PUBLIC HEARING
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
STATE OF CALIFORNIA

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

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Held in
Resources Building
Sacramento, California
Friday, January 14, 1994

VOLUME XXXII

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SLC/DPR Exhibit No. 5

SACRAMENTO, CALIFORNIA
FRIDAY, JANUARY 14, 1993, 8:30 A.M.

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HEARING OFFICER DEL PIERO: Mr. Birmingham? Good morning, Mr. Birmingham.
MR. BIRMINGHAM: Good morning.
HEARING OFFICER DEL PIERO: Good morning, Ladies and Gentlemen.
MR. BIRMINGHAM: I was wiping the sleep out of my eyes.
HEARING OFFICER DEL PIERO: I know. You've got new hobbies.
MR. BIRMINGHAM: That, too.
HEARING OFFICER DEL PIERO: Ladies and Gentlemen, this is the continuation of the ongoing hearing by the State Water Resources Control Board regarding the amendment of the City of Los Angeles' water rights licenses on tributaries to Mono Lake.
My name is Marc Del Piero. I'm Vice-Chairman of the State Water Resources Control Board, and I'm acting in the capacity as Hearing Officer for the proceedings.
Today is -- what is the date today, Mr. Canaday?

MR. BIRMINGHAM: 14th.

HEARING OFFICER DEL PIERO: -- 14th today. A day of changes outside of this hearing room. The Sacramento Union's last day of publication, and the morning after the first time the Sacramento Kings have
won in a very long time. Actually beat the Hornets, I understand.

MR. CANADAY: Yes, they did. Convincingly.

HEARING OFFICER DEL PIERO: I heard the crowd enjoyed it immensely. Is that true?

MR. CANADAY: True.

HEARING OFFICER DEL PIERO: Were you one of those?

MR. CANADAY: Yes, Sir.

HEARING OFFICER DEL PIERO: Good morning, Mr. Birmingham. How are you, Sir?

MR. BIRMINGHAM: I'm fine, thank you, Mr. Del Piero.

HEARING OFFICER DEL PIERO: Are you ready to go?

MR. BIRMINGHAM: Well, we are ready to go, but there are a couple of matters that I wanted to discuss before we start with testimony this morning.

Yesterday, Ms. Scoonover moved for the introduction of SLC and DPR 5, Mono Lake viewpoint by Ranger David Carle. The book is a series of essays that were written by Ranger Carle and many of the essays contain opinions that Ranger Carle is not qualified to express. However, the Hearing Officer has previously indicated, correctly, that there are many opinions in the record that the individuals stating those opinions probably were unqualified to state, and Ranger Carle's qualifications are in the record. So we would have no objection to the introduction of this exhibit.

HEARING OFFICER DEL PIERO: Thank you very much, Mr. Birmingham, and I will then, unless hearing any other comments in regard to that matter, order that entered into the record.

The number, Mr. Smith?

MR. SMITH: It's SLC and DPR No. 5.

HEARING OFFICER DEL PIERO: No. 5.

MR. DODGE: We don't object to its admissibility, either, although I must say that I suspect there are a lot of inadmissible materials in it, but we don't object.

HEARING OFFICER DEL PIERO: Thank you. Thank you very much.

(SLC/DPR Exhibit No. 5 was admitted into evidence.)

MR. BIRMINGHAM: A second matter. We had indicated yesterday that George Barnes would be available to testify today. We are informed that Mr. Barnes is available, but Dave Anderson, who is a Deputy Staff Counsel, a member of the staff counsel at DWR who is responsible for the Bay-Delta proceedings, or at least the department's participation in the Bay-Delta proceedings, has indicated that he might not be available today, and he wants to be here when Mr. Barnes testifies. Mr. Barnes was subpoenaed to appear and Mr. --

MS. CAHILL: I'm sorry. I had trouble yesterday, for some reason, hearing.

HEARING OFFICER DEL PIERO: Maybe they aren't pulled down.
MR. BIRMINGHAM: I will state it again. Dave Anderson, who is the attorney for DWR responsible for the Bay-Delta proceedings and the attorney who's principally involved with Mr. Barnes' work, is not available or has indicated he may not be available today. We have arranged to talk to him at nine o'clock, and --

HEARING OFFICER DEL PIERO: You want to break at nine?

MR. BIRMINGHAM: No. We do not want to break at nine. We'll just go out and make a telephone call, but we'll have a better idea about Mr. Barnes' availability. I think, in any event, with the witnesses we have, we will fill up the day whether Mr. Barnes is available or not.

HEARING OFFICER DEL PIERO: Fine.

MR. BIRMINGHAM: A third, final matter is that yesterday during Dr. Hardy's testimony, he indicated the tables that were attached to his testimony contained a column that had been moved from the right-hand side of the page to the left-hand side of the page. We have corrected tables here this morning for the Board and for any parties who are interested.

Thank you.

HEARING OFFICER DEL PIERO: Thank you very much. If you could see to it, Mr. Birmingham, that those are distributed, I'd appreciate it.

MR. BIRMINGHAM: And, actually -- I'm sorry. One fourth item. Mr. Tillemans is here today, but the work that he did was primarily in support of Dr. Beschta's testimony, so we wondered if it would be possible to have him come back and be cross-examined at the time that Dr. Beschta's here on the 24th.

MR. DODGE: I have some questions today for Mr. Tillemans.

HEARING OFFICER DEL PIERO: In relationship to those issues?

MR. DODGE: In relationship to the work he did.

Nothing --

HEARING OFFICER DEL PIERO: Mr. Birmingham, do you have a problem with that at this point?

MR. BIRMINGHAM: The work that Mr. Tillemans did was --

HEARING OFFICER DEL PIERO: He did the field survey work.

MR. BIRMINGHAM: He did the field survey work under the direction of Dr. Beschta. To the extent there are questions about that work, I think it would be more appropriate if both Dr. Beschta and Mr. Tillemans were examined at the same time because Mr. Tillemans did that work at the direction of Dr. Beschta and took direction from Dr. Beschta.

HEARING OFFICER DEL PIERO: Is there a particular reason why you prefer to do that examination today as opposed to later when Dr. Beschta is here?

MR. DODGE: It relates simply to the work that he did, and I'd like to get the answers today. For example, he's got a depth survey. Depending on the
answers, we may do a depth survey. I don't know.

HEARING OFFICER DEL PIERO: How long do you anticipate -- how many questions do you anticipate having of him?

MR. DODGE: Five minutes.

MR. BIRMINGHAM: Well, Mr. Tillemans --

HEARING OFFICER DEL PIERO: I think we'll -- if it goes beyond the scope of the work Mr. Tillemans does, I'll ask that Mr. Dodge refrain from asking those questions. If it relates to the work Mr. Tillemans did, I think I'm going to allow him to ask those examination questions.

MR. BIRMINGHAM: Thank you.

HEARING OFFICER DEL PIERO: Ms. Cahill? Good morning.

MS. CAHILL: Good morning. I had understood that this morning we were going to be questioning Dr. Orton and Dr. Platts. I did not understand that Mr. Hasencamp was going to be questioned today. It was my understanding that he was next week sometime, and I'm not prepared to do that.

MR. BIRMINGHAM: Mr. Hasencamp is here, and he will be available at any time whenever Ms. Cahill is ready.

HEARING OFFICER DEL PIERO: As I recall, Mr. Birmingham, you did indicate that Mr. Hasencamp was going to be on -- was it not next week or the 24th?

MR. BIRMINGHAM: He's going to be on with the panel that talks about LAAMP and LAASM, which will be next week. He will also be available on the 24th when Dr. Beschta is here --

HEARING OFFICER DEL PIERO: Fine. Then we don't have a problem.

MS. CAHILL: I just didn't want to waive any rights to examine him because I have not prepared that.

HEARING OFFICER DEL PIERO: That's fine.

MS. CAHILL: Let me start with --

MR. BIRMINGHAM: Excuse me. I am misinformed. Mr. Hasencamp tells me that he is sitting at the table today only in the event a question comes up where he assists other members of the panel, but he does not expect to be cross-examined generally today.

HEARING OFFICER DEL PIERO: That's good because that was my understanding, also. I understood he was going to be on later.

MS. CAHILL: Thank you.

CROSS-EXAMINATION BY MS. CAHILL

Q Good morning, Dr. Orton.

A BY DR. ORTON: Good morning.

Q Dr. Orton, are you a geomorphologist?

A I have training in that subject.

Q Do you have a degree in it?

A I do not.

Q And are you a hydrologist?

A Same answer, I have training. I do not have a degree.

