bottom of this. Seems to be taking a lot longer than I had hoped for. We should have been able to get through it a lot faster, I thought. I have that, and then I have location of the wells and then a number of miscellaneous.

H.O. BROWN: Let's see if we can move it along a little faster than this.

MR. COOK: You see the area called dredger tailings on that cross-section of your Figure 1, correct?

MR. SCALMANINI: Yes.

MR. COOK: That is a relatively short distance of the area depicted on your Figure 1?

MR. SCALMANINI: Yes.

MR. COOK: Now, if we look at that and we look at Figure 4 of the Bookman-Edmonston Report, we find that q-e-l -- I can't quite read that. I believe it q-e-l.

MR. SCALMANINI: Q-a-l.

MR. COOK: That q-a-l is pictured as all the same. Is it not?

MR. SCALMANINI: Q-a-l extends, basically, the width of that drawing.

MR. COOK: In other words, as far as that drawing is concerned, the q-a-l or the alluvium does not change after it leaves the dredger tailings; is that correct?

MR. SCALMANINI: In terms of a mapable, geologic unit it doesn't change.

MR. COOK: So it does not show any dredging or any material that has been disturbed by the dredging?

MR. SCALMANINI: The original Bookman cross-section from which our Figure 1 is extracted shows dredger tailings as outlined up there on the screen right now or in their Figure 4. Dredger tailings actually extends east of that and basically extend to about the limits of what we have shown as Yuba Goldfields. I can't argue with what Bookman showed as the limit of dredger tailings, as far as that is what is intended to be a limit. They do show dredger tailings exactly as they are depicted up there. You can look at a topo map. You can see that the dredger tailings extend to east of that location.

MR. COOK: Can we show Figure 2, Mr. Scalmanini, Figure 2 on the overhead, please?

MR. SCALMANINI: This -- I am just speculating as to

where I think you are going, and I can't begin to imagine why.

For reference in terms of looking at the next figure, note that there is this test hole number one, test hole number two shown in terms of their location relative to other wells and borings in the subsurface. When you get to the next one, that will become important, but just recognize they are where they are.

MR. COOK: I hadn't planned on that, but I can.

H.O. BROWN: Is this all right with you, Mr. Cook? It is your turn to ask questions. Do it the way you want to.

MR. COOK: Yes.

On, I believe this is, Figure 2 of your testimony, you see that heavy black line from east to west. And, in fact, is that not the cross-section line shown on Bookman-Edmonston Figure 3 and 4?

Perhaps I can help by asking you to look at your Figure 1 and ask if that isn't the line that you used for your Figure 2?

MR. SCALMANINI: Yes.

MR. COOK: And looking at that line, that cross-section line, you will notice, I think, that toward the left that it extends through a small portion of the dredged area of the Yuba Goldfields and that to the right it extends through land that has never been dredged; is that true?

MR. SCALMANINI: Yes.

MR. COOK: Now, let's get to the wells. Do you see 6R1 well, one of your test wells?

MR. SCALMANINI: Well, it is a production well; it is not a test well. Go ahead.

MR. COOK: You use it for test purposes or for the records from; is that correct?

MR. SCALMANINI: Yes.

MR. COOK: And then there is also 7K1. That is down almost to -- I have a hard time reading -- the Yuba Canal; is that correct?

MR. SCALMANINI: Yes.

MR. COOK: And both of those wells are located on land that has never been dredged; isn't that true?

MR. SCALMANINI: Yes. I think so. Yeah, I think so.

MR. COOK: There is no evidence at least on your map that this has ever been dredged?

MR. SCALMANINI: Yes.

MR. COOK: Then, do you see well 13A- --

MR. SCALMANINI: 13A1?

MR. COOK: Yes.

MR. SCALMANINI: Yes.

MR. COOK: You stated that well 6R1 is a mile and a half from the Yuba River in your testimony. Isn't it, in fact, closer to two miles from the south bank of the present

location of the Yuba River?

MR. SCALMANINI: I don't know. I remember scaling it off some months ago and agree to my own satisfaction that it was a mile and a half.

MR. COOK: I have, if it would be of any help, I have a copy of -- you based your exhibit that is on the board now, your Figure 2, on the USGS quadrangle for Browns Valley; isn't that correct?

MR. SCALMANINI: I don't remember.

MR. COOK: I think that is what it says on the map, if you look at the bottom.

MR. SCALMANINI: Yep.

MR. COOK: I have a copy if you would like to look at that for judging distances. There is a scale at the bottom, and then you can tell approximately the location of where you put these various wells.

Would that be of any help to you?

MR. SCALMANINI: If you want to take the time for me to plot the location on your map and scale the --

MR. COOK: I am asking if that would be of any help. If it would not be of any help, we don't need it. If it would be of help, maybe it is worth the time.

MR. SCALMANINI: I can use that base map, sure.

MR. COOK: I will set it here in case you feel you could use it.

Isn't it a fact that all three of these wells, which in your testimony you have relied rather heavily on, I think, are located on land that has never been dredged?

MR. SCALMANINI: It appears that way, yes.

MR. COOK: Did you take into consideration the fact that well 13A, which is well down away from the dredged area, is within a walnut -- I shouldn't say walnut, an orchard, and did you take into consideration the fact that that may have been used as for irrigation of that orchard?

MR. SCALMANINI: I know that it was. I am pretty sure it is peaches, by the way. I know that it was. Yes, I know that it was used for irrigation on that property.

MR. COOK: Do you know if the use of the well for irrigation would have an impact on the water level in this well?

MR. SCALMANINI: All wells when they are pumped have their water levels change. The fact that the well is a production well doesn't invalidate it from use for static water level measurements, particularly in the spring and fall which is when these measurements were historically made by DWR or whoever made them. Like I said in my testimony, DWR preserves the records.

MR. COOK: Do you know that these records were made in a period of time when there was no pumping?

MR. SCALMANINI: I don't know that for all. I know I

looked at the hydrographs in the last 30 years to actually be able to tell why. When you have that kind of inconsistent fluctuation in a hydrograph over what it is, 30 or 40 years, that they are typically measuring under nonpumping conditions; and that when you have any kind of significant drawdown as a result of pumping, it will show up as an outlier point from that.

Also, let me look at my file. Let me finish. This is important. If you are going to call that question, the validity of data points.

MR. COOK: I will let him do it, Mr. Brown, but it does take extra time.

H.O. BROWN: It is your time, however you want to do it.

MR. COOK: I would like to ask another question. If he has questions that he would like to answer that I haven't asked, he can have his counsel ask the question.

MR. SCALMANINI: I'll go to one of the records I knew was in the file quickly, not for that particular well. But this is a copy of a typical form that is filled out by whomever makes the well measurement. This is common, and it turns out this was made by a department person on a semiannual basis for quite some long period of time, He signs his -- he prints his name in one of the columns. There is a remark section wherein typically when you examine

these records you find notations made by the operator, the person who runs the electric sound or whatever the device they use to measure the water level. He makes comments: It was pumping. It was recently pumped. There was a nearby well pumping or anything of that type, oil on the water, things that would impact the quality of the data he was obtaining at the time.

And I don't remember seeing anything of that type in the water level records that is available to go with the well you asked me about.

H.O. BROWN: Mr. Morris, this is Mr. Cook's time to ask the questions.

Mr. Cook, you ask the question, and if you want a yes or no answer, you may say so.

And, Mr. Scalmanini, you may answer with a yes or no. If it needs an explanation, give Mr. Cook the opportunity to use his time with the explanation or to not use that time that way.

All right?

MR. SCALMANINI: Sure.

H.O. BROWN: Mr. Cook, you are up. You have been about 40 minutes into your presentation.

MR. COOK: I am almost on the last page.

H.O. BROWN: Okay.

MR. COOK: You indicated on the Page 2 of your

testimony that almost eight lines down from the first full paragraph on Page 2, that you stated, and I think I am characterizing this correctly, that the significant difference between groundwater elevations at the northern well that is 6R1 versus the two relatively closely-spaced other wells, suggest that they are completed at different aquifers, and stream aquifer conditions are different in the two aquifer systems in which they are completed.

You say that the two lower wells, which would be 13A1 and 7K1, are closely spaced, but, in fact, when you look at your exhibit they are further apart than the 6R1 well; isn't that true? I'd appreciate a yes or no answer.

MR. SCALMANINI: I can't answer it yes or no.

MR. COOK: You can look at the map or you can look at the quad sheet.

MR. SCALMANINI: Let me tell you what the statement means. What the statement means is that two wells are relatively close to the third well. That 7K1 and 13A1 are relatively close to 6R1; and as I tried to describe in the subsequent discussion in the text of the testimony that to have notably different groundwater elevations between 6R1 and either or both of the other two wells that are that close to 6R1 is generally suspect. If it is that steep of a gradient and in that direction, meaning basically perpendicular to the river, it caused me to have a question

about whether or not all those wells were completed in the same aquifer system.

That is the point of the entire discussion.

MR. COOK: You did say versus the two relatively closely-spaced other wells?

MR. SCALMANINI: Closely spaced --

MR. COOK: You didn't --

MR. SCALMANINI: Closely spaced to 6R1; that is -- those are the words I used and what I meant, relatively closely spaced to 6R1.

MR. COOK: The words will have to speak for themselves. Very well.

In view of the fact that, Mr. Brown, I have taken so long, I will stop my cross-examination at this point. I thank you for your indulgence.

H.O. BROWN: You're welcome, Mr. Cook.

H.O. BROWN: Mr. Lilly.

MR. LILLY: I have no questions of these witnesses.

H.O. BROWN: Mr. Minasian.

MR. MINASIAN: No questions, Mr. Brown.

H.O. BROWN: Mr. Bezerra.

MR. BEZERRA: We have no questions on cross-examination, Mr. Brown.

H.O. BROWN: Mr. Cunningham.

MR. CUNNINGHAM: I have some, sir.

CROSS-EXAMINATION OF

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.

BY DEPARTMENT OF FISH AND GAME

BY MR. CUNNINGHAM

MR. CUNNINGHAM: Afternoon, Mr. Brown. I am Bill Cunningham. I am a Deputy Attorney General. I represent Fish and Game in this proceeding. I appreciate your efforts in helping me understand some questions that I have for you.

You will excuse me if I don't ask them in any specific order. Some of you gentlemen may both have answers, for example, to the same question. If you do, please volunteer those. I'd appreciate that as well. I think I can start with some questions -- I would like to ask Mr. George.

Sir, I understand you're the Chairman, President and CEO of Western Water?

