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01 PUBLIC HEARING  
02 STATE WATER RESOURCES CONTROL BOARD  
03 DIVISION OF WATER RIGHTS  
04 STATE OF CALIFORNIA

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08 SUBJECT: AMENDMENT OF CITY OF LOS ANGELES' WATER RIGHT  
09 LICENSES FOR DIVERSION OF WATER FROM STREAMS THAT ARE  
10 TRIBUTARY TO MONO LAKE

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14 Held in  
15 Resources Building  
16 Sacramento, California  
17 Wednesday, November 17, 1993

18

19 VOLUME XIV

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21 ---o0o---

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24 Reported by: Kelsey Davenport Anglin, RPR,  
24 CM, CSR No. 8553

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01 SACRAMENTO, CALIFORNIA  
02 WEDNESDAY, NOVEMBER 17, 1993, 8:30 A.M.  
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04 HEARING OFFICER DEL PIERO: Ladies and Gentlemen,  
05 this hearing will come to order.

06 This is a continuation of the hearing of the State  
07 Water Resources Control Board regarding amendments to  
08 the City of Los Angeles' water rights licenses for the  
09 diversion of water from the streams tributary to Mono  
10 Lake.

11 My name's Marc Del Piero. I'm Vice-Chairman of  
12 the State Water Resources Control Board acting in the  
13 capacity of Hearing Officer for this matter. With me  
14 today is Mr. John Brown, who's also a member of the  
15 State Water Resources Control Board and my good friend.  
16 And also with us today is Chairman of the State Water  
17 Resources Control Board, Mr. John Caffrey.

18 When last we left, Mr. Flinn was cross-examining,  
19 I think. Is that true, Sir?

20 MR. FLINN: Yes. And I was going to ask for  
21 another 20 minutes.

22 HEARING OFFICER DEL PIERO: And you were granted  
23 another 20 minutes.

24 MR. FLINN: Yes. In fact, I was going to ask for  
25 this special favor. If whoever is keeping time, could  
0007  
01 actually keep time at ten minutes and five minutes, so  
02 when I'm told there's ten minutes left and five minutes  
03 left, so I can try and make sure I get through the  
04 important points. If that's not too much to ask.

05 MR. HERRERA: I can probably do that if our watch  
06 is working.

07 MR. FLINN: Thank you.

08 CROSS-EXAMINATION BY MR. FLINN (Continued)

09 Q A few more questions, probably, for Dr. Carson,  
10 but again, whoever wants to answer, about the CV  
11 study.

12 Dr. Carson, in your oral statement, you mentioned  
13 having looked at some of the follow-up questions that  
14 were asked of the respondents. Do you recall that  
15 testimony?

16 A BY DR. CARSON: Yes.

17 Q Did you read the follow-up questions about the --  
18 the answers that were given by people who indicated a  
19 lack of willingness to pay for the protection of Mono  
20 Lake?

21 A If there's a problem in the survey, these  
22 so-called follow-up or debriefing questions are not as  
23 extensive as you might want in a large survey, and so  
24 the answer is yes, I've read what's there, but there's  
25 not very much really there.

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01 Q Okay. But -- because you brought it up in your  
02 testimony, I want to bring it up in mine. Let me ask  
03 you a question.

04 You recall, first of all, that the survey  
05 respondents were asked to assume that the money that  
06 they would pay to protect Mono Lake would actually be  
07 given to the government?

08 A Correct.

09 Q And you recall that some of the respondents, the  
10 textual responses, indicated their lack of willingness  
11 to pay, not so much because they didn't want to protect  
12 Mono Lake, but they doubted that the government would  
13 actually use the money for that purpose?

14 A That's correct.

15 DR. WADE: Excuse me, Mr. Flinn.

16 Q BY MR. FLINN: Now Dr. Wade. Again, this is probably  
17 more to you because I'm going to focus on your  
18 testimony, but I don't know if you want to answer it.

19 Your \$95 million shortage costs that was the big  
20 difference between you and Jones and Stokes is derived  
21 from the assumption that all of the replacement water  
22 for Mono Lake would have to be acquired from the  
23 Metropolitan Water District; is that correct?

24 A BY DR. WADE: It's -- not precisely, but mostly  
25 because there is some added reclamation water in our

0009  
01 model.

02 Q What reclamation assumptions did you make?

03 A We made -- backing up just a step to answer your  
04 question, the ERM was loaded and provided to us by the  
05 Department of Water Resources with the assumptions that

06 are currently embedded in forthcoming Bulletin 1693.  
07 And to that, we added 52,000 acre-feet of incremental  
08 reclamation to bring the number up in line with the  
09 Jones and Stokes assumptions.

10 Q Okay. And if more than that were, in fact,  
11 available in the year 2000, then there would be less  
12 need for Metropolitan water; is that right?

13 A Well, that would be hypothetical, but true.

14 Q Now, let's talk about MWD a little bit. You  
15 criticized the Draft EIR for its lack of analysis as to  
16 whether or not the Metropolitan Water District in fact  
17 had the water available. Do you recall that?

18 A I wouldn't label it as being critical. I  
19 displayed a table which indicated that the State Water  
20 Project did not have the deliverability to provide  
21 Metropolitan the incremental make-up water.

22 Q You mention the State Water Project. Is that the  
23 only place the Metropolitan Water District gets its  
24 water?

25 A No. That's the place Metropolitan gets its  
0010

01 incremental water.

02 Q Does the Metropolitan Water District get water  
03 from the Colorado River?

04 A Yes.

05 Q And how much water did you assume on an annual  
06 basis they could get from the Colorado River?

07 A I assumed the firm yield plus the Imperial  
08 Irrigation District transfer for a total of 626,000  
09 acre-feet.

10 Q And how much last year did they actually get from  
11 the Colorado River?

12 A To jump ahead, Sir, they've been running full pipe  
13 for much of the last ten years.

14 Q And that's approximately one point two million  
15 acre-feet; isn't that right?

16 A I think it's a little more than that.

17 Q So your assumptions assume that Metropolitan's  
18 Colorado River supplies would be halved by the year  
19 2000; isn't that right?

20 A No. That is not my assumption explicitly as you  
21 stated. It is rather that, for a planning perspective,  
22 every planner in the state can only assume for the year  
23 2000 what the contract specifies because no planner in  
24 the state has any certitude as to what the offtake  
25 above Metropolitan upstream in Arizona and Nevada will

0011  
01 be. The safe assumption, the usual, the accepted  
02 planning assumption is the firm yield, 626,000  
03 acre-feet in this particular case.

04 Q Assuming that this Water Board wanted to make as  
05 accurate a prediction as possible with regard to the  
06 availability of Metropolitan water supplies, do you  
07 believe that Metropolitan, itself, would be a reliable  
08 source of information on that subject?

09 A The answer would be yes, and I think this Board  
10 would have to review, with respect to the line of  
11 questions that you're pursuing, very hard evidence as  
12 to what these things are. But the hard evidence that's  
13 afoot in the planning community today is 626,000

14 acre-feet.

15 Q Do you know a man named Timothy Quinn?

16 A I certainly do.

17 Q And you understand that he, like yourself, is an  
18 economist?

19 A I certainly do.

20 Q And do you have an opinion as to whether or not  
21 Dr. Quinn's testimony about water supply is credible  
22 and reliable and believable?

23 A I would accept it as that.

24 Q Have you read his written testimony?

25 A I have.

0012

01 Q And you understand that he predicts in his written  
02 testimony continued availability of \$1.2 million  
03 Colorado River water?

04 A You know, I think his testimony was written, like  
05 mine, some months ago, and I think that Metropolitan  
06 has had a -- a reversal of fortune since he wrote that  
07 testimony, if I may take a minute.

08 It's my understanding --

09 Q Before you do, I would ask you --

10 A The point would be that the bottom line is I think  
11 Mr. Quinn's testimony may be mistaken on this point by  
12 more current events.

13 MR. FLINN: Madam Reporter, would you read back  
14 the question, and this time, Dr. Wade, I'd like you to  
15 answer the question.

16 (Whereupon the record was read as reported.)

17 DR. WADE: If that's what he said, that would be  
18 his testimony.

19 Q BY MR. FLINN: I want to examine in a little more  
20 detail the concept of shortage costs themselves. And  
21 I'm not an economist, and it's been a struggle for me  
22 to learn this field in just a limited enough way to ask  
23 these questions. And so I wanted to ask you a  
24 hypothetical question based on my personal experience.  
25 So that what I'm going to give you is a hypothetical.

0013

01 I want you to assume it's true.

02 Let me tell you that I live, Sir, in Palo Alto and  
03 during the drought, we had a requirement that we cut  
04 back on our water use by 20 percent against 1987  
05 levels. And as a consequence of that drought, I did a  
06 couple of things. I stopped washing my car, and I  
07 stopped watering my lawn every day and did it every  
08 other day. And as a consequence of that, I had a lower  
09 water bill than I normally did. I had a dirty car, and  
10 I didn't notice much difference in my landscaping.

11 Sir, under economic definitions of shortage costs,  
12 have I incurred some kind of shortage costs as a result  
13 of that?

14 A Yes. By your own description, you've enjoyed some  
15 lowering in your quality of life. I would suspect a  
16 fine lawyer like yourself would like to drive around in  
17 a clean, shiny car.

18 Q And if, in fact, driving around in a dirty car  
19 made me feel sort of noble and superior to my neighbors  
20 that I was doing something for the community, the  
21 shortage costs wouldn't recognize that benefit; is that

22 right?  
23 A BY DR. CARSON: That's correct. However, again, if  
24 you look at this, what you're doing is you're looking  
25 at a distribution of people's willingness to pay to  
0014  
01 avoid the shortages. For some people, they clearly  
02 have a willingness to pay to avoid the shortages and  
03 that's taken into account. And some people,  
04 particularly those people who live in sort of very dry  
05 areas who will lose their landscape, they tend to have  
06 a very high value. So in other words, different  
07 individuals will have different values of avoiding the  
08 shortage.  
09 HEARING OFFICER DEL PIERO: I'm crushed. I had  
10 really hoped we were going to find out the value of  
11 nobility here today.  
12 Q BY MR. FLINN: I'm going to try and keep moving  
13 here. Focusing on that --  
14 MR. BIRMINGHAM: I'm actually surprised that prior  
15 to the drought, Mr. Flinn was watering his lawn every  
16 day.  
17 MR. FLINN: It's a small lawn.  
18 Q BY MR. FLINN: Focusing on this distribution issue, I  
19 do have kind of a hypothetical question for either of  
20 you, and I'd like to see if you can understand it. And  
21 it's a little bit complicated, so I want to set it out  
22 for you in a little detail if I can.  
23 Let me ask you to assume that there are two  
24 people. Person A has a shortage cost, or a willingness  
25 to pay to avoid a shortage, of a thousand dollars an  
0015  
01 acre-foot for the first four acre-feet they're willing  
02 to cut back, or the first four they would have to cut  
03 back, and another person has a 3,000 acre-foot shortage  
04 cost for that same first four acre-feet. And so these  
05 people are using at least eight acre-feet of water.  
06 Do you follow me so far?  
07 A BY DR. CARSON: In totals.  
08 Q Yes.  
09 A Okay.  
10 A BY DR. WADEL I thought I added up to seven, four,  
11 and three.  
12 MR. HERRERA: Ten minutes, Mr. Flinn.  
13 MR. FLINN: Thank you.  
14 Q BY MR. HERRERA: The Person A uses four acre-feet at  
15 a thousand. The second person uses four acre-feet, and  
16 his shortage cost is 3,000 an acre-foot. They each use  
17 four.  
18 And let's say that this population is told that  
19 they have to cut back by 50 percent, four acre-feet.  
20 And if they were simply -- the hoses were switched off  
21 after the first four acre-feet --  
22 A BY DR. CARSON: Two each.  
23 Q Two each, yes. Am I not correct that Person A  
24 would suffer \$2,000 worth of shortage cost and Person B  
25 would suffer \$6,000 worth of shortage cost? Is that  
0016  
01 right?  
02 A If this function is strictly linear, one would  
03 expect the shortage costs to increase as you increase



04 magnitude.  
05 Q Let's make it simple. Don't fight with the  
06 hypothetical. It's linear. Am I right, it's total of  
07 8,000?  
08 A Right.  
09 Q And the average for those four is \$2,000 an  
10 acre-foot?  
11 A Correct.  
12 Q So if you're trying to measure the shortage cost  
13 under that regime, you'd measure it at \$2,000 an  
14 acre-foot?  
15 A Right.  
16 Q Now, instead of simply telling both of them that  
17 the hoses get turned off when they each reach two  
18 acre-feet, you say that we're going to increase the  
19 price to \$1500 an acre-foot.  
20 A Okay.  
21 Q So the first fellow, whose shortage costs are  
22 1,000 acre-foot at each level, it would be in his  
23 economic interest simply not to buy any of the four  
24 acre-feet and rather incur the \$1,000 shortage cost as  
25 opposed to pay 1500 in actual costs; is that right?  
0017  
01 A Correct. There's where you see the problem with  
02 the linear assumption.  
03 Q Let me go on and finish. And this person whose  
04 costs are \$3,000 an acre-foot would, in fact, use all  
05 of his entitlement because it's cheaper for him to buy  
06 it at 1500 than to incur 3,000 in costs, right?  
07 A Right.  
08 Q And in that case, if Person A gives up all four,  
09 the average shortage costs are 1,000, not 2,000. Is  
10 that right?  
11 A Right.  
12 Q Now, let me move on to the shortage costs that  
13 were assumed in the \$95,000. Am I correct that this  
14 was based on the 1987 survey done by yourself,  
15 Dr. Carson, and Ella Mae Mitchell?  
16 A Right.  
17 Q And the average shortage costs in that study were  
18 somewhere around \$4,000 an acre-feet?  
19 A Correct.  
20 A BY DR. WADE: That was a median number.  
21 Q What was the average number?  
22 A The average number was somewhat higher.  
23 Q The median number, then, was 3,000?  
24 A BY DR. CARSON: Yes.  
25 Q This study was done in 1987; is that right?  
0018  
01 A Correct.  
02 Q And as of 1987 for the MWD service area, wasn't it  
03 predicted that by the year 2000, there would be  
04 substantial potential shortages?  
05 A What we looked at in that study was a range of  
06 shortages going from one at 10 to 15 percentage every  
07 five years at one end to two shortages every five  
08 years, one at 30 to 35 percent, the other at 10 to 15.  
09 Q I didn't ask you what was in the survey, Sir. I  
10 asked you as of 1987, did planners in the Metropolitan  
11 Water District service area expect there to be, by the

12 year 2000, shortages?

13 A We looked at the range of shortages which were  
14 currently being projected.

15 Q Now, are you aware in the documents that, in fact,  
16 have been submitted with your testimony that there are  
17 estimates of the acre-foot cost for the development of,  
18 say, desalinization plants?

19 A BY DR. WADE: Yes.

20 Q And you understand, gentlemen, that the  
21 per-acre-foot cost of a desalinization plant is on the  
22 order of, depending upon size and volume benefits,  
23 between 1400 and \$2,000 an acre-foot?

24 A BY DR. CARSON: Yes, I am.

25 Q Now, assuming that in 1987 you gentlemen  
0019

01 demonstrated that shortage costs were up to \$3,000 an  
02 acre-foot or more and assuming that shortages were  
03 predicted, between 1987 and the present, how many water  
04 agencies in the MWD service area have planned  
05 desalinization plants?

06 A BY DR. WADE: Is there not one in Santa Monica?

07 A BY DR. CARSON: Santa Barbara has actually built one.  
08 San Diego had a very large one on the drawing board and  
09 under planning which they just recently removed due to  
10 cost estimates with San Diego Gas and Electric to  
11 supply the power.

12 Q Is Santa Barbara part of -- an MWD member agency?

13 A Santa Barbara is not.

14 Q Now, my next question to you, Sir, is in the  
15 recent drought, were you aware that there was a water  
16 bank?

17 A BY DR. WADE: Yes.

18 Q And were you aware that, in the recent drought,  
19 not all of the water in the water bank was purchased?

20 A That's correct. It rained.

21 Q Do you understand that even during the drought,  
22 there was water available in the water bank, and it  
23 wasn't all purchased?

24 A That's not correct.

25 MR. HERRERA: Five minutes.

0020

01 DR. WADE: It was not all purchased, but it was  
02 not all purchased because it rained after the water was  
03 put in the bank. Remember the March miracle?

04 Q BY MR. FLINN: So it's your testimony that after the  
05 water was in the bank, there were no water shortages in  
06 Southern California?

07 A BY DR. WADE: That is not my testimony. As a matter  
08 of fact, Metropolitan remained in Stage Five  
09 throughout 1991.

10 Q And even though there were shortages in the  
11 Metropolitan Water District, not all the water in the  
12 water bank was purchased; is that right?

13 A The take of the water bank backed off for,  
14 perhaps, a variety of reasons. Not all are known to  
15 me, but a major one would have to be, Sir, that it  
16 rained.

17 Q Notwithstanding the fact that there were shortages  
18 and notwithstanding the fact that you gentlemen assumed  
19 there would be at least \$3,000 in shortage costs --

20 strike that. I'll ask a foundational question.  
21 The water in the water bank was cheaper than  
22 \$3,000 an acre-foot, wasn't it?  
23 A Yes.  
24 Q And notwithstanding the fact that there were  
25 shortages and that there was water in the water bank  
0021  
01 that was cheaper than \$3,000 an acre-foot, people  
02 didn't seem to be willing to pay for additional water;  
03 isn't that right?  
04 A Again, it rained.  
05 Q Notwithstanding the fact that there were  
06 shortages, people didn't pay for that water; isn't that  
07 right?  
08 A Well, there are a variety of reasons, but the  
09 answer to your question simplistically is yes.  
10 A BY DR. CARSON: Let me make one thing, I think, here  
11 which is the price of the water in the water bank is  
12 basically a wholesale cost before transportation. And  
13 so what you really have to do is look at what this  
14 would translate to at the retail price level far down  
15 in the system.  
16 Q What's the difference between the wholesale and  
17 retail costs in Southern California?  
18 A Actually, I might let Dr. Wade answer that.  
19 A BY DR. WADE: Actually, I don't have the factual --  
20 the facts on that, but it's substantial. The water  
21 comes in today on -- to Metropolitan at \$300 odd or  
22 \$400 odd, then it's treated and distributed, and it's  
23 priced at different prices by different retail  
24 agencies. I actually have a data set at the office,  
25 but I can't recall it.  
0022  
01 Q Isn't the highest retail cost about \$1200 an  
02 acre-foot?  
03 A In some Northern California service areas, I'm  
04 aware of prices close to that.  
05 Q And so even if we're assuming a markup of  
06 approximately 5, \$600 an acre-foot, that wouldn't  
07 explain why water that was far cheaper than -- back  
08 up.  
09 The water in the water bank was a lot less than  
10 \$2500 this an acre-foot, wasn't it? Wholesale?  
11 A Yes. You know, Mr. Quinn, the decision --  
12 Q My name's Flinn, actually?  
13 A Flinn. Mr. Flinn, the decisions to purchase or  
14 not that water were made by human beings, managers, not  
15 necessarily, as we economists assume and your line of  
16 questions assume, all-knowing managers. I know that  
17 some general managers -- I know that some water  
18 districts did not purchase that water, and I know that  
19 they were criticized by some of their consumers by not  
20 making more water available to them who were not  
21 enjoying the water shortage of their water service  
22 area.  
23 Q I take it that you would agree that there is  
24 sometimes a gap between what the economists predict  
25 would happen and what water managers and planners and  
0023  
01 actual people tend to do?

02 A BY DR. CARSON: One thing that happens in these  
03 shortages, and I've given a couple of talks on this, is  
04 simply that a lot of water agencies don't have the sort  
05 of stand-by authority to raise the prices to pay for  
06 the much higher water, and that makes it difficult for  
07 them to react very quickly to these things, what you  
08 might expect.

09 MR. FLINN: I'd like the Reporter to read back the  
10 question, and I would like that question answered.

11 (Whereupon the record was read as requested.)

12 DR. CARSON: In order to answer to that question,  
13 I will put at the very beginning of it this gap is  
14 because the economists are looking at a longer-run  
15 situation vis-a-vis the short-run reaction where people  
16 have to adjust.

17 Q BY MR. FLINN: But the answer to my question is yes,  
18 isn't it?

19 A BY DR. CARSON: There's a gap between the long run  
20 and the short run.

21 Q No. My question is not whether there's a gap  
22 between the long run and the short run. There's a gap  
23 between what you economists predict would happen and  
24 what people actually do; isn't that right?

25 A There always has to be a gap, yes.

0024

01 MR. HERRERA: One minute, Mr. Flinn.

02 MR. FLINN: I won't need it. Thank you.

03 HEARING OFFICER DEL PIERO: Thank you very much,  
04 Mr. Flinn.

05 Mr. -- Ms. Koehler?

06 MS. KOEHLER: We're a tag team this week.

07 CROSS-EXAMINATION BY MS. KOEHLER

08 Q Good morning. My name's Cynthia Koehler. I'm one  
09 of the attorneys for California Trout.

10 Dr. Wade, I'd like to talk with you a little about  
11 the physical availability of water to the Metropolitan  
12 Water District, and I hope you'll be patient with me.  
13 I'd like to walk through some fairly simplistic  
14 questions. Like Mr. Flinn, I am not an economist, and  
15 I am struggling to understand everything.

16 Turning to Table C of your written testimony. Is  
17 it your testimony that assuming diversion at the 6383.5  
18 foot lake level, the loss of Mono Basin water will  
19 result in a reduction of supply to Los Angeles on  
20 average, I understand over 52 years, of about 36 or  
21 3400 acre-feet annually?

22 A BY DR. WADE: Yes. 36 on Table C.

23 Q Is that actually 34? There seems to be a  
24 mathematical error there. It's not a -- I mean, 433  
25 less 399 I believe is 34.

0025

01 A No. 36 is the right number. The table is  
02 mistaken. I made a correction down the third column  
03 myself and did not make the corrections down the other  
04 two columns. But I don't think the difference is  
05 material.

06 Q No. It isn't material. I just wanted to make  
07 sure I was using the right number in my questions.

08 All right. Then, is it also your testimony,  
09 keeping to the same table, that the State Water Project

10 will be able to replace on average about 12,000  
11 acre-feet of this 36,000 acre-foot loss every year?  
12 A From the State Water Project, yes.  
13 Q From the State Water Project?  
14 A This is what the model results show.  
15 Q All right. So is it correct that your shortage  
16 analysis is driven primarily by the effect of the  
17 remaining 24,000 acre-feet that's a reduction in supply  
18 for L.A. every year?  
19 A Yes.  
20 Q All right. Is it also correct --  
21 A You know, these are average numbers, and I would  
22 hasten to point out -- and I would also hasten to point  
23 out, and it might help your thought process if I could,  
24 that we human beings deal with simple numbers, points  
25 that we can point to on a table, but behind a point

0026

01 like this and particularly in a case like this there's  
02 a whole range that we can't exactly visualize that  
03 computers deal with.  
04 Q Sure, I understand. This is an average over 52  
05 20-year sequence. That's how, I think, we're all  
06 moving forward?  
07 A Yes.  
08 Q Is it also correct that your shortage analysis is  
09 for the entire Southern California State Water Project  
10 service area and is not for the City of Los Angeles?  
11 A It includes the City of Los Angeles within the  
12 entire Southern California service area.  
13 Q But the 24,000 acre-feet loss every year is for  
14 the entire State Water Project service area for the  
15 Southern California area?  
16 A Two points in there. It's for the entire Southern  
17 California service area. It's not so much related to a  
18 24,000 foot loss every year. It's related to the  
19 losses as they occur on the hydrologic sequence.  
20 Q Right. But that's the average annual loss?  
21 A Yes.  
22 Q All right. So any shortages predicted and any  
23 costs associated with these shortages would be spread  
24 over all of Southern California and are not limited to  
25 L.A. DWP's service area?

0027

01 A Yes.  
02 Q All right. To put this -- to put this average  
03 number in context, isn't 24,000 acre-feet about 1  
04 percent of MWD's total average annual deliveries?  
05 A Yes.  
06 Q And isn't that about one-half of 1 percent of  
07 Southern California's total annual water demand?  
08 A Yes. And as our Tables D and E show, it's a  
09 change in the sufficiency ratio of about seven-tenths  
10 of 1 percent, yes.  
11 Q You have anticipated my next question. That was  
12 exactly it.  
13 And I think you testified earlier that in running  
14 the economic risk model, you did assume that the Draft  
15 D-1630 -- the Bay Delta standards would be in place?  
16 A Yes.  
17 Q So your calculation takes into account the amount

18 of State Water -- an approximate amount of State Water  
19 Project water that would be available to replace a  
20 reduction in supply from Mono Basin water -- that  
21 calculation took into account some cut back in delta  
22 supply due to such protection?

23 A Due to the 1630 decision protections. Unrelated,  
24 however, to those that were being talked about last  
25 week in Sacramento related to the EPA two parts per

0028

01 thousand standard and unrelated to the take provisions  
02 of endangered species and unrelated to unknown exact  
03 provisions to protect the winter run salmon release,  
04 unrelated to the delta smelt. All of these are not in  
05 the decision 1630 conditions.

06 Q Is it your testimony that you believe that the  
07 package of protections that are going to come out on  
08 December 15th are going to be substantially different  
09 than the Draft D 1630 standards? You seem to see a  
10 radical difference between those standards?

11 A That's what the newspapers reported. The  
12 newspapers reported radical differences. I myself have  
13 not examined those runs.

14 Q You need to be careful about reading those  
15 "Sacramento Bee" editorials.

16 A Actually, I'm referring to the news articles.

17 Q All right. At this point, Dr. Wade, I'd like to  
18 introduce an exhibit, but since I'm not entirely sure  
19 as to authorship, I'd like to first show it to you and  
20 your attorney, and I'd like to have you tell us  
21 whether, in fact, you and your associates are  
22 responsible for producing this document.

23 This document says at the top, "Wade 8-17-93."  
24 It's titled Economic Risk Model. It appears to be  
25 related to your work and your testimony.

0029

01 A BY DR. WADE: Yes. We provided it.

02 Q All right.

03 Then with your permission I'd like to introduce  
04 Cal-Trout Exhibit 25.

05 HEARING OFFICER DEL PIERO: Any objection?

06 MS. GOLDSMITH: No. Not at this point.

07 HEARING OFFICER DEL PIERO: What's the number on  
08 that?

09 MS. KOEHLER: 25.

10 HEARING OFFICER DEL PIERO: So ordered.

11 (Cal-Trout Exhibit No. 25 was  
12 marked for identification.)

13 Q BY MS. KOEHLER: Dr. Wade, turning to the assumptions  
14 that you've made in the economic risk model, you've  
15 already discussed somewhat with Mr. Flinn your  
16 assumption that only 626,000 acre-feet of water will be  
17 available annually from the Colorado River, and I  
18 believe -- I just want to make sure I understood you,  
19 that it is also your testimony that MWD has, in fact,  
20 taken about 1.2 million from that source for the last  
21 several years?

22 A Yes.

23 Q And to get a little more specific about  
24 Dr. Quinn's testimony, are you aware that he has stated  
25 that Metropolitan, and I'm quoting now from MWD Exhibit

0030

01 1, "Metropolitan intends to take all the appropriate  
02 steps to maintain Colorado River deliveries at 1.2  
03 million acre-feet in the future. This could be  
04 accomplished through, One, the use of water apportioned  
05 to but unused by Arizona and Nevada; Two, access to  
06 surplus water when available; and, Three,  
07 implementation of water transfer programs in  
08 cooperation with California agricultural districts  
09 which use Colorado River water, and possibly with the  
10 other basin states."

11 Don't Dr. Quinn's statements in this regard tend  
12 to run counter to your assumption about the limited  
13 availability of Colorado River water?

14 MS. GOLDSMITH: Objection. Compound.

15 HEARING OFFICER DEL PIERO: I'm going to sustain  
16 the objection.

17 MS. KOEHLER: That's fine.

18 Q BY MS. KOEHLER: What is your view of the statement  
19 that I've just read you from Dr. Quinn's testimony?

20 MS. GOLDSMITH: Objection. It's still compound.

21 MS. KOEHLER: All right.

22 HEARING OFFICER DEL PIERO: One at a time.

23 MS. KOEHLER: I'm sorry?

24 HEARING OFFICER DEL PIERO: Take them one at a  
25 time.

0031

01 Q BY MS. KOEHLER: You have read these statements, you  
02 testified earlier?

03 A BY DR. WADE: Yes.

04 Q Do you agree with Dr. Quinn's overall statement  
05 that Metropolitan intends to take all steps to maintain  
06 Colorado deliveries at 1.2 million acre-feet annually?

07 A Absolutely.

08 Q And you appear to have some reason to believe they  
09 won't be able to do so; is that correct?

10 A It's a complicated answer. Number One, I'm going  
11 to come back to my testimony, which is that standard  
12 planning assumption run the model with firm yield.

13 Q I'm not asking about you're planning assumptions.

14 A Number Two. If you would run through your list of  
15 three of things, I would be delighted to discuss each  
16 one of them with you. He said three things. He's  
17 going to --

18 Q Well, all right. Dr. Quinn testified that they  
19 can accomplish maintaining these deliveries at the 1.2  
20 level by first, the use of water apportioned to but  
21 unused by Arizona and Nevada.

22 A Yes. It's -- you've now, I think, asked the  
23 question that allows me to give the answer -- it's --  
24 just as recently, I think the farmers and the  
25 downstream city folk in Arizona have accomplished an

0032

01 agreement to make the used water in Arizona available  
02 to the farmers at \$15 an acre-foot. There's a  
03 testimony to poor public policy but, in any case, it is  
04 my understanding that this is going to allow or cause  
05 Arizona to use a great deal more of that water than  
06 what Tim might have assumed when he wrote his  
07 testimony. I think Metropolitan has had a reversal of

08 fortunes on that point, which you had better direct to  
09 him than to me.

10 Point 2, transfers. It is a fact that  
11 Metropolitan is out trying to make transfers up the  
12 pipe with growers who are taking Colorado River water.  
13 For instance, after many years, they have made a  
14 transfer with the Imperial Irrigation District which we  
15 put into the model. The firm yield is actually 520,  
16 but we add 106 to that to bring it up to 626,000. If  
17 they make another transfer, I would agree with you that  
18 it should be added into the model as firm 100 percent  
19 dependable water if that's what the conditions of the  
20 transfer dictate.

21 I would emphasize to this proceeding, however,  
22 that it is my testimony that frankly, the only  
23 incremental water in the state available to urbans and  
24 to the environmental needs of this great Golden State  
25 must come by transfers. But this proceeding --

0033

01 Q I will get to transfers in a moment.

02 A This decision in this proceeding can't be made on  
03 speculative transfers.

04 Q We're talking right now about the Colorado  
05 River --

06 A We're talking about transfers on the Colorado  
07 River.

08 Q And we're also talking about their yield in the  
09 past which is not at all speculative. You do agree  
10 with that?

11 A Absolutely.

12 Q The only point in Dr. Quinn's testimony that you  
13 have not addressed is access to surplus water. I guess  
14 that gets folded into --

15 A It's an unpredictable event which is not assumed  
16 in planning models.

17 Q We're not talking about planning models. We're  
18 trying to talk about what's realistic in a different  
19 sense. This is not a planning proceeding, Doctor, so  
20 I'd appreciate your answering my questions as I've  
21 asked them.

22 Are you aware that the Governor's Central Arizona  
23 Project Advisory Committee has, in fact, stated that  
24 the problem facing the CAP is significant under  
25 utilization of the resource?

0034

01 A I'm, in fact, unaware of that, but I think they  
02 just addressed it by making a deal with the farmers.

03 Q All right. Assume with me for a moment that  
04 Dr. Quinn is going to be somewhat successful in his  
05 quest for additional Colorado River water at the levels  
06 that he has been in the past. Would -- if you ran your  
07 model assuming an additional 300 to 400,000 acre-feet  
08 could be available to MWD from the Colorado River,  
09 wouldn't this tend to decrease the length and severity  
10 of shortages to MWD's customers predicted in your  
11 testimony?

12 A It would reduce the risk, the probability of  
13 shortages.

14 Q Thank you.

15 Is it also correct that in running the economic



16 risk model, you assumed that MWD would not be able to  
17 obtain more than 50,000 acre-feet annually from water  
18 transfers, and here I'm not talking about the Colorado  
19 River, I'm talking about transfers south of the delta?  
20 A No. That's not true. The ERM model has an  
21 explicit function in it which allows for 50,000  
22 acre-foot -- your 50,000 number -- transfer and it's on  
23 the Colorado River. It's an emergency transfer  
24 procedure that's a fact of water law and contract, and  
25 it's built into the model.

0035

01 Q Does the model assume that there is any water  
02 available from water transfers from sources south of the  
03 delta in California?