Q Have you ever developed and presented
flushing-flow recommendations in any other proceeding?
A I have not.
Q Have you ever developed flushing-flow recommendations on any other stream?
A Can you -- recommendations that were implemented or --
Q Well, start -- if you even made them. Have you developed flushing-flow recommendations and recommended them to anyone?
A Yes. Within the department -- within the department, yes.
Q And then were those actually, then, presented to any state or local agency?
A Not to my knowledge.
Q Have you taken the Fish and Wildlife Service's IFIM decision-making training? I understand they have a particular course that relates to decision making.
A Is that IF 200?
Q No.
A Then I have not. I may have taken a similar course, which is IF 200.
Q With regard to your testimony on the first page -- I'm sorry, on Page 2, you indicate that your role in the development of the L.A. DWP management plan flushing flows was to advise L.A. DWP of the relevant biological information for each of the elements that you listed, which were frequency, magnitude, duration, and timing. You provided, then, biological information; is that right?
A Biological. I also provided hydrologic information and geologic or geomorphic information that had a biological component to it.
Q And what was the source of the hydrological information?
A Well, a variety of sources; primarily, L.A. DWP hydro records. My analyses of those records. Aerial photographs from 1940, 1929 of the Mono Basin. The existing record, for example, statements by Mr. Vestal from 1940.
Q What was the source of the geological information?
A Aerial photographs. My own observations of the streams. The results of the population studies that were conducted by the city, and others.
Q That's geological information?
A I mentioned earlier that some of this information has a biological component, and you can infer some geomorphic information from fish population data.
Q Did you take into account the Beak report?
A I did.
Q And did you take into account the Trihey work?
A Could you be more specific? The answer is I did.
Q What is the magnitude of the flushing flow in the L.A. DWP management plan?
A I'd have to have those numbers in front of me.
Q Can you get them?
A BY MR. HASENCAMP: Yeah. They were 150 cfs.
Q Is it true, Dr. Orton, that you recommended the specific flushing-flow numbers to L.A. DWP?
A BY DR. ORTON: That's a difficult question. Maybe
I'll -- the numbers that you find --
A It shouldn't be.
Q Well, the numbers that you find on the L.A. DWP
management plan, some of those numbers match with
recommendations that I made and some do not.
Q Well, then, I think we do need to explore this.
What numbers did you recommend? Do you have with you
or elsewhere the numbers that you provided to L.A. DWP?
A I think I know those, yes.
Q And what are they?
A Well, there's a variety of numbers. One of the
problems that we dealt with is that there's not a
single number in any of these cases. For example, on
Rush Creek, the flushing flows capable of mobilizing
fines depends on what fines you wish to mobilize. I
advised DWP -- I identified a number for them, if you
would, of approximately 95 cfs, was my best estimate of
flows that would mobilize fines in relatively
uncharted gravels.
On the other hand, the majority of gravels in Rush
Creek are firmly compacted, and I advised them that,
based on hydrologic information I reviewed, that flows
on the order of 268 to 358, I believe, were capable of
mobilizing those flows.
Q Okay. So, then, to translate that --
A Or those fines.
Q If the Board were to translate your recommendation
into a flushing-flow requirement, what is your
recommendation for flushing flows? What amount and how
often? What recommendations did you give to L.A. DWP
to put into their management plan? Actually, I changed
the question. Let me rephrase it and ask the second
one.
What specific numbers in what months and how
frequently did you give to L.A. DWP to put into the
management plan?
A Okay. Well, element by element, I guess --
overall I -- first off, what I told them was that in
Rush Creek, flushing flows may not be necessary.
Q At all?
A Not at all. I told them that it may not be
necessary for the period of record that I had
reviewed. For example, in Rush Creek from 1986, when
the last high-flow event came through, it was a very
large high-flow event, until recently, fish populations
have done very well. For a large portion of that time,
up to about 1989, flows have been very constant, about
19 cfs. The fish populations show no indication of
being adversely affected by those relatively constant
flows.
Q Dr. Orton, I don't believe you're answering my
question. The L.A. DWP management plan is a model.
And the model has to input certain flushing flows.
Now, those -- Mr. Hasencamp told me that he got the
flushing-flow numbers from you, and you're now telling
me that not all your recommendations were taken.
But first of all, I need to know what your
recommendations were. What numbers did you input into your model for flushing flows?

MR. BIRMINGHAM: Objection.

MR. HASENCAMP: If I could --

HEARING OFFICER DEL PIERO: The nature of the objection?

MR. BIRMINGHAM: The nature of the objection is that the question is compound, and it assumes facts not in evidence.

HEARING OFFICER DEL PIERO: The assumption?

MR. BIRMINGHAM: The assumption -- she just referred to "your model." I don't believe that there's any evidence that Dr. Orton has a model which he used. He said he reviewed different data, but there's no testimony regarding a model.

MS. CAHILL: I will clarify that --

HEARING OFFICER DEL PIERO: Excuse me. I'm going to sustain your objection. This is the second time, however, that Ms. Cahill has asked this question. Even though I'm sustaining your objection, I'm going to ask the Court Reporter to go back to the original question that she asked because the original question that she asked was neither compound nor was it ambiguous nor did it assume facts not in evidence, and it was not answered. And she attempted to restate because she didn't get an answer the first time.

So in order to move this along within the time lines that I have given everybody, I'm going to ask the Reporter to read that first question back.

MR. BIRMINGHAM: And then may we have an instruction to Dr. Orton just to answer the question as read back, Mr. Del Piero?

HEARING OFFICER DEL PIERO: Certainly.

(Whereupon the record was read by the Reporter.)

Q BY MS. CAHILL: Why don't we start with what are they? What were the numbers that you provided to L.A. DWP?

A BY MR. HASENCAMP: Dr. Orton and I sat down, and he gave me the analysis. It was not a situation where he gave me these concrete numbers to use, but it was a discussion. He said, "These were the things to accomplish and these are the ranges of values and numbers that would accomplish that." So when we incorporated flushing flows in our management plan, it was a management decision based on the expert opinion of Dr. Orton and his association with Dr. Beschta.

Q Mr. Hasencamp, are you saying, then, that you made the management decision? Who made the management decision?

A I did.

Q And what concrete numbers did you have from Dr. Orton to arrive at that decision?

A We had many discussions. This is several months ago. And he said a minimum range, a minimum flow, a minimum flush of around 95, as he had said earlier, accomplishes one thing and another flow accomplishes another thing, and I said, "Well, let's look at the
hydrology. Let's look at the water available," and then we came to a consensus of would these flows meet the criteria that are sufficient, in his opinion? He said that they were.

Q   Okay. Now, Dr. Orton, you said earlier, I believe, that not all of your recommendations were taken. Is that right?

A BY DR. ORTON: Correct. I need to clarify --

MR. BIRMINGHAM: Excuse me. I'm still not sure we have an answer to the question what were the numbers and I don't know if Ms. Cahill's still interested in having that information, but that was the question that was asked.

MS. CAHILL: Let's start --

HEARING OFFICER DEL PIERO: I think she started again.

Q BY MS. CAHILL: Let's start with Dr. Orton.

In addition to just generally discussing with Mr. Hasencamp, did you give him specific flow numbers with specific frequencies?

A BY DR. ORTON: I did.

Q   And what are those flows and frequencies?

A    Okay. I need to clarify something, and what I need to clarify is are you asking me for every number I gave him in the course of our conversations, or are you asking him the numbers that are in the L.A. DWP management plan?

Q   Well, I'm trying to get at both, I think. I can't explore the reasonableness of your numbers unless I know what they are.

A    Okay.

HEARING OFFICER DEL PIERO: Ms. Cahill, you still haven't gotten an answer to the last question.

Dr. Orton, do you recall what the last question was?

DR. ORTON: Yes, I do.

HEARING OFFICER DEL PIERO: You want to try and answer it?

DR. ORTON: Yes, I would.

HEARING OFFICER DEL PIERO: Fine.

DR. ORTON: In conversations with Mr. Hasencamp -- and I'll go through this element by element -- frequency of the flows, for example, I told him that if he wanted to mobilize the concrete compacted and cemented gravels in Rush Creek, the frequency of flows would be on the order of once per decade. I told him that those flows may not come around once per decade. They might be flows that are 5- to 25-year events based on the 19 -- this was based on the 1986 event. I told him with respect to the duration of that flow, I told him that historically the duration of the 1986 event was months. I also told him that it was months because they used the Grant Reservoir to supplement what was coming down, and that hydrograph -- you could not get that hydrograph until you had a comparable year.