MR. GEORGE: That is correct.

MR. CUNNINGHAM: In looking through your testimony, it appears one of large concerns of Western Water Company is the sale and transfer of water in California; is that correct?

MR. GEORGE: That's correct.

MR. CUNNINGHAM: You are not talking just about water development out of the Goldfields; you have a larger spectrum of sources of water than Yuba Goldfields?

MR. GEORGE: Yes, sir.

MR. CUNNINGHAM: As to the Yuba Goldfields itself, can you help me understand what waters within the Yuba Goldfields would be waters that would be proposed for transfer and sale if they were available? Are we talking about the original 20-something cubic feet per second of pre-1914 appropriation or are we talking about the groundwaters that are developed either in the shallow water aquifer or deep water aquifer? Can you give me an idea of what water you would be proposing to transfer out of the Yuba Goldfields.

MR. GEORGE: I am not sure I can be specific except to say that we would transfer water from the Goldfields which meet the environmental and legal requirements for such transfers, and those waters could come from pre-1914 appropriations or from riparian uses. As I have testified, the export from the county of origin of groundwater is further limited. So again it would be water from whatever source that met the legal and environmental requirements for transfer. And it might be from any of those sources or it might be from some combination of those sources.

MR. CUNNINGHAM: Those sources would perhaps consist of the groundwater available under the Yuba Goldfields as well?

MR. GEORGE: Again, subject to appropriate legal,

environmental restrictions, yes.

MR. CUNNINGHAM: Do you have any sense of how much water you would be proposing as a maximum to divert. If you could divert and deliver, if you could overcome all the obstacles you outlined in your testimony?

MR. GEORGE: No.

MR. CUNNINGHAM: It is my understanding that the original appropriative water rights for the Goldfields is a little over 20 cubic feet per second?

MR. GEORGE: Actually, I had the opportunity over the lunch break to refresh my memory by looking at the actual appropriation; that is, the March 10th, 1910, appropriation. And I believe I was confused between cfs and miner's inches. So perhaps to clarify, let me just read.

MR. CUNNINGHAM: Please.

MR. GEORGE: That it says that the undersigned representative of our predecessor company hereby claims and appropriate 20,000 inches, measure under a four-inch pressure. That is what the --

MR. CUNNINGHAM: That is the 1910 claim?

MR. GEORGE: That is the claim of 1910, exactly.

MR. CUNNINGHAM: The matter was subsequently adjudicated in 1928 or '29, wasn't it?

MR. GEORGE: In 1929 there was litigation between an upstream irrigation district and our predecessor in which a

number of findings relative to that controversy were made.

MR. CUNNINGHAM: Do you know what the final resolution of that litigation was?

MR. GEORGE: There is a version of the pertinent parts of the judge's decision in the file, and it dealt with a number of issues, but primarily protection of the riparian right for the Goldfields.

MR. MORRIS: Mr. Cunningham, if it would help, that is in the record as YG -- from previous testimony, Exhibit 1.

MR. CUNNINGHAM: Thank you.

Where is the point of diversion for the pre-1914 water right, if you know?

MR. GEORGE: I think it is water appropriated at a number of places along the northern border of the Goldfields. I think the primary point of diversion is at or near Daguerre Point Dam.

MR. CUNNINGHAM: You indicated also that you thought there may be also some additional appropriative water rights associated what the Yuba Goldfields that you are familiar with. Do you know anything more about those water rights? This is something other than pre-1914 and other than riparian. You indicated there were other appropriative water rights as well?

MR. GEORGE: If I said that, I don't recall it.

MR. CUNNINGHAM: You indicated that, to your knowledge

-- well, maybe I won't quote you on this. I may be misstating it.

Do you know as the full volume of either your miner's inches, your 20,000 miner's inches claim in 1910 or the appropriative right established through the litigation for the resolution of the litigation. Has -- do know has either of those flows been diverted at full flow volume for the entire period of time for the Yuba Goldfields?

MR. GEORGE: Certainly not at full volume for the entire time. In fact, I would say that the full volume has probably never been physically appropriated. And it did, as I testified before, fluctuate substantially year-to-year, day-to-day, period-to-period.

MR. CUNNINGHAM: There was a considerable discussion in, I believe mostly in, Mr. Garcia's testimony. There was reference in other testimony to this, 300,000 acre feet of improved storage below the Goldfields. I would like to ask you first some questions technically about how we get to that improved storage. Then I'd just like to ask some questions, all of you gentlemen, about what that means.

And, technically. Mr. Garcia, perhaps you are the best to help me out. I am not sure how well I understand this.

As I understand it, when the dredge goes through, what comes out of the back of the dredge is no longer a homogeneous collection of aggregate. It is now layered;

cobble goes on top, sand and gravel goes to the bottom and there is now a kind of layering effect, a layer cake look of aggregate established on there.

Is that the way it works?

MR. GARCIA: Yes.

MR. CUNNINGHAM: As I understand it, in part because the soil is -- the material is no longer homogeneous it is now more permeable; is that your testimony?

MR. GARCIA: Yes.

MR. CUNNINGHAM: To the extent it has gained permeability because it loses its homogeneous nature, how long does that improved permeability exist? Do we know?

MR. GARCIA: How long?

MR. CUNNINGHAM: In time.

MR. GARCIA: I really don't know.

MR. CUNNINGHAM: And to the extent you have changed the distribution of the size of the materials, what happens to the finest of the materials, the clays and silts?

MR. GARCIA: If you recall the -- if I may put the slide again?

MR. CUNNINGHAM: Please, that is fine. I believe you had an overhead that showed a little of that.

MR. GARCIA: The way that the dredge works is they took all the homogeneous material, just as you said, and it washed the material, just sort the gold. And so the first

step is when all the material is inside the washer terminal, the finest material are dumped in the lower part of the dredge and the coarse and gravel are dumped away in the rear part of the dredge.

MR. CUNNINGHAM: To the extent you are getting, for example, some fine materials, silts and clays, that are almost suspended in water for such long periods of time, they don't immediately dump out and in a pile come to the bottom; they essentially kind of end up in the water which sooner or later settles out, don't they?

MR. GARCIA: Yes.

MR. CUNNINGHAM: So what you then have is not a layer of clay at the bottom and sand and gravel above it and the cobble on top of it, you have the clays themselves distributed back in among the sands as they precipitate out of the water; isn't that right?

MR. GARCIA: I don't understand.

MR. CUNNINGHAM: Pardon?

MR. GARCIA: Repeat the sentence.

MR. CUNNINGHAM: The clays and fine materials, the silts, are suspended in the water, don't end up as a single layer at the bottom of the dredging pond; they end up distributed within the sand and fine gravels as well as the clay settles out of water and ends up in the sands that are also coming along behind the barge?

MR. GARCIA: Not in that way because they have been well-sorted to look for the gold. So they are not dumped in the same way that they were before. They are separated, washed, cleaned and then redeposited.

MR. CUNNINGHAM: Right. To the extent that clays and silts don't immediately drop to the bottom, they don't form a distinct, separate layer, they are deposited within the sand and gravels that are coming out of the back of the dredge as well? They will go someplace?

MR. GARCIA: Yeah, they are there. I don't know the velocity that these materials settle. But any way, clearly is very different than the homogeneous material that was before because of all the -- because of all the pressure during the time of the discharge is quite different. Even if these materials are inside between some of the deposit of the gravel, these materials is not as compact as it was before. Just as it is stated by -- like he said, by the State Water Resources Control Board memo.

MR. CUNNINGHAM: Is it safe to assume then that part of the improvement of permeability is not because of -- I agree part is because of the redistribution of materials. But part of it is because part of the materials are just now looser in their deposit; they have not had geologic eons to compact?

MR. GARCIA: Yes. There is several different factors.

One is the division of the ponds and second was sort of the material and third one may be the different disposition of these materials.

So I can't evaluate which part of the porosity is due to each of these concepts. This increases water establishment.

MR. CUNNINGHAM: Do you have any idea how long that improved permeability will last?

MR. GARCIA: As I told you, I don't know. Maybe forever because we are talking about very long period of time in which the materials were very compressed and they were compacted. We are talking about Jurassic period just like what was said before. I am not a geologist, but the time frame is quite different.

MR. CUNNINGHAM: Now that I understand a little more about the technical nature of this, do any of you gentlemen -- my question is to the extent we come up with this number, Mr. Garcia generated this 300,000 acre-feet of increased groundwater storage. Do you propose -- does the water company and aggregate business propose to take any of that water within that pool of 300,000 acre-feet and divert and/or transfer and/or sell that as part of a water operation?

MR. GEORGE: We have no current application or plans to do so.

MR. CUNNINGHAM: Do you have any idea where the source of that 300,000 acre-feet of water comes in? Any you gentlemen.

MR. GEORGE: Yes. We assume that it is water appropriated from the river.

MR. CUNNINGHAM: Part of the underflow of the Yuba River, is that what I understand?

MR. GEORGE: Underflow or direct diversion, yes. Well, both.

MR. CUNNINGHAM: Perhaps you may have already answered this. If you were to start pumping out of that shallow aquifer something less than a hundred, 125 feet, tapping into that 300,000 acre-feet at present, do you know whether or not you would have a direct impact on the flow of river itself?

MR. GEORGE: I don't. I think Mr. Scalmanini indicated earlier that he didn't have enough data to estimate that.

MR. CUNNINGHAM: That is what I thought I heard.

Thank you.

Before you would start such a diversion would it be, in your opinions, a good idea to develop such a connection or to discuss whether -- to develop whether or not such connection exists?

MR. GEORGE: That would be an excellent idea.

MR. CUNNINGHAM: As I understand it, also there is a deeper aquifer that I think you have identified and discussed that it does not seem to quite parallel the river's course, but takes, I believe you said, a southwesterly direction.

Mr. Scalmanini, I think you were the one that testified mostly to this.

MR. SCALMANINI: Yeah. I didn't say the aquifer goes in the southwesterly direction. I said the groundwater flow, it goes in a southwesterly direction. I didn't try to map its lateral extent.

MR. CUNNINGHAM: I stand corrected.

Have you -- to the extent you looked at wells and well data to discover this direction of flow, have you looked at wells outside of the Goldfields area to also evaluate this same flow direction?

MR. SCALMANINI: Not as part of doing this, no.

MR. CUNNINGHAM: Have you looked at any wells to the north of the river to establish whether or not there is a flows in this same general direction, in the lower aquifer?

MR. SCALMANINI: No, I did not.