04 A No it does not.

05 Q All right. Isn't it true that there is  
06 substantial water available in California for water  
07 transfers from south of the delta sources alone?

08 A It is true that there is substantial water being  
09 applied to low-valued agricultural crops in the Central  
10 Valley. It is unknown to me whether or not there is  
11 the plumbing, there's regulatory flexibility, there are  
12 a whole host of physical and legal impediments that are  
13 unknown to me as to whether or not they'll be worked  
14 out.

15 Q Isn't it correct that in 1991, MWD secured about  
16 200,000 acre-feet in water transfers?

17 A I'm unaware of the figure, but I wouldn't dispute  
18 it. Actually, I think that's true.

19 It's also true that the San Francisco Water  
20 Department, and I think also Metropolitan Water  
21 District, was unable to move physically all of the  
22 water they acquired and agreed to buy because they  
23 could not physically move it through conveyance  
24 systems.

25 Q But they were able to secure those transfers?

0036

01 A They were able to secure the rights to the water.  
02 They were not able to physically move the water to  
03 where it was needed because of limitations in the  
04 plumbing.

05 Q But not limitations in the regulatory or legal  
06 structures?

07 A I am not aware as to what was the binding  
08 constraint; whether or not it was a regulatory  
09 constraint or physical conveyance constraint or the  
10 combined effect of the two. I would assume the latter,  
11 actually. But it is a fact they were unable to move --

12 Q I'm sorry. You would assume -- I lost you there  
13 someplace --

14 A I would assume that it was a result of physical  
15 conveyance and -- which are governed by regulatory  
16 limitations on how the pumps can be operated. I would  
17 assume it would be the combination of the two. There  
18 were limitations on the physical amount of water they  
19 could move.

20 Q I understand. If there were evidence introduced  
21 in this proceeding indicating that water transfers  
22 were, in fact, available or unimpeded legally for legal  
23 regulatory reasons and if we move -- take this

24 assumption and assume that there are at least 200,000  
25 acre-feet of water available to MWD from water

0037

01 transfers, let's even say from south of the delta  
02 sources every year and you ran that through your  
03 economic-risk model, wouldn't this also tend to lessen  
04 your prediction of shortages in the MWD service area?  
05 A Yes. And if we added 200,000 -- if we added  
06 200,000 100 percent firm certain water to our model, it  
07 would reduce that \$95 million shortage cost to  
08 57,000 -- million.  
09 Q A substantial reduction?  
10 A Well, it's a \$40 million number. It's a change  
11 from 96 to 57 million, a substantial change related to  
12 that 200,000 acre-feet of certain water.  
13 Q Not everything in this field is certain, is it,  
14 Dr. Wade?  
15 A Well, yes, but my model assumes or has to assume  
16 that it's certain or the number goes away.  
17 Q I understand.  
18 With regard to local supplies, isn't it correct  
19 that your analysis assumes about 1.3 to 1.4 million  
20 acre-feet will be available in the years 2000 and 2010  
21 from local -- various local supplies?  
22 A It is our assumption that we made -- it is a fact  
23 that we made the same assumption that Jones and Stokes  
24 did.  
25 Q All right. Isn't it true that MWD expects local

0038

01 water supplies to yield much closer to 1.6 million by  
02 the year 2000?  
03 A I don't know.  
04 Q You don't know. Are you familiar with MWD's  
05 integrated water demand forecasting documents published  
06 in April of this year?  
07 A I am. I don't recollect, and I don't have in  
08 front of me that table.  
09 Q All right. If I represent to you that that  
10 number, that 1.6 number, is contained in that table and  
11 you ran your model assuming that local agencies would  
12 have 1.6 instead of the 1.3 million assumed in your  
13 runs, wouldn't this also tend to reduce this varying  
14 length of shortages predicted in your testimony?  
15 A Well, yes, it would. But again, I would emphasize  
16 to you that this proceeding must be based on the best  
17 available factual evidence and the best available  
18 assumptions, and I would ask that I -- I would suggest  
19 that I'm not the right witness to ask those questions.  
20 Q I'm asking you about your model. I'm not asking  
21 you to verify those factual assumptions. I'm asking  
22 you to verify what the model would do given other  
23 information.  
24 A It would predict a lower economic damage cost.  
25 Q Because the shortages would be of a shorter

0039

01 duration and less of the year. All right.  
02 Turning back to Table C of your written testimony  
03 for a moment. Doesn't your analysis assume that MWD  
04 never buys any more, and I am quoting here from your  
05 fourth column, "Potentially exportable water than L.A.

06 requests in a given year"? And before you answer, let  
07 me give you an example. I'm looking here at your  
08 simulated year 1952. In that year, according to the  
09 simulation, L.A. DWP needed only 17,000 acre-feet of  
10 additional water from MWD, but there were 285,000  
11 acre-feet of potentially exportable water.  
12 Nevertheless, your analysis assumes that MWD would buy  
13 only the 17,000 acre-feet requested by L.A.

14 So my question to you is isn't a more reasonable  
15 assumption that MWD would buy extra water when it is  
16 able to bank that water for future years?

17 MS. GOLDSMITH: Objection. There must have been a  
18 compound question in there somewhere. If there wasn't,  
19 it was so long that it was impossible to follow.

20 MR. HERRERA: Two minutes.

21 MS. KOEHLER: Thank you.

22 Q BY MS. KOEHLER: Have I correctly stated --

23 HEARING OFFICER DEL PIERO: Sustained.

24 Q BY MS. KOEHLER: Have I correctly stated the  
25 simulation for 1952?

0040

01 A BY DR. WADE: I can't answer your question. I  
02 decline to answer your question because your question  
03 requires more hydrologic knowledge than I have. These  
04 runs were made for us by DWR and provided to me and  
05 frankly, my knowledge of DWRSIM is about what's on this  
06 table.

07 Q I'm not asking you to talk about DWRSYM  
08 assumptions. I'm just asking you to tell us what's on  
09 this table.

10 And as I read this table, since I don't know any  
11 more about DWRSIM than you do, that's how it appears to  
12 me.

13 A That's how it appears to me. I decline to  
14 interpret it as you do. I just decline to interpret  
15 it. I don't know what a reasonable planning assumption  
16 is on that point.

17 Q I'm not asking you what a reasonable planning  
18 assumption is. I'm asking you about the assumption  
19 that's evident in this table.

20 If you look at the third column, additional  
21 requested water from L.A. is 17,000 acre-feet. If you  
22 look to the fourth column, 285 are available. And if  
23 you look at the fifth column, it is assumed that only  
24 17,000 acre-feet are purchased. Is that correct?

25 A Yes.

0041

01 Q Does that appear to you to be a reasonable  
02 assumption about the way MWD would operate?

03 A I don't know how their water operators operate. I  
04 can't answer the question.

05 Q Perhaps I'm not being clear. I'm not asking you  
06 how they do operate. I'm asking you if this appears to  
07 be, these three columns, if that appears to be  
08 reasonable.

09 MS. GOLDSMITH: Objection. Asked and answered.

10 HEARING OFFICER DEL PIERO: Overruled. It hasn't  
11 been answered.

12 DR. WADE: The answer, Sir, is I don't know. It  
13 would depend on whether or not there was storage

14 available in the south to put the water into. It would  
15 depend upon a host of questions that are beyond my  
16 expertise.

17 HEARING OFFICER DEL PIERO: Now it's been  
18 answered.

19 Q BY MS. KOEHLER: Let me ask you another question,  
20 Dr. Wade. Would you agree with me that it is  
21 reasonable to expect water agencies such as MWD to bank  
22 water in wet years for use in dry years?

23 A BY DR. WADE: Yes.

24 Q Is it possible that MWD would react to new water  
25 supply requests from Los Angeles by banking water from  
0042

01 wet years for use in dry years rather than by causing  
02 shortages to its customers? Its other customers?

03 A Yes.

04 Q If you ran -- and let me go back. You did assume  
05 that the numbers that resulted from this chart -- we  
06 established this earlier, I believe, that the 24,000 --  
07 the 24,000 annual average reduction in supply to L.A.,  
08 this did drive, in certain respects, your economic risk  
09 model results, right?

10 A Yes.

11 Q If your economic risk model were wrong, assuming,  
12 contrary to what appears to be on Table C, that MWD  
13 would bank water in wet years for use in dry years,  
14 would that -- wouldn't that tend to decrease the  
15 shortages predicted by your testimony?

16 A The economic risk model, by the way, has the  
17 Southern California reservoirs system modeled in it,  
18 and it assumes withdrawals from the reservoirs.

19 Q But we're -- this was a basic input to your model,  
20 wasn't it? This 24,000 average annual shortfall?

21 A Yes.

22 MR. HERRERA: It's been 20 minutes.

23 MS. KOEHLER: I request an additional ten minutes,  
24 Mr. Del Piero. I'm almost through, and I think this is  
25 extremely important testimony.

0043

01 HEARING OFFICER DEL PIERO: Granted.

02 MS. KOEHLER: Thank you.

03 Q BY MS. KOEHLER: To the extent that the 24,000  
04 average annual reduction in supply can be replaced or  
05 mostly replaced by the sources we've been discussing,  
06 potentially available additional Colorado River water,  
07 increased MWD conjunctive use of groundwater storage,  
08 additional local supplies, Central Valley water  
09 transfers, isn't it correct the possibility of  
10 shortages to MWD's customers due to the loss of Mono  
11 Basin water could be substantially less than predicted  
12 in your testimony?

13 A BY DR. WADE: No. The -- they could be less.

14 Substantially is a value judgment on your part, if I  
15 may suggest, and the reason being is this. Two  
16 points. First of all, the quantities of water that  
17 you've discussed with respect to the Colorado River,  
18 local available changes, are -- add up to -- they're  
19 not additive in fact -- but they would add up to  
20 several hundreds of thousands of potential water that  
21 Metropolitan, of course, is hurrying to, you know, to

22 try to get their hands around.

23 But the other thing is that the natural hydrologic  
24 sequence on the -- on the mountains, the water supply  
25 that falls on the mountains, is much larger than that.

0044

01 In other words, the natural variation in water supply  
02 is in the millions of acre-feet.

03 Q Of course.

04 A So that Metropolitan cannot hope to replace or  
05 eliminate all risk of shortage by these hundreds of  
06 thousands of acre-foot changes.

07 And the second point --

08 Q Excuse me. You're not answering my question, so  
09 why don't I clarify it for you.

10 We're not talking about eliminating all risk of  
11 shortage. We're talking about the incremental shortage  
12 caused by the average annual 24,000 acre-feet caused by  
13 the Mono Basin -- the potential Mono Basin diversions.  
14 That's all we're talking about here. That's what these  
15 proceedings are about, so let's confine ourselves to  
16 that.

17 Your analysis -- 24,000 average annual acre-feet  
18 is what we're talking about in your analysis. This is  
19 your number, if I'm correct. This is assuming that the  
20 State Water Project can only supply one-third of the  
21 shortfall that's, you know, that may be attributable to  
22 Mono Basin. So we can't hope here to eliminate  
23 shortages for the entire Metropolitan water service  
24 area. That's not what we're doing here.

25 We're talking about additional, the increment, 0.7

0045

01 increment in the sufficiency ratio that's -- that you  
02 have said is attributable to a potential reduction in  
03 Mono Basin supply.

04 So when you add up all of the other sources of  
05 water that we've been discussing, my question to you is  
06 that given the natural hydrograph, because after all,  
07 the 24,000 acre-feet figure is an average annual over  
08 50, 20-year sequences. Isn't it possible that if there  
09 were another 300,000 acre-feet of Colorado River water,  
10 and another 200,000, you know, of local supplies, and  
11 another 200,000 at a minimum from water transfers, not  
12 to say how many other acre-feet available from  
13 Metropolitan's own conjunctive use programs. Isn't it  
14 possible that on an average annual basis, that would  
15 deal with the 24,000 acre-feet shortfall from --  
16 resulting from the Mono Basin change in supply?

17 A The logic of your question would be that all of  
18 these hundreds of thousands of incremental acre-feet of  
19 water that you enumerated would be superfluous, all  
20 they would need to find is the 24,000. But, in fact,  
21 that is not the fact --

22 Q The average annual.

23 A -- that is not the fact. It would, as I've  
24 testified in response to your questions, lower the  
25 economic damages associated with the incremental 24,000

0046

01 but, in fact, as I stated, if you found 300,000  
02 acre-feet of water, it would lower the number from \$96  
03 million, 300,000, it would lower it to 28 million

04 dollars, but it doesn't disappear, the number. The 24  
05 or the 40,000 acre-feet is the increment at the end  
06 which remains there under all circumstances.

07 Metropolitan is an unreliable water system, an  
08 incremental 24,000 acre-feet of lost diversions from  
09 Mono Lake has some measure of economic cost. In our  
10 assumptions in the model, we estimated 96 or \$97  
11 million as the midpoint. If I want to adopt some of  
12 your numbers, I'll lower those in my oral testimony  
13 here by several tens of millions of dollars. The point  
14 being is that they don't disappear, which is the  
15 logical direction of your questioning.

16 Q They don't disappear. They do lower. I  
17 understand that.

18 There are about 20 million people in that service  
19 area in Southern California. Is that about right?

20 A Yes.

21 Q So if -- I'm sorry. What was the last figure you  
22 gave? Assuming that your costs lowered -- did you say  
23 58 or less million dollars?

24 A Somewhere in there would be responsive to the  
25 tenor of your questions.

0047

01 Q So my math isn't what it should be, Dr. Wade, but  
02 if you take that 58 million and divided by the 20  
03 million people in that service area, we're talking  
04 about 50, 25 cents a month, aren't we? On an annual  
05 basis?

06 A No. As a matter of fact, the Jones and Stokes  
07 numbers which were put into the record were \$1.8  
08 million, and that works out to 16 cents a household a  
09 year as their estimate of economic damages. And, in  
10 fact, my \$97 million number, which I've -- was in my  
11 direct testimony, works out to \$16 a household a year,  
12 so if I reduced that, say, by 40 percent, then reduce  
13 it to \$10 a household a year.

14 Q Which is a few cents a month? Maybe a dollar a  
15 month? Something like that?

16 A Yes. It's a very plausible-sounding number.

17 Q Okay.

18 A It relates to -- I won't take your time.

19 Q Thanks.

20 I have just a few more questions. Isn't it  
21 correct that L.A. DWP is using its rate structure as a  
22 way of conserving water?

23 A Yes. No. Conserving is not the right word. It's  
24 using its rate structure in shortages to reduce  
25 consumption of water.

0048

01 Q Isn't your testimony that L.A. DWP is not  
02 attempting to encourage its customers to conserve water  
03 through its rate structure?

04 A I would rather just simply say they're encouraging  
05 their customers to reduce water in times of shortage.

06 Q All right. Would you agree that -- and this goes  
07 to some of the questions Mr. Flinn asked you earlier.

08 Is it correct that water has different costs for  
09 different types of people, that one user may be willing  
10 to pay a greater cost for water than others?

11 A Yes.

12 Q Is it also true that pricing programs, such as the  
13 one adopted by the City of Los Angeles, are sensitive  
14 to and account for these -- the selectivity differences  
15 between consumers?

16 A Yes. Implicitly.

17 Q Isn't it also correct that the contingent  
18 valuation estimates for the shortage costs tend to  
19 ignore those selectivity differences and assume that  
20 one cost is applicable to all water users?

21 A Let me answer first. I think Richard will  
22 probably have a better answer, but -- the -- two  
23 answers. The contingent evaluation numbers represent  
24 the median willingness to pay. So half of the people  
25 would pay less and half of the people would pay more.

0049

01 I think that's consistent with your -- I think that  
02 doctrine is probably consistent with your argument.  
03 Some will pay more. Some will pay less. We represent  
04 the median.

05 Q I'm not sure you understood my question. Is it  
06 your testimony, then, that the contingent valuation  
07 service such as the one conducted by Dr. Carson a  
08 number of years ago, that those numbers account for  
09 selectivity differences, the different cost values of  
10 water to different customers? Is that accounted for in  
11 the contingent valuation study the way it is accounted  
12 for with the precision its accounted for in the  
13 pricing?

14 A BY DR. CARSON: I should say both studies take into  
15 account the differences in the value of water in  
16 somewhat different ways. It's not actually that the  
17 L.A. -- the Griffon report numbers actually take  
18 account of it in a somewhat inconsistent manner, and  
19 those numbers are incorrectly estimated --

20 Q I'm sorry. I have not asked you about the Griffon  
21 panel --

22 A Those are the pricing numbers. And to answer your  
23 question of how it takes account of those things, one  
24 has to get into how those numbers were actually  
25 calculated.

0050

01 Q I'm sorry. I'm not asking you about how those  
02 numbers were calculated. I'm asking you conceptually  
03 about the contingent valuation approach versus a  
04 pricing approach. Those are different approaches in  
05 calculating costs. I'm not asking you about any  
06 person's particular calculations. That's really not  
07 relevant.

08 A There's not a so-called contingent valuation  
09 approach versus the so-called pricing approach. The  
10 scenario in the contingent valuation survey envisioned  
11 a percentage cut back from a base along the lines of  
12 what Mr. Flinn said happened in Palo Alto.

13 Another way to reduce water demand is to put an  
14 increasing block price structure.

15 Q Exactly. My question is --

16 HEARING OFFICER DEL PIERO: Ms. Koehler, if you  
17 need an additional ten minutes beyond the ten minutes  
18 you've already requested, it's granted.

19 MS. KOEHLER: I appreciate that, Mr. Del Piero. I

20 am hoping to be finished very shortly.

21 Q BY MS. KOEHLER: My question to you is about those  
22 two approaches. Do they account for customer  
23 selectivity in precisely the same manner?

24 A BY DR. CARSON: No, they don't.

25 Q Are you -- you are familiar with Dr. Hennimen's  
0051

01 testimony regarding the use of contingent valuation in  
02 situations whereas here we have a pricing structure in  
03 place. Are you familiar with that testimony?

04 A I've read Dr. Hennimen's testimony, yes. If you  
05 want to -- you're going to make a specific statement  
06 before I can react to it.

07 Q I'm just trying to make sure --

08 A Yes. I've read his testimony.

09 Q Are you aware of Dr. Hennimen's view that where  
10 pricing mechanisms are in effect, and I want to  
11 emphasize that, we're not talking about the abstract,  
12 but a situation where a pricing mechanism is in effect,  
13 that in that situation, contingent valuation estimates  
14 are less accurate. I'm not saying they're useless.  
15 I'm saying they're not as precise --

16 MR. BIRMINGHAM: Excuse me. Mr. Del Piero, I  
17 wonder if I could ask for an instruction that the  
18 witnesses wait until Ms. Koehler has finished her  
19 question before they respond to her.

20 HEARING OFFICER DEL PIERO: The witnesses are so  
21 instructed.

22 MS. KOEHLER: Thank you, Mr. Birmingham. How  
23 chivalrous of you.

24 MR. BIRMINGHAM: It has nothing to do with  
25 chivalry. It has to do with trying to have a good,

0052

01 complete record and responsive answers to questions.

02 HEARING OFFICER DEL PIERO: Mrs. Anglin is a very  
03 capable Reporter and as far as I know, she's not  
04 capable of taking the testimony of two people at the  
05 same time.

06 Q BY MS. KOEHLER: Yes. Let me go back.

07 Are you aware of Dr. Hennimen's view that where a  
08 pricing mechanism is in effect, the contingent  
09 valuation estimates are less precise an indicator of  
10 the selectivity notion that we've been discussing than  
11 those estimates?

12 A BY DR. CARSON: You've now actually finished your --  
13 I thought you had finished your statement, I have to --  
14 question. I have to apologize.

15 You'd almost have to read Michael Hennimen's  
16 statement on this question because that would have to  
17 be either an incomplete or an inaccurate statement of  
18 his belief on this matter, and that is because there,  
19 as I said to your previous question, there is not a  
20 so-called contingent valuation approach to this and a  
21 so-called pricing approach to this.

22 This is a distinction between what was stated in  
23 the contingent valuation scenario and the work that  
24 Robert Mitchell and I did. You could have just as  
25 easily in that contingent valuation scenario posed to

0053

01 people a block pricing structure in which case there



02 would be no reason to expect one approach to be  
03 inherently more accurate than the other. And given  
04 that the prices estimated in the Griffon report are  
05 compounded with a massive advertising campaign, one  
06 would expect that the contingent valuation scenario  
07 implementing a pricing structure to produce the more  
08 accurate results.

09 Q Again, I haven't asked you about the Griffon  
10 numbers. I'm not focused on a particular set of  
11 numbers.

12 I do believe from your own testimony there are two  
13 different approaches.

14 A There are two different approaches, but the  
15 approaches had to do with how the shortage is  
16 implemented, not to contingent valuation.

17 A BY DR. WADE: I should emphasize --  
18 HEARING OFFICER DEL PIERO: Thank you,  
19 Mr. Birmingham.

20 Please proceed, Ms. Koehler.

21 Q BY MS. KOEHLER: Is it your testimony, then,  
22 Dr. Carson, that to the contrary of what I have asked  
23 you, that the contingent value approach that you used  
24 is going to be the same as or more accurate in a  
25 prediction of what people -- what different types of

0054  
01 consumers are willing to pay for water in a shortage,  
02 that your approach is going to be more accurate than a  
03 pricing structure?

04 A BY DR. CARSON: I guess I -- I guess I'm not -- sort  
05 of -- if you're saying are -- you mean, the contingent  
06 valuation estimates are solely the estimates of what --  
07 that were done in the specific study, the  
08 Carson-Mitchell 1980 study.

09 Q And that study was done in a situation where there  
10 was no pricing mechanism in place; isn't that correct?  
11 And that study was done with regard to all water  
12 users --

13 A Correct. But --

14 Q Dr. Carson, that's a straightforward question.  
15 Either there was or was not a rate structure in  
16 place --

17 A Most cities had an increasing block price  
18 structure in effect. What that study did was pose a  
19 situation where water would not be available at the --  
20 10 percent of the water or 30 percent of the water  
21 would not be available at a price.

22 MR. FLINN: Madam Reporter, would you mark that  
23 answer, please?

24 THE REPORTER: Sure.

25 Q BY MS. KOEHLER: While we're talking about that  
0055

01 study, Dr. Carson, that was conducted for California --  
02 that was conducted throughout the entire state; is that  
03 correct?

04 A BY DR. CARSON: Yes. There were 1500 interviews done  
05 in Southern California and 500 done in Northern  
06 California.

07 Q All right. So the numbers that resulted from that  
08 study do not necessarily reflect the choices of  
09 consumers in the L.A. DWP service area; is that

10 correct? What they would pay for water in shortages?  
11 A There was a very large number of people  
12 interviewed in the L.A. service area and those -- that  
13 data has actually been made publicly available in an  
14 earlier Board hearing and a separate estimate from that  
15 data could be obtained from the Board, specifically the  
16 L.A. service area.

17 A BY DR. WADE: Excuse me. I want to add an answer to  
18 that, as is my prerogative.

19 I was the project manager of the survey, and the  
20 survey was designed to sample 1500 people in Los  
21 Angeles and 500 people in Northern California to  
22 compare the differences between north and the south to  
23 see what they were, that -- those differences were  
24 inconsequential.

25 Q I didn't ask you if they were inconsequential. I  
0056  
01 asked about the numbers, and my question to you now is  
02 the numbers that have been used in the ERM I assume are  
03 the numbers not just for the L.A. service area, but for  
04 the entire state?

05 A Correct.

06 Q Thank you.

07 MR. BIRMINGHAM: Can we recess, Mr. Del Piero?

08 HEARING OFFICER DEL PIERO: We're in recess for  
09 ten minutes.

10 (Whereupon a recess was taken.)

11 HEARING OFFICER DEL PIERO: Ladies and Gentlemen,  
12 this hearing will again come to order.

13 MS. KOEHLER: How much time do I have left?

14 HEARING OFFICER DEL PIERO: You have seven  
15 minutes.

16 Q BY MS. KOEHLER: Let's talk just a little bit more  
17 about contingent valuation versus pricing. Am I  
18 accurate in stating that contingent valuation as an  
19 approach to determining what people will pay for water  
20 deals primarily within the hypothetical realm?

21 A BY DR. CARSON: Yes. It asks people what they would  
22 be willing to pay to a projected future situation.

23 Q So by contrast, a pricing regime is --

24 A Estimates how people responded to a past actual  
25 situation.

0057  
01 Q Precisely.

02 A BY DR. WADE: I might add to that that a contingent  
03 valuation survey is carefully structured and designed  
04 to ask people how they would behave as if there were a  
05 price. In other words, the intent is not simply a  
06 consumer survey. The intent is a very structured  
07 analytic device trying to mimic the effect of a price.

08 Q Thank you. I appreciate that clarification.

09 The point I'm interested in is clearly contingent  
10 valuation as an approach is very valuable in the  
11 absence of a real world pricing structure. It's used  
12 to predict how people would act given a hypothetical  
13 scenario?

14 A Correct.

15 Q All right. Is it correct, then, that where you do  
16 have a real world pricing structure, the way people  
17 respond to that structure is going to be a more

18 accurate indicator of what they are willing to pay than  
19 a than contingent valuation survey?  
20 A BY DR. CARSON: No.  
21 Q Okay. I may regret this, but why don't I ask you  
22 to expand on that answer?  
23 MR. BIRMINGHAM: There's the invitation.  
24 HEARING OFFICER DEL PIERO: I, too, Mr. Flinn.  
25 Q BY MS. KOEHLER: If I could add the qualification  
0058  
01 that you do so briefly.  
02 A BY DR. CARSON: Yes. The distinction -- and this is  
03 why both approaches can be useful, the pricing approach  
04 assumes basically that people have largely perfect  
05 information about what the situation is, and the  
06 contingent valuation survey lays out exactly what that  
07 information is. And so to the extent that there are  
08 adjustments, you can often get a difference between the  
09 two answers to the extent that people's behavior's  
10 changing and other economic factors are changing. The  
11 pricing approach is always looking at past behavior.  
12 The contingent valuation survey is trying to predict  
13 future behavior, and a priority you can't say which is  
14 going to be the more accurate.  
15 Q All right. Thank you.  
16 Dr. Wade, going back to our earlier discussion  
17 about the economic risk model, I just want to make sure  
18 that we all have the numbers you suggested. If -- I  
19 believe you said that if we assumed an additional  
20 200,000 acre-feet were available to MWD, that that  
21 would reduce your cost of shortage estimate down to 58  
22 million annually.  
23 A BY DR. WADE: 57 million.  
24 Q 57 million. And can you tell us how that would be  
25 reduced if you added 300,000 acre-feet? I believe you  
0059  
01 said 28 million, but I'm not sure.  
02 A I did.  
03 Q 28 million. All right.  
04 Then, let me ask you, Dr. Wade, finally, about  
05 your Table B. My understanding is that, and please let  
06 me know if I'm characterizing your testimony accurately  
07 that one of your concerns with the Jones and Stokes  
08 approach was the statistical rigor of their supply  
09 analysis.  
10 A BY DR. WADE: Yes.  
11 Q And is it correct that you remedied what you  
12 perceived to be an error in their approach by running  
13 50 or 52 20-year sequences to come up with a more  
14 accurate supply scenario?  
15 A Yes. And we remedied one or two other things as  
16 well.  
17 Q All right.  
18 A We have variability on the demand side as well as  
19 variability on the supply side.  
20 Q So, then, is it correct, then, that you believe  
21 that -- I'm looking at Table B now, the simulation of  
22 Jones and Stokes water supply planning model, the  
23 second column, that is a more accurate representation  
24 than the Jones and Stokes estimate of -- and here I'm  
25 talking about the average annual delivery of L.A.

0060

01 aqueduct water?

02 A I would rather state it as that's our estimate,  
03 which is shown on Table A, which also shows the range  
04 and the standard deviation. In other words, there are  
05 some statistical measures that describe our number  
06 there. I know the statistical measures attached to the  
07 Jones and Stokes numbers. Your question was which is  
08 more accurate?

09 Q Let me revise my question, Dr. Wade. Which set of  
10 numbers do you believe this Board should use in making  
11 its decision?

12 A Oh. There, I believe there is no doubt. I  
13 believe this Board can only rely on numbers that come  
14 from a reasonable simulation.

15 Q All right.

16 A And that the sampling procedures used by Jones and  
17 Stokes is an inadequately scientific based approach.

18 Q Isn't it correct that your revised analysis  
19 indicates that the incremental impact in terms of water  
20 supply is actually less than that suggested by Jones  
21 and Stokes' analysis? Here I mean the impact of going  
22 from the point of reference scenario to the 83.5 foot  
23 alternative.

24 A Is actually the last part -- which you mean, I  
25 believe, their number is 40,000 acre-feet?

0061

01 Q 42.

02 A And our number --

03 Q And yours is 34?

04 A Yes. I would, in fact -- I, in fact, looked at  
05 that and inferred that the difference must be in the  
06 statistical noise and paid no further attention to it.

07 MS. KOEHLER: Thank you. I'm finished.

08 HEARING OFFICER DEL PIERO: Thank you very much.

09 Ms. Scoonover or Mr. -- Ms. Scoonover.

10 MS. SCOONOVER: I have a few questions.

11 CROSS-EXAMINATION BY MS. SCOONOVER

12 Q Good morning. My name is Mary Scoonover, and I'm  
13 an attorney representing the State Lands Commission and  
14 the California Department of Parks and Recreation.

15 I have a few questions for you first, Dr. Carson,  
16 and then a few for you later on, Dr. Wade.

17 Dr. Carson, you testified you have extensive  
18 experience in valuing non-market groups. Is that  
19 correct?

20 A BY DR. CARSON: Correct.

21 Q And that you've worked on such issues as the Clean  
22 Water Act, drinking water safety concerns, groundwater  
23 aquifers, and a variety of other issues?

24 A Correct.

25 Q Would you say that you are an expert in these

0062

01 fields?

02 A Yes.

03 Q You are an expert in the field of groundwater  
04 assessment, clean water, clean air?

05 A In the environmental aspects.

06 Q So you're an expert in evaluating in the  
07 non-market value of each of these elements?

08 A I'm an environmental economist within that field.  
09 My sub field is the valuation -- the non-market  
10 valuation of those issues.

11 Q Okay. So as I understand it, then, you rely on  
12 others to determine the scientific underpinnings for  
13 your economic assessment?

14 A Correct. We take those as given from the  
15 scientists.

16 Q Okay. I believe you testified that the raw  
17 household willingness to pay numbers suggest that  
18 public trust benefits increased substantially as one  
19 moves from a seriously degraded Mono Lake ecosystem to  
20 a viable Mono Lake's ecosystem?

21 A Correct.

22 Q So the viability of Mono Lake is not something  
23 that is -- let me rephrase that.

24 So your economic assessment, then, depends on at  
25 what level Mono Lake is viable. Is that --

0063

01 A Right. This is defined -- yes. I should say --

02 Q I appreciate your restraint. I have a couple of  
03 more questions and that may give you an opportunity to  
04 fill in the answers which you wish to give.

05 If, for instance, the information presented in the  
06 survey that you've discussed with Mr. Flinn actually  
07 contained some misstatements of the impacts to lake  
08 level on particular elements, would that, then, change  
09 your analysis of the market value of these elements?

10 A Yes.

11 Q Thank you.

12 Dr. Carson, who do you believe is in the best  
13 position to determine the costs to Metropolitan Water  
14 District of supplying additional water to its service  
15 area?

16 A My perception here that probably Metropolitan has  
17 a staff of people who do this.

18 Q Thank you.

19 I noted that there were -- that the Draft  
20 Environmental Impact -- in your written testimony, you  
21 noted that the Environmental Impact Report  
22 underestimates the demand of water during hot years.  
23 Is that correct?

24 A Yes.

25 Q Are you also aware that the Draft Environmental

0064

01 Impact Report is based on the Los Angeles Urban Water  
02 Management Plan and actually underestimates the amount  
03 of conserved water because it does not include the  
04 potential water savings from the implementation of best  
05 management practices?

06 A I'm not actually that familiar with the L.A. water  
07 plan so -- I just --

08 Q That's fine. I won't ask you any more questions.

09 You also testified that the Draft Environmental  
10 Impact Report contains an optimistic estimate for the  
11 yield of water reclamation. Is that accurate?

12 A Yes.

13 Q I assume you're -- would you like to expand a  
14 little?

15 A That's from some specific projects which are

16 effectively rated as always yielding 100 percent of  
17 project yield. And what happens is that operationally,  
18 that tends to be an impossibility.

19 Q Are you aware that there are measures underway to  
20 expand the success of water reclamation?

21 A I presume that there are, yes.

22 Q Are you aware of the Department of Health Services  
23 and the Department of Water Resources' investigation  
24 into the potential for potable reuse of fully treated  
25 reclaimed water of which the State Water Resources

0065

01 Control Board is also participating?

02 A I am familiar with some aspects of this program  
03 and do understand that there are investigations  
04 underway for this purpose.