Q BY MS. CAHILL: So you didn't recommend --
MR. BIRMINGHAM: Excuse me. Ms. Cahill asked a question about numbers. Dr. Orton is trying to answer a question about numbers. He has yet to get to the numbers, and if she wants that information, then I think she should let him finish the answer. I still haven’t heard the numbers, and I think Dr. Orton ought to be given a chance to answer the question.

HEARING OFFICER DEL PIERO: Dr. Orton, I thought you had completed the answer.

DR. ORTON: For that element, yes.

HEARING OFFICER DEL PIERO: Do you have more?

DR. ORTON: Well, yes, there’s other elements.

HEARING OFFICER DEL PIERO: Please proceed, then, Sir.

DR. ORTON: Maybe I mentioned this, but that event, that flow event in 1986, ranged from about 258 cfs on up to about 354 cfs. I gave Mr. Hasencamp that range of numbers. I told him that all I knew was that those flows probably mobilized the compacted gravels in Rush Creek.

Q BY MS. CAHILL: Actually, let’s take this in pieces. Mr. Hasencamp, did you input into the model some flushing-flow requirement based on that information from Dr. Orton?

A BY MR. HASENCAMP: I inputted into the model all of his recommendations. I didn’t take one aspect, piecemeal, and try 50 different runs. I said, “What is it that we want to accomplish by these flushing and channel-maintenance flows,” discussed it with him and came up with the 150 cfs.

Q But not a specific particular month, particular frequency?

A Yes, a frequency of every other year.

Q Every other year for which of those two flows that he just described?

A BY DR. ORTON: I need to -- may I intervene here?

Those two flows, again, had the specific purpose of mobilizing compacted gravels in Rush Creek. I also discussed with him flows that would be, in my opinion, capable of mobilizing uncompacted gravels in Rush Creek.

I told him that -- all I told him was those were the flows that would probably mobilize those gravels, and there was another discussion on whether you needed to mobilize those gravels from a biological perspective.

Q Okay. So the actual determination of which numbers to input into the model was made by you, Mr. Hasencamp; is that correct?

A BY MR. HASENCAMP: Yes, it was.

Q You are not a hydrologist?

A Yes, I am.

Q Yes, you are. You are a hydrologist but -- that was the wrong question. You are not a geomorphologist.

HEARING OFFICER DEL PIERO: The wrong question, but the right answer.

(Laughter.)

MS. CAHILL: Indeed.
MR. HASENCAMP: I'm not a geomorphologist, but I relied, again, on experts. I didn't just come up with some numbers that would work in our plan, but I consulted with Dr. Orton. And these numbers, these flushing flows, we ran it by other experts on the panel.

Q BY MS. CAHILL: And were you using impaired or natural hydrologic flow records in determining the flushing flows?

A BY MR. HASENCAMP: I used all the records, impaired, unimpaired, actual, natural. We have several different flow records for each creek.

Q There really is no way that we can track your decision-making process, is there?

MR. BIRMINGHAM: Objection, argumentative.

Q BY MS. CAHILL: Is there any way?

HEARING OFFICER DEL PIERO: Why don't you restate the question? I'm going to sustain the objection, but I'm interested in the answer, so --

Q BY MS. CAHILL: Is there any way we could track your decision-making process, which hydrologic information you took into account and how it resulted in the flows that you input into the management plan?

A BY MR. HASENCAMP: Well, I didn't write down all of my thoughts throughout the process, but generally, I consulted with the biologists. I looked at the hydrologic records. I looked at other recommendations in the past. I took all that into account and came up with a flushing-flow regime, went back to the biologist, checked the hydrologic records again, got approval from the different experts, and then went ahead and put them into management.

Q One last question, I think, for you, Dr. Orton. Your testimony says, with regard to the duration of flushing flows, that you had, quote, no input on this element, unquote; is that correct?

A BY DR. ORTON: Not completely. I think the statement goes on -- yeah, it continues, I had no input on settlement except to note that long periods of high flows would have biological consequences. In this case, long periods of high flows would probably result in a net loss of uncompacted gravels in both creeks. So when I saw their duration -- when I saw their duration figures, I was asked to comment on all the figures, and --

Q And what do you consider to be a long period of flow?

A Well, for example, in Rush Creek, after the flows in 19 -- I'll answer the question, then I'll explain. A long period of flow would be on the order of anywhere from three weeks to months. Months being, say, six to nine months. Both of those numbers, three weeks and six to nine months relate to information that I had in my possession.

The six to nine months for Rush Creek relates to the period of time the flows were increased in 1990 from 19 cfs on up to a range of -- up to 100. In fact, this is the record I relied on in 1990, flows of 100
for several months. Those flows apparently removed a
lot of uncompacted gravels in the creeks.

On Lee Vining Creek, flows in 1989 were brought up
from 5 cfs to about 32 by the end of the year, and then
the following year, they're raised further to peak at
about 52. I informed them that those flows also
appeared to have adverse effects on the population.
So, again, I was giving them brackets of time.

Okay. With regard to short-term flushing flows,
you did not make any recommendations. You had no input
on the element of flushing flows with regard to
duration for shorter periods of time. There are --
I don't recall -- I don't think so. I don't
remember.

I told Mr. Hasencamp that he should speak with
Dr. Beschta and others, because the concept here is
that you can have a short duration flushing flow and
accomplish the same things as a longer period of time.
What part of the hydrograph, what slice of that you
wish to take is, I think, more in the expertise of
Dr. Beschta, Dr. Platts. And that's how I advised him.
Mr. Hasencamp, I believe you told me that you had
gotten input from Dr. Orton on the flushing flows that
got into the management plan. I believe you told me
that the amount of water might provide a particular
flushing flow for a ten-day period. That ten days
would not have come from
Dr. Orton; is that right?

He did not give me a figure of ten
days, but after the number was derived, I went back and
checked with him again. He, then, did approve, from
his knowledge, that ten days was sufficient.

Let me turn over to Dr. Platts and the Upper Owens
River. Dr. Platts, I am assuming that you had reviewed
the EBASCO report on the Upper Owens River; is that
right?

That's right.

The Upper Owens River is primarily a spring-fed
river; is it not?

Would you define "primarily"? Do you want me to
answer just based on what I think?

Yes. Or define --

Excuse me. If Dr. Platts doesn't
understand what Ms. Cahill means by "primarily," I
would object on the grounds it's ambiguous. If he
understands what she means, I would withdraw my
objection.

Hearing Officer Del Piero: Do you understand,
Dr. Platts?

I think I understand what she means.

Hearing Officer Del Piero: Do you understand?

No, not completely, no.

Hearing Officer Del Piero: I'm going to sustain
the objection.

Ms. Cahill, will you be a little more specific?

Dr. Platts, would you characterize
the Upper Owens River as a spring-fed stream or a
snow-melt stream?
A BY DR. PLATTS: Neither.
Q    And it has some characteristics of each?
A    Yes, it does.
Q    And of those characteristics, are the spring-fed
characteristics greater than the snow-melt
characteristics?
A    No. You would need to define "characteristics."
Q    Okay. Let me refer you to Figure 5 in DFG Exhibit
62. This shows average monthly flows. Do you have
that report? Thank you. It's on Page 17.
A    Is this 931?
Q    Yes.
A    On page?
Q    Page 17, Figure 5. And the lighter-colored bars
are the average monthly flows from 1941 to 1989 just
upstream of East Portal. Is that correct?
A    That's correct.
Q    And isn't it true that the peak flows shown here
are much closer to the base flows than they are on a
stream like Rush or Lee Vining that's primarily a
snow-melt stream?
A    That would be correct, except the monthly flows
mask out what is really going on.
Q    But on a monthly basis, the difference between the
runoff months and the base months is much less on the
Upper Owens River than it is on either Rush or Lee
Vining Creek; isn't that right?
A    I have not looked at Rush or Lee Vining Creek, but
I would assume that you're right.
Q    Now, if you were to add an increment of flow on
top of each of those natural monthly flows, you would
have, in effect, the same shape of the curve; would you
not?
A    That's correct. On a monthly basis.
Q    So when you testified with regard to the
undesirability of having uniform flows in the Upper
Owens River -- let me withdraw that.
Isn't it true that the Upper Owens River has, on a
monthly average, roughly uniform flows just naturally?
MR. BIRMINGHAM: Excuse me. May I ask that that
be reread?
(Whereupon the record was read by the Reporter.)
DR. PLATTS: I would say they're not uniform.
Q    But the variability is no more, on a
monthly basis, than 50 percent of the base flow?
A    Yes. But you want to remember that
monthly flows mask out what's really going on in the
system.
Q    Okay. But if you were to take a uniform increment
of water and add it to the natural monthly flows, you
would, in fact, mimic the natural pattern, would you
not?
A    No, you wouldn't.
Q    And why not?
A    Because you'd be masking out the peak flows,
instantaneous peak flows that are coming down the
Q    If you were adding a constant increment on top of whatever those peak flows might be, wouldn't you be tracking the natural?