MR. CUNNINGHAM: At best right now your testimony is that we know which way it is flowing, perhaps, and we can get a sense of how deep it is, but that whether or not it is connected to the river is still perhaps an open question?

MR. SCALMANINI: Well, in the strictest sense if you want to like -- this goes basically to the question you asked a minute ago: Wouldn't it be a good idea to know about the connection? Having investigated that kind of question in seemingly countless areas, not just one, that it would be nice to know more about exactly what the morphology looks like, from where I looked at all the information all the way to the river.

So to draw an absolute conclusion that there is the same kind of confining separation all the way to the river that I showed in the cross-section here would be nice to know. But hydraulically, hydraulically, the water levels strongly suggest that it does exist. If it was compromised a few tens to hundredths of feet to the north, meaning that it become all gravel and this confinement that separates one from the other wasn't there, then it is not likely that you can support the many tens of feet of water level difference that historically have been present out there at close to a place where it would be tied together.

MR. CUNNINGHAM: But there is a possibility still if you were to go all the way to perhaps the areas immediately adjacent to the river that you might absolutely establish some kind of interconnection between lower aquifers?

MR. SCALMANINI: Same answer as I give you before. It is always possible, but hydraulically it is not very

logical.

MR. CUNNINGHAM: Isn't it also true sometimes that when you are talking about a multilevel aquifer, alluvial fans of the types we are talking about here in the Yuba River, that oftentimes to the extent they are separated by less permeable layers, so, therefore, you have kind of a layer-cake affect of alluvial deposits and that oftentimes what you will get is alluvial deposits in an earlier river channel which may actually be going in a slightly different direction than the rest of the river channel, but all the same still associated with the river? Doesn't that, in fact, happen?

MR. SCALMANINI: Well, yes. I'll say just at a more constant depth. In other words, you might find within that first 125 feet that things might vary as a function of what the river channel once looked like versus what it looks like now, on one or more occasions once looked like. But to think about an ancient river channel then compromising that clay at distance and away from the current river channel and invalidating the head differences, et cetera, that is not very, again, hydraulically logical.

MR. CUNNINGHAM: A couple questions now perhaps the other end of the Goldfields. Perhaps you can help me out. As I understand it, there is a portion of water within the Goldfields that are subsequently returned to the Yuba River;

is that correct? Any of you gentlemen.

MR. GEORGE: Yes. It certainly appears that infiltration goes both ways. There is a gradient so that it would be logical to assume, and we do assume, that water enters the Goldfields also reenters the river.

MR. CUNNINGHAM: Isn't there actually a surface discharge of waters from the Goldfields back into the river someplace below Daguerre Point Dam?

MR. GEORGE: I am not certain of that. I don't know.

MR. CUNNINGHAM: Is there any document that we have available to us in the record that might help us find that out?

MR. GEORGE: If there is, I am not sure. I don't know.

MR. CUNNINGHAM: Do you know whether in the past there has been any such direct surface flow connection from the Goldfields back into the river?

MR. GEORGE: No, I don't.

MR. CUNNINGHAM: Have you or anyone, to your knowledge, working with the companies been contacted to address the problem of migratory fish entering the surface flow runs in the Goldfields?

MR. GEORGE: No. I am not aware of anyone at our company having been contacted about that.

MR. CUNNINGHAM: If I were to tell that there is such a

surface discharge back into the Yuba River from the Goldfields, if we have to we will treat this as a hypothetical, would you consider it reasonable that measures be taken to prohibit the immigration of adult salmonids into the Goldfields?

MR. MORRIS: Am I to understand this is a hypothetical?

MR. CUNNINGHAM: Treat it as a hypothetical.

MR. GEORGE: So your question is, hypothetically if there were a return to the river from the Goldfields, would it be a good idea to prevent salmon from using that to migrate into the Goldfields?

MR. CUNNINGHAM: Yes.

MR. GEORGE: I am not sure because I am not sure that being in the Goldfields is somehow bad for the salmon. I don't know that, for instance, particular harm would come to the salmon from entering the Goldfields.

MR. CUNNINGHAM: In essence, it is a little too hypothetical; you don't know enough about what happens?

MR. GEORGE: Yes.

MR. CUNNINGHAM: Excuse me for a second.

Last question, I want to make sure that I didn't mishear something.

You, and again I think it would be you, Mr. George, you are not suggesting that Western Water Company or Western Aggregate Company would ever be planning on transporting and

selling riparian flows off of the Yuba Goldfields property, are you?

MR. GEORGE: I don't know that I have previously testified to that. But certainly, respecting the limitations on the use of riparian water for instream flows, we certainly would consider transferring riparian water for instream beneficial use.

MR. CUNNINGHAM: You understand riparian waters can be used for all reasonable beneficial uses within the contiguous riparian parcel; is that kind of a fair definition of riparian water, to your knowledge?

MR. GEORGE: I expand a little bit based on what I believe I understand, which is that riparian water may be -- the use of riparian water on a parcel may be forgone and transferred for beneficial use within the stream below the point where it could otherwise be used on a piece of riparian property.

MR. CUNNINGHAM: I will accept that qualification, perhaps.

But you would not yourself understand that such riparian waters would be extracted, packaged and sold out of the property or riparian parcel itself, could not use those specific waters as part of the transfer for commercial purpose?

MR. GEORGE: Certainly not for, for instance, M&I or

other consumptive use away from the river. They might very well be transferred for the beneficial use of the river itself. I believe Section 1707 of the Water Code permits that.

MR. CUNNINGHAM: I have no further questions.

Thank you.

Thank you, Mr. Brown.

H.O. BROWN: Thank you, Mr. Cunningham.

Mr. Sandino came in. Do you have any questions?

MR. SANDINO: No.

H.O. BROWN: Staff.

MR. FRINK: We do have some questions, Mr. Brown.

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CROSS-EXAMINATION OF

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.

BY CALIFORNIA SPORTFISHING PROTECTION ALLIANCE

BY STAFF

MR. FRINK: Mr. George, I think most of the questions I have are for you.

What is the relationship between Western Water Company and Western Aggregates?

MR. GEORGE: The two companies are totally unaffiliated. They are both -- well, Western Water Company is a publicly-traded company, and Western Aggregates is a subsidiary of a totally separate publicly-traded company.

So our connections are connections of sharing an area of geography and water rights and history and so forth. And as I have also testified, we are both signatories to an agreement from 1991 along with the Yuba County Water Agency.

MR. FRINK: You stated that you were the Chairman and CEO of Western Water Company. Are you also an officer or employee of any kind of Western Aggregates?

MR. GEORGE: No, sir. And we have no common employees or officers between those two companies.

MR. FRINK: I appreciate that clarification. Thank you.

Which entity, Western Water or Western Aggregates, claims the water rights to the land in which both companies have land ownership interest?

MR. GEORGE: Certainly, Western Aggregates has water rights associated with their ownership and Western Water Company has water rights associated with our ownership. It is difficult to completely disentangle them and give you an easy, straightforward black-letter law parsing of those water rights.

Indeed, that is one of the reasons for entering into a joint agreement to market water so as to reduce the need or the importance of totally separating those water rights because they are in some cases intertwined, based on some

common heritage.

MR. FRINK: If we are looking at pre-1914 appropriative rights, would the claims of both companies be based on the same pre-1914 appropriative claim that we heard discussed previously, the 20,000 miner's inches that you referred to?

MR. GEORGE: I think there would be some intertwining between the two companies' ownership claims.

MR. FRINK: Is there any other basis for claiming that pre-1914 appropriative water right that you are aware of?

MR. GEORGE: Other than the 1910 claim? No, I am not aware of anything other than that.

MR. FRINK: Are there any other judgments that you are aware of other than the judgment of the 20.6 cfs water right that defined a water right either company has an interest in?

MR. GEORGE: Let me say that I am not aware of any other judgment, but I am not sure I would agree with your characterization of what that judgment does. The judgment speaks for itself, obviously.

MR. FRINK: Are the current dredging operations being done by Western Aggregates?

MR. GEORGE: No.

MR. FRINK: Who is doing the current dredging?

MR. GEORGE: To my knowledge, it is a company called Cal Sierra.

MR. FRINK: What water rights are they utilizing as part of the dredging operations?

MR. GEORGE: Again, it is very difficult to say it is this specific right or that specific right. But it is -- they are certainly using a portion of the water rights associated with the Goldfields.

MR. FRINK: Does Western Water itself currently divert and use any water from the Yuba River?

MR. GEORGE: Well, yes. As the testimony has indicated, there is a continuous appropriation from the Yuba River associated with the dredging operation and physical characteristics of the Goldfields.

MR. FRINK: Now, are you saying that Western Water intentionally diverts water into the Goldfields or that water seeps into the Goldfields at the present time?

MR. GEORGE: Well, again, I am not sure I want to get tangled up in the terminology between diversion and seeps. But I would say it is more the latter. It is that water infiltrates the Goldfields on a regular basis and is continuously appropriated from the river.

MR. FRINK: What is the beneficial use that Western Water is making of that water that it appropriates?

MR. GEORGE: Well, there are a variety of beneficial uses. One consumptive use that Mr. Scalmanini referred to is the evaporation from the pond surfaces. Certainly there

are --

MR. FRINK: Excuse me. Can we stop right there?

Is it your understanding that evaporation is a beneficial consumptive use of water?

MR. GEORGE: I believe that evaporation is an incidental consumptive use associated with the beneficial use of the water appropriated from the river for mining and other purposes. The fact is that the mining operation created ponds which have -- which are now established and which do evaporate a substantial amount of water and that that is, I believe, a consumptive use that is incidental to the beneficial purpose for which the water is diverted.

MR. FRINK: Are there any other uses for which Western Water is currently diverting water?

MR. GEORGE: Some minor domestic use. Some ag and wild animal husbandry.

MR. FRINK: Do you have any records on the quantities of that?

MR. GEORGE: No.

MR. FRINK: I believe you stated earlier that Western Water and its predecessors have filed some statements of water diversion and use with the State Water Resources Control Board, but not for all years; is that correct?

MR. GEORGE: I believe that is right. In fact, if memory serves properly, there are at least two of them in

the last 30 or 40 years.

MR. FRINK: Does Western Water have records showing the quantities of water diverted by its predecessors over that last 30- to 40-year period?

MR. GEORGE: Well, there are lots of records. And one of the things that we are interested in doing and attempting to do is to estimate on the basis of the records that we do have what the quantities of work were. You can appreciate that that is a very complicated process and one that involves a significant amount of expense and effort. And so the answer is there's a great deal of documentation and probably a good deal of measurement and engineering that we will need to do in order to quantify the amount of water.