05 Q Thank you. That's all I have for you, Dr. Carson.  
06 Brace yourself, Dr. Wade. I don't have that many  
07 questions, Dr. Wade.

08 You mentioned you were using -- you mentioned  
09 several times the use of Department of Water Resources  
10 economic risk model?

11 A BY DR. WADE: Yes.

12 Q I believe you also mentioned that the assumptions  
13 concerning local water supply and average demands had  
14 been updated by DWR Bulletin 16093?

15 A Yes.

16 Q Are you aware that DWP Bulletin 16093 is not yet  
17 available to the public?

18 A Yes.

19 Q This was the best information you had to use at  
20 the time, I presume?

21 A Yes.

22 Q Are you aware that these numbers may change and  
23 that they -- are you aware that these numbers may  
24 change, that this is a non-published draft on which you  
25 rely?

0066

01 A Yes. The numbers were provided to us in March, as  
02 I recollect. As a matter of fact, they have changed.  
03 The demand numbers have changed, they have gone up  
04 slightly from the version that we used.

05 Q And as I understand it, the draft for publishing  
06 this report will be public next month, public hearings  
07 in January and February, and then a final version to be  
08 published sometime in the spring. Is that also your  
09 understanding?

10 A I'm unaware of the calendar.

11 Q But are you aware that there will be a number of  
12 opportunities for modifications or at least public  
13 comment and potential modifications before the draft is  
14 finalized sometime within the next calendar year?

15 A Yes.

16 Q I'm almost afraid to utter the words "DWRSIM," but  
17 I'll assure you that my knowledge of DWRSIM is fairly  
18 limited as well. And so I have one fairly basic  
19 question, and that is would you agree with me that  
20 DWRSIM is the subject of some considerable controversy?

21 A No. I wouldn't agree with you on that. Do you  
22 want me to elaborate?

23 Q Let me try one follow-up question, and if that

24 doesn't get it, you can help me out.  
25 DWRSIM is a widely accepted method with which to  
0067  
01 project State Water Project supplies. Is that your  
02 contention?  
03 A Yes.  
04 Q Are you aware of organized or individual  
05 opposition to DWRSIM as it currently exists?  
06 A Do you -- I'm unaware of that. Do you literally  
07 refer to the model or to the assumptions running the  
08 model?  
09 Q Both or either.  
10 A I think you actually refer to the latter, the  
11 assumptions. And it was reported in the press last  
12 week wide disagreement about the assumptions being used  
13 in the model leading to estimates of between a million  
14 and three million acre-feet of reduced diversions  
15 through the delta based on those assumptions. Not,  
16 however, based on the modeling algorithms.  
17 Q So you would agree with me, then, that the  
18 assumptions on which the model was based or upon which  
19 the model is run are, at times, controversial?  
20 A I would only agree with you that they were  
21 controversial last week.  
22 Q That's fine. Thank you.  
23 You spoke with both Mr. Flinn and Ms. Koehler --  
24 A I would also add to that that that controversy  
25 reveals a very fundamental problem in the water  
0068  
01 bureaucracy right now. The modelers can't agree what  
02 the effects of the EPA standards are, the Endangered  
03 Species Act, and other limitations. In short, the  
04 water bureaucracy is flying blind into these policy  
05 decisions with respect to what the effect of these  
06 policy decisions might be on the water supplies for the  
07 future. In short, uncertainty is rampant. Reliability  
08 is down from where it was.  
09 Q I think we'll move on. Thank you.  
10 You spoke with Mr. Flinn and Ms. Koehler about  
11 Metropolitan Water District's alternate supplies of  
12 water. And by "alternate," I mean apart from the State  
13 Water Project. I'd like to continue with that line of  
14 inquiry and specifically ask you a few questions about  
15 the California, Arizona -- the Central Arizona  
16 Project.  
17 Are you aware that the Central Arizona Project was  
18 determined to be substantially complete as of October 1  
19 this year?  
20 A Yes.  
21 Q And that after 25 years of construction, the  
22 project was completed at a cost of some \$4.0 billion?  
23 A I'm unaware of the cost.  
24 Q Are you aware that the governor of the state of  
25 Arizona assembled a 34-member task force and charged it  
0069  
01 with developing recommendations to assure the long-term  
02 viability of the Central Arizona Project?  
03 A I'm specifically unaware of that, but I'm willing  
04 to assume it.  
05 Q And are you aware that this task force has come

06 out with its recommendations as of October of this  
07 year?

08 A No.

09 Q You referred earlier to an agreement between the  
10 farmers and the Central Arizona Project where the  
11 farmers would purchase water for approximately \$15 an  
12 acre-foot from the Central Arizona Project.

13 A Yes.

14 Q Is this an agreement that you know about in  
15 detail?

16 A It's not -- I think I finally recounted most of  
17 the facts I know about it.

18 Q Do you believe that a cost of \$15 an acre-foot for  
19 water would be enough to even cover the annual  
20 operation and maintenance costs on a \$4.0 billion  
21 facility like the Central Arizona Project?

22 A I do not know, but I would be willing to stipulate  
23 to that.

24 Q Do you know or are you aware that the governor has  
25 recommended that the Arizona Department of Water  
0070

01 Resources study arrangements at California and Nevada  
02 that unused entitlement and canal capacity to store  
03 water in Arizona in exchange for the right to increase  
04 Colorado River diversions?

05 A I'm somewhat vaguely aware of that, yes.

06 Q Do you believe that this, along with some of the  
07 other projects that you've discussed with Ms. Koehler  
08 and Mr. Flinn, I believe, the IID Conservation Project,  
09 Coachella and All American Canals, Palo Verde test fall  
10 on program, that in combination, those programs an  
11 adequate to assume a 1.2 million acre-foot supply for  
12 the Metropolitan Water District through its Colorado  
13 River aquifer?

14 A No. You can't assume that.

15 Q So your figures, your study, are based on  
16 approximately 600,000 acre-feet annual average supply?

17 A 626, and I gave you numbers to suggest how  
18 additional firm yield on the Colorado River aqueduct  
19 would reduce our estimated damages or benefits of added  
20 liability.

21 Q And these figures are without including -- or  
22 without considering the governor's Central Arizona  
23 Project Advisory Committee report?

24 A These figures have nothing to do with that.

25 Q Thank you.

0071

01 Within the State of California, the Metropolitan  
02 Water District has been active, I believe, in trying to  
03 secure water sources outside of the State Water Project  
04 and outside of its Colorado River aqueduct. Is that  
05 accurate?

06 A Yes. As have other urban water agencies.

07 Q And is it accurate that in 1991 Metropolitan  
08 purchased 215,000 acre-feet at \$175 dollars per  
09 acre-foot from the governor's drought water bank?

10 A As I said before, I believe that's true.

11 Q And in 1992, Metropolitan purchased 10,000  
12 acre-feet at \$72 per acre-foot from the governor's  
13 drought water bank?



14 A I'm unaware of what they did in 1992.

15 Q I believe you testified you had concerns about  
16 continued water transfers that would occur through the  
17 delta. Is that accurate? Have I stated that  
18 accurately?

19 A Yes. My concerns from my direct testimony and  
20 from my responses this morning are two. A, Number One,  
21 there is not the demonstration that there will be the  
22 regulatory and physical flexibility to assure such  
23 transfers, and there is a lot of work, as everyone in  
24 this room knows, that needs to get done before one can  
25 be certain that transfers will deliver us from the

0072

01 problems of Southern California water demand.

02 And Point Two, the important point, is that the  
03 Draft EIR, the record upon which this decision must be  
04 made, is absolutely moot on the incremental impacts to  
05 the delta of any transfers. So, therefore, if you want  
06 to assume more transfers which, as an economist, I  
07 would support as good public policy, the document has  
08 got to deal with that.

09 Q I'm interested in water transfers from the Central  
10 Valley using groundwater storage facilities south of  
11 the delta. Are you familiar with Metropolitan Water  
12 District's agreement with Semi-Tropic Water Storage  
13 District?

14 A No.

15 Q With -- are you familiar with Metropolitan Water  
16 District's agreement with the Dudley Ridge Water  
17 District?

18 A No.

19 Q Are you familiar with Metropolitan Water  
20 District's agreement with Areias Dairy Farms?

21 A Yes.

22 Q Have you analyzed the amount of potential  
23 conjunctive use programs; that is, using groundwater  
24 storage facilities south of the delta areas, in areas  
25 south of the delta, to potentially meet some of

0073

01 Metropolitan Water District's future water needs?

02 A No. And your question, if I may, begs an answer.

03 In a certain very real sense, I would not be the  
04 right person to ask that question to. There is --  
05 there are studies ongoing across the state by a handful  
06 of very well-informed people. It would be those  
07 people, when they complete these studies, that  
08 decisions such as this Board makes must rely on. Those  
09 studies aren't done. Those numbers aren't out there in  
10 the record, or they would have been in our data base.

11 And my testimony -- or any other witness that  
12 comes up here, about these things, except for someone  
13 specifically informed who can provide factual evidence  
14 as to whether the facts are, when the timing is, and  
15 the certitude of these numbers are, these acre-feet  
16 numbers, those are the only things that I would assert  
17 this Board can rely on. My testimony, and yes-and-no  
18 answers to your questions are moot, I would assert.

19 Q Let me get a little more specific, then, as far as  
20 what is certainty and what is still just conjecture in  
21 south of the delta storage, your Metropolitan Water

22 District.  
23 Are you aware that Metropolitan Water District has  
24 entered contracts to conjunctively use water storage  
25 facilities of water districts within the Central  
0074 Valley?  
01 A I am unaware of the status of Metropolitan's  
02 contracts. I am aware that there is an abundance of  
03 studies going on trying to evaluate and estimate the  
04 significance in terms of water of conjunctive use.  
05 MS. SCOONOVER: Thank you. I have no more  
06 questions, Mr. Del Piero.  
07 HEARING OFFICER DEL PIERO: Thank you very much,  
08 Ms. Scoonover.  
09 Mr. Frink?  
10 MR. FRINK: Yes.  
11 HEARING OFFICER DEL PIERO: Wait a second. We  
12 don't have any other parties?  
13 MR. FRINK: I don't believe so.  
14 HEARING OFFICER DEL PIERO: Go ahead, Mr. Frink.  
15 CROSS-EXAMINATION BY THE STAFF  
16 Q BY MR. FRINK: Good morning, Dr. Wade and  
17 Dr. Carson.  
18 A BY DR. CARSON: Good morning.  
19 Q My first questions and most of my questions  
20 actually are for Dr. Wade.  
21 Dr. Wade, on Table B of Page 66 out of your  
22 written testimony that is displayed up front there, it  
23 compares the water deliveries and costs that were  
24 calculated by Jones and Stokes with the water  
0075 deliveries and costs that you believe are a more  
01 accurate estimate after making some revisions in the  
02 approach utilized by Jones and Stokes. Is that  
03 correct?  
04 A BY DR. WADE: Yes.  
05 Q Looking at the bottom portion of the table, that's  
06 the portion that you prepared, correct?  
07 A Yes.  
08 Q If we were to subtract the 399,000 acre-feet that  
09 is shown as being the average annual delivery of water  
10 from the Los Angeles aqueduct under the 6383.5  
11 alternative as you've evaluated it, from the 433,000  
12 acre-feet of water delivered through the Los Angeles  
13 aqueduct, that would give us a decrease of 34,000  
14 acre-feet a year per water deliveries from the Mono  
15 Basin to meet the 6383.5 alternative. Is that correct?  
16 A Yes.  
17 Q And looking over, then, under the column Average  
18 Annual Resource Cost, if we were to subtract \$184  
19 million from \$207 million, then that would give us a  
20 cost of approximately \$23 million in order to -- that  
21 would be incurred if we were to adopt the 6383.5 lake  
22 level alternative under your analysis. Is that  
23 correct?  
24 A That's the number shown on Table B, yes.  
0076  
01 Q And you prepared Table B?  
02 A I did.  
03 Q Okay. Are you familiar with the Mono Lake

04 Management Plan prepared by the Department of Water and  
05 Power?

06 A No.

07 Q Are you -- are you aware that that plan is  
08 reported to result in a reduction -- excuse me. Are  
09 you aware that that plan has been reported in this  
10 hearing to result in average annual exports from the  
11 Mono Basin of 45,700 acre-feet?

12 A I'm unaware of what it reports. I've never seen  
13 it.

14 Q Do you know if anyone has calculated the average  
15 annual resource cost to the City of Los Angeles of  
16 implementing the Mono Lake management plan that they've  
17 proposed in this hearing?

18 A The only calculations I'm aware of are the ones in  
19 the Draft EIR and my own.

20 Q And those did not evaluate the average annual  
21 resource cost to the City of Los Angeles of  
22 implementing the Mono Lake management plan. Is that  
23 correct?

24 A My assignment, Sir, was to evaluate the Draft  
25 EIR. I did not deal with this other document that you

0077

01 are referring to.

02 Q Would you agree that reducing water exports from  
03 the Mono Basin to the 45,700 acre-foot per year level  
04 that is estimated under the Department of Water and  
05 Power's Mono Lake Management Plan would have a resource  
06 cost to the City of Los Angeles?

07 A Yes.

08 Q And would you agree that there would also be  
09 indirect cost to other water users in the MWD service  
10 area from implementing the Department of Water and  
11 Power's Mono Lake Management Plan?

12 A Yes.

13 Q Dr. Carson, I believe you testified yesterday in  
14 response to a question on cross-examination that the  
15 really relevant thing to examining in assessing the  
16 economic cost of various alternatives is not the  
17 absolute costs that may be assigned to a particular  
18 alternative, but rather the relative costs one  
19 alternative as compared to another. Is that accurate?

20 A BY DR. CARSON: Correct. You look at the incremental  
21 changes.

22 Q Okay. Have you evaluated the incremental changes  
23 that -- or the incremental costs that would be incurred  
24 in implementing the 6383.5 alternative under the Draft  
25 Environmental Impact Report as compared to the Mono

0078

01 Lake Management Plan that the Department of Water and  
02 Power's proposed?

03 A No, I've not. Until just very recently, I had not  
04 seen the City of L.A.'s management plan.

05 Q Okay. Dr. Wade, in order to make the cost figures  
06 in Table B of your report more understandable, I'd like  
07 to determine the average annual resource cost per  
08 acre-foot of water. Now, using the numbers in your  
09 simulation of Table B at the bottom portion of the  
10 table, you assumed a decrease in average annual water  
11 exports from the Mono Basin equal to 34,000 acre-feet.

12 Is that correct?  
13 A BY DR. WADE: Table B shows that.  
14 Q Okay. And the average annual resource costs of  
15 that change would be \$23 million. So am I correct in  
16 assuming that if we wanted to get a per-acre-foot  
17 average annual resource cost of making that change,  
18 that we would divide \$23 million by 34,000 acre-feet?  
19 A Yes.  
20 Q And what number did you come up with?  
21 A \$676.  
22 Q Per acre-foot?  
23 A Yes. Which I believe is the model's marginal cost  
24 for Metropolitan.  
25 Q All right. The Draft EIR estimated that under the  
0079  
01 6390 foot lake level alternative there would be 37,000  
02 acre-feet of water available for export to Los  
03 Angeles. And I'd ask you to assume that the Department  
04 of Water and Power's Mono Lake management plan  
05 estimates that --  
06 MR. BIRMINGHAM: Excuse me, Mr. Del Piero.  
07 Pardon me, Mr. Frink, for interrupting you, but  
08 the L.A. DWP management plan has never been introduced  
09 as evidence in this proceeding. It's not an exhibit.  
10 It was actually provided to the Board in connection  
11 with a policy statement made by a representative of the  
12 Department of Water and Power during one of the public  
13 policy hearings.  
14 There have been many questions about it, and I  
15 wonder if, with the stipulation of opposing counsel, we  
16 could actually identify the document as an exhibit  
17 and -- so that we can have a better record.  
18 MR. FLINN: We certainly want it identified.  
19 MR. FRINK: That's very agreeable.  
20 MR. SMITH: 83.  
21 HEARING OFFICER DEL PIERO: Ms. Koehler?  
22 Mr. Thomas? Ms. Scoonover?  
23 MR. BIRMINGHAM: Then it will be identified as  
24 L.A. DWP Exhibit 83?  
25 HEARING OFFICER DEL PIERO: So ordered.  
0080  
01 (L.A. DWP Exhibit No. 83 was  
02 marked for identification.)  
03 MS. CAHILL: And copies will be provided to the  
04 parties?  
05 MR. BIRMINGHAM: It's my understanding that copies  
06 had been provided to the parties.  
07 MS. CAHILL: I thought you were indicating it was  
08 something new --  
09 HEARING OFFICER DEL PIERO: This is the management  
10 plan. I think everyone's got a copy of it. If they  
11 don't -- Mr. Canaday --  
12 MR. BIRMINGHAM: We have copies at our office that  
13 we'll have brought over.  
14 MR. FRINK: Mr. Birmingham, just so we're clear.  
15 The document that we've just identified as L.A. DWP  
16 Exhibit 83 is this blue brochure; is that correct?  
17 MR. BIRMINGHAM: That's correct. And it was the  
18 document that was supplied to the Board by Mr. Wickser  
19 during his policy statement.

20 MR. FRINK: Okay. Thank you.

21 DR. WADE: And I have seen that, to correct the  
22 record, but I certainly haven't studied it. So my  
23 answer is I really don't know what's in it.

24 Q BY MR. FRINK: Okay. Okay. I would ask you to  
25 assume that the Mono Basin water exports that are

0081

01 predicted to occur under that plan are 45,700 acre-feet  
02 per year. And as you recall from your review of the  
03 Draft EIR, the Mono Basin exports that Jones and Stokes  
04 estimated to occur under the 6390 lake level  
05 alternative are 37,000 acre-feet per year.

06 Now, for purposes of this question, let's assume  
07 that both of those numbers are reasonably accurate.  
08 The difference, then, in water business in exports if  
09 both estimates are reasonably accurate would be 8,700  
10 acre-feet per year; is that correct?

11 A BY DR. WADE: I'll agree to that. I wasn't making  
12 calculations as you went along.

13 Q At an average annual resource cost to Los Angeles  
14 of \$676 per acre-foot, then an additional reduction of  
15 8700 acre-feet per year in water exports from the Mono  
16 Basin could be calculated by multiplying the 8700  
17 acre-foot by \$676 per acre-foot. Is that correct?

18 A No. That would not be correct for two reasons.  
19 As my testimony has shown, that incremental water would  
20 not be available from Metropolitan on the State Water  
21 Project to sell to Los Angeles at \$676.

22 Q Maybe we'll have to back up. Not looking at the  
23 costs to Metropolitan, but just looking at the costs to  
24 Los Angeles, didn't we establish before that the  
25 average -- the average annual resource cost for each

0082

01 acre-foot of water exported from the Mono Basin is \$676  
02 per acre-foot?

03 A No. We established that the marginal cost for  
04 water from Metropolitan is \$676. We didn't establish  
05 whether or not the water was there for Metropolitan to  
06 sell to Los Angeles.

07 Q Your heading Average Annual Resource Cost, whose  
08 cost does that refer to?

09 A That's the cost to the Los Angeles Department of  
10 Water and Power, but if I may, Sir, direct you to my  
11 direct testimony. On the page following Table B, the  
12 first sub head at the top of -- well, actually, I'm  
13 sorry. These are oral notes.

14 The major point made there is that this Table B  
15 revealed to me the fatal flaw of my, at that particular  
16 time, and Jones and Stokes' thinking process. The  
17 water is not shown by Jones and Stokes to be there to  
18 sell. My testimony then went through my analysis in  
19 time through the last six months, went through a large  
20 analytic loop and demonstrated that the water was not  
21 there for Metropolitan to sell.

22 Q Now, as an economist, wouldn't you agree that  
23 virtually any resource is available at some cost?

24 A Yes.

25 Q Have you determined what the replacement cost to

0083

01 the City of Los Angeles will be for an acre-foot of

02 water exports lost from the Mono Basin?  
03 A That's a very good question. The exact answer is  
04 that what our analysis shows is that on the margin, the  
05 available resource is not there, the available marginal  
06 cost is the shortage inflicted on the people of  
07 Southern California.

08 It's also true that on the margin does not exist  
09 to the incremental reclamation project. The margin is  
10 shortage --

11 Q Okay.

12 A -- because of the unreliable system that is the  
13 baseline in Southern California today which any  
14 shortfall from that exacerbates.

15 Q So it's your testimony that you cannot make up for  
16 the water loss from the Mono Basin?

17 A It is my testimony that it would increase the  
18 shortages.

19 Q Okay. And your shortage costs refers to costs  
20 incurred by other water users within the Metropolitan  
21 Water District, correct?

22 A My shortage cost is that incurred by all water  
23 users within the Metropolitan service area.

24 Q Did you attempt to break out the costs incurred by  
25 the City of Los Angeles from the costs incurred by

0084

01 other water users?

02 A No.

03 Q Was there a reason you didn't do that?

04 A You can't do it.

05 Q Would you agree --

06 A You could do it, I mean, artificially after the  
07 fact, since shortage cost arises from an estimate of  
08 household willingness to pay, one could discriminate  
09 the households within the City of Los Angeles from  
10 those within the broader Metropolitan service area, but  
11 it would be a meaningless exercise.

12 Q In any event, it's an exercise you didn't  
13 undertake?

14 A I didn't undertake it.

15 Q Dr. Carson, would you agree that if one could  
16 determine the cost for replacing an acre-foot of water  
17 lost from the Mono Basin to the City of Los Angeles,  
18 that the way of determining the incremental cost of  
19 moving from the Department of Water and Power's Mono  
20 Lake management plan to some other alternative which  
21 would decrease exports from the Mono Basin by a greater  
22 amount would be to subtract -- would be to determine  
23 the additional reduction in exports from the Mono Basin  
24 and multiply that by the per acre-foot resource cost to  
25 the City of Los Angeles?

0085

01 A BY DR. CARSON: I think I lost something here. Can  
02 you repeat that question in parts?

03 Q Sure. Let's assume that at some cost that can be  
04 determined, you -- you have determined the replacement  
05 cost for an acre-foot of water lost from the Mono  
06 Basin.

07 A Okay. So we're assuming that water's available at  
08 some number of dollars, say, X.

09 Q Okay. To begin with, let's assume \$676 an

10 acre-foot.

11 A Okay.

12 Q And assume that an alternative identified in the  
13 EIR or elsewhere would result in reductions of water  
14 diversions from the Mono Basin by 8700 acre-feet above  
15 what the Department of Water and Power has proposed in  
16 its Mono Lake management plan.

17 A Correct. Okay.

18 Q What would be the annual costs using those numbers  
19 to the city, the annual incremental cost of moving from  
20 what the department has proposed in the Mono Lake  
21 management plan to the other hypothetical alternative?

22 A You'd simply multiply -- if water was available at  
23 \$676 an acre-foot, you would simply multiply the  
24 shortfall by -- in acre-feet by \$676.

25 Q Does 8700 acre-feet times \$676 an acre-foot equal  
0086 01 approximately \$5,881,200? Does that sound about right?

02 A If you multiplied those together, I'm going to  
03 assume that that's correct.

04 Q Dr. Wade, you brought up the transfer of 106,000  
05 acre-feet of water from Imperial Irrigation District to  
06 Metropolitan Water District. Do you know what the  
07 approximate cost per acre-foot was for the water  
08 involved in the IID-MWD transfer?

09 A BY DR. WADE: No. I would assume it's in the low  
10 three figures.

11 Q I believe you were questioned earlier about a  
12 transfer between MWD and Areias Dairy Farms, and I  
13 probably have the pronunciation on that wrong. It's  
14 A-R-E-I-A-S. Are you familiar with that transfer?

15 A Well, I read a short paragraph news item. Isn't  
16 it a fact that he agreed to sell 25,000 acre-feet or  
17 something like that?

18 Q The report I saw said he agreed to sell up to  
19 35,000 acre-feet over a 15-year period at a cost of  
20 \$175 an acre-foot plus \$25 an acre-foot to go toward  
21 environmental restoration. Does that sound  
22 approximately correct?

23 A Sounds approximately.

24 Q Assume that water is available to the City of Los  
25 Angeles from water transfers or some other source that  
0087

01 would not otherwise occur in the absence of a change in  
02 diversion from the Mono Lake Basin. Assume that you  
03 could get that water for \$300 an acre-foot.

04 Dr. Carson, wouldn't the way of determining the  
05 incremental cost between some hypothetical alternative  
06 and the Mono Lake management plan be to determine the  
07 difference in water exports from the Mono Basin under  
08 the two alternatives and multiply that by \$300 an  
09 acre-foot?

10 A Yes.

11 Q The other aspect of your Table B, Dr. Wade, was to  
12 identify the shortage costs, and I assume that these  
13 are the kind of indirect costs that occur as a result  
14 of water shortages. Is that correct?

15 A Yes.

16 Q Now, if you were -- if you were able to undertake  
17 water conservation as part of a program that was

18 developed to compensate for reductions in Mono Basin  
19 exports, and if that water conservation would not  
20 otherwise occur except for this reduction in Mono Basin  
21 exports, would you still have this shortage cost?

22 A Yes. By the explicit direction of your question.  
23 You know, when people decide to be good public-minded  
24 human beings and use less water to wash their cars, to  
25 flush their toilets, to take longer showers, to

0088

01 maintain their landscape, they suffer some erosion in  
02 their quality of life from what they have otherwise  
03 known it to be. And what Dr. Carson's numbers measured  
04 was the reduction in quality of life associated with  
05 the reduced use of water, a reduced quantity of water.  
06 So that's explicitly the value associated with that  
07 public-minded conservation that you stipulated here.

08 A BY DR. CARSON: I can amplify this slightly. If,  
09 indeed, there were not any costs associated with these  
10 activities, then people would be voluntarily engaging  
11 in these activities at the present over the long run.

12 Q Assume that you can cover the direct costs of  
13 implementing the water conservation measures. Assume  
14 there's millions of dollars available to put into lower  
15 water-using appliances within the house and measures  
16 such as that so that you can still get the same bang  
17 for the buck or use per acre-foot of water. Do you  
18 believe you have that shortage cost, Dr. Carson?

19 A Yes. Even if you were to, say, provide low-flow  
20 shower heads, which is a good example of providing the  
21 actual technology. The public clearly prefers not to  
22 have low-flow shower heads. They like to sort of, you  
23 know, get lots of water on them in the shower. They  
24 will, indeed, at some cost of water, voluntarily adopt  
25 low-flow shower heads.

0089

01 Q So is that the sort of difference we're talking  
02 about in terms of identifying these shortage costs?

03 A BY DR. WADE: Yes. But to make it more real and to  
04 harken how quickly we forget the discomfort of living  
05 through the drought, having to transport your laundry  
06 water out to keep your valuable bushes alive, the  
07 having to live with an unflushed toilet. It's this  
08 erosion in our quality of life that Dr. Carson has  
09 measured that I've applied in these consumer surplus or  
10 willingness to pay values. Your willingness to pay to  
11 have a certain reliable water system.

12 Q Okay. Wouldn't this erosion in our quality of  
13 life be a function of the specific water conservation  
14 measures that are adopted?

15 A Yes.

16 Q In terms of water reclamation, if you had the  
17 funds available to engage in water reclamation, do you  
18 still see a shortage cost associated with doing that?  
19 Does that erode one's quality of life?

20 A Let me answer, Richard.

21 You know, on the margin of a shortage reclamation  
22 doesn't replace the water. Reclamation is a good water  
23 policy for the normal years. In a short year, we need  
24 fresh water because it is fresh water that human beings  
25 consume. Reclamation is a super public policy for the



0090

01 normal water years. In the water short years, it's  
02 shortage that's on the margin, not reclamation.

03 Q But if you could implement additional water  
04 reclamation projects as a result of additional money  
05 that's made available, wouldn't those water reclamation  
06 projects also have some effect in water short years?

07 A Yes. And again, to emphasize a point I made  
08 earlier this morning, you're dealing here with the  
09 concept of hundreds of thousands of potential  
10 reclamation versus seven-figure shortfalls associated  
11 with the hydrologic cycle. So in other words,  
12 reclamation doesn't substitute for fresh water, again,  
13 to make the point.

14 Q I would agree. Reclamation would not offset all  
15 the problems that may occur in Southern California in a  
16 dry year but, again, what we're focusing on here or at  
17 least what I was trying to focus on with Dr. Carson, is  
18 the incremental difference between implementing the  
19 Mono Lake management plan and some other alternative.

20 If you could reclaim an additional amount of water  
21 equal to that incremental difference, couldn't you  
22 offset the shortage costs, Dr. Carson?

23 A BY DR. CARSON: There you need to look at basically  
24 what the cost of the reclamation project is, but  
25 certainly, potentially, you could, yes.

0091

01 Q The cost of the reclamation project are your  
02 direct costs; isn't that correct?

03 A Yes.

04 Q And if you could do that, if you had money  
05 available to cover the direct costs and to save a given  
06 amount of water, you would eliminate the indirect  
07 shortage costs; is that correct?

08 A BY DR. WADE: You could also eliminate the indirect  
09 shortage costs with desalinization if you're willing to  
10 assume that you can site along our coasts a sufficient  
11 number of desal plants to obviate any water shortages,  
12 but you can't assume that. It's not a plausible  
13 engineering or environmentally permissible assumption.  
14 It's also not a plausible engineering assumption to  
15 assume that reclamation will replace the demand for  
16 water which is rising in southern and coastal  
17 California against a static water infrastructure, which  
18 has been static since the State Water Project was  
19 completed in the mid sixties, during which time the  
20 population has doubled and the gross national product  
21 has tripled.

22 Q I would ask Dr. Wade --

23 HEARING OFFICER DEL PIERO: Excuse me, Mr. Frink.

24 MR. FLINN: I wanted the Reporter simply to mark  
25 Dr. Wade's answer there.

0092

01 Q BY MR. FRINK: Do you contend to be an expert on the  
02 feasibility of various water reclamation projects and  
03 desalinization?

04 A BY DR. CARSON: I do not.

05 MR. FRINK: Thank you. That's all my questions.

06 Q BY MR. SATKOWSKI: Good morning, Gentlemen. I have  
07 quite a few questions just to clarify your testimony

08 and some others in some other areas.

09 First, for Dr. Carson, On page 56 of your  
10 testimony at the bottom of the page --

11 A BY DR. CARSON: Give me just a moment.

12 Q At the bottom of the page, you discuss, under the  
13 heading 12 Percent Average Annual Cost Increased  
14 Threshold, you talk about -- anyway. Well, this  
15 threshold, which is based on the average L.A. DWP  
16 increase in operating costs between 1981 and 1990, in  
17 your testimony you say that the 12 percent figure,  
18 however, includes inflation while the water supply  
19 project costs do not include any escalation or  
20 inflation. And you go on to say that, "This comparison  
21 of a nominal rate of cost increase to a real rate of  
22 cost increase isn't appropriate," and finally you  
23 mention that, "Correcting this problem would result in  
24 triggering significant water supply impacts at lower  
25 lake levels."

0093

01 A Yes.

02 Q How do you propose that this problem be corrected  
03 if there is a problem?

04 A The straightforward way to do this is to use real  
05 numbers for L.A.'s costs from 1981 to 1990. That is,  
06 take the inflation out of those numbers so that both  
07 the past and the future are in real terms. And what  
08 happens if you subtract the inflation which, I believe,  
09 over the period was probably running about 4 to 5  
10 percent, you'll then, you know, cut that cost increase  
11 from 12 percent down to 8, maybe a little lower.

12 Q Thank you.

13 Going on, on Page 58 of your testimony, you  
14 mention that the confidence intervals were omitted in  
15 the Draft EIR analysis. What should the confidence  
16 intervals be? Do you have any estimation of that?

17 A No. Dr. Wade has actually explicitly addressed  
18 this. The confidence intervals on the supply side are  
19 driven by variations in the hydrologic cycle and by  
20 forecasting the likelihood of various water supplies as  
21 well as variation in the estimates of things like  
22 demographic changes and the location of people in the  
23 future and economic growth.

24 In other words, if you look at this, there are  
25 actually a large number of factors each of which is a

0094

01 forecast in the future, and this is the point I was  
02 trying to make when Mr. Flinn asked me, you know, are  
03 economists basically wrong because you're forecasting  
04 the future. There's always basically some uncertainty  
05 around those estimates, and with the water supply,  
06 there's uncertainty from a very large number of  
07 sources. And to get a confidence interval on the water  
08 supply forecasts, you need to take account of the  
09 various sources of uncertainty.

10 And what I suspect that you would see there is a  
11 very -- you would get a point estimate, sort of the  
12 best estimate, but then would you get very broad  
13 confidence intervals. A lot of the discussion that's  
14 gone back and forth here is simply that a lot of things  
15 are uncertain and typically, you want to see that

16 uncertainty summarized in not just a single point  
17 estimate, but a range.  
18 Q But you did not do any sort of analysis, you're  
19 just pointing out the fact that the confidence  
20 intervals were omitted from the analysis?  
21 A Right. Which makes it very hard to sort of judge,  
22 you know, is this really going to happen with great  
23 certainty? Is it a narrow range, or a big range? And  
24 they're just not there, and you need those.  
25 Q Thank you.