A    If you added to the peak flows, instantaneous peak flows and displayed it, then I would say you were correct.

HEARING OFFICER DEL PIERO: Excuse me. I don't understand that. Forgive me, but I don't understand that. So I want you to help me out.

In a natural hydrograph, you've got a lower end and a high end, and the peak flows in a natural hydrograph are whatever they are. And the natural system of the stream or the river that's being evaluated will have developed over eons predicated on that natural hydrograph.

If you add water to increase the peak flow, is that not going to exceed what the natural hydrograph was?

DR. PLATTS: Yes.

HEARING OFFICER DEL PIERO: Would that not cause damage either from erosion or modification to the stream channel?

DR. PLATTS: Yes, it could.

HEARING OFFICER DEL PIERO: Is that what you're recommending?

DR. PLATTS: No. I'm --

HEARING OFFICER DEL PIERO: I'm sorry. But I really didn't understand what the last comments were.

DR. PLATTS: My main point to Counsel was that monthly flows mask out so much that it's very difficult to say that if you did something to a monthly flow and did something to a corresponding monthly flow, that the results would be similar because the spike is going up --

HEARING OFFICER DEL PIERO: I understand that, but that's not the issue that I'm asking about. I'm asking about what you said, not related to the uniformity of the elevation of monthly flows that she was talking about. You were talking about adding to the peak flow, at peak-flow times, obviously.

Is that not going to cause a scarring or erosion or some unnatural activity going on in that stream channel?

DR. PLATTS: Yes, it would. It could.

MS. CAHILL: Ms. Anglin, could you mark the question -- just in this general area, the answer about monthly flows?

THE REPORTER: Sure.

HEARING OFFICER DEL PIERO: I don't mean to take up your time. Maybe I'll explore that on my examination.

Q BY MS. CAHILL: Dr. Platts, on the first page of your testimony, you recommend that the Upper Owens River receive bank-full flows at least every three years. You say, "Q-3."

Is that Q-3 based on the natural flows in the Upper Owens River?
A BY DR. PLATTS: No. That Q-3 is just based on the bank-full flow of the Owens River in its present condition, Upper Owens River.

Q So the Q-3 in this case doesn't mean the flow that would happen every three years?

A Not the natural -- no. What flow are you speaking of?

Q I'm quoting from your testimony on Page 1. You say you, "Recommend the Upper Owens River receive bank-full flows at least once every three years." You say, "Q-3." What do you mean by Q-3?

A Yes. That means that's the flow -- Q-3 would mean that's a flow event on the average of once every three years that would top the bank.

Q Okay. But that Q-3 doesn't relate to any actual hydrology that's occurred in the period of record?

A No.

Q Okay. You're just using that as a shorthand for a flow that ought to occur every three years?

A Yes. I'm just -- I'm using that to imply that the Q-3 is that flow that, on the average of every -- over a three-year average would top the bank.

Q Okay.

MR. HERRERA: Excuse me, Ms. Cahill. Your 20 minutes has expired.

MS. CAHILL: Mr. Del Piero, I know that you are strict on extensions during rebuttal. I would petition for an additional period of 20 minutes. I would expect not to use it all. I took longer with Dr. Orton than I anticipated. Given that there are two witnesses here, I would ask to be allowed to complete my examination of Dr. Platts.

HEARING OFFICER DEL PIERO: I'll grant the 20 minutes. I would assume you're going to be done in that time.

MS. CAHILL: I will certainly be done, and I expect to be done in less.

Q BY MS. CAHILL: Dr. Platts, when you testified about the need for over-bank flows, is it true that you said there were some exceptions for spring-fed streams?

A There are some exceptions for spring-fed streams that are entirely spring fed.

Q With regard to the bank-full flow, did you take your information on bank-full flows from the EBASCO report?

A Yes, I did.

Q And that's from Table 8 and Table 9 on Pages 48 and 49; is that right?

A That is correct.

Q And in effect, what you did was take the bank-full discharge and take some of those, perhaps eliminating those that weren't representative, added them, and then divided to arrive at an average?

A Yes, I did.