MR. FRINK: Is there an understanding that establishing a pre-1914 water right required an appropriator to actually divert water and place it to beneficial use?

MR. GEORGE: In order to the preserve the water right, yes, that is my understanding.

MR. FRINK: Do you know the maximum amount of water that was diverted and applied to beneficial use under claim of a pre-1914 water right?

MR. GEORGE: We do not.

MR. FRINK: Does Western Water currently claim a water right of 20,000 miner's inches?

MR. GEORGE: Western Water observes that that is the amount of the initial appropriation. As I already stated, I don't believe that we have ever physically appropriated that much water. So the basis for our water right is that 1910 appropriation, which as I read was 20,000 miner's inches. But we do not believe that the company ever physically appropriated that much water.

MR. FRINK: And would you agree then that since actually placing -- actually diverting and placing water to beneficial use is a requirement of establishing a pre-1914 water right that you have not yet diverted or applied to beneficial use 20,000 miner's inches, that whatever water rights Western Water has are less than 20,000 miner's inches?

MR. GEORGE: Yes. It would be no more than the maximum or that was actually appropriated, yes.

MR. FRINK: Do you know how much that was?

MR. GEORGE: I think I already said that I do not.

MR. FRINK: Is there a quantified amount of water that Western Water claims it is entitled to divert under pre-1914 claim.

MR. GEORGE: As I said, we are attempting to determine from the records that do exist what that amount is. But we do not know, and it is a daunting, expensive, time-consuming and probably contentious process.

MR. FRINK: Are you familiar with the legal principle that a pre-1914 water right may be lost or reduced by five years or more if nonuse?

MR. GEORGE: Yes, I am.

H.O. BROWN: Mr. Minasian.

MR. MINASIAN: Mr. Brown, may I object on the basis this is going beyond the scope of the notice for this hearing and perhaps as a courtesy to Mr. Frink find out what the relevance of this is to this proceeding?

Some of the witnesses opened it, and I am sure Dan would like to finish it, but is this really relevant?

H.O. BROWN: Mr. Frink.

MR. FRINK: I believe it is relevant in that there were some questions raised at the prior hearing regarding the scope of the water rights in Yuba Goldfields. The Draft Decision has some limited findings on that. And Western Water has introduced a good deal of testimony in support of their claim of rather expansive water rights.

I am almost through with the questions I had. I think it is relevant and it is helpful to establish the extent of their past water usage.

H.O. BROWN: Mr. Baiocchi.

MR. BAIOCCHI: Mr. Brown, I support what Mr. Frink is saying, and he should be allowed to continue his questioning. It is part of this hearing.

Thank you.

H.O. BROWN: Thank you, Mr. Baiocchi.

Mr. Minasian.

MR. MINASIAN: Let me finish. I don't remember anything in the notice about this being a statutory adjudication of water rights on the Yuba River. So submit that.

H.O. BROWN: Okay.

Mr. Morris.

MR. MORRIS: I support Mr. Minasian's objection to this. What I am concerned about is exactly what happened in the previous document. There seems to some adjudication, if you will, of the pre-1914 and riparian rights in these statements in the Board. Part of what we are going to do is getting that stricken when we do our legal closing briefs, for this reason and some of the other reasons that Mr. Minasian stated.

So I am concerned that we open up a door on something that we are not really prepared to testify on, the extent of our rights, especially pre-1914. We are merely trying to establish and contradict some of the statements in the draft Board report that we did not consumptively use water rights and things of that nature. We are not here today and never put on or attempted to put on that we are trying to quantify those rights today. We can't do it today.

And that is the extent of my comments now.

H.O. BROWN: Thank you, Mr. Morris.

I sustain the objection.

Proceed, Mr. Frink.

MR. FRINK: In looking at my questions, I saw that I don't have any more on quantification of Western Water rights, in any event.

Mr. George, is it correct that Western Water does not hold a post-1914 appropriative water right permit or license from the state?

MR. GEORGE: That's correct.

MR. FRINK: You commented earlier about the difficulties that Western Water has encountered in its efforts to market water to other water users. Are you aware of the fact that the State Water Resources Control Board has approved more than a dozen water transfer proposals from the Yuba County Water Agency?

MR. GEORGE: Yes, I am.

MR. FRINK: Is it your understanding that since Western Water does not hold a permit or license from the state that it has not requested approval of a water right transfer, of a water transfer proposal to the State Water Resources Control Board?

MR. MORRIS: Can I get some clarification? Did you just say that they do not have a water right?

MR. FRINK: Excuse me, I will rephrase the question.

Since Western Water does not hold a water right permit or license from the state, is it your understanding that they have never requested approval from the State Water Resources Control Board for any water transfers that it may intend to make?

MR. GEORGE: Related to its Yuba water rights, that is correct. Obviously, we have been party to request for transfers with respect to other water.

MR. FRINK: In terms of water rights that Western Water claims on the Yuba River, it has never requested approval of this Board for a water transfer, has it?

MR. GEORGE: We have not.

MR. FRINK: That is all my questions.

That completes all staff's questions.

H.O. BROWN: I have one question. Is your miner's inch nine gallons a minute or 11?

MR. GEORGE: I leave that to wiser people than me to figure out. Three is a Northern California miner's inch and a Southern California miner's inch. Since we are Northern California, I presume that is what we are looking at.

H.O. BROWN: That would be 11?

MR. SCALMANINI: Eleven, yes.

H.O. BROWN: Any redirect, Mr. Morris.

MR. MORRIS: No redirect, Mr. Brown.

H.O. BROWN: You have some exhibits you would like to offer into evidence?

MR. MORRIS: Yes, we would. At this time we would move that Exhibits S-WWC/WA-1 through 5 be admitted into evidence.

H.O. BROWN: Are there any objections to the admission of those exhibits into evidence?

Seeing none, they are so admitted, Mr. Morris.

MR. MORRIS: Thank you, Mr. Brown.

H.O. BROWN: Panel, thank you very much for your time today.

Thank you, Mr. Morris.

H.O. BROWN: Mr. Cunningham, you are up. Would you like a ten-minute break?

MR. CUNNINGHAM: That is fine, sir.

H.O. BROWN: We will take a ten-minute break and return at 3:45.

(Break taken.)

H.O. BROWN: Back on the record.

Mr. Cunningham.

MR. CUNNINGHAM: Thank you, sir.

Again, for the record, Bill Cunningham. I am a Deputy Attorney General. I am here today representing the Department of Fish and Game. I would like to make a brief opening statement, Mr. Brown.

H.O. BROWN: You certainly may.

MR. CUNNINGHAM: Thank you.

Two separate areas of my opening statement are important here, and I will keep them both short because I think our closing brief will address both of these areas in much greater detail.

The first issue, I would like to make sure everybody understands what we are here to talk about today, the key issues within the notice of the hearing itself. There are three key issues that I think the Department of Fish and Game is going to spend the bulk of its time talking about and testifying about and prepare to ask questions about. Those are the first three key issues identified in the notice.

First key issue talks about what relevant new information is available regarding the factors that influence population trends in the following species of anadromous fish in the Lower Yuba River: American shad, steelhead trout, spring-run chinook salmon, late fall-run chinook salmon and fall-run chinook salmon.

The second key issue was what relative new information is available regarding stream flow and water temperature for the protection of fish in the Lower Yuba River.

The third one is what relative information is available regarding the water diversion facilities, fish screens, fish

ladders and fish loss at a variety of diversion points on the Yuba River.

We are going to provide testimony on all of those issues. There are significant new testimony on these issues, and I don't think all of it has been provided to the Board yet.

Now, as to also why are we here. The Department of Fish and Game has a rather unique role in these proceedings. We are part of the reason these proceedings are being conducted. I will not steal Mr. Baiocchi's thunder. His efforts in 1988 and '89 to get this process started are admirable and clearly reflected in the proceedings themselves. But the Department of Fish and Game also is responsible for the start of these hearings and feels fully obligated to continue and to finally finish these proceedings sometime before the end of this century.

H.O. BROWN: Mr. Cunningham.

MR. CUNNINGHAM: Sir.

H.O. BROWN: I will give you an extra two minutes. Mr. Baiocchi just came through the door, and should be recognized your --

MR. CUNNINGHAM: I was giving you kudos, Bob, and you missed it.

MR. BAIOCCHI: I am sorry for being late.

MR. CUNNINGHAM: I am sorry, Mr. Brown. I did want to

recognize, Bob, your contribution in getting us started.

MR. BAIOCCHI: Thank you.

MR. CUNNINGHAM: Not to steal you thunder, but suggest that the Department of Fish and Game Lower Yuba River Fisheries Management Plan was another element in starting these proceedings. As you know, and as all of the Members of the Board do, that plan was required under the Protection Standards Act, contained in the Department of Resources Code and required the Department to identify streams and watercourses throughout the state for which minimum flow levels need to be established to assure the continued viability of stream-related fish and wildlife resources. That is why we are here or one of the main reasons we are here.

As you also know, there are a variety of additional legislative acts, not only indicating that it is the Department's responsibility along with others to try to ensure a continuing growth, perhaps a regrowth, of anadromous fishery resources in the state of California. You will oftentimes hear the numbers as a doubling. I think the statute on that was supposed to -- lapsed last year. We are a little beyond that.

But we are also hear to talk about such simple things as Fish and Game Code 5937, flow released below dams to keep fish in good condition. We would also just like to talk

about in general and remind everybody in general that part of our concerns here are that reasonable use of water in California includes, among other things, protection of fish and wildlife sources. Water diverters are to constrain their use, their method of use and method of diversion to provide, if possible, for the beneficial uses of other resources attached to the water diversion. Fish and wildlife for the State of California are important, in fact, I would argue are critical elements for the quality of life for the people of California. Protection of those fish and wildlife should be a preeminent element of this proceeding and all future proceedings this Board conducts looking at California waters. We are talking about not just about public trust, something I would consider as more clearly defined as public good.

We think we can provide testimony today that will establish that those fish resources specifically identified in the notice of this hearing are not necessarily being protected by existing flows and, in fact, point out that there seems to be something almost ignored by the testimony so far, and that is right now the fisheries' flows and protections in place are from an agreement from 1965, 36 years ago, five years before Bullards Bar Dam was even built. We are living with diversions and fisheries' protections that are so out of date as to, I believe,

honestly be called ludicrous.

I do think there is lots of new evidence. I think the Board's proposed decision goes a long way to address the new evidence from the 1992 proceeding. I think what we have, though, is evidence that has been suggested that even that decision may not go far enough.