0095

01 Down on -- under Section E, you mentioned that the  
02 reclamation estimates are optimistic. Do you know  
03 where in the testimony there might be some better  
04 estimates for reclamation?  
05 A Yeah. I think that the Department of Water and  
06 Power is actually -- has a list which I've seen which  
07 is sort of a better estimate, I believe, in this case.  
08 MR. SATKOWSKI: Does counsel for L.A. know where  
09 these estimates are? What exhibit that is?  
10 DR. WADE: I know.  
11 MR. BIRMINGHAM: There are estimates in the  
12 testimony of Jerry Gewe who is one of the witnesses  
13 that we hope to hear from today.  
14 DR. CARSON: My comment here reflects the simple  
15 fact that some of these projects were basically put in  
16 at a hundred percent, assumed to be operating at a  
17 hundred percent of rated and just operationally, that  
18 doesn't happen.  
19 Q BY MR. SATKOWSKI: Dr. Wade?  
20 A BY DR. WADE: L.A. DWP's filed comments Table 3-LC,  
21 Page 15, Chapter 3-L. Source to Jerry Gewe.  
22 Q You said that was Page 15?  
23 MS. GOLDSMITH: Spelled G-E-W-E.  
24 DR. WADE: Yes. Page 3-L-15 in the comments.  
25 Q BY MR. SATKOWSKI: But that table wasn't presented

0096

01 in -- as an exhibit directly from L.A. Is that  
02 correct?  
03 MR. FRINK: Actually, I believe the comments that  
04 the Department of Water and Power filed on the Draft  
05 EIR are included in one of the staff exhibits, I  
06 believe it's Staff Exhibit No. 2, but we can clarify  
07 that later. So it would be part of the record in any  
08 event.  
09 Q BY MR. SATKOWSKI: Dr. Wade, I wanted to ask you a  
10 couple of questions about your Table B which is on Page  
11 66 of your testimony.  
12 A BY DR. WADE: Yes.  
13 Q Up at the top of the table, there are two  
14 headings, one is Average Annual Delivery of Los Angeles  
15 Aqueduct Water 1980 to 1990, and then the column next  
16 to it is Average Annual Delivery of MWD Water to L.A.  
17 DWP 1970 to 1990. Maybe I'm missing something, but why  
18 are those two time periods different?  
19 A I don't know. There was no reason. Probably  
20 because of some availability of numbers that I had.  
21 Q Do you know whether or not the results would  
22 change substantially if you were to use the same time  
23 period?

24 A I probably don't know because I probably would  
25 have used the same time periods if I had had the  
0097  
01 numbers. I can't tell you why the periods are  
02 different. There was nothing strategic in the choice,  
03 if that's what you're wondering about.  
04 Q I was just wondering why they were different.  
05 Under the column Average Annual Delivery of Los  
06 Angeles Aqueduct Water, Jones and Stokes estimate, the  
07 point of reference scenario, shows 442,000 acre-feet.  
08 For the 6383.5 foot alternative, it shows 400,000  
09 acre-feet, and the difference is 42,000 acre-feet. Is  
10 that correct?  
11 A Yes.  
12 Q For your simulation for the point of reference  
13 scenario you show 433 thousand acre-feet. For the  
14 6383.5 foot alternative, you show 399,000 acre-feet,  
15 and the difference in that would be 34,000 acre-feet.  
16 Is that correct?  
17 A As shown in Table B.  
18 Q All right. Could you conclude from looking at  
19 these values that the incremental difference between  
20 the point of reference in the 6385.5 alternative for  
21 your analysis is less than for the Jones and Stokes  
22 estimates? In other words, the impact is less for your  
23 analysis than for the Jones and Stokes analysis?  
24 A I, myself, did not conclude that. As I stated  
25 before, I assumed that the difference was within the  
0098  
01 standard deviation and that there was no statistical  
02 difference. To me, the most important numbers on Table  
03 B are the changes on the Metropolitan column.  
04 Q Okay. Let's go on. On Page 69 of your testimony,  
05 at the bottom of the last full paragraph, you mentioned  
06 that Jones and Stokes assumed that MWD could generally  
07 replace or reduce aqueduct deliveries, quote unquote,  
08 95 percent of the replacement supplies would be from  
09 MWD. I'm not sure if I remember exactly what was in  
10 the EIR. Is that 95 percent of after conservation  
11 reclamation is factored into the analysis, or is that  
12 95 percent overall?  
13 A I think that the remaining 5 percent was assumed  
14 to be reclamation. The exact answer to your question,  
15 I don't recollect. The point of the paragraph is that  
16 they simply assumed it was 95 percent available,  
17 whereas if they had run the DWRSIM model, they would  
18 have seen that it's not there.  
19 Q Down at the bottom of the page, the same page, you  
20 discuss the entitlement from the State Water Project,  
21 and it's listed as 2.01 million acre-feet. Is that the  
22 full entitlement value?  
23 A That's Metropolitan's full entitlement value.  
24 Q Turning the page to Table C, which is labeled  
25 Annual Los Angeles Aqueduct Deliveries and Allocation  
0099  
01 of Potentially Exportable Water in the Year 2000 -- let  
02 me back up.  
03 Before we go to that, on Page 71 at the top, you  
04 mentioned that some of your analysis was extended to  
05 1991 by regression analysis. What did you do there

06 exactly?

07 A Jones and Stokes provided a time series to me to  
08 1989, two time series, the point of reference time  
09 series and the 6385.5 time series. As you know, that  
10 1941-to-1989 period doesn't really include much drought  
11 on the eastern Sierra. That's reflected in the longer  
12 70-odd-year trace.

13 We extended the time series to '90 and '91 by  
14 regression of those simulated results provided to us on  
15 one of two series of actual deliveries that L.A.  
16 aqueduct provided to me by correlating the numbers over  
17 15 years or something like that and just predicting '90  
18 and '91. That's what we did.

19 Q Is the regression analysis somewhere in your  
20 testimony or exhibits?

21 A It's not.

22 Q Can we get that regression?

23 A You can. It really only exists right now on a  
24 hard drive of a computer in my office.

25 MR. SATKOWSKI: Is that okay with counsel?

0100

01 MR. BIRMINGHAM: Absolutely.

02 DR. WADE: We tested two variables, by the way,  
03 and chose the more conservative that gave the higher  
04 deliveries to Los Angeles.

05 Q BY MR. SATKOWSKI: Thank you.

06 Now, going back to the table, I believe in your  
07 testimony that you mentioned that for the fourth  
08 column, which is labeled Potentially Exportable Water  
09 March through February from -- and that was some  
10 results from a run that was done for D 1630?

11 A Yes.

12 Q Do you know the date of that run or the run  
13 number?

14 A I do not. However, it could be obtained. There  
15 were some runs done by some people in George Barnes'  
16 shop for us.

17 Q Yes. And we'd like to get that if possible.

18 Now, in the heading of this table, it mentions the  
19 year 2000. Do you know what the level of export and  
20 demand was for this particular run?

21 A I think 3.7.

22 Q Now, that -- do you know what that would translate  
23 in terms of export demand? 3.7, I assume, is the State  
24 Water Project demand?

25 A I think, yes.

0101

01 Q Do you know what the conversion is?

02 A The conversion to what?

03 Q Do you know what the export demand is from the  
04 delta? The amount of water needed south of the delta  
05 versus the entire State Water Project system?

06 A No.

07 Q Now, you said that this DWRSIM run was from D  
08 1630. Do you know if the State Board used the 2,000  
09 level of development analysis in preparation of  
10 Decision 1630?

11 A No. I don't know what the state did.

12 Q Would you be surprised to know that the State  
13 Board did not?

14 A They were using the Decision 1485. Is that your  
15 contention?

16 Q No. Well, what the State Board did is use a 1990  
17 level of development not a future level of development  
18 in its analysis, so just to make the record clear on  
19 that.

20 Isn't it true that using a higher level of demand  
21 in the DWRSIM analysis would decrease the amount of  
22 surplus water available for export?

23 A Yes. But we're dealing with the year 2000 here.

24 Q I understand that. And if you were to decrease  
25 the amount of surplus water available, then your

0102

01 table -- your Column Four of your Table C would  
02 change. Is that correct?

03 A If you want to lower the demand, then the  
04 potentially exportable surplus would rise. Is that the  
05 point? I would agree with that. But it hinges on  
06 what's the demand assumption.

07 Q Okay. Down on Page 71, which is the third full  
08 paragraph of that page, you mention that aqueduct  
09 deficiencies can be made up by water delivered any time  
10 between March and February. In this analysis of  
11 DWRSIM, did you or did DWR, look to see if there was  
12 actually a capacity in the system to transfer this  
13 water?

14 A It's my understanding that the capacity was  
15 limiting. But I have to say for the record that that's  
16 hearsay. On my own authority, I do not know the answer  
17 to your question. But yes, that's an explicit part of  
18 what DWRSIM does as I understand it. Admittedly, only  
19 vaguely do I understand it.

20 Q In the middle of the second full paragraph, you  
21 state that, "If we assume that the annual replacement  
22 water can be requested any time during the 17-month  
23 period from October through February, the State Water  
24 Project could still provide approximately 14,000  
25 acre-feet.

0103

01 Why did you add in this analysis for the 17-month  
02 period?

03 A To show that it only goes up a little bit.

04 Q And why did you pick the 17-month period?

05 A I didn't pick it. I wrote it. It was provided to  
06 me. So I can't answer the question analytically.

07 Q Who was it provided from?

08 A My testimony lists Roger Mann as my partner on  
09 working with DWR on working out these simulation runs.  
10 Both Roger, my staff person, knows how these hydrologic  
11 models work, and the DWR people that ran the modules,  
12 they know how they work.

13 Q Earlier, Ms. Scoonover asked you about some of the  
14 controversies of DWRSIM. Are you aware of the carriage  
15 water component in DWRSIM?

16 A As I've stated twice here this morning, I'm aware  
17 of very little about DWRSIM in fact. I'm not a good  
18 person to ask hard questions about DWRSIM.

19 Q Are you aware that certain parties, at least in  
20 the Bay Delta hearings, have advocated that the  
21 carriage water component or -- carriage water is

22 roughly defined as the volume of water needed to meet  
23 the water quality criteria at the Contra Costa canal  
24 intake, that some parties to the hearings had  
25 recommended that carriage water be zero as opposed to

0104

01 the values used by DWR?

02 A My prior answer still stands. I don't know.

03 Q Let me just ask one last question dealing with  
04 that. If the carriage water component was zero as  
05 opposed to what DWR had assumed, would that decrease or  
06 increase the amount of surplus water available?

07 A I don't know.

08 Q Going on to Page 72. At the bottom of the page,  
09 in the third full paragraph, you mention that,  
10 "Important economic risk model assumptions for these  
11 runs include DWR Bulletin 160-93 assumptions concerning  
12 local water supplies and average demands." I  
13 believe -- was it Ms. Scoonover that pointed out that  
14 this was still -- DWR Bulletin 160-93 was still a  
15 draft; is that correct?

16 A That's correct.

17 Q If these assumptions are important, could it be  
18 possible that we could get L.A. to introduce at least  
19 the draft version of Bulletin 160-93 and any important  
20 appendices that go along with that?

21 A I was not -- I do not have a Bulletin 160-93. We  
22 received the data file that is loaded by the planning  
23 department with Bulletin 160-93, and we would be  
24 delighted to make that available to you. In fact, I  
25 think we have.

0105

01 MS. GOLDSMITH: Is that the planning department of  
02 the Department of Water Resources?

03 DR. WADE: Yes.

04 MR. SATKOWSKI: Thank you. That's all I have

05 HEARING OFFICER DEL PIERO: Mr. Smith?

06 MR. SMITH: Mr. Canaday and I discussed my  
07 concerns yesterday evening, so I defer to Captain  
08 Habitat.

09 HEARING OFFICER DEL PIERO: Captain Habitat.

10 MR. SMITH: Mr. Chairman, I'll clarify that for  
11 you later.

12 MR. DODGE: I have a feeling that I'm never going  
13 to live down that error.

14 HEARING OFFICER DEL PIERO: Mr. Canaday.

15 MR. CANADAY: "Live" is the pivotal word.

16 HEARING OFFICER DEL PIERO: We've been here a long  
17 time.

18 Q BY MR. HERRERA: Before we get to Mr. Canaday, I  
19 guess I'll -- listening to all this testimony, I've got  
20 some real basic questions that linger in my mind is  
21 that we're talking about modifying L.A.'s exports of  
22 water under various lake level alternatives out of the  
23 Mono Basin, and earlier we were kind of looking for the  
24 bottom line of all of this.

25 Maybe I'll start off by asking a question. Do you

0106

01 know what the average annual rate of export by L.A. DWP  
02 has been historically?

03 A BY DR. WADE: Well, as shown in the Table B that we

04 just looked at.  
05 Q And that is?  
06 A Well, for the ten-year period shown, 438,556  
07 acre-feet.  
08 Q Okay. And what is that ten-year period?  
09 A '80 to '90.  
10 Q '80 to '90. Do you know what the export was prior  
11 to any court order restrictions on export? That period  
12 does include some restrictions.  
13 A I think it was closer to -- I think the design  
14 capacity of the pipe is 550,000 acre-feet. And what  
15 the actual deliveries were are not -- I don't  
16 recollect.  
17 Q Let's assume that it was approximately 85,000  
18 acre-feet annually. I believe that's --  
19 A Was your question from Mono Lake or from --  
20 Q That's correct, yes.  
21 A I misheard your question.  
22 Q Okay. Then, again, what was -- what was your  
23 understanding of what the historic annual export from  
24 the Mono Basin prior to the court order restrictions?  
25 A It would be in line with that number that you just  
0107  
01 said.  
02 Q 85,000? Okay. And in your comparison of the  
03 6385.5 alternative, how much export did you anticipate  
04 there?  
05 A I didn't anticipate an absolute amount. I dealt  
06 with a change.  
07 Q And that was a change from the point of reference  
08 and not from the historic use?  
09 A Yes.  
10 Q Still, what I'm getting at here is could you tell  
11 me, if you had a known amount of 85,000 acre-feet of  
12 export and roughly at 6385.5 would allow, let's say,  
13 55,000 acre-feet of water, as a hypothetical there,  
14 that's roughly 30,000 acre-foot reduction in export.  
15 How much is that going to cost an acre-foot? That  
16 reduction?  
17 A Well --  
18 Q In actual costs and in your incremental costs?  
19 A Well, I appreciate the straightforwardness of your  
20 question, and the straightforward answer is the \$95  
21 million estimate. Now, the explanation for why that's  
22 the answer is a little more complicated and,  
23 essentially, what we have done is this is the baseline  
24 of the problem in Southern California.  
25 Q Would you identify that for the record, please?  
0108  
01 A It's a poorly labeled table that we just quickly  
02 jinned up that basically shows what the baseline  
03 damages would be without regard to the Mono Lake  
04 decision in Southern California.  
05 HEARING OFFICER DEL PIERO: Can we have that  
06 identified?  
07 MS. GOLDSMITH: Perhaps we could I have this as  
08 exhibit --  
09 MR. SMITH: Next in line would be 84.  
10 HEARING OFFICER DEL PIERO: Is that okay with you,  
11 Counsel?



12 MS. GOLDSMITH: That's fine for present purposes.  
13 HEARING OFFICER DEL PIERO: It's shorter than --  
14 MR. FLINN: Did the Reporter get jinned up?  
15 HEARING OFFICER DEL PIERO: It's a jinned  
16 version.  
17 MR. DODGE: It was a quickly jinned up version.  
18 DR. WADE: This goes with the unnamed model.  
19 HEARING OFFICER DEL PIERO: That will be marked  
20 for the record.  
21 DR. WADE: And it's three pages.  
22 (L.A. DWP Exhibit No. 84 was  
23 marked for identification.)  
24 DR. WADE: The point being is that living in  
25 Southern California, I guess you could describe, is a  
0109  
01 little bit like flying an airplane. Most of the time I  
02 guess it's not so hard, as pilots like to say, but  
03 landing is a real bear. So in Southern California you  
04 basically have -- I have here a table of 52 years of  
05 damages estimates or economic losses per year  
06 associated with Metropolitan's baseline and the 6385.5  
07 foot case, point of reference case, compared to the  
08 6385.5. This picture is simply a plot of the  
09 baseline. That there are some hydrologic years that  
10 would cause damages to Metropolitan associated with a  
11 42 percent shortage of near \$10 billion.  
12 And this is the worst case hydrologic shortage  
13 that exists in the history of California when you run  
14 these models for the year 2000.  
15 And -- so what you get to when you compare the  
16 small, stated to be seven-tenths of a percent change,  
17 to these shortage costs over each of these 52 years, is  
18 a number that ranges from their eight zeros, their six  
19 years, when it's less than a million dollars a year,  
20 their five years, when it's less than ten million, and  
21 so that's 19 or 20 years when the numbers are  
22 virtually, you know, small. And there are a lot of  
23 years --  
24 Q BY MR. HERRERA: Small being less than a million?  
25 A BY DR. WADE: Yes. Less than ten million, less than  
0110  
01 a million zero. In other words, for this 20 out of the  
02 50-year period, Metropolitan has pretty good supply  
03 reliability. But for 30 odd years out of the 52-year  
04 period, Metropolitan is looking at some shortage which  
05 is incrementally worsened by the 24 or 40,000 acre-feet  
06 associated with the Mono Lake decision.  
07 And the economic damages or the economic cost of  
08 that ranged from, you know, the large numbers ranged  
09 from a hundred and ten million to, I see a number of  
10 554 million for one year. And the average of that over  
11 the 52, averaging in the zeros and the very high  
12 numbers, is the \$97 million.  
13 So what you're looking at is that on the margin,  
14 the last 24,000 or 40,000 acre-feet of water governed  
15 by this decision exacerbates Metropolitan's underlying  
16 unreliable system.  
17 The corollary to that is that obviously you can't  
18 simply say, "Well, Rusty Areias' 25,000 acre-feet makes  
19 up for that and makes the problem go away. It

20 doesn't. It's not that simple.  
21 Q I understand that. I think part of our problem  
22 here is that, at least from my perspective, is I'm  
23 looking at a change in the amount of water that's being  
24 exported. And I've gotten a \$95 million number, and  
25 I'm not sure how I can relate that to anything other

0111

01 than your comparison of the point of reference in the  
02 6385.5.

03 A I can relate it in contrast to the Jones and  
04 Stokes' numbers. Jones and Stokes, you may remember,  
05 for this case estimated a \$1.8 million incremental cost  
06 of shortage. Well, our estimates show that the  
07 incremental cost of simply the advertising campaign is  
08 roughly \$700,000 based on the very detailed algorithms  
09 in the economic risk model and so, therefore, the  
10 shortage cost element itself is in the range of a  
11 million dollars. I think that's a trivial number  
12 because it just doesn't match with anything that's been  
13 in the record of the Bay Delta hearings.

14 Again, to emphasize the point, that translates to  
15 a 31-cent-a-year household cost of that number. That  
16 doesn't compute. Our number translates to a \$16-a-year  
17 household cost number, which compares to the Carson and  
18 Mitchell numbers of 100 to \$300 for much larger water  
19 shortages that people evidenced they would be willing  
20 to pay to avoid a reduction in water supplies. So our  
21 numbers work out to on, an acre-foot basis, something  
22 in the range of 3 or \$4,000 an acre-foot at the high  
23 end of other known measures of what people are paying  
24 on the margin for high end replacement costs of water.

25 Our numbers have some common sensibility about

0112

01 them. 31 cents a household a year doesn't have a  
02 common sensibility to it.

03 Q Again, you know, I guess in some respects it's an  
04 attempt to oversimplify things but, again, when I'm  
05 looking at various alternatives and I thought well,  
06 just as an indicator I'm saying, if I go from 6377 to  
07 6385.5 what's the cost, and what you're saying is  
08 there's no simple answer to that or from a point of  
09 reference of 6385.5.

10 A More importantly, Sir, what my direct testimony  
11 actually said was there are two important models which  
12 are accepted in the planning community, the DWRSIM and  
13 the economic risk model that should have been consulted  
14 in the DEIR process to ask and answer that question.  
15 They were not consulted, and they were not used. And  
16 my direct testimony corrects the record on that.  
17 That's exactly what my testimony is directed to. Less  
18 to the absolute epistemological question that you're  
19 trying to answer and more to the deficiencies of the  
20 record.

21 MR. HERRERA: That concludes my questions. Thank  
22 you.

23 HEARING OFFICER DEL PIERO: Mr. Canaday, before  
24 you -- before you begin, Mr. Brown has to leave at  
25 11:30. He has three questions. I'd like to afford him

0113

01 the opportunity to ask those.

02 MR. BROWN: Thank you, Mr. Chairman.  
03 CROSS-EXAMINATION BY THE BOARD  
04 Q BY MR. BROWN: This will be directed to the panel.  
05 The Central Arizona Project, I believe, the water  
06 rights to 662,000 acre-feet; is that correct?  
07 Thereabouts?  
08 A BY DR. WADE: What is their water right on the  
09 Colorado River?  
10 Q Is that the figure?  
11 A I don't know the figure. I know that the system  
12 is designed for an ultimate capacity of 2.2 million  
13 acre-feet.  
14 Q The follow-up question was of the 662, and I think  
15 that's the figure, would you have any idea of what  
16 they're going to take on that?  
17 A I do not have an idea.  
18 Q Do you know how many kilowatt hours it takes to  
19 bring an acre-foot of Colorado River water into  
20 Southern California?  
21 A It's my understanding -- would you repeat the  
22 question, please?  
23 Q Do you know how many kilowatt hours per acre-foot  
24 it takes to bring water in Southern California from the  
25 Colorado River?  
0114  
01 A I do not.  
02 Q Do you know how many KWH's it takes to bring one  
03 in from the State Water Project to Southern California?  
04 A I do not in terms of kilowatt hours.  
05 Q Do you have an idea of how many kilowatt hours are  
06 generated by the Owens Lake Project in Southern  
07 California?  
08 A I would have in years past in my career, but I do  
09 not sitting here today.  
10 MR. BROWN: Okay. Thank you, Mr. Chairman.  
11 HEARING OFFICER DEL PIERO: Thank you very much,  
12 Mr. Brown.  
13 Mr. Canaday? Or should I refer to you as  
14 Captain?  
15 MR. CANADAY: Whatever you choose, Mr. Del Piero.  
16 DR. CARSON: May I request a two-minute rest room  
17 break?  
18 HEARING OFFICER DEL PIERO: Absolutely. We'll  
19 take a five-minute break.  
20 (Whereupon a recess was taken.)  
21 HEARING OFFICER DEL PIERO: Ladies and Gentlemen,  
22 this hearing will again come to order. Mr. Canaday?  
23 CROSS-EXAMINATION BY THE STAFF (Continued)  
24 Q BY MR. CANADAY: We've been talking a lot about L.A.  
25 DWP customers. Yesterday we heard testimony that  
0115  
01 the -- from the power panel that there were a little  
02 over three million customers.  
03 How many customers of water does L.A. DWP have?  
04 A BY DR. WADE: I turns out I don't have that number,  
05 and I don't think Richard has that number. I do have  
06 the number of people in households in the counties, but  
07 not the city service area.  
08 Q Can you give me a magnitude number? Are we  
09 talking --

10 A BY DR. CARSON: It's roughly the same.  
11 Q About the same?  
12 A Customers here roughly translates --  
13 CHAIRMAN CAFFREY: I didn't catch that number.  
14 Could you clarify what that number was?  
15 DR. CARSON: I believe we're looking at about  
16 three million households served, roughly the same,  
17 electricity and water. Somebody from L.A. DWP could  
18 probably come up with the actual number.  
19 MR. BIRMINGHAM: We do have another witness that  
20 we hope to get to today who will be able to give you  
21 the specific amount.  
22 HEARING OFFICER DEL PIERO: Thank you.  
23 Q BY MR. CANADAY: Dr. Carson, you did a CV study in  
24 1987. Could you explain as simply as you can for  
25 simple people like myself what a contingent valuation  
0116  
01 study is?  
02 A BY DR. CARSON: Effectively in this study what we  
03 asked people about, we said, you know, essentially,  
04 "This is a study being done on behalf of water  
05 utilities, your favorite water utility, and what  
06 they're doing is they're looking at, under the current  
07 situation. They're looking at shortages in the  
08 future," and we described the magnitude of the shortage  
09 and what that would likely entail. And then we asked,  
10 "Would you be willing to pay X dollars," and that X was  
11 expressed both in terms of a monthly change in their  
12 water bill and an annual payment, "To have your water  
13 utility take actions to prevent having that water  
14 shortage occur? That is, they would basically be able  
15 to deliver the water."  
16 And there were four different shortage scenarios  
17 that were valued.  
18 Q Thank you.  
19 A Basically, you randomly assign these X's and so  
20 you trace out the percent of the population that's  
21 willing to pay different prices to avoid the water  
22 shortage. Sort of like a dose response curve in drug  
23 experiments where you try to see how much of the toxin  
24 will kill the organisms, and here you're looking at  
25 increases in water bill and the people going from being  
0117  
01 willing to pay that price and not willing to pay that  
02 price.  
03 Q Do you recall what the highest amount was per  
04 household?  
05 A The highest amount was for -- was around 200 --  
06 \$240 in 1987 dollars. It's somewhat more than that  
07 now.  
08 Q Per --  
09 A And this was per year.  
10 Q Per year.  
11 A And this was to avoid two water shortages in a  
12 five-year period; one of 30 to 35 percent in magnitude  
13 and one of 10 to 15 percent in magnitude.  
14 A BY DR. WADE: Was the question and answer about the  
15 highest median value or about the highest observation  
16 among those 2,000 respondents --  
17 Q Median.

18 A BY DR. CARSON: It was the median response.  
19 A BY DR. WADE: By the way, I today referred to those  
20 numbers as ranging from a hundred to \$325, which was  
21 simply moving them up to '92 dollars.  
22 Q Thank you.  
23 That was in 1987, correct?  
24 A BY DR. CARSON: Correct.  
25 Q Do you think those responses would have changed  
0118  
01 given the history of the water supply picture in  
02 California since 1987 to today?  
03 A They're certainly likely to be some movement in  
04 those numbers. At the time we did them, we wanted to  
05 actually look at Northern California compared to  
06 Southern California. And what you see -- there wasn't  
07 a whole lot of difference in the overall median, but  
08 there was clearly a difference sort of in the  
09 distribution. What you find is some people see the  
10 water shortage as less impinging on them than they had  
11 originally thought, and some people see it as more. So  
12 certainly there would be changes. I couldn't say  
13 whether they would actually go up or down based on what  
14 we observed in the 1987 study, comparing it to an area  
15 where they had experienced more substantial water  
16 shortages, I wouldn't expect dramatic increases or  
17 decreases.  
18 Q Are you aware of what the City of Los Angeles  
19 during that period tried to implement as a -- I'm  
20 trying to think of a proper word -- as a water  
21 conservation that would be implemented freely by the  
22 water users? Do you recall what that number was? That  
23 target?  
24 A Maybe --  
25 MS. GOLDSMITH: Objection. Ambiguous. Are you  
0119  
01 talking about target in terms of price --  
02 MR. CANADAY: Target and percent savings of water  
03 use.  
04 Do you recall what -- there was instituted a water  
05 conservation program in the L.A. DWP service area, and  
06 they had a particular target for savings, the amount of  
07 water, percent?  
08 DR. CARSON: I think Bill has it.  
09 Q BY MR. CANADAY: Fine.  
10 A BY DR. CARSON: I think it actually varied at  
11 different stages of this.  
12 A BY DR. WADE: I've got the February 1, 1991,  
13 Emergency Water Conservation Ordinance Implementation,  
14 Phase Two, in which they went to Phase Two on March 1,  
15 1991, and Phase Three on May 1, '91, and Phase Three  
16 will further limit customer use to 85 percent of the  
17 amount used during the 1986 base year.  
18 Is that the answer you were looking for?  
19 Q Approximately 15 percent. Are you aware that the  
20 actual savings that has been -- I've heard numbers,  
21 what numbers have you heard of the actual savings?  
22 A BY DR. CARSON: In some months the actual savings  
23 exceeded that, and in some months the actual savings  
24 were less than that.  
25 Q I've heard numbers thrown around about 30 percent.

0120

01 Is that unreasonable?

02 A BY DR. WADE: I think the question is better directed  
03 to Jerry Gewe sitting back there who will follow us.

04 Q Let's assume that it was greater than 15 percent,  
05 and let's assume that it was closer to 30 percent.

06 A BY DR. CARSON: Okay.

07 Q That would -- you could break that savings down  
08 into two reasons possibly. One that there was an  
09 increased willingness to conserve. Okay? And suffer  
10 incremental costs, increased incremental costs. Or the  
11 amount of water that the individuals were using was  
12 greatly exaggerated, and they had more water than they  
13 really need owed in the first place.

14 A I follow the first one, but -- you're taking  
15 basically their previous use compared to their  
16 subsequent use.

17 Q Right.

18 A So they were using the water.

19 Q My question is, or the question that I pondered,  
20 if you could save 30 percent, it seems to me that you  
21 were using a lot more water than was necessary to begin  
22 with, and that the actual impact to your lifestyle  
23 wouldn't be as great as if you conserved as best you  
24 could and conserved 15 percent.

25 Q I don't know that it's -- that you're using a lot

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01 more water than you had to or wanted to. In other  
02 words, what was happening before was people were  
03 basically using the amount of water they wanted. Once  
04 you basically announced these targets and put forth a  
05 large advertising campaign trying to admonish people to  
06 cut back, part of that's driven by the fear of not  
07 cutting back now resulting in much more severe  
08 shortages in the future.

09 You can also show that these campaigns to cut back  
10 on water tend to have diminishing effects. In other  
11 words, in an emergency situation, people will basically  
12 cut back very severely in water, putting off lots of  
13 things, and engaging in lots of practices that they  
14 basically would prefer to avoid, prefer to -- are  
15 willing to pay to avoid, both in a, you know, sense of,  
16 "We're all in this together, and if we aren't -- don't  
17 all do this together, things will be basically much  
18 worse."

19 Q But isn't that the way you present your scenario  
20 to the person in a CV study as well?

21 A Yes. Certainly, it's what they're -- you're  
22 saying, "This is what will basically happen. In other  
23 words, you will have to cut back depending on the  
24 scenario, 15 percent or 35 percent, and what are you  
25 willing to pay to avoid that?"

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01 Q Dr. Wade, you said that the incremental costs  
02 based on your projections are what this \$95 million  
03 projects to is about a \$16 per annum household cost?

04 A BY DR. WADE: Yes. Over Southern California.

05 Q Over Southern California? And Dr. Carson, again,  
06 what was the median willingness to pay of your study?

07 A BY DR. CARSON: There were four different scenarios

08 and for the 10 to 15 percent shortage, it was \$83 a  
09 household, and that was once per five years. and the  
10 high end was up to 40, I believe. And --

11 Q 240.

12 A And that was for two shortages in a five-year  
13 period; one of those shortages being much more severe.

14 Q Dr. Wade, you went through some numbers earlier  
15 that suggested the kinds of shortage, the years in your  
16 52-year record that you generated, if we had shortages  
17 of one -- 15 percent and up to 35 percent every five  
18 years, one of those occurring, would that be equal to  
19 or greater than the shortages you estimated in your  
20 52-year run?

21 A BY DR. WADE: I'm sorry. I lost track of your  
22 question.

23 Q You cited shortages that would occur in the  
24 ability of MWD to deliver water to the City of Los  
25 Angeles over that 52-year trace. What I'm asking is if  
0123

01 the willingness to pay this \$240 based on the  
02 assumption that there would be, out of a five-year  
03 period, one year of a 15 percent -- 10 to 15 percent  
04 shortage and one of those other years would be a 35  
05 percent shortage, would that kind of rate of shortages  
06 be equal to or greater than what you estimate would --  
07 on your trace?

08 A Your question is a good question, and it's an  
09 answerable question with the data that I have. But I  
10 have not taken the data and analyzed the data in that  
11 way to have the answer to your question. However, to  
12 emphasize what I'm -- the point I made just before the  
13 break, we do find that 60 percent of years have some  
14 shortage, some reasonably large shortage, and 40  
15 percent of the years have no or a very tiny shortage.  
16 So six out of ten years there is some shortage down  
17 there. Is it -- are these shortages in the 10 to 15  
18 percent range or one 10 to 15 and one 30? It could  
19 simply be determined.

20 Q Earlier, you testified or used the words,  
21 Dr. Wade, that "there's some tremendous uncertainty in  
22 the water future."