Q Now, when the average bank-full discharge occurs, isn't it true that some of the points will already be over-bank?
A: That's correct.
Q: So in order to arrive at the average bank-full discharge, you're already causing some localized flooding at other cross-sections?
A: That's correct.
Q: Do the landowners along the upper portion of the Upper Owens River below The Portal object to flooding on their pastures?
MR. BIRMINGHAM: Objection, relevance. The Department of Water and Power has easements over these lands, so whether they object or not is -- whether the landowners object is really irrelevant.
HEARING OFFICER DEL PIERO: Mr. Dodge?
MR. DODGE: Regardless of what the easement situation is, I don't know what it is, it appears to me that the opinions of the landowners is still relevant.
MS. CAHILL: I believe it's relevant. The landowners' testimony addresses a maximum flow that they recommend.
HEARING OFFICER DEL PIERO: I'm going to overrule the objection. Do you know the answer, Sir?
DR. PLATTS: I don't know the answer, Sir, because I have not asked the landowners whether they objected or not.
HEARING OFFICER DEL PIERO: Then let's move on.
Q BY MS. CAHILL: Dr. Platts, are fluctuations of 100 cfs or more during the non-snow-melt runoff season natural in the Upper Owens River?
A BY DR. PLATTS: They would not be natural unless you received a summer rainstorm event of large magnitude.
Q: Are you aware of the research done by Stromberg and Patton on willows along the Upper Owens River?
A: No, I'm not.
Q: You haven't seen the auxiliary report in this matter dealing with that subject?
A: No. I don't remember it.
Q: Assuming, hypothetically, that the landowners did object to flows that flooded their pastures, would that affect your recommendation?
A: No, it would not.
Q: If the grazing were eliminated on the Upper Owens River and large fluctuations were eliminated, is it likely that the channel would ultimately narrow somewhat?
A: For clarification, you're saying if there are no fluctuations, would the channel narrow?
Q: If you had no grazing and relatively constant flows, no daily fluctuations of 100 cfs or more outside the snow-melt season, would you expect that ultimately the channel would narrow?
A: Yes. You're correct. The channel would narrow without fluctuations, but would not be the channel you would want.
HEARING OFFICER DEL PIERO: Excuse me. Why?
DR. PLATTS: Because then you would have an inset channel within the Upper Owens River which would be kind of a plugged-up channel and because the Upper Owens tends to transport a lot of fines, a lot of...
sands, and without fluctuations, you would probably
have a very sandy-bottomed river.
Q BY MS. CAHILL: Would that be true even if there were
fluctuations during the snow-melt period?
A BY DR. PLATTS: No. Now you're adding on to the
question.
Q No. My question originally was outside the
snow-melt period.
HEARING OFFICER DEL PIERO: That's correct. Her
question included the snow-melt fluctuations. That's
why I asked the question why because I didn't quite
understand your answer.
DR. PLATTS: Okay.
HEARING OFFICER DEL PIERO: Maybe you didn't
understand the question.
DR. PLATTS: I didn't understand the answer (sic)
completely then. You are correct.
Q BY MS. CAHILL: And then, again, with regard to your
average bank-full -- even when the average bank-full
flow is there, not all the cross-sections would be at
bank-full; is that right?
A BY DR. PLATTS: That's correct.
Q What is the width of the channel above the East
Portal?
A I don't know right off.
Q Is it fair to say the channel is wider below East
Portal than it is above?
A That would be fair.
MS. CAHILL: I believe that's all I have. Thank
you.
HEARING OFFICER DEL PIERO: Thank you very much.
MR. DODGE: It's me.
HEARING OFFICER DEL PIERO: Mr. Dodge. Good
morning, Sir.
MR. DODGE: Good morning.
HEARING OFFICER DEL PIERO: You didn't go to the
Kings game last night, did you?
MR. DODGE: No. I tried to catch Cal versus
Arizona on ESPN, but our television doesn't have ESPN.
HEARING OFFICER DEL PIERO: I read some
stimulating information about what the Environmental
Protection Agency's doing on salinity standards in the
delta. So I think your evening and mine were on par.
CROSS-EXAMINATION BY MR. DODGE
Q Dr. Orton, I just have a couple of follow-up
questions for you. You told us about your
recommendations for flushing flows. Did you have a
recommendation for DWP on over-bank flows?
A BY DR. ORTON: I told them what kinds of flows would
result in minimum over-bank flows.
Q What specific numbers did you give them?
A As I recall, I told them that flows in the range
of -- let's see.
MR. BIRMINGHAM: I'm going to interpose an
objection on the grounds the question is ambiguous with
respect to the stream.
HEARING OFFICER DEL PIERO: Sustained. You want
to specify, Mr. Dodge?
Q BY MR. DODGE: Rush Creek and then Lee Vining Creek.
A BY DR. ORTON: I told them that a flow capable of
wetting the immediate vicinity of the bank, over-bank
flow, in Rush Creek would be approximately 45 cfs.
Q And Lee Vining Creek?
A In Lee Vining Creek, a little bit less. A couple
of cfs less.
Q How did you make that calculation?
A I made that calculation from looking at the
PHABSIM output and the Fish and Game reports and also
observations in the field.
Q Is there some document where we could find this
calculation?
A Yes. Either instream flow -- either stream
evaluation report.
Q Did you make a calculation yourself that we could
look at?
A I derived the number. A calculation.
Q Well, I understood that Dr. Platts, in doing the
calculation for the Upper Owens River, took the
information, the EBASCO report, and calculated certain
averages as to what it would take to reach a full bank
flow. Did you do the same thing?
A I attempted to. Neither of those reports did what
EBASCO did in the sense of having transect data with
estimates of over-bank flows for each transect.
Q And absent that data, how could you make that
calculation?
A Weighted usable area curves versus flow in those
reports has a curve for fry. And fry weighted usable
area versus flow curves typically show a point where
the curve changes its slope. And that has, in most
cases, a straightforward interpretation that the amount
of fry habitat goes down with increasing flows because
the velocities pick up. The moment where you reach
over-bank flows, you flood the bank and create shallow
habitat, and the amount of fry habitat then increases.
That point, you know, barring other information,
is a good estimate of over-bank flows integrated over
the entire stream.
Q Dr. Platts, do you agree that such a calculation
could be made without the bank-full discharge data
that's in the EBASCO report?
A BY DR. PLATTS: I have not looked at Rush and Lee
Vining at all. I couldn't answer that question.
Q Making your recommendations on bank-full flows,
use the EBASCO report in the column bank-full
discharge in cfs, correct?
A Correct.
Q Mr. Hasencamp, do you remember discussions about
bank-full discharge flows?
A BY MR. HASENCAMP: Yes.
Q That those were part of your calculations?
A Well, that was part of the overall plan.
Q Mr. Tillemans, your depth measurements on Rush
Creek, the so-called thalweg measurements -- and I
believe there's sort of a schematic of them directly
behind you on the board; is that right?
A BY MR. TILLEMANS: That's correct.
Q  How many measurements did you make?
A  There's over 1500 measurements.
Q  Okay. And that was in approximately 12,000 feet
of stream; is that right?
A  I think Dr. Beschta's is about 11,700 feet.
Q  Okay. How many of those measurements resulted in
water depth over three feet?
A  I couldn't tell you. All I did was take the data,
and as soon as I got the data, I sent it to
Dr. Beschta.
Q  You don't have the raw data?
A  I have the data. I took the data. Yes, I have
the data.
Q  You do have the data?
A  Yes.
Q  So if we wanted to ask you for the data, we could
just count them, couldn't we?
A  Yes.
Q  Do you have any order of magnitude as to how many
measurements you had in excess of three feet?
A  No, I don't.
Q  Less than 100?
A  I'd have to look at the data.
Q  Similarly, if I wanted to ask you how often the
thalweg measured two feet or less, do you have any
estimate of that?
A  Again, out of 1500, I couldn't give you exact
numbers. I think we volunteered the data yesterday,
and I'd be more than happy to send it.
Q  Okay.
A  I did this at Bob's request and ran it in a couple
of days, very limited time, and tried to get as much
done as possible. And as soon as I compiled the data,
I sent it directly to Bob for some extrapolation.
HEARING OFFICER DEL PIERO: That's Dr. Beschta?
MR. TILLEMANS: Dr. Beschta, I'm sorry.
MR. DODGE: We would ask for that.
HEARING OFFICER DEL PIERO: And that's the source
of the "B."
MR. DODGE: Mr. Chairman, we would ask for that
data.
HEARING OFFICER DEL PIERO: It was offered
yesterday by Mr. Birmingham.
You indicated you would have it available by when,
Sir?
MR. BIRMINGHAM: You said next Friday. We said
we'd get it as early in the week as possible.
HEARING OFFICER DEL PIERO: Do you have any idea
at this point as to when it will be available?
MR. BIRMINGHAM: I think Mr. Tillemans has some of
the data here with him, but not all of it. That data
that he has with him, we could provide it now.
MR. FLINN: If it's available in electronic media
such as an ASCII file, we would request it in that
form.
HEARING OFFICER DEL PIERO: Do we know that?
Mr. Tillemans, is it available in that media?
MR. TILLEMANS: Dr. Beschta, how he compiled the
tgraphs or whatever, I think may be on a disk.
HEARING OFFICER DEL PIERO: Floppy?
MR. TILLEMANS: You would have to ask Dr. Beschta.
I'm not sure.
HEARING OFFICER DEL PIERO: Have you made
arrangements for duplication of the information yet,
Mr. Birmingham?
MR. BIRMINGHAM: No, we have not.
HEARING OFFICER DEL PIERO: Let me ask,
Mr. Birmingham, between now and the end of the day, if
you would be good enough to be able to answer one,
whether or not it's on a floppy --
MR. BIRMINGHAM: We can find that out within five
minutes.
HEARING OFFICER DEL PIERO: And two, if it's
possible to have those duplicates made as soon as
possible. I know I told you Friday of next week. If
it's possible to have them made as soon as possible --
at this point, it would probably be nice if our Staff
had them so we could take a look at that background
information, also.
MR. BIRMINGHAM: Absolutely.
HEARING OFFICER DEL PIERO: Okay.
Q BY MR. DODGE: You told me you couldn't tell me how
many of the thalwegs were greater than three feet, nor
could you tell me how many were two feet or less.
Would you agree that there were --
MR. BIRMINGHAM: Objection --
MR. DODGE: I haven't even finished the question
yet.
MR. BIRMINGHAM: I'm sorry, Mr. Dodge.
MR. DODGE: Excuse me, Mr. Chairman. I didn't
mean to speak to Mr. Birmingham directly.
HEARING OFFICER DEL PIERO: The objection was
withdrawn. Go ahead and ask your question.
Q BY MR. DODGE: You told me you couldn't tell me how
many of the thalwegs were greater than three feet nor
could you tell me how many were two feet or less.
Would you agree that the latter was more common than
the former?
MR. BIRMINGHAM: I'm going to object on the
grounds it misstates the evidence. Mr. Tillemans said
he couldn't tell Mr. Dodge the number that were in
excess of three feet or are shallower than three feet
without looking at the data. I don't think
Mr. Tillemans said he couldn't answer that question.
HEARING OFFICER DEL PIERO: I'm going to overrule
the objection.
Mr. Tillemans, do you understand Mr. Dodge's
question?
MR. TILLEMANS: Could I have it reread, please?
HEARING OFFICER DEL PIERO: Certainly.
(Whereupon the record was read by the Reporter.)
THE WITNESS: Yes.
Q BY MR. DODGE: By a substantial margin?
MR. TILLEMANS: I'd have to look up figures to tell you how much.

Q Were you here yesterday when Dr. Hardy was talking about 25 cfs in Rush Creek in the winter?
A Yes.

Q And you were looking at it at 80 cfs; is that right?
A Yes. 80 cfs, 79.

Q How would 25 cfs affect the depths that you measured?
A I think that's a question you should probably ask Dr. Beschta.

Q Well, you've spent a lot of time on that stream. You don't have an opinion?
MR. BIRMINGHAM: I'm going to object on the grounds that it calls for an opinion that is beyond the scope of Mr. Tillemans' expertise.

HEARING OFFICER DEL PIERO: I'm going to sustain the objection. He indicated he thought someone else was more qualified to answer the question. We've allowed that on the part of all parties, Mr. Dodge.

MR. DODGE: May I speak to that point? If the objection is that there's someone else more qualified in the world to answer a question, we'd have very few answers in this proceeding. I think this man is qualified to answer that question.