With that, we will go ahead and put on our witnesses.

Mr. Brown, I have five witnesses I would like to call. I have them all here today. And if you would, I am going to go through them individually, but then I would ask to present them as a panel for cross-examination.

H.O. BROWN: All right.

MR. CUNNINGHAM: I also have a couple of details I need to fix. The first detail is, it is my understanding that in looking at the record there is an element missing, and it is not really a state element. The proposed 4(d) rule taken from the Federal Register for protection of steelhead in California, Oregon, Washington, and so forth. In looking at the report at present, it appears that this proposed 4(d) rule was not currently identified as an element in anybody's testimony or exhibits. And as such, I would like leave today to go ahead and offer that, if appropriate, as our Exhibit 37. We won't talk about admitting it into evidence yet; it is something that I believe that this Board can receive and acknowledge because, among other things, it is

an official public document. You could judicially notice. I did bring 20-plus copies of it today as well. I will give the Board -- you get six and the rest will be here as well.

H.O. BROWN: Put them on the table, and those who want a copy, come get them.

MR. MINASIAN: Can we be a little clearer on the part of DFG? Are they marking this?

MR. CUNNINGHAM: We are just marking.

H.O. BROWN: Marking it as Exhibit 37.

MR. CUNNINGHAM: As our Exhibit 37.

It has come to my attention also, and I will apologize to everybody, I will take full responsibility for this one. In looking at our proposed testimony that we have submitted that we do have some minor errors, and I will call those questions into everyone's attention now and then we will deal with them as we get into them.

First, in looking at testimony of Mr. Nelson, Mr. Brown, there is a numerical addition error in the testimony itself, in the written testimony, which is DFG-1. It is reflected both on the second page and again in, I believe, Exhibit 4, S-DFG-4. With your permission, I have copies of both of those that have been amended to reflect the change, and they are just, again, additional errors. My apologies for that. But I'll go ahead and -- I brought copies of that as well for both Board staff --

H.O. BROWN: Do you want to read the changes in the record?

MR. CUNNINGHAM: Sir, I can.

On the second page of DFG-1, S-DFG-1, the testimony of John Nelson and Julie Brown. On the first pull paragraph that starts below the word "entrainment," about one, two, three, four, five lines down, there is a number. Entire sentence says:

> During the entire salvage period (only 483 days over a ten-year period). (Reading.)

It should read "43,338 juvenile fish were prevented from entering the Hallwood-Cordua diversion." That is the correction. That same number is reflected in S-DFG-4 down in the lower left-hand corner where it concludes total fish saved. The number should read 943,338. So I have copies of that as well. Again, I apologize for that technical error.

And then, sorry, Mr. Brown. I am truly embarrassed about this, in looking through the actual copies of testimony we made and submitted, we have some extraneous material that should be, I guess the best at this time is, disregarded at this point in time.

In S-DFG-3, which is the resume or Curriculum Vitae for Julie Brown, attached to the back of it are two additional resumes that should be removed or otherwise excluded. One of them refers to resume of Mr. Robert G. Titus who is not

going to be testifying today. The other one is a resume of Mr. Dan Odenweller. A separate resume of Mr. Odenweller is attached as a later exhibit. That is redundant material and should be removed from the record.

Also, in S-DFG-14, the resume or Curriculum Vitae of Debra McKee, there was also attached to it a resume of Mr. William Snyder. Another witness who will not be appearing today. That material can also be removed or stricken.

H.O. BROWN: Any questions so far?

MR. CUNNINGHAM: Again, I apologize for the problem.

Mr. Brown, I also need to have two witnesses sworn. I can do them either as we get to them or would you prefer to do it now?

(Oath administered by H.O. Brown.)

MR. CUNNINGHAM: Thank you, sir.

With that I am going to go ahead and sit down -- I will stand up.

H.O. BROWN: Your choice.

MR. CUNNINGHAM: I would like to call as our first witness Mr. John Nelson.

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DIRECT EXAMINATION OF FISH AND GAME

BY MR. CUNNINGHAM

MR. CUNNINGHAM: Mr. Nelson, if you have a microphone in front you, please state your full name for the record.

MR. NELSON: John Nelson.

MR. CUNNINGHAM: You have been sworn in today's proceedings?

MR. NELSON: I have.

MR. CUNNINGHAM: Mr. Nelson, is S-DFG-2 a true and correct statement of calcifications for today's proceeding?

MR. NELSON: It is.

MR. CUNNINGHAM: Are Exhibits S-DFG-1 and S-DFG-4 and S-DFG-12 true and correct copies of your written testimony?

MR. NELSON: Yes.

MR. CUNNINGHAM: Mr. Nelson, could you summarize your testimony for this proceeding?

MR. NELSON: The first thing I would like to do is thank the Board and Board staff for allowing the Department to put on our testimony at this time. It truly did allow me to take my vacation as scheduled. I do appreciate that, so thank you very much.

The Department having reviewed the Draft Decision that was issued, it found that it provided significant improvement in flows, temperatures and resulting habitat conditions for anadromous fish in the Lower Yuba River above and beyond those provided by the 1965 agreement. However, several changes have occurred since the 1992 hearings, specifically the listing of spring-run chinook salmon, which

is a state-and-federal-listed threatened species, as well as steelhead trout which is a federal-listed species which have occurred since the 1992 hearing.

Listing of these species makes it necessary that adequate flows, temperatures, flow change requirements and state-of-art fish screens are implemented to protect these species in the Lower Yuba River. Additional consideration needs to be given to these areas in order to afford appropriate protection and prevent further impacts to these species. And this is where our testimony will be centered today.

Rather than present our testimony as you heard in its entirety, the Board -- for the Board sake we will be presenting our testimony as a summary.

There are a few areas I would like to place specific emphasis on in my testimony. These are potential for entrainment at diversions, some requirements with respect to flow, flow reductions and temperatures for spring-run chinook salmon and steelhead trout and the presence of these species in the various lifestages of species in the river throughout the year.

Since the 1992 hearing, the department has continued to periodically operate the fish screen on the Hallwood-Cordua diversion in order to prevent the unnecessary loss of juvenile salmon and steelhead at that diversion. The screen

has been operated for a total of 483 days over the last ten years. During that period of time nearly 1,000,000 juvenile chinook salmon have been salvaged at that facility, and up to 40,000 fish have been salvaged in a single day at that facility in the last ten years.

Typically, the Department operates the screen on a yearly basis during the smolt outmigration period. Primary time of operation is from the beginning of the irrigation season through roughly April through mid to -- early to mid June. That is usually the longest that we operate it. Often it is operated a much shorter period of time.

What is important to notice in this is that the actual diversion period is much greater than the time that the Department operates the screen.

In the past, the Department has observed, and limited information indicates, that just as we were beginning to shut down operations of the screen at the Hallwood-Cordua diversion there was substantial number of juvenile steelhead just beginning to show up.

So in 1999 the Department was able to obtain additional funds to extend the outmigration salvage at the Hallwood-Cordua screen. And the reason we did that was specifically because of the hypothesis that steelhead were increasing in numbers below Daguerre Point Dam and moving into the diversion. And so we extended the salvage

operation from April, roughly April 15th, through the end of August last year. The reason we did this, obviously, in addition to saving the fish was to look at life-history strategies and the numbers of fish that would have been entrained at the diversion if we had not operated it.

What we found was that, just as we were beginning to typically cease operations of the screen in late May and early June, the number of fish, steelhead, that were present were increasing and increased continually through July, and then at which time we shut the screen down last year in August there were still substantial numbers of steelhead remaining at the screen, salvaged at the screen.

I refer you to S-DFG Exhibit 5 that will give you the specific numbers and the timing by day of steelhead salvaged along with juvenile chinook salmon. Additionally, information that indicates that the potential for entrainment of juvenile salmonids at the screen is this past fall we began rotary screw trap outmigration study on the Lower Yuba River, and we placed a screw trap, which is a device to capture juvenile fish that are moving downstream.

We placed that in late November, November 24th, at the Hallwood Boulevard area of the Yuba River. This is approximately six miles downstream from Daguerre Point Dam. Within the first 24 hours of operations we captured significant numbers of juvenile fish. And, in fact, since

then and through mid February we have captured thousands of fish per day. In fact, in one single 24-hour period we have captured as many as 100,000 juvenile chinook salmon. The fish range in size from beginning of the trapping in November actually through present from the size of approximately 30, 32-millimeter chinook salmon up to yearling size chinook salmon, and some yearling size steelhead on occasion were trapped.

Additionally, recent information and limited information indicates that emerging steelhead are present in the summer months in the Yuba River. Steelhead as small as 24, 37 millimeter have been observed during the summer in July, August and September in this past year. I refer you to S-DFG Exhibit Number 7 for that.

And really the point to all of this is that there are vast numbers of juvenile and recently-emerged chinook salmon and steelhead trout present in the river virtually year-round.

Based on this information, as well as information presented in 1992 hearings, it is clear that significant entrainment can and does occur at unscreened and inadequate screened diversions, including Hallwood-Cordua and South Yuba Brophy diversion.

The other point that I would like to stress is the need to provide additional measures to protect spring-run salmon

and steelhead trout. In the Department's 1991 Lower Yuba River Fisheries Management Plan, while we did include information on spring-run chinook salmon and steelhead trout, the focus of our testimony and the management plan at that time was directed towards fall-run chinook salmon, and that is now a shortcoming in that plan.

And this appears -- this evaluation appears to be carried forward in the Draft Decision that was issued.

And with that in mind, the important information is on -- is with respect to spring-run chinook salmon and the steelhead. Adult spring-run migrate upstream in the Yuba River in March, April, May, June time frame. Spring-run adults presently holdover over summer in the area above Daguerre Point Dam. During this period of time the eggs are developing and maturing and the spawning occurs in late summer.

Spring-run spawning has been observed for the last several years to begin in approximately the second week of September. And this past year we actually conducted a spawning timing and distribution survey of spring-run from the Timbuctoo Bar, which is about approximately two miles upstream of Highway 20 down to Daguerre Point Dam. We started those surveys in the first week of September and then on a weekly basis we report the river and determine spawning numbers as well as looking for the initiation

timing of spawning.

What we found was that spawning occurred in the second week of September, somewhere between the 17th and the 15th, and within that first week there was substantial numbers of redds that were formed in that time period.

Additionally, we took other measurements related to spawning characteristics with respect to flows, velocities, spawning depths. And as you would expect, those are quite similar as with other races. The fish spawn at deep depths. Three feet spawning was also very, very shallow, which is an important thing to notice here, in less than a foot or -- excuse me, less than a half a foot of water.