23 A Yes.

24 Q And the word -- the word "speculative" for  
25 transfers. You used that word. Is that correct? Of  
0124

01 the ability to transfer water at the present time?

02 A It, to pin down exactly how much water will be  
03 transferred, is speculation. When it will be  
04 transferred. Will it be transferred when needed? Will  
05 the system facilitate the transfers? Will the laws  
06 change, are speculative. All of these things are  
07 speculations. It's not that I say transfers per se are  
08 speculative.

09 Q You also said that the EIR failed to fully  
10 consider incremental and environmental impacts in the  
11 delta or various other places where water might be  
12 transferred from. If the water future is so  
13 speculative and uncertain, how can one expect Jones and  
14 Stokes to, very specifically, analyze incremental and  
15 environmental impacts of these various water sources?

16 A By postulating some very reasonable scenarios and  
17 doing a sensitivity analysis and sitting in a room with  
18 informed water people like yourself for half a day, a  
19 competent analyst would be able to postulate and form  
20 scenarios.

21 Q My recollection of the EIR is that Jones and  
22 Stokes presented a list of potential sources or  
23 activities that the City of Los Angeles could undertake  
24 for water supply alternatives. Are you suggesting that  
25 the Board -- and under CEQA, it's generally the agency

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01 with the discretionary approval or who's going to carry  
02 out the specific project, that analyzes the  
03 environmental consequences. So are you suggesting that  
04 Jones and Stokes somehow should determine what the  
05 water supply projects for the future of the City of Los  
06 Angeles or as well this Board decide what those  
07 projects should be?

08 A No. Rather -- I think I read in the draft EIR --  
09 and, as you know, I was a member of the technical  
10 advisory committee -- that Jones and Stokes set out to  
11 find that reclamation would be on the margin and  
12 discovered that it was not. And that Metropolitan is  
13 on the margin, and they didn't address where  
14 Metropolitan is going to get the water or at what  
15 environmental or, as I've testified, economic cost.

16 Q Well, wouldn't that be a decision for Metropolitan  
17 Water to make of how and where to get that water and,  
18 therefore, under CEQA statutes, would very likely be  
19 their responsibility to evaluate that environmental  
20 cost of that additional supply?

21 A It's a good question. I think probably the  
22 question is better addressed to an environmental  
23 attorney.

24 Q Well, you were suggesting that Jones and Stokes  
25 had failed, in a sense, under CEQA, in their

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01 environmental document. I'm just referring back to  
02 that to try to understand how you based your opinion.

03 For clarification of the record, both of you,  
04 Dr. Carson and Dr. Wade, participated in the TRT, which  
05 is the Technical Review Team. Could you, either one of  
06 you, choose to explain what that was?

07 A Over the last several years of this study, Richard  
08 and I or a member of my staff, Ms. Wendy Ellingworth,  
09 attended several meetings and reviewed several  
10 documents or concepts in development and the study  
11 finding.

12 Do you want to add to that?

13 A BY DR. CARSON: Right. These committees basically  
14 discussed the socio-economic things. In particular,  
15 focusing on the design of the contingent valuation  
16 survey.

17 Q And that would be --

18 A Right.

19 Q And that would be this particular instrument here?

20 A Yes.

21 Q And so you had --

22 A Some input. But not -- it was not the -- Michael  
23 Hennimen and Thomas Wegge had --



24 Q Ultimate decision authority?  
25 A Ultimate decision, I simply made comment, some of  
0127  
01 which were provided and some of which weren't. We also  
02 discussed --  
03 MR. BIRMINGHAM: Excuse me, Mr. Chairman. I don't  
04 believe there's a question pending.  
05 CHAIRMAN CAFFREY: Can you put this in the form of  
06 a question, Mr. Canaday?  
07 MR. BIRMINGHAM: Actually, that was more addressed  
08 to the comments being made by the witness.  
09 DR. CARSON: I thought the question was what did  
10 the technical review committee do?  
11 MR. BIRMINGHAM: It was my understanding that  
12 question had been answered.  
13 CHAIRMAN CAFFREY: All right. We will rule that  
14 it has been satisfactorily answered.  
15 Do you have any other questions, Mr. Canaday?  
16 MR. CANADAY: Let me see, please.  
17 Q BY MR. CANADAY: I'd like to talk about conservation  
18 and reclamation. I'll ask a few questions about that.  
19 What we're looking at, and you stated, Dr. Wade, that  
20 supply futures are rather tenuous of what is on the  
21 horizon on availability; is that correct?  
22 A BY DR. WADE: Yes.  
23 Q Would reclamation of water -- in other words, it's  
24 a source that a district already has in hand and is  
25 used, wouldn't you consider that probably a very firm  
0128  
01 supply for second use? A dependable supply?  
02 A Yes.  
03 Q And that it would be cost effective because you've  
04 already incurred the cost of developing that initial  
05 water or paying for that water, and transporting that  
06 water, whether it's costs for pumping, kilowatt hours,  
07 or whether it's actual, the physical structures to  
08 deliver the -- that water, that it would make economic  
09 sense to capture as much of that water and reuse it  
10 again?  
11 A As strictly as you posed the question, the answer  
12 is no. And the reason the answer to that specific  
13 question is no is that the cost of reclaiming water  
14 exceeds the value that you can sell the water for,  
15 which means, therefore, that you have to subsidize  
16 reclaimed water with payments captured from the fresh  
17 water concerns. So it is not cost effective in that  
18 specific sense.  
19 It is cost effective in the sense of a capacity  
20 avoided, if you will, of creating more fresh water, but  
21 I don't think that's the exact question you asked. So  
22 I want to say no and yes.  
23 Q I have a follow-up one. What if public monies  
24 were provided, and those monies were not necessarily  
25 monies of the L.A. DWP ratepayers and, therefore, a  
0129  
01 significant amount of the costs to develop reclaimed  
02 water projects were monies funded by the public at  
03 large? Wouldn't that be cost effective?  
04 A You know, I think the answer would be yes, but I  
05 want to add a comment here. You and I sitting and

06 speculating about the amount of and cost of  
07 reclamation, I think is not appropriate for this  
08 Board. There are people in this state who know a great  
09 deal about how much reclamation is going to be  
10 forthcoming and when, and I am not that witness.

11 CHAIRMAN CAFFREY: Yes, Sir?

12 MR. FLINN: Mr. Chairman, life is short and the  
13 witness began his statement by saying, "I've answered  
14 the question, and now I want to make a statement." I  
15 would ask that the witness be admonished to answer the  
16 question --

17 CHAIRMAN CAFFREY: I'm going to ask the witnesses  
18 to stay closely to the question and -- in the interests  
19 of time, and also in the interests of an accurate  
20 record.

21 Yes, Ma'am.

22 MS. GOLDSMITH: Mr. Caffrey, I don't want to cut  
23 off Mr. Canaday's line of questions, but Mr. Gewe of  
24 the L.A. DWP is going to be here this afternoon  
25 testifying, and I think he may provide more accurate

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01 information and better answers for the Board than  
02 perhaps Dr. Wade does.

03 MR. CANADAY: That may be true, but Dr. Wade, in  
04 his testimony, has provided numbers in analyzing the  
05 Jones and Stokes document and presenting numbers here  
06 relative to annual resource costs, and I was eliciting  
07 his opinion.

08 CHAIRMAN CAFFREY: I think he certainly testified  
09 that he's an expert in that area if he wishes.

10 Mr. Canaday, do you have much more?

11 MR. CANADAY: Just a few more questions.

12 CHAIRMAN CAFFREY: I'm not trying to stifle you,  
13 I'm just --

14 MR. CANADAY: Do I need to ask for 20 minutes  
15 more?

16 CHAIRMAN CAFFREY: That's up to Mr. Herrera.

17 Q BY MR. CANADAY: I'd like to discuss the logic in the  
18 economic risk model, if I might. From reading your  
19 testimony, your written testimony, it's -- it suggests  
20 to me that when demand cannot meet supply, whether  
21 that's local or imported supply, that there's a  
22 contingency conservation element of 7 percent?

23 A BY DR. WADE: That kicks in at 7 percent.

24 Q What limits that to 7 percent? Is that just an  
25 assumption?

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01 A Yes. It's not that the conservation is limited to  
02 7 percent, it's rather that it kicks in. What  
03 exactly --

04 Q I'm just reading from your testimony where it  
05 describes the 7 percent assumption.

06 A Pages 74 and 75?

07 Q 72 and 73, Sir.

08 And in this economic risk model that you ran, did  
09 you also include the BMPs that the City of Los Angeles  
10 has signed on to, the full application of the BMPs?

11 A The BMPs are assumed in the demand forecast which  
12 is loaded into the model. By the way, this is an  
13 improvement, therefore, over the demand forecast in the

14 Jones and Stokes documents.

15 Q Does this include projected reclamation use as  
16 well?

17 A Reclamation is added into the model to bring our  
18 numbers almost up to what Jones and Stokes assumes.

19 Q And that reclamation numbers was -- do you recall  
20 what that number was?

21 A Well, we added 52,000 -- I have some specific  
22 notes. We added 52,000 on top of DWR's assumption to  
23 represent a number close to, but not exactly Jones and  
24 Stokes' number.

25 Q And that number did not include potential

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01 near-term increases in reclamation use? The near term,  
02 I'm saying between now and the year 2001?

03 A It was the year 2001.

04 Q And that number was -- you got from the City of  
05 Los Angeles? Was that number provided to you?

06 A Roger Mann and I made up that number.

07 Q So that was an assumption that you made.

08 A Yes.

09 MR. CANADAY: Thank you. That's all I have.

10 CHAIRMAN CAFFREY: Thank you, Mr. Canaday.

11 I believe Board Member Forster has some  
12 questions?

13 MS. FORSTER: Yeah. But I don't think my  
14 questions are for the panel. I'm going leave it up to  
15 Ms. Goldsmith to help me with this.

16 I appreciate and understand the programs and the  
17 project that you folks developed in this response to  
18 what you were asked to do from L.A. Department of Water  
19 and Power, and after listening this morning and  
20 yesterday, you probably will not be able to streamline  
21 and simplify some of the numbers that I think I hear  
22 the Staff asking and some of the basic numbers that I  
23 think that I, as a Board member, would like to know.

24 So this afternoon -- I've been trying to write  
25 down simple -- simple questions, but none of the

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01 questions come out too simply when we get going on  
02 them. But for instance, yesterday when the power panel  
03 was here, they were able to say that the cost of power  
04 would be 9.2 million. Right? They were saying you  
05 take a certain level, you take the level up there that  
06 you used as a sample, and the cost of power is 9.2  
07 million. I think that in trying to get the EIR to be  
08 as accurate as possible and trying to see where to go  
09 in a simpler mode, it would be nice to have, without  
10 taking in all the variables, at a certain lake level,  
11 what would be the export? What would you have to rely  
12 on MWD for? What would be the cost taking the  
13 acre-foot today of cost of water?

14 And that's just -- that's what Mr. -- Steve was  
15 trying to get to, and Dr. Wade said, "I appreciate your  
16 directness," but he can't answer that directly because  
17 that's not the kind of study he had to do.

18 So I guess what I want to do is, for the record,  
19 just get -- extrapolate some basic crossovers because  
20 the public -- you know, I represent the public. I  
21 think one of the things that the public wants to know

22 in a simple version is, you know, what -- they won't  
23 ask -- they'll say, "Well, what will we lose from Mono  
24 Lake if we -- in our -- in our goal to preserve it?"  
25 We have to all agree that our goal is to preserve the

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01 Mono Lake, so we have different alternatives or goals.

02 What does that alternative mean in water loss,  
03 water to be made up, and cost and per household. And  
04 that's kind of what I'm looking for, and I don't think  
05 this panel can answer it, but somebody from Department  
06 of Water and Power -- I bet the guy that's going to  
07 speak this afternoon is in the back of the room because  
08 I've seen him before, so he's probably -- that's why  
09 I'm saying all this. He's probably the person that can  
10 simplify and just try to show what -- how it all falls  
11 out.

12 And one of the things that I think will be helpful  
13 is any recommendations that he could bring this  
14 afternoon from all the work done by these people on how  
15 to try to have our EIR -- there is a big discrepancy.  
16 What could Jones and Stokes do to bring this  
17 discrepancy closer together? So that when it's all  
18 said and done, people don't say, "My God. They were  
19 off millions and millions of dollars." My goal is that  
20 the EIR is as accurate as possible. So there must be  
21 simple suggestions.

22 MS. GOLDSMITH: Ms. Forster, I think you're right  
23 at the outset. I don't think that's a question that  
24 can be directed to this panel at this time. What I  
25 would like to do is consult with them over the noon

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01 hour, see whether, at this time, we can come as close  
02 as possible to what you asked and if we cannot, to see  
03 whether or not by the time we put on rebuttal  
04 testimony, we can provide you with the answers that  
05 you're looking for.

06 If I understand your point, it's that you'd like  
07 to have some apples and apples kinds of things to  
08 compare.

09 MS. FORSTER: Right.

10 MS. GOLDSMITH: And what you have now are  
11 different methodologies coming up with different ways  
12 of looking at what costs are. I don't know if it's  
13 possible, but if it's possible, we will try and provide  
14 that to you.

15 MR. BIRMINGHAM: I think it will be possible to  
16 provide that information this afternoon based on  
17 Mr. Gewe's testimony presuming that Mr. Gewe testifies  
18 this afternoon. As we go along, it appears less and  
19 less likely, but we can provide that information to  
20 you.

21 MS. FORSTER: And I'm not discrediting anything  
22 that you've done, Gentlemen. I'm just saying that if  
23 you were going to do a simple rule of thumb, you would  
24 say, "You're going to have that much less water. You  
25 have to buy it from Met." You assume that Met has it.

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01 We all know that Bulletin 160 and things like that, but  
02 you assume Met has it. And it just kind of clarifies  
03 and simplifies. Thumbnail sketch, what does it mean

04 without all of this extra study and plugging in. I  
05 mean, it's wonderful, but, you know what I'm -- you  
06 know where I'm going? I want to get it simpler.

07 MS. GOLDSMITH: I think the critical assumption  
08 and difference between the testimony that this panel  
09 has provided and Jones and Stokes is the assumption  
10 that Met does have it, or that you can predict how much  
11 it's going to cost to get it. I think there's a great  
12 deal of speculation in that, and that's why there's  
13 been a different approach.

14 CHAIRMAN CAFFREY: Mr. Frink, before you comment,  
15 I want to hear from the gentlemen.

16 MR. FLINN: Mr. Chairman and Ms. Forster, I do  
17 believe -- I'm hoping I did hear, Ms. Forster, you say  
18 that you would want to know at least assuming Met had  
19 the water available, because we are going to here from  
20 Met and they'll tell us, I guess. I'm hoping -- I know  
21 that's a goal that I have on recross. And I'm hoping  
22 that in the course of today somehow we can get that --  
23 at least that one question answered, although, I know  
24 that there's not totality of agreement with regard to  
25 whether Met will have the water or not.

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01 CHAIRMAN CAFFREY: All right. Thank you, Sir.  
02 I assume that's all from the counselors?  
03 Mr. Frink?

04 MR. FRINK: Yes. Chairman Caffrey and Board  
05 Member Forster, I just wanted to clarify for the record  
06 that Staff's understanding, certainly of CEQA and of  
07 the role of this water right hearing, is that the EIR  
08 is not intended in any way to present all the evidence  
09 that the Board would be interested in considering in  
10 reaching a water right decision. If it were, we  
11 wouldn't be at the hearing.

12 The contents of the EIR are in response to the  
13 statutory requirements as to the information to be  
14 provided in an Environmental Impact Report or, in this  
15 case, a Draft Environmental Impact Report, and CEQA is  
16 fairly clear that -- and the implementing regulations  
17 under CEQA are fairly clear that a Draft Environmental  
18 Impact Report is not required to contain highly  
19 speculative analysis of economic impacts that others  
20 might endure as a result of a project but, rather, the  
21 focus of the Environmental Impact Report is on the  
22 environmental impacts.

23 Staff, I think, is fully in agreement and, in  
24 fact, some of the issues listed in the hearing notice  
25 attempt to define the economic impacts of the various

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01 alternatives and, certainly, information on that is  
02 very relevant in this hearing. It remains speculative  
03 and there's a lot of disagreement, but hopefully, we  
04 can clarify it as you asked. The parties before you  
05 can help clarify it.

06 CHAIRMAN CAFFREY: Thank you, Mr. Frink.

07 Anything else before we break for lunch? We'll  
08 look forward to the testimony of the experts that  
09 you're going to bring up and what they might say  
10 regarding this matter.

11 We will resume again at 1:30, and Mr. Del Piero

12 will be back at that time to regain the Chair.

13 Thank you.

14 (Whereupon the lunch recess was taken.)

15 MR. FLINN: It falls to me to give the daily Bruce  
16 Dodge afternoon procedural point, and it is this. The  
17 reason I'm doing it it's my personal issue. My wife is  
18 on an airplane landing in Washington D.C. now where she  
19 is apparently going to help the government spend some  
20 new tax dollars, but she has left our son with the  
21 babysitter who has to leave at five o'clock, which  
22 means I have to be back in Palo Alto at five o'clock to  
23 take over parental roles, which means I have to leave  
24 here 2:30-ish.

25 HEARING OFFICER DEL PIERO: I'd say you ought to  
0139 start packing.

02 MR. FLINN: I'm packed. I'm ready to go. The  
03 only problems are these because the next two witnesses  
04 were both mine, Mr. Kuebler and Mr. Gewe. I was told  
05 Mr. Kuebler would go first, and so I asked Mr. Dodge to  
06 be prepared for Mr. Kuebler, which he was. And so  
07 we're sort of ready to, as long as I get my recross  
08 before 2:30, and as long as Mr. Kuebler is next we're  
09 fine. But if that's deviated from in some way, then  
10 we've got a problem, and I understand Mr. Birmingham  
11 would maybe want to deviate from that.

12 HEARING OFFICER DEL PIERO: Mr. Birmingham?

13 MR. BIRMINGHAM: Yes, thank you. And thank you  
14 for raising the issue, Mr. Flinn, I appreciate it.

15 In fact, I was going to propose a deviating from  
16 what I had indicated to Mr. Flinn yesterday. When I  
17 told him that we would be calling both Mr. Kuebler and  
18 Mr. Gewe this afternoon with the expectation that this  
19 panel would not take as long as it's taken. I thought  
20 that we would complete both of these witnesses,  
21 Mr. Kuebler and Mr. Gewe this afternoon.

22 HEARING OFFICER DEL PIERO: Mr. Birmingham, I  
23 don't mean to interrupt you, Sir, and I don't know if  
24 counsel for various parties have discussed this during  
25 the lunch hour in my absence. Do we have any certainty  
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01 or even potentiality of completing redirect and recross  
02 on the panel by 3:30 or four o'clock?

03 MR. BIRMINGHAM: I would say that we have got  
04 virtually no chance of accomplishing that, and that's  
05 why I was going to propose --

06 HEARING OFFICER DEL PIERO: My suggestion then,  
07 Sir, inasmuch as I've got time limitations, I know  
08 you've got this panel sitting here, but it's my sense  
09 that we probably aren't going to call them today, then,  
10 unless I'm really wrong and unless recross takes a lot  
11 shorter period of time than cross-examination has  
12 taken, and I don't think that's going to happen.

13 MR. BIRMINGHAM: I don't, either, Mr. Del Piero,  
14 and, in fact, we had not intended on calling  
15 Mr. Kuebler and Mr. Gewe as a panel. But immediately  
16 before the lunch recess, Member Forster asked some very  
17 specific questions.

18 HEARING OFFICER DEL PIERO: You see, now -- now  
19 you know why I never leave this room.

20 (Laughter.)  
21 MS. FORSTER: I just waited. All these days I  
22 waited for you to go.  
23 (Laughter.)  
24 MR. BIRMINGHAM: Member Forster --  
25 HEARING OFFICER DEL PIERO: Compose yourself,  
0141  
01 Mr. Birmingham.  
02 (Laughter.)  
03 MR. BIRMINGHAM: Member Forster asked some very  
04 specific questions about water supply issues, and  
05 that's the subject of Mr. Gewe's testimony. What I was  
06 going to propose doing in light of Mr. Flinn's need to  
07 leave early and in light of the fact that it's unlikely  
08 that we would complete the cross-examination of this  
09 panel today in any event, I was going to propose that  
10 we postpone the redirect of these witnesses and recross  
11 of these witnesses, this panel, and put on Mr. Gewe who  
12 probably can complete his entire presentation this  
13 afternoon, including direct and recross, and he can  
14 answer the very specific questions that Member Forster  
15 asked.  
16 MS. GOLDSMITH: Mr. Del Piero?  
17 HEARING OFFICER DEL PIERO: Yes.  
18 MS. GOLDSMITH: In addition, I anticipate having  
19 redirect of about half an hour, and I anticipate asking  
20 for additional ten minutes in light of the very, very  
21 extensive cross-examination that these witnesses have  
22 undergone. So I'm not sure that we could, in any  
23 event, assure Mr. Flinn of his full cross-examination  
24 by the time he needs to leave.  
25 MR. BIRMINGHAM: But --  
0142  
01 HEARING OFFICER DEL PIERO: Gosh, you know? I'm  
02 not going to lunch anymore.  
03 (Laughter.)  
04 MR. BIRMINGHAM: I understand the point that  
05 Mr. Flinn has made about their preparation to  
06 cross-examine Mr. Kuebler as opposed to Mr. Gewe.  
07 However, I'd like to point out that the Mono -- the  
08 attorneys, legal representative for Mono Lake  
09 Committee, National Audubon Society, as well as other  
10 counsel, were advised that we intended on calling both  
11 of these witnesses today, Mr. Kuebler and Mr. Gewe.  
12 Further, we have bent over backwards trying to  
13 accommodate the schedules of our opposing counsel,  
14 including delaying witnesses yesterday because  
15 Dr. Stein couldn't be here. We delayed the redirect  
16 and cross-examination of Dr. Beschta. There have been  
17 a couple of other instances where we have really tried  
18 to accommodate the schedule of our opposing counsel, as  
19 the Board has.  
20 And I don't see any prejudice to any party if we  
21 postpone the cross-examination and redirect of this  
22 panel and put Mr. Gewe on to answer the very specific  
23 questions that were asked by Member Forster.  
24 MS. KOEHLER: Mr. Del Piero, I am prepared to  
25 address Mr. Gewe's testimony, so my objection is not a  
0143  
01 scheduling one. I object on substantive grounds. This

02 panel is in the middle of its testimony. I think there  
03 are a number of questions that are before the Board  
04 that have not been resolved. I have a lot of  
05 confidence that the questions asked by board member  
06 Forster can be addressed in large measure in the  
07 redirect and in the recross of this panel, and while  
08 I'm certain that Mr. Gewe can shed more light on this,  
09 I think it's inappropriate, and I think it would be  
10 disruptive to bring in a whole new set of issues  
11 because Mr. Gewe is not testifying simply on those  
12 issues brought up by Board Member Forster.

13 And so I would object on behalf of Cal-Trout to  
14 changing the order of witnesses at this point.

15 HEARING OFFICER DEL PIERO: I think we're going to  
16 continue with redirect and recross on this panel.

17 MR. BIRMINGHAM: Then may I ask a question, a  
18 procedural question of the kind that Mr. Flinn and  
19 Mr. Dodge frequently ask?

20 In the event that Mr. Flinn is unable to complete  
21 his cross-examination of these witnesses today and we  
22 are able to complete them, are they going to be  
23 excused, or are we going to be expected to bring this  
24 panel back so that Mr. Flinn can ask further recross  
25 after he's had two weeks to prepare?

0144

01 MR. FLINN: I got a solution to that, although  
02 it's somewhat at my disadvantage. I'll do my recross  
03 before the redirect.

04 MR. BIRMINGHAM: But we would object to that.

05 MR. FLINN: The point is that the other  
06 cross-examinations and the witnesses are very good at  
07 making sure that points get made in the cross. There  
08 are issues -- I can take my time up now, and I'll waive  
09 the opportunity to respond to anything that's elicited.

10 HEARING OFFICER DEL PIERO: Let me resolve this.  
11 Okay? I spend six hours a week and have done that for  
12 the better part of over 100 weeks now on the road  
13 between Sacramento and the coast. It will take you  
14 approximately two hours and 15 minutes to get to Palo  
15 Alto. Okay? If Ms. Goldsmith begins her redirect now,  
16 she will be completed, if she -- her representation is  
17 truthful, in 30 minutes which will put us at 2:25. If  
18 you leave here at three o'clock, you can get home by  
19 five, I'm assuming. If you drive through Tracy and  
20 580.

21 If you can't complete your recross in 30 minutes  
22 and if we can't complete this panel by four o'clock, my  
23 remarkable patience is going to be tested. Okay?

24 So, with that, Ms. Goldsmith, if you'll begin your  
25 redirect, we won't lose any more time.

0145

01 MS. GOLDSMITH: Ms. Forster, inasmuch as  
02 Mr. Birmingham is diligently trying to get the answer  
03 to your questions from others, I did not ask this panel  
04 over the lunch hour to respond. I was busy doing the  
05 redirect preparation.

06 HEARING OFFICER DEL PIERO: Lest there be any  
07 question about it, I'm making sure I get all the  
08 questions Ms. Forster wants answered during the course  
09 of this hearing.



10 MS. GOLDSMITH: I think that's a good goal.

11 REDIRECT EXAMINATION BY MS. GOLDSMITH

12 Q Do you have, Dr. Carson, NAS Exhibit 215 and  
13 215-A?

14 A BY DR. CARSON: Yes, I do.

15 Q These are the -- the materials that were involved  
16 in the CV or contingent valuation survey that was done  
17 concerning the lake. Do you remember Mr. Flinn asking  
18 you about your opinion about the prominence with which  
19 Tufa was featured in these materials?

20 A Yes, I do.

21 Q And I believe you testified that you didn't think  
22 that they were over emphasized; is that right?

23 A Yes, I did.

24 Q What is the basis for your belief that they were  
25 not over emphasized?

0146

01 A The Tufa at Mono Lake are the basic distinguishing  
02 features which tends to make the lake unique standing  
03 out among of the other lakes which support a large  
04 amount of wildlife.

05 Q Do you know what the most visited sites are at  
06 Mono Lake?

07 A South Tufa and the visitors' center?

08 Q And the visitors' center is right on Highway 395?

09 A 395.

10 Q Is South Tufa right on 395?

11 A South Tufa's off of 395, and it's basically about  
12 eight to ten miles on a paved road and then a little  
13 over a mile on a gravel road to get to the actual site.

14 Q But it still supports large numbers of visitors?

15 A Yes. That's the case.

16 Q Now, concerning the accuracy of the descriptions  
17 on the cheat sheet, which is NAS Exhibit 215, you were  
18 asked by Mr. Flinn on direct about the accuracy of the  
19 snowy plovers, and I believe you may or may not have  
20 been asked about its accuracy concerning Tufa towers.  
21 And I'm going to ask you about its accuracy concerning  
22 the phalaropes, and I'm going to ask you to tell us  
23 what Exhibit 215 says about phalaropes at different  
24 lake levels.

25 A Going from the no-action level to Program A, there

0147

01 would be no change in the phalaropes. Going from  
02 Program A to Program B, the phalaropes are said to  
03 become more visible to visitors, and going from Program  
04 B to Program C, there is no change, but they're more  
05 visible to visitors relative to Program A.

06 Q If that statement were incorrect and there were no  
07 difference in the visibility of the phalaropes between  
08 any of these lake level alternatives, would you expect  
09 the valuation of Program B and Program C to be somewhat  
10 lower?

11 A Relative to Program A, yes, that's correct.

12 Q Going back to the design of the materials that  
13 went into the CV analysis, given your current  
14 understanding of the Mono Basin, if you were  
15 redesigning the cheat sheet today, would you make any  
16 changes?

17 MR. FLINN: Objection. Relevance.

18 HEARING OFFICER DEL PIERO: Response,  
19 Ms. Goldsmith?  
20 MS. GOLDSMITH: The relevance has to do with the  
21 statement of the different alternatives.  
22 HEARING OFFICER DEL PIERO: I'll overrule the  
23 objection.  
24 Go ahead and answer the question.  
25 DR. CARSON: The one thing I would change on the  
0148  
01 sheet here which is 215-A?  
02 Q BY MS. GOLDSMITH: It's 215.  
03 A BY DR. CARSON: 215. Is the depiction of the dust  
04 storms. The impression that a person gets from these  
05 dust storms is that the local residents and the  
06 visitors would be affected by the dust storms. In the  
07 big pamphlet on one page --  
08 Q Which is Exhibit NAS 215-A.  
09 A There's a statement which makes the correct point  
10 that the dust storms are on the east side of the lake  
11 away from major visitor sites, but if you look at the  
12 description on the individual programs that were  
13 valued, what you see is actually a depiction which  
14 would have given people the impression the dust storms  
15 were much more widespread.  
16 For instance, on Program B, it says, "The  
17 reduction in exposed lake bed would moderately decrease  
18 the severity and frequency and the extent of dust  
19 storms in the Mono Basin." That actually conveys an  
20 inaccurate impression of where the dust storms are and  
21 who would be affected by it.  
22 MR. FLINN: Mr. Del Piero, I'm going to renew the  
23 objection Mr. Dodge made in my absence. I appreciate  
24 it, but this is not on relevance. This is on  
25 competence grounds. This witness is not an expert in  
0149  
01 air quality. He admitted he's not an expert in Tufa.  
02 And his testimony about what's an accurate description  
03 of the conditions at Mono Lake is something he's not  
04 qualified to tell us.  
05 HEARING OFFICER DEL PIERO: Ms. Goldsmith?  
06 MS. GOLDSMITH: I can rephrase this as a  
07 hypothetical.  
08 HEARING OFFICER DEL PIERO: Then I'm going to  
09 sustain that objection.  
10 Q BY MS. GOLDSMITH: Assuming that the statement in the  
11 Exhibit 215 for no action which states that the dust  
12 storms would occur on the east side of the lake away  
13 from major visitor sites and residences is accurate.  
14 A Okay.  
15 Q You are an expert in conveying material and CV  
16 studies; are you not?  
17 A Yes, I am.  
18 Q Do you have an opinion whether or not the synopsis  
19 of dust storm effects on Exhibit 215 is accurate?  
20 A It is not. Without that clarification being very  
21 strongly made to the respondent, the presumption is  
22 that telling people about the dust storms and they're  
23 violating state air quality standards, would be  
24 assuming that they're having an adverse effect either  
25 on local residents or visitors.

0150

01 Q It's true, isn't it, that the fact that these dust  
02 storms occur in the eastern part of the lake away from  
03 visitors is not mentioned even in Exhibit 215-A for  
04 Lake Level B or Lake Level C?

05 A Correct.

06 Q What was the process of the CV survey that was  
07 done? How was it done?

08 A Principally, Michael Hennimen and Thomas Wegge  
09 were in charge of designing the contingent valuation  
10 survey, went through a process of pre-testing on  
11 respondents and some work to insure that it worked. It  
12 was reviewed on several occasions as to the general  
13 statements made by the technical review team.

14 Q Then what happened to it?

15 A Then what happened to it? Then, you know, from  
16 that point out, they finalized the survey and went out  
17 and administered it to roughly 600 respondents.

18 Q How was it administered?

19 A It was administered in a combination  
20 mail-telephone survey where people were first called by  
21 phone and asked if they would be willing to participate  
22 in the survey. It was then -- these materials here --

23 Q Referring to 215 and 215-A?

24 A -- were sent out to the people who agreed to  
25 participate in the survey. Those people were then

0151

01 later called on the phone again and asked questions  
02 regarding Mono Lake, whether they had gone there, and  
03 were read descriptions of the programs and told to pull  
04 out this card and have it in front of them.

05 Q What we've referred to as the cheat sheet; is that  
06 right?

07 A Yes. And they were then asked whether they were  
08 willing to pay specific amounts for Programs A, B, and  
09 C.

10 Q So in actually responding on the telephone, we  
11 know that they were asked to pull out the cheat sheet,  
12 Exhibit 215 specifically, and were responding from  
13 that?

14 A Right. Yes.

15 Q Do you know whether all the respondents read the  
16 large pamphlet?

17 A Clearly, some respondents didn't read the  
18 pamphlet, and that's because we knew that we had to  
19 actually send back out questionnaires to some people  
20 who said they had never seen it and also in  
21 mail-telephone surveys of this type, people tend to set  
22 the thing aside and wait for you to call. So some  
23 people would have read it and some people would have  
24 not read it. And when they would have read it would  
25 have differed, you know, within -- some people may have

0152

01 read it the day of the interview. Some people may have  
02 read it a week earlier.

03 Q But we know that they were asked specifically to  
04 refer to the cheat sheet?

05 A Right. This was supposed to be pulled out and in  
06 front of them as they went over whether they were  
07 willing to pay specific amounts for each of these

08 programs.