MR. BIRMINGHAM: Maybe Mr. Dodge would like to try and lay a foundation, but the basis of my objection is whether or not Mr. Tillemans can answer it. In my view, it goes beyond the scope of his expertise.

HEARING OFFICER DEL PIERO: I thought Mr. Tillemans answered it. I thought Mr. Tillemans said that -- perhaps he's not as direct as he could have been, but he said he didn't know the answer.

MR. DODGE: No. He said he'd like Dr. Beschta to answer it. That's different than saying, "I don't know the answer."

MR. BIRMINGHAM: In addition, Mr. Del Piero, when we started this this morning, I suggested that it would be better if Mr. Tillemans testified --

HEARING OFFICER DEL PIERO: I understand that, and, Mr. Birmingham, please understand, I'm keeping that very much in mind and that's why I sustained your objection.

And, Mr. Dodge, Mr. Birmingham made a suggestion. If you wish to lay a foundation you can go ahead and do that, and we'll see if we get to that point.

Q BY MR. DODGE: Rush Creek is shallower at 25 cfs than it is at 80, isn't it?
A BY MR. TILLEMANS: I would expect that.

Q How did you make these depth measurements? Did you have a stick with feet and inches on it?
A I had a survey rod that I obtained from our survey crews. It was a plastic survey rod. It extends out to 20 feet in five-foot increments, and it's hashed out in tenths of a foot. And it's an oblong-shaped type rod that's very light.
Q And you just cram it into the stream and make a reading. Is that what you do?
A I didn't cram it into the stream.
Q What do you do?
A When you take a thalweg profile, you take the deepest thread of the main channel, which is what I was doing, I was measuring the main channel. And you walk up the center of the stream, and the increments I did are three steps. And you take a line right across the stream in the third step and find the deepest spot and take your reading.
Q And does the accuracy of the reading depend on getting the stick vertical?
A Yes.
Q And if the stick is not vertical, then by definition, the measurement will be greater than the actual depth; is that right?
A Correct.
Q If we sent someone out there, could we duplicate your results with some accuracy?
A I think so. I think if somebody did a width and depth thalweg profile like I did using that survey rod, that I would be very surprised if they couldn't duplicate what I did.
Q Dr. Platts?

A BY DR. PLATTS: Yes.
Q This may be our last meeting.
MR. BIRMINGHAM: Don't count on it, Mr. Dodge, unless you're retiring.
HEARING OFFICER DEL PIERO: Oh, ye of little faith, Mr. Birmingham.
MR. ROOS-COLLINS: Mr. Dodge shows signs of optimism.
HEARING OFFICER DEL PIERO: No. He shows signs of approaching Social Security age.
(Laughter.)
MR. DODGE: Dr. Platts and I are in a head-long race to do that.
DR. PLATTS: I think I'll beat you.
Q BY MR. DODGE: Dr. Platts, you are critical of DFG recommendations on Upper Owens River because the 200 cfs is not a bank-full flow.
A BY DR. PLATTS: That's correct.
Q Okay. Now, I'll get to that in a minute. Let me ask you, pre-1940, was 200 cfs a bank-full flow for the Upper Owens River?
A I did not check that out, but it sounds reasonable.
Q It was a smaller river, then, wasn't it?
A Yes, it was.

Q And it has been -- the size of the river has been increased by the artificial Mono Basin flows from 1943 to 1989?
A Yes, and other factors.
Q Now, hypothetically, if the Upper Owens River were to receive no Mono Basin water, would the channel of the Upper Owens River gradually return to its historic
channel over time?

Q Okay. And then if that happened, then 200 cfs might be an adequate over-bank flow?

A Yes. Once the channel is reestablished.

Q Okay. But today, your testimony is that it takes approximately 300 to over-bank, correct?

A That's correct.

Q Okay. So what you're telling us is that the Upper Owens River today needs 300 cfs to over-bank -- to maintain basically the degraded channel of the Upper Owens River?

A That's not correct.

Q You don't agree that the high flows from 1940 to 1989 degraded the channel?

A I do agree with that. I don't agree with your previous statement.

Q Okay. This over-bank flow once every three years, for how many days are you recommending that?

A I did not state for how many days.

Q That was kind of the point of my question, to see whether you were going to state it.

A No, I did not. There was not enough in the EBASCO report to allow that.

Q The over-bank flows could come in wet years, could they?

A Yes, they could.

Q And in a wet year, the average highest daily flow naturally of the upper -- excuse me, Sir. The highest daily average flow absent Mono Basin imports in the Upper Owens River, say, at East Portal is approximately what?

A I'd say a little over 200 cfs.

Q So you're talking about, in that situation, adding about 100?

A Yes.

Q Now, in terms of goals, let me try to talk about goals. Hypothetically, if we want to retain the present Upper Owens River channel, your testimony is that we need 300 cfs for bank-full flows?

A That's incorrect.

Q How is that incorrect?

A The reason that I recommended that we have the bank-full flows is so that we don't have to live with the present Owens River channel bank.

Q Okay. But hypothetically, again, if we wanted to restore the pre-1940 channel on the Upper Owens River, then 200 cfs would be adequate for bank-full flows?

A That's correct. If you wanted to go back to the old channel, 200 cfs would do it. But it would be a longer period of time than if you had 300 cfs to drive the system for the first part of the rehabilitation period.

Q Now, Ms. Cahill asked you a series of questions about spring-fed, et cetera, things like that, and whether the Upper Owens River naturally was relatively constant compared to snow-fed streams. Let me see if I can get to the bottom of this.
As I understand it, DFG recommends a relatively constant input to the Upper Owens River from the Mono Basin, correct? That's their recommendation?

I interpreted it that they recommended constant flows in the Owens -- Upper Owens River regardless of the water source.

Oh, I see. Now, hypothetically, if DFG were to recommend a relatively constant input to the Upper Owens River from the Mono Basin, you wouldn't have a problem with that?

No, I would not.

Now, you suggested a maximum change from the prior day of 10 percent, right?

At certain flows, yes.

At certain flows. You're right. When the Upper Owens River is at excess -- I see you have your reading glasses today.

Yeah. These are better.

When the Upper Owens River is in excess of 100 cfs, you have a maximum ramp of 10 percent?

That's correct.

Let me ask you first, is that sort of judgmental in the sense that reasonable professionals might disagree?

Yes, it is. It's judgmental.

Some would have a higher number and some would have a lower number?

That's correct.

Okay. Now, you didn't, in your testimony, put a cite for the 10 percent, but it turns out that one cite might be your own article, correct?

Yes. That's correct.

In fact, I think it's DFG Exhibit 72; is that right?

I didn't know if it was an exhibit or not.

I've got it in this folder somewhere, Sir.

Ecological and Geomorphological Concepts for Instream and Out-of-Channel Flow Requirements, by Hill, Platts, and Beschta, right?

That's correct.

And that suggests 10 percent, doesn't it?

It does.

Your article also says that less than 10 percent is, quote, highly preferred, end quote. Do you remember that?

I do.

Why is it highly preferred?

I think our thinking on that is it represent more of the natural hydrograph.

The 10 percent, Sir, in your experience, I know you have a lot of it, is that a commonly-used ramping criteria?

Yes -- I don't know if it's a commonly-used ramping criteria. It's a commonly-used figure for recommendations.