So really what this is indicating is that flows occurring on September 1st, the first part of September, should be maintained thereafter to prevent dewatering of redds and the loss of incubating eggs and emerging spring-run salmon, as well as to not discourage the initiation or spawning that is occurring at that time.

Also, additional consideration should be given to providing acceptable water temperatures for adult emigration, over summering and spawning as well as egg incubation, emergence and rearing of spring-run.

The temperatures indicated in our management plan was 57 degrees, and I refer you to the appropriate page number, 42 of that plan. And really this is in agreement with

recent research by U.S. Fish and Wildlife Service, who conducted a study on the effects of water temperatures on the Sacramento River fall-run and winter-run chinook salmon. And this information as well as some of the information presented by other parties here, in particular in the Yuba County Water Agency supplemental Exhibit 19, reference is made to acceptable water temperatures.

And to truly look at all that data, that data is clustered with respect to temperatures around a 56, 57 degree requirement with the exception of one study that is exceedingly higher than that and is really not validated by really any other study. What is important is that information and those recommendations are clustered around the 56, 57 degrees.

One last thought, as indicated previously by the salvage operations at the fish screen on Hallwood-Cordua diversion, which indicates that substantial numbers of juvenile steelhead are moving downstream below Daguerre Point throughout the summer. Because of the continued decline of this species and subsequent listing of this species, it is important to provide appropriate water temperatures below Daguerre Point Dam for this lifestage. And, again, that temperature is 60 degrees. That information is clustered around that. And also, again, back in Yuba County Water Agency Exhibit 19, the information

indicated there is clustered around that 60 degrees as an acceptable rearing temperature for steelhead trout.

You will hear more on this from our other witnesses. They will be speaking specifically to the spring-run requirements, steelhead requirements and fish screen requirements.

Did you want me to discuss the recommendations?

MR. CUNNINGHAM: Yes, we will. Mr. Nelson, can you give us at least a very brief discussion of the Department's recommendation. Again, I think we did provide such a brief discussion in our policy statement by Mr. Banky Curtis at the start of this proceedings. Again, I would like to have you emphasize that, please.

MR. NELSON: I would like to reference the recommendation by saying that just while saying that the Draft Decision provides significant improvement in flows, temperatures and resulting habitat conditions above the 1965 agreement, the recommendations in the Draft Decision are, at a minimum, should be implemented immediately. However, based on the analysis of new information presented here and other studies and by other parties at this hearing, additional measures are needed to adequately protect and maintain spring-run, fall-run chinook salmon and steelhead trout in the Lower Yuba River.

And really, our recommendations are based on the

presence of all these species and races, fall-run, spring-run chinook salmon and steelhead trout and the numerous lifestages and the overlapping of those lifestages throughout the year. And actually to kind of -- hopefully you can still hear me. Is this okay?

Just to clarify things, we have some figures that represent the different lifestages, the different races and the species and the different lifestages, the different lifestages of the various species. I will try to make this as brief as possible.

But really what you can see on all this is that adult migration, spawning, incubation and juvenile rearing, there is considerable overlap within any given species or any given races. There is quite a variance between species and races for these. In particular, late fall-run emigration for adults is later. Spawning is later. Incubation is later and juvenile outmigration and rearing is later, although it does overlap.

Spring-run which is probably one of the driving forces here --

MR. LILLY: Mr. Brown, could Mr. Nelson please tell us where these are in the testimony. I can't locate these.

MR. CUNNINGHAM: Mr. Brown, these are -- I am sorry.

H.O. BROWN: Mr. Cunningham.

MR. CUNNINGHAM: These are being offered strictly for

explanatory and discussion points. These are reflective of evidence that I believe is already in, not necessarily in our testimony but in the record and are provided simply as an explanation of why we are providing concern and a discussion of flow and temperature for year-round protection of fisheries in the system. They are providing nothing else. We are not going to ask to move these into exhibits; they are just merely discussion points.

H.O. BROWN: Proceed.

MR. NELSON: And is actually information taken from the 1992 plan with respect to spring-run chinook salmon --- have to look --

H.O. BROWN: Mr. Frink, do these need to be identified?

MR. FRINK: The record isn't going to indicate any of this information if not identified as exhibits. And if they were, Mr. Lilly has grounds for his objection. If you believe that your words alone provide an adequate explanation for what you are going to be discussing, no. They need to be identified as exhibits.

H.O. BROWN: We are having problems using them as discussion purposes and trying to refer to them at some later date. I would suggest that you may want to reconsider this.

MR. CUNNINGHAM: I think, again to the extent Mr.

Nelson's testimony is indicating in oral testimony what we are seeing visually, I believe that is acceptable and admissible. To the extent he is saying things like the time periods do reflect overlapping of the various lifestages throughout a yearlong period, that is all that is reflected on the graphics. I do believe that is oral testimony that reflects already existing oral testimony from the '92 proceeding and is transcribable in the record and understandable.

H.O. BROWN: About through with these?

MR. NELSON: I will make it real quick for everybody's sake.

I guess really what I was trying to show is that there is for any lifestage, adult spawning, incubation, rearing, there is a broad overlap. When you put all the different races together, virtually there is one lifestage is there virtually all year long. I begin to get dizzy and go cross-eyed. It's just to show there is a large number of various lifestages basically present year-round.

H.O. BROWN: Okay.

MR. NELSON: Just to summarize. Our recommendations, we basically have five recommendations. One is with respect to temperatures recommendations at --

H.O. BROWN: Is this in the record?

MR. CUNNINGHAM: This is in Mr. Nelson's testimony,

Pages 5 and 6.

H.O. BROWN: You may identify it so we know where it is in the record.

MR. NELSON: Do I need to do that?

MR. CUNNINGHAM: Mr. Brown, I can do this for him. This recommendation of the Department of Fish and Game is attached essentially as Pages 5 and 6 of the testimony of Mr. Nelson and Ms. Brown. That is S-DFG-1.

H.O. BROWN: Now you may proceed.

MR. NELSON: Basically, there are five recommendations. Again, it is centered around the presence of numerous lifestages throughout the year and the different races that are present the various times of the year.

We have temperature recommendations at Daguerre Point Dam for 56 degrees, basically, year-round. The reason for that, and as you will hear from our other witnesses, is due to the presence of spring-run chinook salmon which are outmigrating in the springtime that have a holdover in the summertime. Eggs are ripening and then subsequent spawning of fish in early September. And it is to maintain and protect those other summer fish as well as providing appropriate temperatures for fall-run, late fall-run and steelhead spawning later in the year and throughout the year.

And the subsequent recommendation of 60 degrees at

Marysville is based upon the juvenile steelhead trout that are moving into and utilizing the Lower Yuba River; and 60 degrees is the acceptable temperature for means of that lifestage.

With respects to flows, those flows occurring on September 1st should be maintained thereafter, basically to prevent the dewatering of redds and loss of incubating eggs and emerging spring-run in those redds. We have seen that some flow reduction is acceptable, but is probably very limited. We would work with all parties to better define what that criteria is.

And then we would ask that based on the information that is presented and will be presented that fish screens that meet current DFG and National Marine Fishery Service criteria be required on all diversions, including the Hallwood-Cordua and the South Yuba Brophy diversion.

And within the Board's authority we would ask that, and while we did not talk about it in the summary, there is information in the written testimony about passage and problems with passage for spring-run chinook salmon and steelhead and potentially late fall-run at Daguerre Point Dam. And we would ask within your authority that you require improvements for passage of adult salmonids at Daguerre Point Dam.

That basically concludes the summary of my testimony

and the others will testify now.

MR. CUNNINGHAM: Mr. Brown, for the record, to the extent there is a question about overhead slides, showing the various lifestages, I would like to call to your attention and that of staff and others that that information on those slides is gleaned and presented just in a different format. The information itself is contained in the proposed decision of the Board itself on Page 30, Figure 3, in which fall-run, late fall-run, spring-run chinook and steelhead, various lifestages are identified.

H.O. BROWN: Thank you, Mr. Cunningham, that helps.

MR. FRINK: Mr. Brown, just so our evidentiary record is clear, the portion of the Draft Decision that Mr. Cunningham referred to identifies the actual exhibits from the prior hearing from which that information was gleaned.

MR. CUNNINGHAM: I am sorry, it does -- for the record that information is gleaned from the Department of Fish and Game's Exhibit 26, Page 10 at the prior hearing and Yuba County Water Agency Exhibit 20, Pages 3 through 8 -- Page 3-8 an 3-9.

H.O. BROWN: All right.

MR. MINASIAN: Does that mean that we are all going to get a colored copy of those overlays?

H.O. BROWN: I did not read that, Mr. Minasian.

MR. CUNNINGHAM: I'm sorry, we don't have those,

Mr. Brown. They will be --

MR. MINASIAN: Well, my understanding is that we are entitled to a copy of all exhibits that are being presented. What has happened here to this particular overhead by the fact that somebody believes it can be found in a Draft Decision?

H.O. BROWN: Go ahead, Mr. Frink.

MR. FRINK: I don't believe that the overheads have been identified or offered as an Exhibit.

I believe Mr. Cunningham was simply saying that similar information was reflected in the Draft Decision with the exact exhibit numbers from the prior hearing cited there. But I don't think that the overheads are being offered as an exhibit. That was my understanding.

MR. CUNNINGHAM: No, they are not.

If I may call my next witness, Mr. Brown.

H.O. BROWN: You may.

MR. CUNNINGHAM: I would like to call Ms. Julie Brown, please.

Ms. Brown, can you state your name for the record.

MS. BROWN: Julie Brown.

MR. CUNNINGHAM: Were you sworn in for this proceeding today?

MS. BROWN: Yes, I was.

MR. CUNNINGHAM: Ms. Brown, is Exhibit S-DFG-3 a true

and correct statement of your qualifications for this hearing?

MS. BROWN: Yes, it is.

MR. CUNNINGHAM: I take it that is with the exception that we are not going to include Mr. Titus' statement of qualifications and Mr. Odenweller's statement of qualifications?

MS. BROWN: That's correct.

MR. CUNNINGHAM: Are Exhibits S-DFG-1 and S-DFG-4 through S-DFG-12 true and correct copies of your written testimony for this proceeding?

MS. BROWN: Yes, there are.

MR. CUNNINGHAM: I believe at this time we will just go ahead and offer Ms. Brown for cross-examination rather than providing a summary of her testimony. We will put her on as a part of the panel for cross-examination. We are hoping this will move things a little more briefly.