09 Q Now, if people erroneously assumed that these dust  
10 storms were affecting tourist areas and the western  
11 parts of the lake where visitor centers are, do you  
12 think they might have more greatly valued the reduction  
13 of such storms than if they had correctly understood  
14 the location?

15 A Yes.

16 Q Now, Mr. Flinn also asked you, assuming that the  
17 snowy plovers would not be affected by changes in lake  
18 level, he asked you to assume that, and he asked you to  
19 assume that the Tufa effects were overstated in the  
20 survey material. Do you remember that?

21 A Yes, I do.

22 Q He asked whether under those circumstances, the  
23 points that were arrived at for Programs B and C would  
24 be higher. Do you remember him asking you that?

25 A Yes, I do.

0153

01 Q And do you remember that you stated that --

02 A I should make a -- yes, if the point for C would  
03 be higher.

04 Q My notes say B and C.

05 A Okay.

06 Q And did you -- do you remember your response that  
07 was that it would be somewhat higher?

08 A Yes, I do.

09 Q Now, in your direct testimony at Page 55 you  
10 stated that the maximum value for public trust benefits  
11 based on the CV survey was likely closer to Point A  
12 than to Point B, and that it would be a smooth curve.  
13 Do you remember that?

14 A Yes, I do.

15 Q How would a change -- an increase in the value of  
16 Point C affect your conclusion concerning the location  
17 of the maximum point of public trust benefit?

18 A As long as Program C remained substantially below  
19 Program B, it's not going to affect the general shape  
20 of the curve which places the maximum between Programs  
21 A and Programs B.

22 Q I'm going to ask why that is, but since when I ask  
23 you why that is, I'm unable to understand it, I'm going  
24 to ask if you can illustrate that for us. Be sure and  
25 take the microphone.

0154

01 A What I'm going to display here --

02 Q Is this Figure 1 from Dr. Hennimen's testimony?

03 A Yes, it is.

04 Better?

05 HEARING OFFICER DEL PIERO: It doesn't hold, so if  
06 you want to pull it up, the reason that you've got the  
07 clip below it is you can work the clip up to hold it in  
08 place. This is the nineties, the decade of limited  
09 expectations.

10 (Laughter.)

11 MS. GOLDSMITH: Would you like me to hold it?

12 DR. CARSON: No. I think I've got it right  
13 there.

14 Essentially, what Michael Hennimen in doing this  
15 curve -- what Jones and Stokes did is assume this

16 straight line between Programs A and B and another  
17 straight line with Program C.  
18 Q BY MS. GOLDSMITH: Which you've now drawn in green?  
19 A BY DR. CARSON: Which I've now drawn in green.  
20 Things in economics are typically much smoother than  
21 that, so you would expect the curve to be smooth. What  
22 he also didn't recognize in doing this is that the  
23 no-restrictions scenario is down here, so there are  
24 actually three points. You can ignore what C is  
25 altogether and just take the first three points and you

0155

01 get roughly the same shaped curve, which puts the  
02 maximum somewhere between Programs A and B.  
03 You can also raise Program C up substantially, and  
04 it doesn't change the fact that the maximum is between  
05 Programs A and B. Okay? So we're looking at  
06 willingness to pay for the public trust benefits per  
07 household, and so this area right here is sort of the  
08 increment from going from 6375 to whatever level this  
09 Program B represents --

10 Q You're talking about the numbers on the vertical  
11 access?

12 A Be it 6390 or 6383. So what that's saying is that  
13 those public trust benefits are at a maximum somewhere  
14 past 6375 before you get to Program B.

15 Q How much higher would Point C have to go in order  
16 to affect that conclusion?

17 A Point C would -- what I've estimated here is Point  
18 C has to -- it's basically at zero right now, and it  
19 would have to get up into about the 60, \$65 range, so a  
20 dramatic increase over where it is now.

21 Q Are you familiar with Dr. Stein's testimony  
22 concerning Tufa?

23 A Yes, I am.

24 Q And I'm going to read to you from Page 7 of his  
25 testimony, which is identified as NAS and Mono Lake

0156

01 Committee No. 1-T, where he --

02 MR. FLINN: Go ahead. I'm going to object to it,  
03 but finish your question.

04 Q BY MS. GOLDSMITH: Where he discusses --

05 MR. BIRMINGHAM: Excuse me. Before you ask that  
06 question and Mr. Flinn objects, may I confer just a  
07 moment with Ms. Goldsmith?

08 HEARING OFFICER DEL PIERO: Yes.

09 Dr. Carson, while they're conferring, can you put  
10 that back up?

11 DR. CARSON: Yes, I can.

12 HEARING OFFICER DEL PIERO: I want to ask you a  
13 few questions. Is that chart dependent upon an  
14 assumption that the highest point is Point B?

15 DR. CARSON: It depends on --

16 HEARING OFFICER DEL PIERO: Could it not be that  
17 if an alternative were chosen between the lake  
18 elevation of Program B and the lake elevation of  
19 Program C, that a point higher on the scale could have  
20 also caused the apex of that curve to be higher?

21 DR. CARSON: If you can get Point C up high  
22 enough.

23 HEARING OFFICER DEL PIERO: I'm not talking about

24 Point C. I'm talking about in terms of the survey, if  
25 there had been a median --

0157

01 DR. CARSON: Between A and B?  
02 HEARING OFFICER DEL PIERO: Between B and C.  
03 DR. CARSON: Between B and C.  
04 HEARING OFFICER DEL PIERO: Is it possible that if  
05 an alternative had been available between relative  
06 elevations of B and C, could a point higher than Point  
07 B on that chart be a possibility?  
08 DR. CARSON: Yes. Unlikely but possible.  
09 Q BY MS. GOLDSMITH: Now, Points A, B, and C are  
10 identified on survey instruments with specific lake  
11 levels; is that correct?  
12 A BY DR. CARSON: Correct.  
13 Q And what they really describe is a set of  
14 conditions; is that right?  
15 A That's correct.  
16 Q And if the set of conditions differs from the lake  
17 level that's been identified in the contingent  
18 valuation survey, they would be more accurate for  
19 whatever the conditions are; is that right?  
20 A That's correct.  
21 Q Now, are you familiar with Dr. Stein's testimony?  
22 A Yes, I am.  
23 Q I'm going to read to you a portion of that  
24 testimony from Page 7 of National Audubon Society and  
25 Mono Lake Committee Exhibit 1-T on Page 7 at the top

0158

01 where he discusses conditions at Lee Vining Grove, Tufa  
02 Grove in summary.  
03 A This is the visitor's center.  
04 Q The last sentence of that summary says, "At a lake  
05 level of 6400 feet, roughly 5 percent of the Lee Vining  
06 Tufa towers are still visible with most of them water  
07 based, and when the lake reaches 6410 feet, all towers  
08 are submerged."  
09 I'm also going to read you from Page 10 of that  
10 same exhibit from his summary of conditions at South  
11 Tufa Grove. The last paragraph of that summary says,  
12 "At a lake level of 6400 feet, approximately 90 percent  
13 of the small towers at South Tufa Grove would be  
14 toppled, roughly 5 percent of the towers of this grove  
15 would remain visible. Most would be water based. As  
16 the lake approached the management alternative level of  
17 6410, all small towers would be toppled. All Tufa,  
18 standing or toppled, would be submerged."  
19 Assuming that Dr. Stein's statements are correct,  
20 are the survey instruments consistent with those  
21 statements?  
22 A Yes, they are.  
23 Q And based on the oral responses, the  
24 amplifications that the survey respondents gave, is it  
25 likely that Point C would rise much above the value

0159

01 that was given?  
02 A No, indeed. Because at Point C, the Tufa at the  
03 most visited places is basically all submerged, which  
04 is consistent with the statement "most of the lake's  
05 towers are covered with water." There would be no

06 reason to expect that Point C would rise, and Point C  
07 has to rise substantially for the maximum not to be  
08 between A and B.

09 Q Now, Ms. Koehler asked you whether you were  
10 familiar with Dr. Hennimen's testimony concerning  
11 pricing studies as compared with contingent valuation  
12 studies. Do you recall that?

13 A Yes, I do.

14 Q And I believe you were concerned about the  
15 accuracy of her characterization of Dr. Hennimen's  
16 testimony?

17 A Yes, I was.

18 Q Have you had a chance to review his testimony, his  
19 written testimony -- and I'm sorry, I don't remember  
20 the exhibit number of it. Is it on the front? It's a  
21 State Water Resources Control Board exhibit.

22 MR. SATKOWSKI: Is that Hennimen's exhibit on the  
23 curves?

24 DR. CARSON: Yeah, the written testimony.

25 MR. SATKOWSKI: 34

0160

01 Q BY MS. GOLDSMITH: It was the State Board Staff  
02 Exhibit 34. Have you had a chance to review that?

03 A BY DR. CARSON: Yes, I have.

04 Q And did Dr. Hennimen state in his testimony that  
05 the pricing approach is more accurate than the  
06 contingent -- wait for me to ask the question, please.

07 A Right, I am.

08 Q Is more accurate than the contingent valuation or  
09 the other way around?

10 A Dr. Hennimen's testimony does not address the  
11 relative accuracy of either approach in the abstract.

12 Q It's nice to see that you don't discriminate  
13 against attorneys. What did he say in his testimony?

14 MR. FLINN: Just in the order of time, his  
15 testimony is what it is. We don't need to have this  
16 witness take all of her time reading something that's  
17 already in the record.

18 MS. GOLDSMITH: It may already be in the record,  
19 Mr. Del Piero, but there were some points that  
20 Ms. Koehler was making that are relevant, and I think  
21 that the record on this cross-examination should be  
22 accurate. And they relate to some of the questions  
23 that I have to ask.

24 HEARING OFFICER DEL PIERO: Let me point out you  
25 have six minutes left of your 30 minutes. Okay?

0161

01 MS. GOLDSMITH: In the 30 minutes? I would ask  
02 for an application for more time and the reason is that  
03 there was roughly four or five hours of  
04 cross-examination in which the cross-examiners got  
05 multiple opportunities to extend their time, and I  
06 believe that this is a subject that needs clarity.

07 MR. FLINN: Mr. Del Piero, I would oppose if that  
08 time is given now. I do not oppose, if Ms. Goldsmith  
09 gets more redirect after I leave. I would oppose her  
10 having it now.

11 MS. KOEHLER: Mr. Del Piero, if I may add some  
12 clarity to this.

13 HEARING OFFICER DEL PIERO: You, too, have

14 something to contribute.

15 MS. KOEHLER: I do have something very short to  
16 contribute.

17 HEARING OFFICER DEL PIERO: You've been sitting  
18 next to Dodge too long.

19 MS. KOEHLER: I'm sorry if I was unclear in my  
20 questions this morning. My questions were not with  
21 regard to Dr. Hennimen's written testimony. They were  
22 with respect to his testimony on direct and  
23 cross-examination. I was not making any  
24 representations with regard to Dr. Hennimen's written  
25 testimony this morning.

0162

01 HEARING OFFICER DEL PIERO: Ms. Goldsmith?

02 MS. GOLDSMITH: Although, I would prefer to  
03 continue with the direct, I will yield to Mr. Flinn,  
04 and I would hope that I will have the time I feel I  
05 need for redirect. I'll yield right now. I think  
06 we're going to a new subject.

07 HEARING OFFICER DEL PIERO: Fine. Mr. Flinn, are  
08 you prepared?

09 MR. FLINN: I'm ready. I apologize --

10 HEARING OFFICER DEL PIERO: I need to point out  
11 that if recross and redirect in whatever order takes  
12 place is not completed by four o'clock, I'm leaving.  
13 Staff's leaving.

14 MS. FORSTER: I'll stay.

15 (Laughter.)

16 HEARING OFFICER DEL PIERO: I'm taking the Court  
17 Reporter. She's got to do Big Bear tomorrow morning at  
18 eight o'clock.

19 (Laughter.)

20 MR. BIRMINGHAM: Ms. Forster, we have more  
21 Reporters back at our office.

22 (Laughter.)

23 HEARING OFFICER DEL PIERO: No. You don't you use  
24 the same firm.

25 Okay. Mr. Flinn.

0163

01 RE-CROSS EXAMINATION BY MR. FLINN

02 Q I'm revisiting -- I apologize for it. This will  
03 be very quick -- Table 3 and 14, and I just want to  
04 revisit with you gentlemen the suggestion that was made  
05 by a number of people yesterday that we ignore a point  
06 of reference and simply take a look at the incremental  
07 changes on each one of these values starting from the  
08 no restriction and going forward. And I'll represent  
09 to you gentlemen that I did just that with each one of  
10 the columns to the right shows what the value would be  
11 if you normalize the no restriction to zero.

12 Follow me so far?

13 A BY DR. CARSON: Yes.

14 Q If you do that, would you agree with me that --  
15 strike that.

16 I know you gentlemen dispute the absolute value of  
17 the 759.7 million. You explained that yesterday. You  
18 don't need to revisit that again. But if you accept  
19 that number as accurate, would you not agree that you  
20 would have to have shortage costs on the order of \$700  
21 million at any of these lake levels in order to get a



22 negative economic benefit of restoring the public trust  
23 at Mono Lake?  
24 A BY DR. WADE: Those numbers are expressed in absolute  
25 values up there? That number 746? I would -- as a  
0164  
01 matter of fact, we put into the record absolute value  
02 numbers, two billion, five billion, six billion. Which  
03 one do you want?  
04 A BY DR. CARSON: Maybe --  
05 MR. FLINN: Could I have the question read back,  
06 and could I have an answer to my question?  
07 (Whereupon the record was read as requested.)  
08 DR. CARSON: No, I don't. I should explain that  
09 answer, and if I could have that graph back up, I'll  
10 explain what the problem is.  
11 Q BY MR. FLINN: Your answer no is fine, Sir. I'll  
12 take your no. You disagree with that, and we'll put on  
13 somebody else who could say that that's perhaps  
14 different.  
15 Let me go and visit another subject because I have  
16 a limited amount of time. In the answers to some  
17 questions Mr. Frink asked, I believe it was you,  
18 Dr. Wade, who gave us the acre-foot cost of your -- of  
19 the water that under your analysis MWD was actually  
20 able to deliver at approximately \$676 an acre-foot. Do  
21 you recall that question?  
22 A BY DR. WADE: Yes.  
23 Q And then Mr. Frink asked you some questions about  
24 that, and we didn't get too far. And I spent some time  
25 doing up this table, and I'll have this typed up and  
0165  
01 marked as our exhibit next in order for the record.  
02 And what I did was I put in the first column three  
03 different alternatives, the L.A. management plan, 6390  
04 that Mr. Frink asked, and 6410. And then I took the  
05 45,700 acre-feet, which I understand to be L.A.'s  
06 estimate of its exports under its management plan, and  
07 then the Draft EIR's 3700 and -- 37,000 and 22,000  
08 exports at the two other alternatives from the Draft  
09 EIR 6390 and 6410. And I did a little arithmetic and  
10 simply subtracted from 6390 the difference from the  
11 management plan and subtracted the same for 6410. And  
12 then what I did was I multiplied those differences  
13 times six -- \$776, and we have 5.9 million and 16  
14 million incremental costs between 6390 and 6410.  
15 Now, with that explanation of what this chart is  
16 all about, Sir, I'll ask you a very simple question.  
17 If you assume, and I know neither one of you agree with  
18 this assumption, but if you assume that MWD does have  
19 the additional 8700 or the additional 23,700 available  
20 to supply to the City of Los Angeles, and assuming that  
21 they bought it at your calculated cost of 700 -- \$676,  
22 am I not correct that the costs annually of the 6390 is  
23 approximately 5.9 million, and at 6410, 16 million?  
24 A Mr. Flinn, you've opened a whole new can of worms  
25 here, which is a deficiency both in my analysis and in  
0166  
01 the Jones and Stokes' analysis. Neither my analysis  
02 nor the Jones and Stokes' analysis dealt with the front  
03 end numbers of years of diversions to the lake to fill

04 the lake to either one of these levels. And so, in  
05 fact, the analysis -- the arithmetic that you have  
06 there, while I would not quarrel with that arithmetic,  
07 it turns out that it's a meaningless -- it's  
08 meaningless, it's the front end loading of the filled  
09 water that is the key difference in cost that is  
10 omitted in the Jones and Stokes' analysis and was also  
11 omitted in my analysis.

12 Q If you assume that -- again, I know you don't  
13 agree with the assumption, assume that MWD can supply  
14 that fill water and assume that they can supply that at  
15 \$676 an acre-foot, for each additional acre-foot of  
16 fill water you need, you just add \$676 to that. Is  
17 that right?

18 A Yes.

19 Q Dr. Carson --

20 A BY DR. CARSON: Yes.

21 Q Let me back up here. If I can get this back from  
22 Mr. Birmingham. Here. I've got a hard copy of that.  
23 Let me get this back for a second.

24 You'd agree with me that once we fill the lake,  
25 assuming the things I asked you to assume, that's the

0167  
01 number?

02 A BY DR. WADE: I don't think you asked me anything  
03 other than is 23,700 times 706 \$16 million, the answer  
04 to that question is yes.

05 Q Dr. Carson, in answer to Ms. Koehler's questions,  
06 she asked you about whether or not the respondents in  
07 the Carson-Mitchell CV study were -- had at the time  
08 they gave the study were experiencing increasing block  
09 rate pricing. I recall that you said the answer to  
10 that question was yes.

11 A BY DR. CARSON: In a number of the water districts  
12 where the survey was done that was true. In some water  
13 districts, there was basically a flat rate. So in  
14 other words, over the area in which the survey was  
15 done, there was variation in this.

16 Q Isn't it true that in your study the Northern  
17 California sample was much smaller than the Southern  
18 California sample?

19 A Yes, it was.

20 Q Isn't it true that in 1987 nobody in Southern  
21 California with the exception of Goleta had an  
22 increasing block rate structure?

23 A I don't think that statement is true, but if you  
24 have got some document which makes that statement, we  
25 have -- what's confused in my mind now is that we've

0168  
01 been putting together a list of cities and their block  
02 pricing structures which have a huge amount of  
03 variation in them.

04 Q Is the answer to my question that you don't know?

05 A Yes.

06 Q Dr. Wade, when you were answering, I believe it  
07 was Staffs' questions about the fact that there was all  
08 this uncertainty about water transfers and that should  
09 have been in the EIR, and I wrote down something about  
10 you could have sat down with some people for half a day  
11 and come up with a set of reasonable scenarios on water

12 transfers? Do you recall that testimony?

13 A BY DR. WADE: Yes.

14 Q Was there any reason why you didn't sit down for  
15 half a day with some reasonable people and get some  
16 reasonable water transfer scenarios?

17 A I was never invited.

18 Q I take it that if the Water Board got testimony  
19 that it was the equivalent of a reasonable person  
20 giving some reasonable scenarios about water transfer,  
21 that would satisfy you about the non-speculativeness  
22 about water transfers?

23 A Not wholly, as a matter of actual fact. A lot of  
24 reasonable people have come and will come before this  
25 Board, and I've read their testimony making claims

0169

01 about transfers, about reclamation, and about other  
02 things, that are really not far removed from  
03 would-have, could-have, should-have's.

04 I would recommend to this Board that a much higher  
05 standard of proof be required such as those as is  
06 present across the street at the California Energy  
07 Commission, specifically during the eighties when I  
08 appeared there a number of times related to  
09 co-generation projects which were very sexy and stylish  
10 in the eighties. And they were backing out generation  
11 capacity from the utilities which made them somewhat  
12 unhappy, and there was a huge war over that issue. And  
13 the fact as to what was a real as opposed to a  
14 potential or wanna-be a project became a very important  
15 issue which was decided as a matter of policy. And I  
16 would suggest some sort of a policy be adopted by this  
17 Board with respect to these wanna-be projects.

18 Q Do you have an opinion, Sir, as to which is more  
19 speculative if by the year 2000, there will not be 1.2  
20 million acre-feet available in the Colorado aqueduct,  
21 or that these water transfers might be possible? Which  
22 of those two is more speculative in your opinion?

23 MS. GOLDSMITH: Objection. Calls for speculation.

24 MR. FLINN: Does he have an opinion as to what is  
25 more likely than the other?

0170

01 HEARING OFFICER DEL PIERO: Excuse me --

02 MR. FLINN: I withdrew the question.

03 HEARING OFFICER DEL PIERO: You withdrew the  
04 question?

05 MR. FLINN: I withdrew the question.

06 HEARING OFFICER DEL PIERO: I had hoped to rule on  
07 it, but please proceed.

08 Q BY MR. FLINN: Do you have an opinion, Sir -- you can  
09 answer this yes or no whether you have one or not -- as  
10 to whether or not it is more speculative to count on  
11 water transfers or more speculative to count on MWD  
12 losing approximately half of its current California  
13 aqueduct deliveries?

14 A BY DR. WADE: I personally believe that transfers are  
15 the future in the California water business, and that's  
16 a personal speculation on my part. But if you examine  
17 the numbers, the economic cost and benefits of moving  
18 water around, it has to occur. But that's a  
19 speculation because I cannot lay before you the path

20 that's going to make that happen.

21 Q I want to talk once more about shortage costs and  
22 probably to you, Dr. Carson. You were testifying as to  
23 the use of an ultra-low-flow shower head incurs a  
24 shortage cost because it deprives people of the luxury  
25 of all that water pressure and all that flow of water?

0171

01 A BY DR. CARSON: Yes.

02 Q How about an ultra-low-flush toilet. Assuming  
03 that an ultra-low-flush toilet is efficient at doing  
04 the thing that toilets do as a regular toilet, is there  
05 a shortage cost associated with that? Beyond the cost  
06 of the device itself?

07 A At least the initial generations of low-flush  
08 toilets created lots of problems and resulted in large  
09 numbers of consumer complaints. Supposedly, designs  
10 now being used eliminate those problems. If, indeed,  
11 that's the case, there would not be any cost other than  
12 the cost of installation.

13 A BY DR. WADE: I would report, however, though those  
14 problems are not going away, and it remains a problem  
15 in the water companies of California and probably  
16 Arizona. There is consumer dissatisfaction with a  
17 number of these devices.

18 Q Do either of you proffer yourself as an expert on  
19 the effectiveness or efficiency of ultra-low-flush  
20 toilets?

21 A I would say assuredly I am. I have one, and it  
22 doesn't work, and I am not crazy about it.

23 HEARING OFFICER DEL PIERO: Gentlemen, I'm not --  
24 I really am not going to tolerate having anybody  
25 attempt to establish what the parameters are for an

0172

01 expert in low-flush toilets.

02 Why don't you continue?

03 Q BY MR. FLINN: I want to go back to your Table B,  
04 Dr. Wade. I don't know if we've got a blow up of that  
05 or not. It could be found while I'm asking these  
06 questions.

07 A BY DR. WADE: It's right there. Table B as in boy?

08 Q Yes. Yes. You said that your ERM model used  
09 demands that included best management practices; is  
10 that right?

11 A That's correct.

12 Q Is that the same demand figures that show up in  
13 Table B, or are they different demand figures?

14 A They're different. Table B is a comparison of the  
15 Jones and Stokes' numbers and their sampling approach  
16 to the Jones and Stokes' numbers in our simulation  
17 approach. So we have the demand numbers and supply  
18 numbers that are identical or virtually identical in  
19 the top and the bottom, and the difference between the  
20 top and the bottom is one correction --

21 Q I haven't asked you about the difference between  
22 the top and the bottom. I may get to that.

23 Let me just -- the assumptions in Table B with  
24 regard to demand, local groundwater, reclamation,  
25 supplies, were all the same ones as in the Jones and

0173

01 Stokes' models?

02 A Correct.

03 Q Okay. Let me put another overhead up here, if I  
04 can. It's not one we've seen, but for the record, this  
05 is a copy of National Audubon Society and Mono Lake  
06 Committee Exhibit 4. Let me tell you a little bit  
07 about it to the extent it's not self-explanatory.

08 This is a chart that attempts to do two things.  
09 It attempts to depict historically between 1978 and  
10 1992 or '3 what L.A.'s historical demand and from what  
11 sources that demand was met, and then shows the results  
12 of a simulation model that will be presented by  
13 Cal-Trout and Audubon. So I'm not going to ask you any  
14 questions about the projections, so I'm going to draw a  
15 line here at 1992 and just sort of ignore this for the  
16 time being.

17 Are you gentlemen generally familiar with L.A.'s  
18 historical supply and demand figures from '78 to '92?

19 A Well, as indicated in the Jones and Stokes' Draft  
20 EIR and in my own adoption of those.

21 Q So nothing here jumps out at you as plainly wrong  
22 about those numbers; is that right?

23 A I would say I'd have to compare those numbers on  
24 the table to numbers I might have on the table. I  
25 couldn't answer the question. Why don't we just go on  
0174

01 and agree with you?

02 Q Sure. Let me ask you to assume they're accurate.  
03 Am I right that --

04 A BY DR. CARSON: It would be helpful if you could  
05 simply point out what was what. Actually, I suspect  
06 this shows up real well in color. So at the bottom,  
07 we're looking at the Mono Basin --

08 Q I'll just draw little arrows here. This is Mono,  
09 and this is Owens. This is groundwater, and excuse me,  
10 and this is MWD, I believe. Yes.

11 A Okay. So do these things add on top of each  
12 other, or are we going up cumulatively?

13 Q They add on top of each other so the top line is  
14 the total demand.

15 Am I right that this graph shows a dramatic  
16 decline from a peak in 1987 of over 700,000 acre-feet  
17 to below 600,000 acre-feet between the peak in '87 and  
18 1992?

19 A BY DR. WADE: It looks to me like the drop off is  
20 between '90 and '92, isn't it?

21 Q I'll just represent to you that the actual very  
22 peak, the most L.A. ever used in water was in 1987. It  
23 was approximately 712,000 acre-feet, and the actual  
24 number for 1992 is less than 600,000.

25 A Probably associated with an anomalously dry, hot  
0175

01 year in 1987 following a very wet year in 1986?

02 Q Who knows?

03 My next question to you is simply between 1987 and  
04 1992, did the City of Los Angeles endure a shortage of  
05 the type that your shortage costs that you've been  
06 telling us about at \$4,000 an acre-foot were endured?

07 A No. The City of Los Angeles endured some shortage  
08 in 1991.

09 Q Not 1992 at all?

10 A Not really. 1992 was a much better year.  
11 Q So even though 1992 was the lowest -- was 100,000  
12 acre-feet less than the population used in 1987, it was  
13 a larger population in 1992, they weren't enduring any  
14 shortage costs?  
15 A The question is perhaps best answered with  
16 reference to the time frames for the programs. The  
17 City of Los Angeles went into its Phase Three of its  
18 Water Emergency Management Plan in May 1, 1991. It  
19 went into Phase Two in, I think, March 1991. I'm not  
20 quite sure when they came out of that --  
21 A BY DR. CARSON: 1992 you're also starting to see a  
22 massive contraction of the Southern California  
23 economy.  
24 MR. HERRERA: Two minutes, Mr. Flinn.  
25 DR. WADE: To cut to the chase, Metropolitan was

0176

01 in Phase Five of its management plan from March 1991  
02 until February 1992, and then it was backed off. So  
03 they were both out of their water management plans in  
04 early 1992.  
05 Q BY MR. FLINN: Dr. Carson, I'd asked the Reporter to  
06 mark some testimony, and we can find it if you don't  
07 recall it. But I recall that I heard you say that  
08 reclamation and water conservation were not expected in  
09 the City of Los Angeles to be a method of meeting  
10 increased demand. Is that accurate?  
11 A BY DR. CARSON: I believe maybe Dr. Wade made that  
12 statement.  
13 A BY DR. WADE: But I didn't make that statement.  
14 Q Okay. So whatever's in the record --  
15 A BY DR. CARSON: Maybe we could have the record read.  
16 Q We could do that, but I've only got a few more  
17 minutes, and I'll just try to ask the question.  
18 Neither one of you would quarrel with the  
19 proposition that the City of Los Angeles can meet  
20 expected increases in demand by a combination of water  
21 reclamation and demand reduction?  
22 A BY DR. CARSON: Those methods will certainly help to  
23 contribute to meeting the demand.  
24 Q But they can't meet it by themselves. Is that  
25 your testimony?

0177

01 A I should say I'm not sufficiently familiar with  
02 what projects could technically be done to answer that.  
03 Q So you don't have an opinion one way or the other  
04 on that subject?  
05 A Correct.  
06 Q Now, since 1988, L.A.'s done without any Mono  
07 Basin water; isn't that right?  
08 A Correct.  
09 Q And --  
10 A At least according to your chart.  
11 Q As one of the lawyers involved in getting the  
12 injunction to accomplish that, I'll ask you to assume  
13 that's the case.  
14 L.A. has been able to replace the water with MWD's  
15 supplies and other mechanisms; is that right?  
16 A BY DR. WADE: Yes.  
17 Q If you accept as true --

18 A They've been able to replace the water with  
19 Metropolitan supplies virtually exclusively and  
20 seemingly associated with the production and demand  
21 driven both by the demise of the Southern California  
22 economy and drought in 1991.

23 Q If you accept as true the proposition that  
24 increased demand will be met by reclamation and demand  
25 production measures and if MWD's ability to deliver  
0178  
01 water at least does not diminish as it is now, then  
02 you'd agree with me that L.A. could continue to do  
03 without any Mono Basin water at all?

04 A I wouldn't agree or stipulate to your last  
05 condition about Metropolitan. Metropolitan's ability  
06 to continue to make these large deliveries to MWD are  
07 unknown.

08 Q I ask you to assume that their ability at least  
09 would not diminish. If you accepted those as true, you  
10 would agree with me that L.A. does not need any Mono  
11 Basin water?

12 A Yes. But the reason we've sat here this morning  
13 is dealing mostly with the question of whether or not  
14 Metropolitan can make the deliveries.

15 MR. HERRERA: Your time is up.  
16 MR. FLINN: I'll stop now.  
17 HEARING OFFICER DEL PIERO: Thank you very much.  
18 Have a safe trip.  
19 MR. FLINN: Thank you. And I appreciate the  
20 consideration.  
21 HEARING OFFICER DEL PIERO: Ms. Goldsmith, had you  
22 reached your 20 minutes?  
23 MS. GOLDSMITH: I think I had seven minutes left.  
24 HEARING OFFICER DEL PIERO: Mr. Herrera?  
25 MR. HERRERA: That's correct.

0179  
01 HEARING OFFICER DEL PIERO: I assume you're going  
02 to request an additional 20?  
03 MS. GOLDSMITH: I probably am.  
04 HEARING OFFICER DEL PIERO: Fine. You take the  
05 first seven, and then let me know how much more.  
06 MS. GOLDSMITH: Fine.  
07 MR. HERRERA: Could you move the microphone,  
08 Ms. Goldsmith?  
09 REDIRECT EXAMINATION BY MS. GOLDSMITH (Continued)  
10 Q All right. Ms. Koehler had asked you about  
11 Dr. Hennimen's testimony, oral testimony, concerning  
12 pricing studies as compared with CV, and we had  
13 established, I think, that the statements that she made  
14 and the characterization that she made of his testimony  
15 is not contained in the written testimony which you  
16 reviewed. Is that right?  
17 A BY DR. CARSON: That's correct.  
18 Q All right. Well, assume that in his  
19 cross-examination, he said that the pricing study  
20 conducted by Griffith was more accurate than yours and  
21 that's why it was used. Do you agree with that?  
22 A I don't agree with that. That is a statement  
23 which is consistent with his written testimony that he  
24 made a comparison between two particular studies, not  
25 between two particular methods.

0180

01 Q Do you believe that Griffith's shortage cost  
02 valuation is more accurate than the one which the  
03 Carson-Mitchell study estimates?

04 A No, I don't.

05 Q Why not?

06 A There are a couple of very substantial problems  
07 with the Griffith work. At just the most cursory view,  
08 it was based on a very limited amount of experience.  
09 This is clearly acknowledged in the Griffith report.  
10 In other words, when you estimate something on past  
11 behavior, you prefer to have a lot of data. And this  
12 actually had a very small amount of data relative to  
13 how these things are typically estimated.

14 The second -- and a problem which I believe is the  
15 much more severe -- is that at the time this study was  
16 conducted, Met and L.A. DWP and other water agencies in  
17 Southern California had cranked up a massive increase  
18 in their advertising campaign to attempt to persuade  
19 people to voluntarily conserve water.

20 Now, what the Griffith study does, it acknowledges  
21 this in some ways, but thinks that it accurately  
22 controlled for this but misses the large increase in  
23 advertising, is it confounds the price -- the effects  
24 of increasing price in reducing demand with the effects  
25 of the advertising admonishing people to voluntarily

0181

01 reduce demand for fear of much more severe future  
02 impacts if that was not done.