You don't know -- it's commonly recommended, but you're not sure whether it's instituted commonly?
I'm not sure.
Okay. Would you agree with me that DFG's 10 percent recommendation for ramping is within the range of reason?
Yes.
And would you also agree that since ramping criteria of less than 10 percent are, to quote your article, highly preferred, that DFG could reasonably have set a lower ramping criterion, particularly on the downward leg?
MR. BIRMINGHAM: Excuse me. I'm going to object again on the grounds that the question is vague and ambiguous with respect to stream.
HEARING OFFICER DEL PIERO: I'm going to sustain the objection because it's vague, not necessarily that it's ambiguous, although it may well be as to stream, too. I thought the line of questioning was pretty clear with regard to the stream.
I wasn't quite sure, Mr. Dodge, what it was. Would you be kind enough to restate it? I'd appreciate it.
You said in your article that a ramping rate of less than 10 percent is highly preferred, correct?
I believe that's correct. I don't know if we said "highly" or not.
Well, at this point in our relationship, Dr. Platt, will you take my word for it or not?
I will take your word for it.
Now, my question, I think is a simple one, given that a ramping rate of less than 10 percent is highly preferred, wouldn't it have been entirely reasonable for DFG to propose a ramping criterion of less than 10 percent?
This would depend what stream you're talking about because the ramping rate depends on streams, on how their flow regimes are operating. So I could not answer that question.
In terms of establishing a ramping rate, you don't recommend using the maximum daily change that a stream experiences naturally and setting that out as the ramping rate, do you?
No, I do not. It's a matter of consideration, but it wouldn't be your total consideration.
There would be other factors, would there?
Right.
Let me ask you to take a look at 1981. Mr. Hasencamp told us yesterday in Figure 2 that this was a normal year, and he noted the daily changes there from April through July of 1981, if you look at the bottom half of the page. Would you agree with me that, for that normal year, 1981, there are very few daily changes that exceed 10 percent?
That's correct.
And there are, Sir, if I may look over your shoulder here, there are a couple of days in April
where it does go over 30 percent. Two days, in fact.
Now, you wouldn't recommend establishing a ramping
criterion based on two days, would you?
A Restate your question.
Q Yes. There were two days in 1981 where the daily
changes exceeded 30 percent. I just want to establish
with you that you wouldn't recommend establishing a
ramping criterion based on those two days?
A I would not.
Q Now, I'm going to change subjects with you, Sir.
You had a comment yesterday that peaked my interest.
You said the IFIM method did not take into account
habitat, but that maybe the Tennant method did take
habitat into account. Could you expand on that?
A Well, the IFIM model relates mainly to depth and
velocity as it relates to a fish surviving, and the
Tennant method relates more to trying to get a certain
percentage of a natural flow.
And my comment to that is that I believe the
Tennant method would have a better chance of developing
a flow that would be of more benefit to habitat than
just developing a flow that was developed just mainly
for fish in order to rear and feed.
Q Does the Tennant method, in addition to
establishing percentages of average mean flow, does it
also require the person establishing or recommending
flows to observe the stream from time to time?
A I believe it does.
Q In fact, it requires the person to observe the
stream at 60 percent of average mean flow; is that
right?
A I believe you're right.
Q And also 30 percent?
A It could be.
Q How about 10 percent?
A I don't know.
Q Have you made those observations? Would you be in
a position to apply the Tennant method?
A To what stream?
Q Rush Creek or Lee Vining Creek?
A Oh, no. I would not.
MR. HERRERA: Excuse me, Mr. Dodge. Your 20
minutes has expired.
MR. DODGE: I would apply for an additional five
minutes, Mr. Del Piero.
HEARING OFFICER DEL PIERO: Justification, Mr. Dodge?
MR. DODGE: Justification is I have a few more
questions.
No. Seriously. They put four people on a panel
and take an hour and 20 minutes. If it were one
witness, I could understand it.
HEARING OFFICER DEL PIERO: That's the
justification, Mr. Dodge. Granted.
MR. DODGE: And I won't even take the five.
HEARING OFFICER DEL PIERO: Okay.
Q BY MR. DODGE: In any event, someone who's going to
apply the Tennant method, it's not simply a matter of
getting out the calculator and doing some multiplication, you also have to observe the stream at various flows; is that right?

A To be successful, I'd say so.

Q Do you think Dr. Hardy has done that?

A I don't know. I've never been in the field with Dr. Hardy.

Q You tell him I'm going to ask him on the 24th, will you?

Have you looked at Dr. Kondolf's recommendation for Rush Creek flushing flows?

A No, I have not.

Q If I showed it to you, would you be able to tell me whether you think it's good, bad, or indifferent?

A Just in a brief period of time?

Q Yes.

A Probably not.

Q Do you have any idea what bank-full flows on Rush Creek would be?

A No, I've never looked.

Q Do you think it's quite unlikely that it would be as low as 45 cfs?

A I think that's kind of unlikely.

MR. DODGE: That's all I have. Thank you, Sir.

HEARING OFFICER DEL PIERO: Mr. Roos-Collins?

MR. ROOS-COLLINS: Mr. Del Piero, I request that Los Angeles determine whether Mr. Barnes is available to testify before I begin my cross-examination. I need to inform Ms. Koehler, who is in San Francisco, whether she needs to drive up to Sacramento today.

HEARING OFFICER DEL PIERO: Mr. Birmingham?

MR. BIRMINGHAM: I'm informed that Mr. Barnes is available today.

HEARING OFFICER DEL PIERO: Okay. He is available. Now, do you wish to make a request?

MR. ROOS-COLLINS: I request a five-minute recess so that I can so inform Ms. Koehler and ask her to come to Sacramento.

HEARING OFFICER DEL PIERO: I assume she's going to examine him? It's your intent to have Ms. Koehler examine Mr. Barnes?

MR. ROOS-COLLINS: Yes.

MR. BIRMINGHAM: Before we do that, can I confer with Counsel because it's now ten o'clock? We have, in addition to Mr. Barnes today, we have Mr. Miller. Mr. Hanson is here to present rebuttal to rebuttal testimony, and then we have a Department of Fish and Game employee. That may take up the whole day, and if Ms. Koehler hasn't left San Francisco yet -- I'm going to take a ten-minute recess.

HEARING OFFICER DEL PIERO: Ladies and Gentlemen, I'm going to take a ten-minute recess.

Mr. Birmingham, Mr. Dodge, Mr. Roos-Collins, Ms. Scoonover, Ms. Cahill, I strongly recommend the five of you get together and decide how you wish to proceed so can you tell me after the break.

MR. BIRMINGHAM: Thank you.

HEARING OFFICER DEL PIERO: Thank you.

(Whereupon a brief recess was taken.)
HEARING OFFICER DEL PIERO: Ladies and Gentlemen, this hearing will again come to order. I understand you have good news for me, Mr. Birmingham?

MR. BIRMINGHAM: I have some news -- the good news -- we conferred during the recess and concluded that with the witnesses we have here today, we will have a full day. So Mr. Barnes will not be here today, but we believe he will be here on Tuesday. Also, we have the thalweg profile data on disk --

HEARING OFFICER DEL PIERO: Floppy?

MR. BIRMINGHAM: Floppy disks, yes. We will have them copied over the weekend so they will be available for anyone who wants them on Monday in the afternoon or Tuesday morning. We will bring copies to the Board for --

HEARING OFFICER DEL PIERO: Where would they pick them up on Monday in the afternoon?

MR. BIRMINGHAM: They can pick them up at our office in the afternoon. Our office will be closed on Monday, but Mr. Pollack can be reached by telephone.

HEARING OFFICER DEL PIERO: Okay.

MR. POLLACK: Am I supposed to give my phone number?

MR. BIRMINGHAM: What is your direct-dial number?

MR. POLLACK: I'm afraid I don't know off the top of my head. You have to call 321-4500.

HEARING OFFICER DEL PIERO: Mr. Flinn? Let me introduce you to one of your brethren at the lower end of the food chain.

MR. FLINN: We bottom dwellers stick together.

HEARING OFFICER DEL PIERO: I assume, Mr. Pollack, you'll secure that phone number and make it available to the parties.

MR. POLLACK: I think I'm doing that right now, Mr. Del Piero.

HEARING OFFICER DEL PIERO: Thank you, Sir.

Mr. Roos-Collins, are you prepared to examine these witnesses?

MR. ROOS-COLLINS: I am prepared.

HEARING OFFICER DEL PIERO: Ready?

MR. ROOS-COLLINS: Ready.

HEARING OFFICER DEL PIERO: Good. Let's proceed.

CROSS-EXAMINATION BY MR. ROOS-COLLINS

Q Good morning. Mr. Tillemans, let me begin with you. Yesterday, Los Angeles offered or, rather, introduced into evidence a 1931 map identified as L.A. DWP 140. You found that map in the garage at the Cain Ranch this week?

A BY MR. TILLEMANS: Yes, three days ago.

Q Did you see any other old papers in the garage?

A On that day --

HEARING OFFICER DEL PIERO: No objections based on ambiguity?

I'm sorry. Please answer the question.

MR. TILLEMANS: Yes, I did.

Q BY MR. ROOS-COLLINS: Did you see a pre-1941 fish
Mr. Roos-Collins, you better get going so we don't have any more of those.

Q BY MR. ROOS-COLLINS: Mr. Tillemans, do you have Dr. Beschta's rebuttal testimony before you?

A BY MR. TILLEMANS: I think so, yes.

Q Why don't you take a moment to locate Page 6 of Dr. Beschta's rebuttal testimony?

A Could you direct me to the page again, please?

Q Page 6, Paragraph 4, which sets forth the channel width measurements you have previously discussed.

A Okay.

Q You participated in the field measurements on December 13th and 15th, 1993?