H.O. BROWN: It will.

MR. CUNNINGHAM: I would also like to call as our next witness Ms. Deborah McKee.

Ms. McKee, can you state your name for the record.

MS. MCKEE: Deborah McKee.

MR. CUNNINGHAM: Have you taken an oath to participate in this proceeding?

MS. MCKEE: Yes.

MR. CUNNINGHAM: Ms. McKee, is Exhibit S-DFG-14 a true and correct statement of your qualifications?

MS. MCKEE: Yes, except for William Snider's qualifications being attached in the back.

MR. CUNNINGHAM: Thank you.

Is S-DFG-13 a true and current copy of your written testimony?

MS. MCKEE: Yes.

MR. CUNNINGHAM: Are Exhibits S-DFG-15 through S-DFG-26 true and correct copies of the attachments, figures and tables submitted as part of your written testimony?

MS. MCKEE: Yes.

MR. CUNNINGHAM: Ms. McKee, can you briefly summarize your testimony.

MS. MCKEE: I am going to try and provide a brief summary of some of the key points of my written testimony for brevity sake so hopefully we can leave here today by 3:45.

I am here today to respond to two hearing issues proposed by the Board. And the first was what relevant new information is available regarding factors that influence the population trend of spring-run chinook in the Lower Yuba River.

As Mr. Nelson just pointed out, subsequent to the Department issuing its Lower Yuba River Fisheries Management

Plan in 1991 and the Board's Draft Decision in 1996, Sacramento River spring-run chinook salmon were listed both under the California Endangered Species Act and the federal Endangered Species Act. As an attachment to my testimony I submitted a copy of the Department's 1998 report to the Fish and Game Commission which was the Department's status review, titled "Status Review of Spring-Run Chinook Salmon in the Sacramento River Drainage, Candidate Species Report 98-1," and that was number Exhibit S-DFG-15.

We have submitted that document because it contains the relevant new information on the historic and present distribution of spring-run; population, status and trends; factors affecting the species survival; present management actions to recover spring-run; and recommendations for future management actions.

The Department's monitoring studies since 1980 indicates that there is a small population of spring-run, based on characteristics such as the timing of adult ascent during April, May, June, and the early spawning during September through early October, which continues to persist in the Yuba River. The best professional judgment by the Department personnel estimates that there are several hundred spring-run in the Yuba River.

There is very little today of the former spring-run habitat in the Central Valley that once existed. The

Department has estimated that there was once approximately 2,000 miles of salmon habitat, which was available before the dam construction and mining in the Central Valley and about 82 percent of that historic habitat is now lost.

In addition to the widespread loss of adult holding and habitat, degradation of habitat in the lower part of tributaries and in the migratory pathways is considered to be significant ongoing risk to Sacramento spring-run chinook salmon.

The juvenile rearing habitat, the juvenile and adult migration corridors have been severely impacted. The degradation includes, and I think this is very relevant for this hearing, restricted and regulative flows, agricultural and municipal diversions and returns, unscreened and poorly screened diversions, elevated water temperature, poor water quality and poor quantity -- low quantity of remaining habitats.

The adult passage in the lower reaches of spawning tributaries, adults can be delayed or they can be even blocked from ascending those tributaries under low flow conditions. And the mortality of migratory juveniles is considered a significant factor affecting spring-run abundance.

The Board also asked for relevant new information pertaining to stream flow and water temperature requirements

for the protection of fish in the Lower Yuba River and whether new information was available to support different stream flow and water temperature requirements during below normal, dry and critically dry years.

The stream flow and water temperature requirements specifically provided for spring-run chinook salmon; they need to be provided that based on their fresh water habitat requirements: fish age, life-history phase and specific seasons of the year. Table 2 of my written testimony is a summary.

That is a table from my written testimony and it is a summary of information gleaned directly from the Department's status review. Those temperatures are temperatures which were developed for defining essential habitat requirements for spring-run chinook salmon. Since adults enter the Yuba River in mid February through July, they need adequate stream flows to allow upstream passage to adult holding habitat. As you can see, they have a preferred temperature range for adult upstream migration between 38 degrees and 56 degrees.

A mature adult spring-run stage for several months before spawning and the upper limit of the optimal temperature range for the adults holding while eggs are maturing is 59 to 60 degrees. A sustained water temperatures of 80 degrees, 80.6 degrees, is lethal to

adults. Adult spawning in the Yuba River occurs from September to October, with peak spawning in late September.

The upper preferred water temperature for spawning adults is 55 degrees. The optimum temperature range for chinook salmon egg incubation is 44 degrees to 54 degrees. And at temperatures above optimum, egg reliability is reduced and mortality increases sharply.

I would like to point out that the Department also submitted a copy of the U.S. Fish and Wildlife Services recent report on special temperature tolerance studies which they performed to determine whether there was a general consistency of temperature tolerances for some of the different temporal runs of Central Valley chinook salmon, especially if there were differences, let's say, between fall- and winter-run. The Department submitted as S-DFG-10.

The Service found incubation mortality increased with increasing temperature which resulted in 90 percent for fall-run and 87 percent for winter-run mortality at temperatures of 62 degrees. Incubation temperatures from 62 to 64 degrees appear to be the physiological limit of embryo development, which resulted in 84 to 100 percent mortality prior to emergence.

What is most important about the report is that the Service recommended for the case of the main stem Sacramento

River retaining the less than or equal to 56 degrees temperature requirement between Keswick Dam and Ben Bridge, specific management recommendation on to use this information to protect chinook salmon in the main stem Sacramento. They also have recommendations which we think are very relevant to the Yuba River on what to do in situations where your cold water availability is limited.

In the case of the Sacramento, the Fish and Wildlife recommended releasing cold water over the warmest months in order to maintain slightly elevated temperatures if the cold water pool is limited, because that would result in a lower cumulative mortality compared to alternative management strategies that have been employed in the past of maintaining an optimum temperature condition using up your cold water supply and then having rapid enlarged temperatures increases.

The Board's proposed minimum flows in the Lower Yuba River for fishery protection purposes do not adequately consider the specific needs for spring-run chinook salmon. Instead, minimum flow levels for the time periods specified for the delivery were developed principally for fall-run, as Mr. Nelson has already testified. And there were secondary considerations for American shad and some for steelhead trout. While the Board states they considered all races of chinook salmon when they developed the proposed temperature

criteria for October through March, the subsequent analysis really focuses on fall-run. There were no criteria proposed for the October 1 through 14 time frame for normal and dry water years.

Adult spring-run can be expected to be spawning in the Yuba River during this time period. The proposed temperature criteria during June, which is 65 degrees at Marysville gauge, was intended to provide some level of protection to adult spring-run, but this exceeds the upper limit of optimum range for holding adults prior to spawning or the 56-degree upper limit of preferred temperature range for migrating adults.

The Board's also proposed a temperature criteria of 65 degrees at Daguerre Point Dam for July through September. That is the time period when adult spring-run can be expected to be migrating upstream, holding and spawning. So to protect migrating adults, water temperatures in July at Marysville gauge should be less than or equal to 60 degrees, and to protect spawning adults and incubating eggs water temperatures in August and September at Daguerre Point Dam should be less than or equal to 56. The same temperature criteria should be extended through October to protect the breadth of the spring-run spawning season.

Given the list and status of spring-run, there should be no reductions in flow or elevations of maximum

temperature criteria during dry years when the fish would be expected to be already stressed and vulnerable to increased losses throughout the remainder of their fresh water life history.

That is all I to have to testify today.

MR. CUNNINGHAM: Thank you.

Next witness would we would like to call is Dennis McEwan, please.

Just a quick point, Mr. Brown, I think you said 3:45 today.

H.O. BROWN: Yes.

MR. CUNNINGHAM: That is what we are shooting for. We will get all of our direct done in that time period.

H.O. BROWN: Good.

MR. CUNNINGHAM: Mr. McEwan, could you please state your full name for the record, please.

MR. MCEWAN: Dennis McEwan.

MR. CUNNINGHAM: Have you already taken the oath?

MR. MCEWAN: Yes.

MR. CUNNINGHAM: Mr. McEwan, is Exhibit S-DFG-28 a true and correct statement of your qualifications?

MR. MCEWAN: Yes, it is.

MR. CUNNINGHAM: Is Exhibit S-DFG-27 a true and correct copy of your written testimony?

MR. MCEWAN: Yes, it is.

MR. CUNNINGHAM: Mr. McEwan, is Attachment A to your testimony, S-DFG-29, a true and correct copy of the Department of Fish and Game Steelhead Restoration and Management Plan for California?

MR. CUNNINGHAM: That is dated February 1996?

MR. MCEWAN: Yes.

MR. CUNNINGHAM: Is Attachment B to your testimony, which is S-DFG-30, a true and correct copy of the Interagency Ecologic Program Steelhead Project Work Team's "Monitoring Assessment and Research on Central Valley Steelhead, Status of Knowledge, Review of Existing Programs and Assessment of Needs" dated March 1999?

MR. MCEWAN: Yes, it is.

MR. CUNNINGHAM: Mr. McEwan, could you briefly summarize your testimony.

MR. MCEWAN: There are two essential points to my testimony. Number one, there has been a severe decline of steelhead throughout the Central Valley, and the greatest factor in this decline has been loss of juvenile rearing habitat. It has been estimated that greater than 82 percent of steelhead spawning and rearing habitat in the Central Valley has been lost.

The primary stressors affecting Central Valley steelhead are related to water development and water management, and this is well-documented. This decline has

prompted the National Marine Fishery Service to list Central Valley steelhead as threatened under the federal Endangered Species Act. This includes all naturally spawned steelhead, regardless of parental origin in all anadromous reaches of the Sacramento River and the San Joaquin system below the confluence of the Merced River, and including the Merced River.

The National Marine Fisheries Service has designated critical habitat for Central Valley steelhead and this includes the Yuba River upstream to Englebright Dam. NMFS has also recently published a proposed rule governing take of threatened steelhead and activities that are pertinent to this hearing that NMFS believes are likely to result in violation of this rule are: "Diverting water through an unscreened or inadequately screened diversion at times when salmonids are present." "Water withdrawals that impact spawning or rearing habitat and diversion or discharge of flows that result in excessive fluctuation of stream temperatures."

The second point of my testimony is that the recent listing of Central Valley steelhead under the federal Endangered Species Act necessitates that habitat requirements of steelhead in the Yuba River, particularly water temperatures, be reconsidered by the Board. The Draft Decision allows water temperature at Daguerre Point Dam to

reach 65 degrees Fahrenheit from July 1 to September 30th in wet and normal years and from June 1 through September 30th in dry years. Because this is above the preferred limit for steelhead rearing, preferred upper limit for steelhead rearing, this could cause impacts to rearing juvenile steelhead.