03 This is a case where you can't have it sort of  
04 both ways to the extent that advertising was causing  
05 people to reduce their demand to be good citizens, then  
06 the price -- then assigning all of the effects of  
07 reducing the water to the price effect, massively  
08 underestimates the price that it would have taken had  
09 price alone been used to reduce the water consumption.

10 There are some further problems with the work that  
11 are just based on just, again, the limited amount of  
12 data and the people they drew -- another important  
13 aspect to point out, though, is because the Griffith  
14 study simply pulled the records of residential houses  
15 that were on the upper end of the block pricing scheme.  
16 It ignores any impact on businesses, and this was a  
17 time period where these water shortages and the  
18 potential for future water shortages was having a  
19 relatively severe impact on future business decision  
20 making and on their actions at the time.

21 So the Griffith study -- the price effect greatly  
22 underestimates for the residential sector alone what  
23 the shortage cost would be.

24 Q Now, the Griffith study was the basic study that  
25 underpinned the Los Angeles mayor's blue ribbon panel?

0182

01 A Right. And what's to recognize is Los Angeles did  
02 a very, very good thing by moving to a block pricing  
03 structure with increasing prices. It's something that  
04 any good economist would basically recommend that they  
05 do, and it did, indeed, have some effect on reducing  
06 demand.

07 The problem with that study is it attributes all



08 the reduction of demand solely to the increase in  
09 price.  
10 Q Thank you.  
11 Now, you mentioned that there was a very extensive  
12 advertising campaign. Would those costs normally be  
13 included in this shortage cost? Yes or no?  
14 A No. But they perhaps -- they're certainly not  
15 included in the Carson-Mitchell shortage costs. There  
16 would be an element of perhaps double counting that  
17 could be sorted out because it's not complete double  
18 counting, but part of those costs should probably be  
19 added.  
20 Q Okay. Now, the two --  
21 A BY DR. WADE: Could I read the offending paragraph  
22 where the factual error is made?  
23 Q I'd prefer not.  
24 A All right.  
25 Q The two criticisms that Dr. Hennimen may have had  
0183  
01 your Carson-Mitchell study was, first of all, that it's  
02 outdated. Do you agree with that?  
03 A BY DR. CARSON: Certainly, you would like to do these  
04 studies more often and a newer study has been  
05 commissioned. Relative to most of these economic  
06 numbers that run around in these models, a number which  
07 is only five years old is basically a current number.  
08 Q And are you aware of any events or circumstances  
09 that, in your opinion, would have drastically changed  
10 those estimates?  
11 A As I testified earlier, certainly you would expect  
12 some change in the distribution as people's  
13 expectations were fulfilled somewhat differently than  
14 what they thought at the time, but given our  
15 examination of Northern California which experienced  
16 more water shortages than Southern California, you  
17 wouldn't expect very drastic sort of changes.  
18 MR. HERRERA: That's seven minutes,  
19 Ms. Goldsmith.  
20 MS. GOLDSMITH: I'd like to ask for another 20.  
21 HEARING OFFICER DEL PIERO: Granted.  
22 Q BY MS. GOLDSMITH: The other criticism that  
23 Dr. Hennimen had --  
24 HEARING OFFICER DEL PIERO: Excuse me,  
25 Ms. Goldsmith. I think it's probably also safe to  
0184  
01 assume that we are not going get done with this panel  
02 at four o'clock.  
03 MS. GOLDSMITH: Our next day is December 1st, if  
04 I'm correct.  
05 HEARING OFFICER DEL PIERO: How many more  
06 witnesses do you have?  
07 MR. BIRMINGHAM: Total, we have two witnesses and  
08 then an additional panel that consists of two  
09 witnesses.  
10 HEARING OFFICER DEL PIERO: And that's it?  
11 MR. BIRMINGHAM: And that is it.  
12 HEARING OFFICER DEL PIERO: So it's probably  
13 reasonable to assume that we'll be done with you on the  
14 1st of December?  
15 MR. BIRMINGHAM: I would -- yesterday, I would

16 have said that was reasonable. Today I don't know.  
17 MS. GOLDSMITH: One of the -- the last panel has  
18 to do with hydrology.  
19 HEARING OFFICER DEL PIERO: Has to do with  
20 hydrology?  
21 MR. BIRMINGHAM: The last panel will also have a  
22 lot of information on the Los Angeles Department of  
23 Water and Power Management Plan, and many of the  
24 questions that have been asked by the Staff during the  
25 examination of other witnesses will be answered during  
0185  
01 that presentation.  
02 HEARING OFFICER DEL PIERO: No economists on  
03 that?  
04 MR. BIRMINGHAM: There are no economists.  
05 MS. GOLDSMITH: There are water modelers, though.  
06 MR. DODGE: Just to indicate that, at least our  
07 little table here, we'll have very few questions for  
08 those folks.  
09 MR. BIRMINGHAM: Then it may be reasonable to  
10 expect we'll finish in one day.  
11 MS. GOLDSMITH: One of the things that's been  
12 concerning me in terms of the session that's planned  
13 over the mountains is whether or not we're going to go  
14 until dark and beyond on the 2nd, and I would venture  
15 to say that certainly Los Angeles in --  
16 HEARING OFFICER DEL PIERO: Oh, we're going to  
17 break early on the 2nd.  
18 MS. GOLDSMITH: -- in chief would be done by the  
19 time --  
20 HEARING OFFICER DEL PIERO: We're going to break  
21 early on the 2nd. Maybe I didn't indicate that  
22 yesterday, but I was talking to Mr. Canaday of breaking  
23 like at three o'clock in the afternoon on the 2nd in  
24 order to accommodate travel over to -- I think we're  
25 doing June Lake?  
0186  
01 MR. CANADAY: Pardon?  
02 HEARING OFFICER DEL PIERO: June Lake? Where are  
03 we going? Have we got a location?  
04 MR. SMITH: The visitor's center.  
05 MR. CANADAY: We will be doing it at the Forest  
06 Service visitor's center in Lee Vining.  
07 HEARING OFFICER DEL PIERO: That's on the 3rd,  
08 right? I had assumed that we were going to break  
09 between two and three on the 2nd in order to facilitate  
10 travel over the Sierras that night so that everyone  
11 could be there the following morning.  
12 MR. CANADAY: Mr. Del Piero, do you wish to start  
13 at 9:00 a.m. that morning or later?  
14 HEARING OFFICER DEL PIERO: Mr. Dodge?  
15 MR. DODGE: Well, I don't want to waste the hour  
16 we have left, but one thing that we've talked about  
17 informally is possibly taking aircraft over Friday  
18 morning and coming back Friday evening. And I -- I've  
19 talked informally to Mr. Birmingham about that and also  
20 to Staff as to how many people might be representing  
21 the Water Board going over.  
22 HEARING OFFICER DEL PIERO: Well, I'll tell you  
23 what. We'll figure that out when I'm gone, and

24 Mr. Canaday can negotiate the transportation schedule.  
25 MS. GOLDSMITH: I think there's a reasonable  
0187  
01 likeliness that our case can finish by the afternoon of  
02 the 2nd.  
03 HEARING OFFICER DEL PIERO: I was just given  
04 authorization by the Chair of the Board to delegate  
05 that authority to you, Mr. Canaday, so you can arrange  
06 whatever works out.  
07 MR. CANADAY: We'll have gambling bus leaving --  
08 (Laughter.)  
09 HEARING OFFICER DEL PIERO: Thank you.  
10 CHAIRMAN CAFFREY: We're going to call you Captain  
11 in this capacity.  
12 MS. CAHILL: Mr. Del Piero, could I raise one  
13 other issue that we might start thinking about? I  
14 think that the first portion of the Department of Fish  
15 and Game's case will be the Eldon Vestal deposition  
16 which is on tape, and I don't know whether it has been  
17 your intent to play it here in the hearing room or if,  
18 in the interests of conserving time, you had wanted to  
19 make other arrangements to see it. That would give us  
20 some flexibility if Los Angeles finished early on the  
21 2nd, we could play the Vestal tape.  
22 HEARING OFFICER DEL PIERO: How many hours is it?  
23 MS. CAHILL: I think about three and a half.  
24 MS. GOLDSMITH: In-flight movie.  
25 MR. FRINK: I think with the breaks, it's less  
0188  
01 than three.  
02 MS. CAHILL: It's three to three and a half.  
03 HEARING OFFICER DEL PIERO: Do we have copies of  
04 it made?  
05 MR. CANADAY: We have one copy.  
06 HEARING OFFICER DEL PIERO: Can we have duplicates  
07 made?  
08 MR. CANADAY: How many copies do you want?  
09 HEARING OFFICER DEL PIERO: Five, one for each  
10 member of the Board.  
11 MR. BIRMINGHAM: Excuse me, Mr. Del Piero. I'd  
12 like to note for the record that the Court Reporter,  
13 who has a financial interest in making copies, is  
14 nodding her head affirmatively that copies can be made.  
15 HEARING OFFICER DEL PIERO: Actually, it's  
16 Mrs. Anglin's husband who does that, but I'm sure  
17 she'll pass that information on to him.  
18 HEARING OFFICER DEL PIERO: Five copies,  
19 Mr. Canaday, if you would. It's probably safe to  
20 assume that we will not have that played during the  
21 course of the hearing. The Board members will afford  
22 themselves the opportunity to review that since  
23 cross-examination of a videotape --  
24 MS. CAHILL: It seems to me likely that -- I'm  
25 trying to figure out when we start -- it looks like  
0189  
01 probably we wouldn't start on the 2nd. If we do start  
02 then, why don't we play the tape?  
03 HEARING OFFICER DEL PIERO: I don't know. Who do  
04 you have planned for your witnesses after the tape?  
05 MS. CAHILL: It would be Dr. Stein would be our

06 first witness.

07 HEARING OFFICER DEL PIERO: I would strongly  
08 recommend you have Dr. Stein ready to go on the 2nd.

09 MS. CAHILL: He's not available in the morning on  
10 the 2nd.

11 HEARING OFFICER DEL PIERO: When's he available?

12 MS. CAHILL: In the afternoon on the 2nd.

13 HEARING OFFICER DEL PIERO: What time?

14 MS. CAHILL: He teaches 'til 12? Which is about  
15 the time we talked about breaking.

16 HEARING OFFICER DEL PIERO: Pardon me?

17 MR. CANADAY: It would be about 1:30 like we had  
18 the other day based on his class schedule.

19 HEARING OFFICER DEL PIERO: You tell him to be  
20 here at 1:30 on the 2nd. I'm still not convinced  
21 L.A.'s going to be done on the 1st. I keep hoping that  
22 we're going to make one of these predictions of mine.  
23 We haven't made one yet, but we'll try.

24 Ms. Goldsmith, you've got, what, how many more  
25 minutes does she have? 20?

0190

01 MR. HERRERA: She's got 20 short five seconds.

02 Q BY MS. GOLDSMITH: The other criticism, and it wasn't  
03 a criticism of the study because Dr. Hennimen did say  
04 that it was a fine piece of work, but in terms of using  
05 it in connection with the EIR, the other comment that  
06 he had is that because it covered more than just the  
07 area of Los Angeles, he felt that the Griffith study  
08 was more appropriate to use.

09 Can you comment on whether or not that's a fair  
10 criticism of whether it would be accurate to use that  
11 study?

12 A BY DR. CARSON: Generally, one likes to use a study  
13 specific to the area. What should probably have been  
14 done here would be to have taken the raw data, and  
15 the sample for the Greater Los Angeles area is actually  
16 larger than the sample for the CV survey that was used  
17 for Mono Lake. So L.A. area specific estimates could  
18 have been derived, and my memory of having done those  
19 estimates once upon a time suggests that they're not  
20 greatly different from the estimates for the overall  
21 state report.

22 Q Now, comparing just in general in the abstract,  
23 and to save time, I'm going to try and put it in my  
24 words of having to agree or disagree. Is it fair to  
25 say that there are problems with both the pricing

0191

01 approach and the contingent valuation approach?

02 A Yes.

03 Q And the problem with the contingent valuation  
04 approach is that people are getting hypothetical  
05 answers to hypothetical questions, and there's not as  
06 solid as one might like reality; is that right?

07 A Right.

08 Q And the problem with the pricing analysis is as a  
09 lady pointed out, is that it assumes that whatever  
10 response you're seeing is not wholly due to price?

11 A Right.

12 Q And at the time that the Griffith study, which was  
13 used in the EIR, was being conducted, there was an

14 advertising campaign as well, there was a severe  
15 drought ongoing, and there were mandatory restrictions;  
16 is that right?

17 A Correct.

18 Q Thank you.

19 Is it reasonable to presume or to assume that the  
20 sort of water reduction that you'll see people engage  
21 in in a crisis situation is likely to be a long-term  
22 effect?

23 A No. Indeed, these big reductions that you see  
24 can't be maintained over a many-year period.

25 Q And so would you agree with me that the level of  
0192

01 conservation that you see in that sort of a situation  
02 is not something that you would plan long-term?

03 MR. DODGE: Objection. Ambiguous as to whether  
04 we're talking about maintaining a decline, or whether  
05 we're talking about a continuous decline.

06 HEARING OFFICER DEL PIERO: Sustained. You can  
07 rephrase the question.

08 Q BY MS. GOLDSMITH: In terms of maintaining a  
09 conservation level that has been initiated and has been  
10 demonstrated during a severe drought, is it reasonable  
11 to assume that that level of conservation can be  
12 maintained long-term?

13 A BY DR. CARSON: No. What you tend to see is that  
14 water consumption tends to creep back up toward its  
15 former levels.

16 Q Some questions to Dr. Wade. You testified that  
17 the ERM shortage estimates included consideration of  
18 factors related to D 1630; is that right?

19 A BY DR. WADE: Yes.

20 Q And they did not include consideration of water  
21 requirements related to the Endangered Species Act and  
22 maintenance of the delta?

23 A The modeling assumptions do not include anything  
24 related to the Endangered Species Act.

25 Q And the modeling assumptions also did not include  
0193

01 any consideration of a two-part-per-thousand salinity  
02 standard in the delta; is that right?

03 A No.

04 Q If the study had included those factors, how would  
05 it have affected shortage in the Metropolitan Water  
06 District service area?

07 A Based on the results distributed last week in  
08 Sacramento, the amount of water available for diversion  
09 would be reduced substantially somewhere between  
10 550,000 and three million acre-feet are the numbers  
11 reported in the press, substantially more requirements,  
12 more water from both the ag and the coastal urban water  
13 users would be required for ecosystem improvement.

14 Q Ms. Koehler stated that this proceeding is not a  
15 planning procedure. Would you agree with that?

16 A I would not.

17 Q And in a planning process -- why would you  
18 disagree with it?

19 A Well, the decision here ultimately has to do with  
20 the allocation of water between competing beneficial  
21 uses, the City of Los Angeles and the Mono Lake

22 ecosystem. The decision here has to do perhaps with  
23 the distribution of environmental impacts between the  
24 Sacramento-San Joaquin Delta and the Mono Lake  
25 ecosystem.

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01 Q And does the decision here have to do with a  
02 consideration of the reliability of supplies for the  
03 demand in Southern California?

04 A It has to do with the considerations of  
05 reliability of supplies in Southern California versus  
06 the needs of the Mono Lake Basin.

07 Q When engaged in a planning process, is it  
08 generally wise to base decisions on firm supplies  
09 rather than speculative supplies in water?

10 A Yes. I would counsel that some policy be adopted  
11 to require some standards of proof for the numbers that  
12 the various experts, including myself, would bring  
13 before this proceeding with respect to the assumptions  
14 about demand and conservation, reclamation, water  
15 transfers.

16 Q I'd like to talk a little bit about water  
17 transfers because they were the subject of quite a lot  
18 of the cross-examination. And would you agree that if  
19 water transfers are too speculative to include for  
20 environmental impact assessments, that they're too  
21 speculative to base future water supply planning on?

22 A That would seem to be -- have some fairness to it.

23 Q Other than the Imperial Irrigation District  
24 transfer to MWD, Metropolitan Water District, are you  
25 aware of any long-term transfers that have been

0195

01 consummated south of the delta?

02 A The only other transfer I'm aware of as an assumed  
03 fact is the Rusty Areias transfer for Metropolitan  
04 discounting the all American canal. I think you  
05 probably already assumed that one.

06 Q Are you aware that Thomas Graph and the  
07 Environmental Defense Fund several years ago offered  
08 to find water through transfers to provide a  
09 replacement supply to Los Angeles?

10 A Yes, I am.

11 Q Are you aware of how much water they found for  
12 transfer for Los Angeles?

13 A I don't think they've been successful.

14 Q So they found none?

15 A Zero.

16 Q Concerning the price at which water can be  
17 obtained, we're talking about shortages of rather large  
18 proportions; isn't that right?

19 A Yes.

20 Q And as the amount of water transferred increased,  
21 would transferable water become more scarce, would you  
22 expect?

23 A That's reasonable.

24 Q And as it became more scarce, would the price of  
25 transferable water go up?

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01 A One would expect that.

02 Q Is it valid in calculating the amount of  
03 replacement costs for loss of Mono Basin supply, is it

04 valid to assume that the cost of the first block of  
05 water, the lower cost water for transfers, would be  
06 dedicated to replacing the Mono Lake supply rather than  
07 reducing the already existing shortage that Met has?  
08 A Metropolitan's water supply outlook is actually,  
09 as is well recognized by this Board I'm sure, so dire  
10 that they must make a number of -- they must find water  
11 in a number of new ways to sustain their service area  
12 over the next 30 years of the usual planning.  
13 MR. DODGE: Move to strike. Nonresponsive.  
14 MS. GOLDSMITH: Would you read back the question?  
15 HEARING OFFICER DEL PIERO: It was nonresponsive  
16 to the question. I don't know if you're satisfied with  
17 the answer.  
18 MS. GOLDSMITH: I've forgotten the question.  
19 HEARING OFFICER DEL PIERO: I'm going to overrule  
20 the objection because --  
21 MS. GOLDSMITH: Fine. I'm trying to hurry through  
22 this.  
23 MR. HERRERA: You have ten minutes.  
24 Q BY MS. GOLDSMITH: I'm confused as to whether or not  
25 the questions relating to the current price of

0197

01 transferred water is appropriate to use in considering  
02 the likely price of replacement water for the Mono  
03 Basin.  
04 Wouldn't the appropriate price of water be the  
05 marginal cost of water?  
06 MR. DODGE: Objection. Unintelligible.  
07 HEARING OFFICER DEL PIERO: You want to rephrase  
08 the question?  
09 MS. GOLDSMITH: I will try.  
10 HEARING OFFICER DEL PIERO: Okay.  
11 Q BY MS. GOLDSMITH: In the context of my prior  
12 question to you, increasing scareness of transferable  
13 water and the reasonableness of assuming that the first  
14 block of low-priced water would be the water that  
15 should be assigned as the replacement cost of Mono  
16 Basin water. Is that a reasonable assumption?  
17 A BY DR. WADE: I'm sorry. I didn't follow your  
18 question.

19 Q I guess Mr. Dodge was right.  
20 A It's that time of the afternoon. I could try and  
21 answer anyway because I have a notion in my head, but  
22 I'm not sure it's the question.  
23 Q What I want to know is since MWD's already looking  
24 for a large block of water and since you have agreed  
25 with me that as transferable water gets scarcer, the

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01 price is going to go up, wouldn't you agree with me  
02 that the proper replacement cost for lost Mono Basin  
03 supply would be the most expensive transferred water  
04 rather than the least expensive transferred water?  
05 A Yes. And we don't know what that's going to be.  
06 We may know what they have bought recently, but we  
07 don't know what they will buy to replace this.  
08 Q Now, Metropolitan Water District supplies a great  
09 deal of the water in Southern California; isn't that  
10 right?  
11 A Yes.

12 Q And if Metropolitan Water District had a shortage  
13 and knew it was going to have a shortage of some  
14 substantial proportions, what do you expect the  
15 economic impact in the Los Angeles area would be?  
16 A Well, they had a shortage in 1991, and it  
17 coincided, unfortunately, with the downturn in the  
18 economy. So we don't have any empirical data, but the  
19 studies that I've done have shown substantial losses  
20 related to drought and to large shortages.  
21 Q Would inhibition of growth in Southern California  
22 be a likely response?  
23 A Actually, there's no evidence on that. We looked.  
24 Q Does Metropolitan Water District have an  
25 interest -- an institutional interest in assuring its  
0199  
01 constituents that it will be able to provide adequate  
02 water supply to them in the future?  
03 MR. DODGE: Objection. Calls for speculation.  
04 HEARING OFFICER DEL PIERO: Sustained. You can  
05 rephrase the question.  
06 MS. GOLDSMITH: I'll withdraw the question.  
07 HEARING OFFICER DEL PIERO: Okay.  
08 Q BY MS. GOLDSMITH: At the very end of the  
09 cross-examination, there was some discussion between  
10 the panel and the Board Staff about the extent to which  
11 the EIR is required to consider the impacts which may  
12 occur from transfers. And is it true that the EIR  
13 suggests that water transfers may be a source of  
14 replacement water?  
15 A BY DR. WADE: Sort of superficially, yes.  
16 Q Do you believe that it would be irresponsible for  
17 the Board to simply ignore the effects of water  
18 shortage that would be exacerbated by a decision in  
19 this action?  
20 A That was my direct testimony.  
21 Q And wouldn't it be necessary for an informed and  
22 responsible decision maker to at least want to know the  
23 general environmental impacts of its decisions?  
24 MR. DODGE: Calls for a legal conclusion.  
25 HEARING OFFICER DEL PIERO: I'm sorry. My  
0200  
01 attention was drawn away. I apologize.  
02 MS. GOLDSMITH: The question was wouldn't an  
03 informed and responsible decision maker want to know  
04 the likely environmental impacts of its decision?  
05 MR. DODGE: That wasn't the question. He already  
06 answered that one, and then you went on to ask him  
07 whether it was necessary to do so. That's the one I  
08 objected to.  
09 HEARING OFFICER DEL PIERO: The basis of the  
10 objection, Mr. Dodge?  
11 MR. DODGE: Calls for a legal conclusion.  
12 HEARING OFFICER DEL PIERO: Sustained.  
13 MS. GOLDSMITH: Do you object to the question that  
14 I just asked?  
15 MR. DODGE: He's already answered it, and I don't  
16 mind your asking it again.  
17 Q BY MS. GOLDSMITH: Wouldn't an informed and  
18 responsible decision maker want to know the likely  
19 environmental impacts of its decision?



20 A BY DR. WADE: I would think so.  
21 Q And in this case, do you believe that the Board  
22 can know those effects if the environmental impacts of  
23 transfers are not discussed in the chief environmental  
24 document, the EIR?  
25 A They cannot.

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01 MS. GOLDSMITH: I have no further questions.  
02 HEARING OFFICER DEL PIERO: Thank you very much,  
03 Ms. Goldsmith.  
04 Ms. Koehler? I'm sorry, Ms. Cahill?  
05 MS. CAHILL: No questions.  
06 MR. DODGE: Mr. Del Piero, I have just a couple of  
07 questions.  
08 MR. BIRMINGHAM: Excuse me, Mr. Del Piero. I  
09 believe that the National Audubon Society and Mono Lake  
10 Committee has completed their cross-examination of  
11 their witnesses. Mr. Flinn was given that opportunity  
12 and Mr. Flinn concluded and departed.  
13 MS. GOLDSMITH: In fact, he didn't use his entire  
14 time.  
15 MR. DODGE: Really my point, he didn't use his  
16 entire time.  
17 HEARING OFFICER DEL PIERO: How many questions do  
18 you have, Mr. Dodge?  
19 MR. DODGE: Two minutes.  
20 RE-CROSS-EXAMINATION BY MR. DODGE  
21 Q Dr. Carson?  
22 A BY DR. CARSON: Carson, yes.  
23 Q Good afternoon. You were read some testimony,  
24 written testimony, by Dr. Stein, and we're talking  
25 about the 6410 elevation, and the upshot was that at  
0202  
01 the Lee Vining Tufa Grove, 5 percent was still visible,  
02 and at the South Tufa Grove at 6410, it was all  
03 submerged. And then -- trust me on this. That's what  
04 it said.  
05 And then Ms. Goldsmith asked you is the survey  
06 consistent with that result, and you said Point C is  
07 not likely to rise. These are the most visited  
08 places. Do you recall that testimony?  
09 A BY DR. CARSON: Yes, I did.  
10 HEARING OFFICER DEL PIERO: Mr. Dodge, I'd point  
11 out you have two minutes left.  
12 MR. DODGE: Thank you.  
13 Q BY MR. DODGE: Why is it important that these are the  
14 most visited places?  
15 A BY DR. CARSON: Because people go to Mono Lake, at  
16 least a large number of them, to see the Tufa.  
17 Q Now, if hypothetically if, at 6410, the second  
18 most visited Tufa grove still had approximately 55  
19 percent of -- excuse me. Still had approximately 50  
20 percent of its towers remaining, would that change your  
21 answer?  
22 A That would be substantially less than Program B  
23 and, hence, that would tend to make -- almost guarantee  
24 that Program C would fall lower than B. In other  
25 words, if you wiped out half the Tufa and the Tufa that  
0203  
01 remained was much more covered with water, so less was

02 protruding.  
03 Q Now, let me back up. At 6410 on the two groves  
04 that Ms. Goldsmith talked to you about, only 5 percent  
05 remained in one grove and none remained in the other.  
06 A Actually, it says that at a lake level of 6400,  
07 roughly 5 percent are still visible. When the lake  
08 reaches 6410, all towers are submerged.  
09 Q Hypothetically, if at the second most visited  
10 grove there was still, at 6410, approximately 50  
11 percent of the towers remaining, wouldn't that tend to  
12 push Point C higher?  
13 A Yes. But it would still be substantially lower  
14 than B.  
15 Q Can you quantify how much higher?  
16 A No. I mean, the two most visited places are the  
17 visitors' center and South Tufa. So if you could tell  
18 me what place we were talking about --  
19 Q I'm talking about a hypothetical place right now.  
20 It's the second most visited Tufa Grove, and at 6410,  
21 approximately 50 percent of the towers remain. Isn't  
22 it a fact that that would tend to push Point C higher?  
23 A Yes.  
24 MR. BIRMINGHAM: Objection. Asked and answered.  
25 MR. DODGE: Yes.

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01 HEARING OFFICER DEL PIERO: Thank you very much.  
02 Mr. Koehler?  
03 MS. KOEHLER: Thank you.  
04 HEARING OFFICER DEL PIERO: I have to tell you,  
05 Ladies and Gentlemen, I'm really looking forward to  
06 going down to San Bernardino and listening to  
07 Mr. Somach.  
08 MR. BIRMINGHAM: That's because we like each other  
09 so much.  
10 HEARING OFFICER DEL PIERO: And Mr. O'Brien. I  
11 can keep them under control.  
12 MR. BIRMINGHAM: Excuse me, you can keep Stuart  
13 Somach under control?  
14 HEARING OFFICER DEL PIERO: I've got a more direct  
15 line in terms of throwing the gavel. He's keeps  
16 calling me your Honor when I'm down there. Much more  
17 important than I do here.  
18 (Laughter.)  
19 RECROSS-EXAMINATION BY MS. KOEHLER  
20 Q I'd like to see if we can move down the road  
21 towards answering Board Member Forster's questions  
22 about the bottom line, and I'd like to do that by  
23 starting to ask you, Dr. Wade, what is it that your  
24 testimony is not about? Is it correct that your  
25 testimony is not about the cost of replacing Mono Lake

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01 water with other -- with water from other sources?  
02 Isn't that correct?  
03 A BY DR. WADE: That's kind of a complicated question.  
04 Why don't we rephrase it as a positive rather than a  
05 double negative?  
06 Q No. I'd like to phrase it the way that I did  
07 phrase it. So why don't I try again, so that it's  
08 clear for you.  
09 In your testimony you did not provide any

10 information about the replacement cost for Mono Basin  
11 water from the Colorado River, do you? Your testimony  
12 is about shortage cost, not about replacement cost;  
13 isn't that correct? The \$95 million estimate?  
14 A No. We assumed some replacement.  
15 Q The \$95 million estimate is, as I understand it,  
16 the cost of a shortage based on a contingent valuation  
17 study; is that correct?  
18 A That's correct.  
19 Q That study does not include the cost to buy water  
20 when there's replacement water available. That is cost  
21 of a shortage; isn't that correct?  
22 A Partially correct. That \$95 million is the result  
23 of first asking what water's available to purchase from  
24 the State Water Project and what remains a shortage.  
25 Q And the \$95 million cost is the cost of shortage

0206

01 as measured by the Carson-Mitchell 1987 contingent  
02 valuation study; isn't that correct?  
03 A And as measured by the hydrologic uncertainty on  
04 the State Water Project.  
05 Q Fine. But it does not include the cost of buying  
06 Colorado River water, does it?  
07 A No.  
08 Q It is assumed that that water's not available. It  
09 does not include the cost of buying additional  
10 groundwater, does it?  
11 A No.  
12 Q It does not include the cost of buying water from  
13 the local supply or buying local supplies?  
14 A Pretty soon you're going to be selling air because  
15 I don't think --  
16 Q In addition -- we're talking -- I am trying to  
17 talk about water to replace Mono Basin water. That is  
18 not a cost that's included in your \$95 million  
19 estimate; isn't that correct?  
20 A That's correct.  
21 Q All right. To put it positively now, if you'd  
22 like to. Your \$95 million estimate is the cost when  
23 there is no water available and you are measuring the,  
24 if you will, lifestyle cost of not -- of foregoing  
25 water; isn't that correct?

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01 A Yes. That's one way of expressing it, lifestyle  
02 cost.  
03 Q Thank you.  
04 A Changed quality of life.  
05 Q Fine. As long as we're clarifying for the Board  
06 that we are not talking about the cost of additional  
07 alternative supplies of water. That's what I'm trying  
08 to get across here.  
09 Turning to the shortage costs, you've testified,  
10 if I understand your testimony earlier, you have --  
11 it's your position that those shortage costs are very  
12 sensitive to the assumptions that you've made about  
13 available water supply; is that correct?  
14 A That's correct.  
15 Q And your water supply assumptions are relatively  
16 conservative. If I can review and make sure I  
17 understand, you've assumed no water transfers

18 whatsoever?  
19 A Not true.  
20 Q From sources other than the Colorado river?  
21 A I assumed 106,000 from the Colorado River.  
22 Q I'm sorry. Let me make that -- let me rephrase  
23 the question.  
24 You assume that there were no water transfers  
25 available from sources other than the Colorado River  
0208  
01 and the irrigation district?  
02 A That's correct.  
03 Q All right.  
04 A There are no other transfers in the record.  
05 Q There are no other transfers in the record? I'm  
06 sorry. Didn't we establish earlier that Metropolitan  
07 had, indeed, transferred 200,000 acre-feet in water as  
08 recently as two years ago?  
09 A Yes.  
10 Q Thank you.  
11 You also assume that -- again, I'm just making  
12 sure I understand your prior testimony -- that there  
13 will be no Colorado River water available other than  
14 the firm you already discussed; isn't that correct?  
15 The 500 plus the -- the 600 --  
16 A Yes. That's planning assumption.  
17 Q That's it. Right.  
18 And you assume that there will be local supply  
19 availability that's somewhat lower than predicted in  
20 MWD's recent planning document. I believe we  
21 established that earlier?  
22 A I don't believe that we established that it was  
23 lower. I think we had something like 1.3 million.  
24 Q You estimated 1.3 million. MWD estimates 1.6. So  
25 then it's -- is it fair to say, then, that your  
0209  
01 estimates of shortage cost depend on the evidence that  
02 will be submitted to this Board regarding the certainty  
03 or the firmness of other sources of water supply over  
04 the next -- over the planning period to 2010?  
05 A Yes. And I have also suggested, pontificating, if  
06 you will, that some standards of proof be required  
07 around those.  
08 Q That's right. You have done so.  
09 And is it correct to say that you've assumed that  
10 there really will be no new water from any of those  
11 sources we've just discussed between now and 2010 firm  
12 enough that you feel this Board can rely on those  
13 sources?  
14 A As is in the record today in California, that's a  
15 fact.  
16 Q All right. Do you believe it's appropriate to  
17 advise this Board to make its decision in this  
18 proceeding assuming that there will be no water  
19 transfers from the Central Valley over the next 20  
20 years?  
21 A I'm going to repeat the same point I made before.  
22 I think this Board should adopt as a policy --  
23 Q I didn't ask you that question. I asked you a  
24 very specific question, and I only have 20 minutes, so  
25 I'm going to request that you answer it.

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01 A Would you repeat the question, please?

02 Q My question is do you think it's appropriate to  
03 advise the Board to make its decision in this  
04 proceeding assuming that there will be no water  
05 transfers to MWD from Central Valley in the next 20  
06 years?

07 A My answer to the question is I think this Board  
08 should make its decision based on firm factual  
09 knowledge of what water resources will be available.

10 MS. KOEHLER: I request the Board to ask the  
11 witness to respond.

12 HEARING OFFICER DEL PIERO: The answer was not  
13 responsive, Doctor. Do you want this question read  
14 back one last time?