MR. CUNNINGHAM: Thank you, Mr. McEwan.

I would like to call as the last witness today Mr. Dan Odenweller.

Mr. Odenweller, will you please state your full name for the record.

MR. ODENWELLER: My name is Dan Bowman Odenweller.

MR. CUNNINGHAM: Were you previously sworn in this proceeding?

MR. ODENWELLER: Yes, I was.

MR. CUNNINGHAM: Mr. Odenweller, is Exhibit S-DFG-33 a true and correct statement of your qualifications?

MR. ODENWELLER: Yes, it is but, another addition of -- the qualification statement from Mr. Steven C. Hampton was appended to the back of mine and is not part of my qualifications.

MR. CUNNINGHAM: Mr. Odenweller, is Exhibit S-DFG-32 a true and correct example, copy of your written testimony?

MR. ODENWELLER: Yes, it is.

MR. CUNNINGHAM: Is Attachment A to your testimony,

S-DFG-34, a true and correct copy of the Department of Fish and Game's "Fish Screening Criteria," dated April 14th of 1997?

MR. ODENWELLER: Yes, it is, and it includes Attachment A, which may be somewhat confusing, the National Marine Fisheries Service's Southwest Region Fish Screening Criteria. There are two separate items.

MR. CUNNINGHAM: Mr. Odenweller, could you briefly summarize the changes in the fish screening criteria since the hearing in 1992.

MR. ODENWELLER: Since 1992, as a result of the listing of several species and the desire to coordinate our criteria between the National Marine Fishery Service and Fish and Game, our criteria went from a two-page document to about a five-page document, reflecting those changes.

The significant change for purposes of the Yuba River hearings is the steelhead rainbow trout mesh size criterion which we have included in our criteria at the request of the National Marine Fishery Service to protect steelhead fry. The smaller size mesh size is based on a study conducted in Washington and is reflected in NMFS criteria which are appended to ours and calls for a 332nd perforated plate opening or a 1.75 millimeter mesh or slotted material opening, and that is the only change that I believe is significant for the purpose of this hearing.

MR. CUNNINGHAM: Mr. Odenweller, could you briefly summarize the status of the fish screen activities since 1992 with reference to Central Valley?

MR. ODENWELLER: Since 1992 hearings, the U.S. Department of Interior Central Valley Project improvement Act and its Anadromous Fish Screening Program, Cal/Fed and a bond act passed by the citizens of California, Proposition 204, provided a mechanism for completing fish screens in a number of locations throughout the Sacramento River, Butte Creek, the Sacramento-San Joaquin Delta and in the Suisun Marsh.

Of special significance to the hearing, as you have already heard, is the Browns Valley Irrigation District fish screen came on line last year and was funded from those sources.

To my knowledge, only one other diversion has been the subject of discussions about screening in the recent past, and that was discussions with Cordua Water District regarding the Hallwood-Cordua diversion at this point.

MR. CUNNINGHAM: Mr. Odenweller, have the Department and Hallwood-Cordua completed any discussions on future screening on the Hallwood-Cordua diversion?

MR. ODENWELLER: No, I do not believe they have. In fact, I believe the discussions have been only with Cordua at this point.

MR. CUNNINGHAM: Mr. Odenweller, there has been discussions about other fish screens in this proceeding having to do with the South Yuba Brophy diversion. Could you comment a little on the South Yuba Brophy diversions fish screens, specifically on the some identification of fish by Dr. Kramer included in his testimony?

MR. ODENWELLER: We received as part of a report on a scientific collecting permit information which was reported to us by letter dated March 17, 1994, in which is included as S-DFG-35 a report documenting continuing catches of chinook salmon and steelhead behind the South Yuba Brophy gabion fish screen as it has been termed.

Similar information was available at the 1992 hearings. The record will reflect the discussion about the potential sources for those losses. What was significant in this report was we had some smaller fish that were too small to have been carried over in the floods earlier in the year. I believe Dr. Kramer acknowledged they could have gone through the gabion structure at that point.

Regardless of causal mechanism for the losses, the fish were lost to the fishery. And in the case of steelhead, rainbow trout losses, should this continue to occur would constitute take, I believe, in the view of the National Marine Fishery Service and would be a problem on down the road.

MR. CUNNINGHAM: Mr. Odenweller, is the gabion screen of the South Yuba Brophy diversion considered an alternative fish screen?

MR. ODENWELLER: In my view, yes.

MR. CUNNINGHAM: Could you summarize the work on alternative fish screen technologies in reference to the Central Valley that you are familiar with.

MR. ODENWELLER: We have had three major studies of alternative technologies in the Central Valley in the last few years: sound, lights and electricity principally. So the work occurred for upstream migrants at the junction of the Merced and the San Joaquin River, for downstream migrants at RD1004, RD108 and at Georgianna Slough.

None of the studies produced results, particularly for downstream migrants that came close to achieving the standards that the agencies have been looking for in state-of-the-art fish screens and confirmed earlier studies which have produced similar results in the field. Of particular note in the studies that were done at RD108 and RD1004, the unit was installed in a hatchery raceway. As a result of some observations by one of the technicians, an anecdotal account on the data sheet that was voided suggest that we may be facing a situation with these devices, sound, electricity and light, where a competing stimulus to the sound, electricity or light, in this case potential

predation, gives the critter a choice to make, getting tickled by electricity or bothered by the sound or eaten by something, and may explain the results we get in the field. But that is based on that observation alone.

To my knowledge, there is has been no additional work done on either the leaky levee concept or the rock gabion concept which would add to or change anything in my previous testimony to the Board.

MR. CUNNINGHAM: Thank you, Mr. Odenweller.

Mr. Brown, our witnesses are available for cross-examination at this time.

H.O. BROWN: I think --

Mr. Gee, how much time do you have for cross?

MR. GEE: I believe I can finish within ten minutes. You want to start tomorrow, whatever the Board wishes.

H.O. BROWN: We will start tomorrow.

MR. CUNNINGHAM: Could I ask a question, perhaps before we close. And I am hoping to get a sense of timing for tomorrow. I know there are going to be lots of cross-examination for our panel and witnesses. I am wondering if you perhaps could ask of everyone a sense of how much time. I think we mentioned you are planning to go fairly late tomorrow, but if possible that would include potentially rebuttal time and rebuttal cross, trying to get a sense of planning, whether we are supposed to plan for

that tomorrow.

H.O. BROWN: All that are going to have cross-examination, stand and I will take your time.

H.O. BROWN: Mr. Baiocchi.

MR. BAIOCCHI: Twenty minutes.

H.O. BROWN: Mr. Gee.

MR. GEE: Ten to 15 minutes.

H.O. BROWN: Somebody adding this up, Mr. Frink?

Mr. Sanders.

MR. SANDERS: Let's say half an hour.

H.O. BROWN: Mr. Cook.

MR. COOK: With five witnesses, my guess would be half an hour.

H.O. BROWN: Mr. Morris.

MR. MORRIS: I am hoping not to do any, but I don't want to get counted out. Probably ten minutes.

H.O. BROWN: Paul.

MR. MINASIAN: About an hour, Mr. Brown.

H.O. BROWN: Mr. Lilly.

MR. LILLY: Two to two and a half hours.

H.O. BROWN: Mr. Bezerra.

MR. BEZERRA: I am following Mr. Morris' example.

H.O. BROWN: And then staff.

MS. LOW: Forty-five altogether.

H.O. BROWN: What is that?

MR. FRINK: We are getting close to six hours.

H.O. BROWN: That may help answer your question a little.

MR. CUNNINGHAM: That helps in part, Mr. Brown.

Do you foresee starting rebuttal potentially tomorrow?

H.O. BROWN: Yes, I think so. I think a chance we would do that.

MR. LILLY: Mr. Brown, if there is a chance of starting rebuttal, can you tell us what the order of parties will be for rebuttal? Because, obviously, like Mr. Cunningham I have witnesses that I need to tell them how to arrange their schedules.

H.O. BROWN: It will be the same order that we have been speaking of; is that right, Mr. Frink?

MR. FRINK: Yes, unless --

MR. LILLY: Mr. Brown, of course, it is your call on the order. I would suggest it would make more sense to do it in a different order, particularly with -- the only reason Fish and Game was at the end was to accommodate Mr. Nelson's schedule, and we are glad we are able to do that. At this point -- and I don't know how many other parties are planning on doing rebuttal testimony. But for us to have to rebut the Fish and Game testimony, we're going to receive today and we will receive information tomorrow, gives us a very limited time.

Whereas, on other hand, Fish and Game has submitted rebuttal to Yuba County Water Agency's testimony, they have had well over a month to prepare that. So I would suggest it would make more sense for Fish and Game to present their rebuttal testimony.

H.O. BROWN: Thank you, Mr. Lilly.

MR. BAIOCCHI: I have a suggestion. Why not May 1st for rebuttal? Because I am in a bind myself, I have a witness that I haven't been able to contact, and we may or may not have rebuttal testimony.

H.O. BROWN: We have six hours tomorrow of cross-examination. That may take up most of the day, and let me rethink.

What do you think, Mr. Frink, any rebuttal tomorrow?

MR. FRINK: I don't know if we will or not. If we were ready to go into it at three and if any of the parties are prepared to do it, it would sure be helpful. We may be into scheduling more days after that.

H.O. BROWN: Who would be ready for rebuttal tomorrow, without concerns Mr. Lilly addressed?

Nobody.

We will make that -- I will take your counsel, your suggestion, under advisement and we will rule on it in the morning. It does not look like we will get to rebuttal tomorrow.

MR. CUNNINGHAM: Thank you, Mr. Brown.

H.O. BROWN: This hearing is adjourned until 9:00 in the morning.

(Hearing adjourned at 3:45 p.m.)

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REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) ss.
COUNTY OF SACRAMENTO)

I, ESTHER F. WIATRE, certify that I was the official Court Reporter for the proceedings named herein, and that as such reporter, I reported in verbatim shorthand writing those proceedings;

That I thereafter caused my shorthand writing to be reduced to typewriting, and the pages numbered 1786 through 1981 herein constitute a complete, true and correct record of the proceedings.

IN WITNESS WHEREOF, I have subscribed this certificate at Sacramento, California, on this 14th day of April 2000.

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ESTHER F. WIATRE
CSR NO. 1564

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