15 DR. WADE: I understand the question, Sir. The  
16 answer to that question would have to be no.

17 Q BY MS. KOEHLER: Fine. Thank you. I appreciate  
18 that.

19 A BY DR. WADE: And I have to caveat with the answer.

20 Q Ms. Scoonover asked you several questions on  
21 DWRSIM. Do you know whether or not the Metropolitan  
22 Water District agrees with the assumptions in DWRSIM  
23 that you relied on in your analysis?

24 A I do not have specific factual knowledge of  
25 that -- Metropolitan Water District employs a

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01 consultant to run DWRSIM. We had numerous  
02 conversations with him, but we did not go line by line  
03 with that fellow. I don't think we're widely disparate  
04 on that.

05 Q Thank you.

06 Turning to Dr. Hennimen's written testimony. I'm  
07 sorry I confused you earlier in my representations. I  
08 have several questions.

09 You indicated, Dr. Carson, that the data is not  
10 updated, that it's only five years old. Isn't it  
11 correct, Sir, that your 1987 data is actually based on  
12 a survey having to do with the earlier drought  
13 1976-1977 drought?

14 A BY DR. CARSON: No.

15 Q That's incorrect?

16 A Yes.

17 Q All right. Are you aware that Dr. Hennimen makes  
18 that representation in his written testimony?

19 A He does not.

20 Q Let me read to you, Sir, from Dr. Hennimen's  
21 written testimony. At the time of your -- I'm  
22 paraphrasing here somewhat. At the time of your  
23 survey, now I'm quoting, their only experience of  
24 drought would have been ten years earlier in 1976-1977.  
25 I was concerned that things might have changed at least

0212

01 somewhat since then, and I prefer data that  
02 incorporated people's actual experience with the recent  
03 drought."

04 A That is correct, but that's not -- the question --

05 Q That's fine.

06 A The question that you asked for clarification here  
07 is did the survey ask about willingness to pay to avoid

08 a future drought. It did not specifically deal with  
09 anything on the past drought. But that was  
10 experience --

11 Q But --

12 A That was your experience base.

13 Q That was the experience base of your survey?

14 A Right. But what people were explained was what  
15 steps would be taken in a drought, and those were  
16 fairly simple and easy to understand.

17 Q Okay. Moving along to Dr. Hennimen's other  
18 concerns. I'm going to read to you here so you don't  
19 have any questions about what Dr. Hennimen does and  
20 does not think. "The second reason -- " and this is  
21 the second concern that he has with using -- "Not with  
22 your study generally, but with using your study for  
23 purposes of this Draft Environmental Impact Report, is  
24 conceptual and has to do with how one analyzes the CV  
25 data and whether or not one allows for the possibility

0213

01 of price rationing in the event of a drought, which is  
02 what actually occurred in Los Angeles in 1991." And  
03 then I'm skipping, "The result is what economists call  
04 a selectivity effect. The outage costs associated with  
05 actual water reductions that occur are not drawn evenly  
06 from the entire spectrum of water users but  
07 disproportionately more from those with lower outage  
08 costs. This reduces the aggregate gate outage cost.

09 "The existing analysis of the Carson-Mitchell data  
10 does not allow for this effect and is, therefore,  
11 upwards biased upwards, at least to some degree."

12 Do you agree with that paragraph? First answer  
13 yes or no.

14 A No.

15 Q You don't. All right.

16 A I should caveat the general statement that Michael  
17 Hennimen's trying to make here is that price rationing  
18 does indeed reduce the cost of the shortage by allowing  
19 the most high-valued people to obtain the water, and  
20 that's a very good thing.

21 What happens, though, is you're looking at a  
22 median willingness-to-pay number, so the people who are  
23 at the very top of the curve are actually way above the  
24 median. So you're not changing the median, so on the  
25 statement that it's biased upward is mistaken.

0214

01 Q Thank you.

02 You stated that the Griffith's work for the L.A.  
03 blue ribbon committee ignored impacts on business.  
04 Isn't it true that the Carson-Mitchell CV study also  
05 did not include impacts on business?

06 A No. That's not correct because in our contingent  
07 valuation study, we informed people that there would be  
08 impacts on business. And in the discussions of that  
09 study, it was basically assumed that we had included in  
10 our estimates some of the business impacts but not all;  
11 that is, that we had included part of the business  
12 impacts, but not all.

13 By the nature of the Griffith study, since they  
14 only sampled residential water household bills and  
15 estimated a price reaction, by the way that study was

16 constructed, they could get none of the business  
17 impacts. In that regard, both studies thus  
18 underestimate the water shortage costs to business; one  
19 less so than other.

20 Q Thank you.

21 I have a clarifying question, Dr. Wade, with  
22 regard to the impact of the anticipated EPA package, if  
23 you will, of standards, EPA and the other federal  
24 agencies, that are coming out in December. You  
25 indicated that according to the press reports that you

0215

01 had read, the impacts were going to be extremely high;  
02 is that correct?

03 A BY DR. WADE: I indicated that the press reports had  
04 suggested a range between a half a million to three  
05 million acre-feet.

06 Q All right. It's that range I'd like discuss with  
07 you. Are you aware, then, that there are two sets of  
08 numbers? EPA has a set numbers, and DWR has a set of  
09 numbers?

10 A Yes, I'm aware of that.

11 Q Do you have any reason the believe that one set of  
12 numbers is more accurate than another set?

13 A I haven't examined either set of numbers. Each  
14 new set of numbers does have one number in common, one  
15 million.

16 Q Right. That's right.

17 My last question goes to the legal standards at  
18 issue in this proceeding. Are you aware, either of  
19 you, that there are two separate legal standards that  
20 are governing these proceedings?

21 A BY DR. CARSON: Vaguely, but I couldn't really  
22 describe --

23 Q I'm not asking you to. I'm just trying to find  
24 out if you know anything about them.

25 A No. The answer is, I know CEQA has something to

0216

01 do with this and I know this has been remanded by a  
02 court, but that's the extent of --

03 Q Let me suggest to you, then, since I don't want  
04 you to be making legal conclusions, that under Fish and  
05 Game Code Section 5937, the Board will be required to  
06 make its decision about flows that keep fish in good  
07 condition without regard to economic impacts whereas,  
08 putting it simply, the public trust issues may be at  
09 that point when the public trust considerations come  
10 into play, at that point economic impacts may be -- may  
11 be considered.

12 Does your analysis of economic impacts allow for  
13 this -- do you allow for -- let me find another way to  
14 put this. Does your analysis allow the Board any means  
15 of separating out the incremental economic impact of  
16 the public trust issues in this case as opposed to the  
17 Section 5937 fish issues?

18 A Certainly, perhaps not impossible, what would you  
19 actually have to do is to separate out what the  
20 physical and biological impacts were first before an  
21 economist could make some separation.

22 Q So you're saying that that analysis could be done.  
23 Is there anything --

24 A Potentially.  
25 Q -- in your testimony that allows the Board today  
0217  
01 to determine the economic impacts of the public trust?  
02 A No. Because what -- you'd have to specify the  
03 physical and biological impacts before you could  
04 address the economic impacts.  
05 Q Then as you testified today, your testimony before  
06 the Board does not allow them to make that distinction?  
07 A If you had -- if you had the physical and  
08 biological --  
09 Q I didn't ask you if you had that information. I  
10 asked you as you're sitting here today, does the  
11 testimony that you've submitted allow the Board to make  
12 that distinction in economic impacts?  
13 A No. But you could certainly go back.  
14 Q You could go back, but that wasn't my question,  
15 Dr. Carson. Thank you.  
16 HEARING OFFICER DEL PIERO: Thank you very much.  
17 Ms. Scoonover?  
18 MS. SCOONOVER: Yes. I have a few questions.  
19 RE-CROSS EXAMINATION BY MS. SCOONOVER  
20 Q Once again, I'd like to start with you,  
21 Dr. Carson. The majority of my questions were raised  
22 by Ms. Goldsmith on redirect, and so that will be the  
23 focus of the majority of questions.  
24 Are you an expert on air quality or air quality --  
25 air toxics?  
0218  
01 A BY DR. CARSON: I've done a substantial amount of  
02 work on EPA grants on air quality. I've done some work  
03 on air quality modeling. I've done substantial work on  
04 epidemiology, and my work has played a part in a number  
05 of EPA criteria documents.  
06 Q Do you know the federal primary health-based  
07 standards for the P.M. Ten for a 24-hour?  
08 A It's been about eight years since I've done air  
09 quality modeling, and so the answer is with regard to  
10 the current P.M. Ten standard, I couldn't rattle it off  
11 the top of my head.  
12 Q Are you aware that in May of 1993 during Mono Lake  
13 storms, there were three gross exceedances of the  
14 federal primary health based standards in one month?  
15 A In something I read, that sounds correct. In  
16 doing epidemiology work, you look at exceedances and  
17 exposure.  
18 Q Are you aware that one of those exceedances  
19 reached 981 micrograms per cubic meter.  
20 A No. But I'll take your word for it.  
21 Q Are you aware that dust storms at Mono Lake have  
22 covered hundreds of square miles?  
23 A No. I actually have not seen anything to that  
24 effect.  
25 Q Are you aware that aside from the Owens Basin,  
0219  
01 Mono Lake has the worst P.M. Ten violations anywhere in  
02 the United States including downtown Los Angeles?  
03 A No. I have not seen a comparative thing, and this  
04 would depend on where the air quality monitors were  
05 placed.



06 Q Do you know the source of majority of the P.M.  
07 Ten -- the P.M. Ten source material at Mono Lake?  
08 A Do I know the source material?  
09 Q What the source of the P.M. Ten substance is?  
10 A Basically, an alkaline material from around the  
11 lake, as far as I know.  
12 Q Do you know at what level this alkaline material  
13 from around the lake will no longer be exposed?  
14 A I have, at one time, actually when I was on the  
15 technical review committee, gone through all that. I  
16 couldn't tell you the exact -- as the lake level rises,  
17 the dust storms go down.  
18 Q Are you aware that state park rangers at Mono Lake  
19 advised visitors not to go into areas when there are  
20 dust storms appearing?  
21 MS. GOLDSMITH: Objection. Mr. Del Piero, this  
22 line of questioning goes well beyond any expertise that  
23 Dr. Carson has even expressed and amounts to  
24 testifying.  
25 MS. SCOONOVER: Mr. Del Piero, on the contrary, I

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01 believe Ms. Goldsmith asked the Doctor a series of  
02 questions about air quality at Mono Lake and whether or  
03 not Mono Lake Committee Exhibit 215 and 215-A  
04 accurately reflected the exposure to alkaline dust at  
05 the lake. The Doctor responded that the lake -- that  
06 the source of the dust was much more limited than was  
07 described in 215-A. The questions went on from there.  
08 I'm almost finished.  
09 HEARING OFFICER DEL PIERO: Ms. Goldsmith?  
10 MS. GOLDSMITH: I asked Dr. Carson a hypothetical  
11 that had to do with whether or not the description was  
12 accurately stated and the impression it would give on  
13 the respondents to the CV survey, not about his  
14 personal experience or expertise concerning the origin  
15 of dust storms at Mono Lake.  
16 MS. SCOONOVER: If I may, that I believe asking  
17 the Doctor his opinion of whether the information in  
18 215-A and 215 is accurate is directly reflective of  
19 what the witness is alleging as fact. That's all I'm  
20 trying to get at. I don't mean to be argumentative.  
21 MS. GOLDSMITH: I believe I asked him to assume.  
22 (Whereupon the record was read as requested.)  
23 HEARING OFFICER DEL PIERO: I'm going to overrule  
24 the objection, but if you go much farther into this,  
25 Ms. Scoonover, I'm likely to sustain a similar

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01 objection.  
02 MS. SCOONOVER: I understand.  
03 HEARING OFFICER DEL PIERO: Go ahead and answer,  
04 Doctor.  
05 DR. CARSON: Yes.  
06 MR. BIRMINGHAM: You've answered, Doctor.  
07 MS. SCOONOVER: Thank you.  
08 Q BY MS. SCOONOVER: I believe Ms. Goldsmith asked you  
09 some questions about Tufa as well and asked you to make  
10 some assumptions, so I'm not going to go into the  
11 underlying assumptions.  
12 The only thing I want to ask you is what the basis  
13 of the information on Tufa and Tufa loss is upon which

14 you're relying?

15 A BY DR. CARSON: The development work for the  
16 contingent valuation study consisted of several focus  
17 groups and a number of pre-tests. There are also  
18 verbatim responses in the questionnaire. And --

19 Q I'm sorry, Dr. Carson. I didn't state that  
20 question very clearly.

21 A BY DR. CARSON: I thought that was what were you  
22 asking.

23 Q No. What I'm asking is the information on what  
24 happens to the Tufa at varying lake levels is -- that's  
25 the area that I'm interested in. Upon what did you

0222

01 base your assessment of what happens to Tufa at the  
02 varying lake levels? What information did you use?

03 A Scott Stein, in the original development work for  
04 the contingent valuation survey, provided the original  
05 information which is included in the contingent  
06 valuation survey.

07 Q Very good. Thank you.

08 I believe, Dr. Wade, I have a couple of questions  
09 for you. Isn't it true that this period of time, this  
10 post-drought period of time, the City of Los Angeles is  
11 still saving 20 to 30 percent in water?

12 A BY DR. WADE: It's true that demand in Los Angeles in  
13 1993 is down. I don't think it's down 20 or 30  
14 percent.

15 Q Let's assume that it is down 20 to 30 percent. Do  
16 you believe these people are still suffering the -- an  
17 impact to their quality of life, or are they, perhaps,  
18 better informed due to the large-scale public  
19 information program that was discussed earlier?

20 A I think a combination of a lot of things including  
21 that, including some hardware changes, which will be  
22 permanent, which will also harden demands, including  
23 declining economic activity, including a lot of  
24 things. Behavior. Conservation is composed of  
25 technology and behavior, and the behavior changes will

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01 dissipate.

02 Q Thank you.

03 You also answered a question that  
04 Ms. Goldsmith asked and then Ms. Koehler again  
05 discussed the issue with additional EPA restrictions on  
06 delta water exports, what the impact would be on -- to  
07 the Metropolitan Water District supply. You said you'd  
08 seen figures between one-half and three million  
09 acre-feet as the impact?

10 A As the impact to all diversions from above and  
11 below the delta.

12 Q Is DWRSIM the basis for one or more of these  
13 assessments?

14 A Yes.

15 Q Now, you say that water transfers are too  
16 speculative to base future water needs on. Is that  
17 accurate?

18 A Not precisely as you've written it, as you've  
19 stated there. I've said that how water transfers are  
20 going play out is a matter of speculation. I think  
21 they will play out. I cannot speculate as to how or

22 when, how much water will be transferred at what cost.  
23 I don't know that, and no one in the room knows that.  
24 Q How do existing south-of-delta transfers affect  
25 future water -- meeting future water demands?

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01 A How do existing south-of-delta transfers affect  
02 meeting future water demands.

03 Q Not very well stated. Let me restate it for you.  
04 I think I'm trying to put several things together in an  
05 effort to do it quickly, and I'm afraid it's been at  
06 the expense of clarity. So let me go a little slower.

07 In your analysis, you looked at the likelihood of  
08 meeting future DWP demands with a majority of MWD water  
09 based on the assumptions made in the Draft  
10 Environmental Impact Report. Your concern, as I  
11 believe, and please correct me if I'm wrong, was that  
12 it has been not been proven that there will be adequate  
13 supplies of MWD water to supply the Department of Water  
14 and Power's additional requests. Now, we've gotten --  
15 is that accurate?

16 A That's precisely accurate.

17 Q Now, we've gotten to the point where we're talking  
18 about predicting the Metropolitan Water District being  
19 able to meet DWP's demands and whether or not water  
20 transfers can be factored into that equation or whether  
21 they are too speculative.

22 My question to you is, can you, in that equation  
23 where you're trying to figure out whether there's  
24 adequate supplies of Metropolitan Water District water  
25 to meet the Department of Water and Power's future

0225

01 demands, factor in or have you factored in existing  
02 south-of-delta water transfers?

03 A Yes. I have factored in the Imperial Irrigation  
04 District south-of-delta water transfer of 106,000  
05 acre-feet.

06 Q Are there any others?

07 A There are no others except the Rusty Areias  
08 transfer, which is allegedly going to be signed in the  
09 very near future.

10 Q So you are aware of no other south-of-delta water  
11 transfers --

12 A There are no other long-term --

13 Q -- with the Metropolitan Water District?

14 A There are no other long-term transfers.

15 Q Thank you.

16 In response to another question from  
17 Ms. Goldsmith, I believe you stated that the task of  
18 this Board was to balance competing uses. It was in  
19 response to a question Ms. Koehler asked about what the  
20 purpose of these proceedings was. Do you recall that  
21 discussion?

22 A The public trust doctrine requires the balancing  
23 of competing beneficial --

24 MR. DODGE: Objection. Nonresponsive. Move to  
25 strike.

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01 MS. SCOONOVER: Let me try it again, and I'll be a  
02 little more specific.

03 MR. DODGE: Can I have a ruling, please?

04 HEARING OFFICER DEL PIERO: I've refrained from  
05 striking comments. I've not ruled in that fashion  
06 since the beginning of this hearing. I'm somewhat  
07 reluctant to do it because if I had done it uniformly  
08 throughout the entirety of the hearing, meaning no  
09 disrespect, but 50 to 60 percent of the testimony  
10 delivered in the last day and a half would have been  
11 struck.

12 I'm going to overrule the objection.

13 MR. DODGE: Thank you.

14 Q BY MS. SCOONOVER: Let me ask the question a little  
15 differently. Are you familiar with the California  
16 Supreme Court case referred to commonly as the National  
17 Audubon Case that defines public trust doctrine with  
18 respect to Mono Lake?

19 A BY DR. WADE: Yes.

20 Q Thank you.

21 I believe Ms. Goldsmith asked about some work that  
22 Tom Graph and the Environmental Defense Fund did a  
23 number of years ago to find replacement water for Mono  
24 Lake water. Do you recall those questions?

25 A Yes.

0227

01 Q Are you familiar with that work?

02 A Yes.

03 Q Did you participate in that work?

04 A No.

05 Q Do you know if this work was -- strike that. Let  
06 me start over.

07 Were you asked to review this work professionally?

08 A No.

09 Q Do you know if there was any kind of final report,  
10 final findings, or any other published document  
11 relating to this work?

12 A I do not. I thought the final product was to be  
13 transferred.

14 Q Do you know in what context Tom Graph undertook  
15 this work? Do you know for whom he was working?

16 A It was a joint project. It's vague in my mind. I  
17 think it was joint state funded. I really can't  
18 remember any more details than that.

19 Q This most recent drought that we've just come  
20 through, would you classify it as perhaps the worst or  
21 second worst in history since, say, 1850?

22 MS. GOLDSMITH: Objection. Calls for a conclusion  
23 outside his area of expertise.

24 HEARING OFFICER DEL PIERO: Sustained.

25 Q BY MS. SCOONOVER: Let's assume, Doctor, that this

0228

01 past drought we've just come through has been the worst  
02 or second worst since 1850. In a time of drought,  
03 would you assume that the cost of water would go up, go  
04 down, or remain the same?

05 A BY DR. WADE: It should go up, but there are  
06 institutional rigidities and California water pricing.

07 Q As Metropolitan Water District's costs go up, are  
08 you aware whether or not member agencies are securing  
09 their own reliable sources of water?

10 A I'm aware of member agencies adopting very  
11 aggressive reclamation programs and very aggressive

12 conservation programs.

13 Q Your economic analysis assumed, I believe, a  
14 certain level of replacement water. I'd like to -- to  
15 set up a hypothetical for you, and I want you to work  
16 with me on it a little bit here.

17 Let's assume that the lake has stabilized and that  
18 from current diversions, the amount of water to be  
19 exported to Los Angeles is being reduced by 47,000  
20 acre-feet. So let's assume it's 47,000 acre-feet  
21 that's going from the lake and is no longer being  
22 exported to Los Angeles.

23 Now, let's further assume that, say, 40,000 of  
24 those acre-feet are required to maintain stream flows  
25 under the standards that Ms. Koehler was alluding to  
0229

01 earlier. So let's assume that instead of 47,000 feet  
02 being required to maintain a lake level, we have 40,000  
03 feet being required, or -- now, I'm confusing myself as  
04 well as you, I'm sure.

05 We've assumed 47,000 acre-feet that were no longer  
06 exported to the Basin. Assume that 40,000 acre-feet  
07 per year is required to meet the stream flow  
08 standards. Assume then that you have 7,000 acre-feet  
09 that's being required to meet the public trust  
10 requirements of the lake itself.

11 If your economic analysis was to replace 7,000  
12 acre-feet annually as opposed to 47,000 acre-feet  
13 annually, would a majority of the impacts that you've  
14 discussed be greatly reduced?

15 A Have you removed water from Los Angeles?

16 Q Los Angeles was previously getting 47,000  
17 acre-feet that Los Angeles is no longer getting, but  
18 40,000 of those acre-feet is required under court  
19 order. So we're only talking about making up 7,000  
20 acre-feet, so assume, instead, you're replacing 7,000  
21 acre-feet of water that Los Angeles was previously  
22 getting.

23 A The model runs that we did with the economic risk  
24 model simply deal with quantities of water not with  
25 respect to whether or not they're required under this  
0230

01 or that law.

02 Q I guess what I'm asking, Dr. Wade, is if the  
03 quantities of water for which you have run the models  
04 are reduced, would not the impacts likewise be  
05 significantly reduced?

06 A By that, do you mean that the physical quantities  
07 of water being diverted from the City of Los Angeles  
08 are reduced?

09 Q Yeah. I'm asking you to assume that you're only  
10 making up 7,000 acre-feet annually. That's all. 7,000  
11 acre-feet of water annually.

12 A If the shortage -- if the shortage that we  
13 measured was over 7,000 acre-feet instead of the 40,000  
14 acre-feet, the incidence of shortage, the probability,  
15 the likelihood of shortage would be smaller.

16 MS. SCOONOVER: Thank you. That's all. I have no  
17 further questions.

18 HEARING OFFICER DEL PIERO: Thank you very much.  
19 Mr. Frink?

20 MR. FRINK: Yes. I think I can do it in two  
21 minutes. I'll try and make them very simple.

22 RE-CROSS EXAMINATION BY THE STAFF

23 Q BY MR. FRINK: Dr. Wade, you testified in response to  
24 Ms. Goldsmith's question that as the number of water  
25 transfers increases, the cost of water available for  
0231

01 transfer will also increase. Have you done any studies  
02 comparing changes in the price per acre-foot of the  
03 water transfers which occurred in the years 1986  
04 through 1991?

05 A BY DR. WADE: No.

06 Q So was your response to Ms. Goldsmith's question  
07 essentially based on the simple assumption that as  
08 demand goes up, price also goes up?

09 A It was more or less based on the rising shape of a  
10 supply curve. The question was hypothetical and  
11 answered theoretically.

12 Q Okay. I appreciate that.

13 As an economist, would you agree that having an  
14 efficient market available can also influence the cost  
15 of the commodity sold?

16 A Yes.

17 Q One of the purposes of having an efficient market,  
18 is it not, is to reduce the transaction costs incurred?

19 A Yes.

20 Q Do you believe that the water transfers in  
21 California beginning in the mid 1980s have been  
22 accomplished within the structure of an efficient  
23 established water market?

24 A Absolutely not.

25 Q I believe you stated at one point in your  
0232

01 testimony that you personally would foresee an  
02 increased reliance on water marketing in California.  
03 Is that correct?

04 A I did.

05 Q If that occurs, do you believe that a more  
06 efficient water market will develop in California?

07 A I would certainly hope so.

08 MR. FRINK: Thank you. That's all I have.

09 Any other staff questions?

10 HEARING OFFICER DEL PIERO: Mr. Satkowski?  
11 Mr. Smith? Mr. Herrera? Mr. Canaday?  
12 Don't feel pressured, Jim.

13 MR. HERRERA: Mr. Frink did it in a minute 37.

14 HEARING OFFICER DEL PIERO: And I was impressed.

15 MR. BIRMINGHAM: I was impressed at the responsive  
16 answers.

17 MR. DODGE: The difference is, I wasn't supposed  
18 to mention it, that Mr. Frink didn't get an answer to  
19 his last question.

20 MR. FRINK: I believe I did.

21 HEARING OFFICER DEL PIERO: Yes, you did.

22 MR. DODGE: The question referred to an  
23 expectation and the answer referred to a hope.

24 HEARING OFFICER DEL PIERO: One can interpret the  
25 hope with the expectation.

0233

01 Mr. Canaday?

02 Q BY MR. CANADAY: Doctor, I only have one question,  
03 but it is a long one.

04 HEARING OFFICER DEL PIERO: Several parts. Take  
05 notes.

06 (Laughter.)

07 MS. GOLDSMITH: Objection. Compound.

08 (Laughter.)

09 Q BY MR. CANADAY: Dr. Wade, in some of my -- my  
10 previous questions to you and I believe your response  
11 to Ms. Goldsmith, you replied that informed decision  
12 making with regards to water transfers and future water  
13 supplies, that this -- you felt that decisions that  
14 L.A. -- replacement for L.A. supplies, L.A. DWP  
15 supplies may be lost because of any decision by this  
16 Board. Is it the responsibility of this Board?

17 A BY DR. WADE: I don't think I stated that. I'm not  
18 sure what the question was.

19 Q Let me read you something from the EIR, and this  
20 is from the executive summary S-10. The EIR says as it  
21 describes the environmentally superior alternative, it  
22 says, "The City of Los Angeles may compensate for  
23 reduction in water supply from the Mono Basin in a  
24 variety of ways, each of which could have different  
25 environmental effects on the Los Angeles area and other

0234  
01 areas of the state. Without knowing what particular  
02 actions the City may take, it would be speculative to  
03 attempt any detailed analysis of the effects of those  
04 actions."

05 In your testimony on Page 62 you state, "Any  
06 solutions to replacement -- any solutions to replace  
07 reduced Mono Lake supplies must or may impact the delta  
08 or other areas. Ignoring these impacts, as one was  
09 done in the EIR, is not defensible."

10 Do you still stand by that statement?

11 A I stand by that.

12 Q In the EIR, it was identified by Jones and Stokes  
13 as mitigation measures, the following mitigation  
14 measures could be implemented for the 6383.5  
15 alternative and all higher lake level alternatives:  
16 Number One, L.A. DWP and the Mono Lake Committee should  
17 jointly apply for the remaining \$48 million, and we'll  
18 hear testimony on that later of how much of that is  
19 still there, of Assembly Bill 444.

20 The second point would be the HR 429 commonly  
21 known as the Miller-Bradley Bill, and in that bill,  
22 there were points that there was specific language to  
23 developing 120,000 acre-feet per year of reclaimed  
24 water in Southern California specifically designed to  
25 replace water diverted from the Mono Basin. The second

0235  
01 point of that bill was authorizing water transfers from  
02 agricultural users to urban water districts such as  
03 L.A. DWP.

04 Another mitigation measure identified is L.A. DWP  
05 should participate to the maximum degree possible in  
06 any MWD rebate programs.

07 Another mitigation measure identified was L.A. DWP  
08 could pursue other state and federal funding sources to  
09 assist it in its efforts to gain the capital financing

10 necessary for developing water reclamation projects to  
11 meet its water reuse goals of 250,000 acre-feet by  
12 2010, 600,000 acre-feet by 2050, and 800,000 acre-feet  
13 per year, these figures are per year, by 2090.

14 Another mitigation is L.A. DWP should continue to  
15 develop demand-site reductions from its water -- from  
16 its water conservation program and implement and  
17 monitor compliance with all BMPs identified in the  
18 urban water management plan.

19 And finally, L.A. DWP could assess the feasibility  
20 of future projects that conserve additional amounts of  
21 local storm water runoff.

22 Now, the EIR suggests or options that the City of  
23 Los Angeles has, are you suggesting that this Board  
24 should pick options for the City of Los Angeles and,  
25 therefore, do the environmental analysis and direct the

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01 City as such?

02 A No. Rather, the intent of my comment was to say  
03 that the Jones and Stokes supply analysis had assumed a  
04 Metropolitan replacement, which was shown by DWRSIM  
05 runs not to be available. Therefore, if they're to get  
06 the water from Metropolitan, they have to be implicitly  
07 assuming water transfers, which creates some potential  
08 for incremental impacts to the delta. And I called  
09 attention to considering those incremental impacts.

10 Q The ultimate decision of which contracts to sign  
11 for water transfers would be the responsibility of the  
12 City, would it not?

13 A The ultimate --

14 Q To enter into contracts to transfer water?

15 A I think that would be the purview of Metropolitan  
16 rather than the City --

17 Q Other than the Board, it would be Metropolitan?

18 A I would think.

19 MR. CANADAY: Thank you.

20 HEARING OFFICER DEL PIERO: It's amazing. Truly  
21 amazing.

22 MR. BIRMINGHAM: Mr. Del Piero, may this panel be  
23 excused?

24 HEARING OFFICER DEL PIERO: This panel may be  
25 excused, Mr. Birmingham.

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01 Did you have a question, Mr. Brown? You did?

02 RE-CROSS EXAMINATION BY THE BOARD

03 Q BY MR. BROWN: To the panel, we've talked about L.A.  
04 Department of Water and Power. Has any discussion been  
05 had about the state and the impacts of the rest of the  
06 state on water marketing? Was that considered in the  
07 analysis? The current shortfall within the state and  
08 what's projected to be the shortfall?

09 A BY DR. WADE: I guess we've been talking about that  
10 perhaps in context with the EPA standards and such like  
11 that. Water supplies are going down, and demands are  
12 going up.

13 Q Right. That was -- so that was considered in your  
14 analysis?

15 A Not -- no. My analysis was done based on Decision  
16 1630 considerations. Those that are being considered  
17 now are more restrictive than Decision 1630.



18 HEARING OFFICER DEL PIERO: All right.  
19 Gentlemen, thank you very much.  
20 Mr. Birmingham, this panel's excused.  
21 Ladies and Gentlemen, when next we meet is  
22 December 1st. I think it's safe to assume we will  
23 have a night session unless Mr. Canaday tells me  
24 there's some reason we can't have a night session on  
25 the 1st.

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01 MR. CANADAY: We have anticipated an evening  
02 session that night, Sir.  
03 MS. CAHILL: Mr. Del Piero, can I just inquire  
04 with regard to the so-called Orange report that we were  
05 to be getting from Dr. Hardy?  
06 HEARING OFFICER DEL PIERO: The Orange report. I  
07 recall the Orange report now. Mr. Birmingham?  
08 MR. BIRMINGHAM: Dr. Hardy had said he would go  
09 back to Utah and mail it to us. I did not receive it  
10 on Friday. I have not been in my office yet this week.  
11 HEARING OFFICER DEL PIERO: Really? We share a  
12 common interest, Mr. Birmingham.  
13 MR. BIRMINGHAM: So I can't tell you if we have  
14 received it. If we have, we will have it duplicated  
15 and pass it out on Monday at Mono Basin to the parties  
16 on tour, and otherwise, we will have them available on  
17 the 1st.  
18 The other reports that Dr. Hardy had referred to  
19 during his testimony were purged of work product.  
20 Those are supplied to the State Board Staff, and I'm  
21 not sure what the status is on the copies.  
22 HEARING OFFICER DEL PIERO: Mr. Birmingham,  
23 inasmuch as -- I'm going to assume Dr. Hardy --  
24 Dr. Hardy's Orange report is delivered to you sometime  
25 today or tomorrow or Friday. And I'm also going to

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01 assume that you're going to make copies.  
02 For those individuals that are not going to be  
03 going on the field trip, if you could make those copies  
04 available to Mr. Canaday so that -- the field trip's  
05 Tuesday; is that true?  
06 MR. CANADAY: That's correct.  
07 HEARING OFFICER DEL PIERO: Are you working on  
08 Tuesday or Wednesday?  
09 MR. CANADAY: Next week? Always.  
10 HEARING OFFICER DEL PIERO: If you could make  
11 those copies available to Mr. Canaday, the other  
12 parties that may not be on the field trip can avail  
13 themselves of Mr. Canaday's assistance, and he'll be  
14 happy to provide those copies to you either on Tuesday  
15 or Wednesday of next week. That way everybody's had a  
16 chance to see them before the 1st.  
17 MR. BIRMINGHAM: One additional matter. Figure 1,  
18 the Mylar copy of Figure 1 from Dr. Hennimen's  
19 testimony, which Dr. Carson used during his redirect,  
20 may we have that marked next in order?  
21 HEARING OFFICER DEL PIERO: Yes. Whatever number  
22 is --  
23 MR. SMITH: 85.  
24 HEARING OFFICER DEL PIERO: 85.  
25 (L.A. DWP Exhibit No. 85