A No, I didn't.

Q Have you reviewed the data taken on December 13th and 15th, 1993?

A Yes. I've looked at them briefly.

Q Is it correct that Paragraph 4 shows that the width measured on December 13th and 15th, 1993, was 31 feet on average?

A That's correct.

Q And on January 3rd and 4th, 1994, it was 24 feet on average?

A That's correct.

Q Did Rush Creek get seven feet narrower between December 13th and January 4th?

A No, it didn't.

Q How do you explain that seven-foot difference?

A Because the widths that were compiled by my data were -- I can't remember the exact number now, 730 some odd widths or whatever. And this width data is very -- it was only taken from a few points. I think they're like 20 to 30 points, and what I -- I need to back up a little here on this.

What we originally preferred was to have a survey crew go in and do a complete thalweg profile, channel

...
cross-sections, a whole study for us as quickly as possible, but the survey supervisor was not equipped to have his men in the creek at cold temperatures when there was a snowstorm that just came in on that date. There were cold temperatures, and the supervisor would not give us the data we wanted because of safety constraints. And, therefore, that necessitated me to get out in the creek and do a thalweg profile, and that's the data that Dr. Beschta was using.

Q Mr. Tillemans, I meant no criticism of the City of Los Angeles for the manner in which this data were collected. I am simply attempting to understand how we can relate the data collected on different days.

      Let me ask you a different question --

A I --

Q Excuse me. Do you have further explanation to offer?

A I think to relate that data with the data I've taken is not appropriate to make the same conclusions from it.

Q So in Paragraph 4 on Page 6 of Dr. Beschta's rebuttal testimony, we should compare the data collected in May of 1991 with the data collected in January 1994, and we should exclude the data collected in December 1993?

MR. BIRMINGHAM: I'm going to object. We had an understanding when we started this that Mr. Tillemans was going to be questioned about the work that he did. He's now being asked to interpret the work that Dr. Beschta did based upon work that Mr. Tillemans did in the DWP survey. This is a question that needs to be asked of Dr. Beschta.

MR. ROOS-COLLINS: That's a fair objection. I withdraw the question.

HEARING OFFICER DEL PIERO: Fine.

Q BY MR. ROOS-COLLINS: Mr. Tillemans, let me ask you one further question, though, about the data you did gather in January of this year.

      Did you gather data at the transects -- or rather stations identified in Figure 1 of Dr. Beschta's rebuttal testimony?

A I could. If the thalweg profile is continuous through the stream in that section I did. So whether my points landed exactly on that station that the survey did or not, I couldn't tell you.

Q Dr. Orton?

A BY DR. ORTON: Mr. Roos-Collins.

Q Your resume states that your thesis for your second doctorate is entitled Inventing The Public Trust Doctrine, California Water Law and the Mono Lake Controversy. Is that correct?

A That's correct.

Q Two questions. First, is that thesis a public document?

A Yes.

MR. ROOS-COLLINS: I request, Mr. Birmingham, that the document be made available to us.

MR. BIRMINGHAM: I presume that it's in the
library at the University of California at Los Angeles.

MR. ROOS-COLLINS: Thank you.

HEARING OFFICER DEL PIERO: Excuse me. Where is it, Dr. Orton?

DR. ORTON: It is in the UCLA library. There's several. They placed it in an odd place because the department is the Department of Environmental Science and Engineering, and so they placed it in, I think, the math sciences library.

MR. BIRMINGHAM: Dr. Orton, do you have additional copies available?

DR. ORTON: I have one copy available.

MR. BIRMINGHAM: Can you give that to Mr. Roos-Collins, please?

HEARING OFFICER DEL PIERO: Dr. Orton, you have it available now? How many pages is it, Dr. Orton?

DR. ORTON: It's like 300 something.

MR. ROOS-COLLINS: Since I asked for it, I will make copies available to this Board and also to the other parties which wish to obtain it, and I thank Mr. Birmingham and Dr. Orton for the cooperation in providing it.

HEARING OFFICER DEL PIERO: Fine.

Q BY MR. ROOS-COLLINS: Dr. Orton, an invention has an inventor. When you titled your thesis Inventing the Public Trust Doctrine, who, in your opinion, invented the doctrine?

A BY DR. ORTON: The doctrine's earliest roots -- and I don't want to go through the whole dissertation. The doctrine's earliest roots go back to the Institutes of Justinian and probably before that. It's been being invented for a very long time.

Q In the interest of time, I will read your thesis before I ask the questions on that subject.

Let me turn now to --

HEARING OFFICER DEL PIERO: I appreciate that very much, Mr. Roos-Collins. The foundational questions might take a tad longer than I'm willing to grant you time for.

UNIDENTIFIED SPEAKER: Check on Justinian's availability.

Q BY MR. ROOS-COLLINS: I will note that there are many expert witnesses in this proceeding but Dr. Orton is the only expert, to my knowledge, with a double doctorate, both a biologist and a historian understanding Roman law.

Let me turn to a subject somewhat closer to your rebuttal testimony. Are you familiar with Dr. Beschta's direct testimony in this proceeding?

A BY DR. ORTON: Yes, I believe so.

Q Let me read a paragraph from Page 38 of his direct testimony and ask if you agree with it. Quote, if Rush and Lee Vining Creeks are to be restored, the dynamics of the natural flow regime below the points of diversion must somehow be simulated. Retaining this
variability in flows is as important as setting the minimum instream flow, end of quotation.
Do you agree with that?
A Yes. There's a variation that occurs on many time scales and different spatial scales in these streams. They are highly variable at every time scale, daily, weekly, monthly, et cetera. So in general, I agree with that statement.
Q Thank you.
Let me turn now to your testimony under cross-examination by Mr. Dodge that you used the fry curves for the Upper Owens River -- excuse me, for Rush and Lee Vining Creeks in developing your recommendations for flows in those creeks. Do you recall your testimony on that subject?
A I think so, yes.
Q Are you familiar with Department of Fish and Game Exhibit 62, which is the Upper Owens River Stream Evaluation Report 93-1?
A Somewhat.
Q Let me ask you to turn to Page 48 of that report. Do you have it before you?
A I do not.
Q Excuse me. Page 105, and I will provide you my copy.
Referring to Figures 38 through 41, please study them and tell me when you're ready to discuss them.
A Okay.
Q Is it your understanding that Figures 38 through 41 on Pages 104 and 105 of DFG Exhibit 62 show trout habitat/stream flow relationships for the Upper Owens River?
A For brown and rainbow trout, yes.
Q And focusing specifically on the curve for spawning, is that the curve to which you were referring -- excuse me. Were you referring to the curve for spawning in the Rush and Lee Vining Creek reports in your answer to Mr. Dodge's question?
A No, I was not.
Q You were referring to a curve for fry?
A That is correct.
Q And you see no fry curve in these figures?
A That is correct.
Q Dr. Platts, how does the fishery habitat below East Portal today compare with the habitat that existed before 1941?
A BY DR. PLATTS: It's less productive.
Q Why?
A Because the channel has been over-widened.
There's more stream bank erosion.
Q Do you have a copy of DFG 62 in front of you?
A What's the title?
Q The Upper Owens River Stream Evaluation Report?
A Yes, I do.
Q Excuse me, Dr. Orton. May I borrow back my copy? Dr. Platts, I asked you to turn to Page 36 of that report, Figure 17. Is it your understanding that that figure shows the extent to which the Upper Owens River
has widened between the 1859 land survey and 1990?
A    Yes.
Q    On Page 34, that report states, "This widening is likely the result of increased flows caused by opening and operating Mono Craters Tunnel." Do you agree?
A    You're reading this on Page 34 at what point?
Q    The second full paragraph.
A    Now, would you -- the question once more, please?
Q    Do you agree with the opinion expressed in that paragraph that, "This widening is likely the result of increased flows caused by opening and operating Mono Craters Tunnel"?
A    I wouldn't completely agree with that.
Q    Would you agree that opening and operating Mono Craters Tunnel was a principal cause for the widening referred to on Page 34 and illustrated in Figure 17?
A    Yes, I would.
Q    Let me ask you to turn now to Pages 38 and 39 of the same report, Table 5. Is it your understanding that this table shows a net loss of 19,107 feet in channel length between 1944 and 1990 in the Upper Owens?
A    Yes.
Q    Do you have any reason to dispute that estimate?
A    No, I do not.
Q    Let me ask you about a paragraph -- a statement in the paragraph on Page 39 following Table 5. "The Owens River on the Inaja property," that's I-N-A-J-A, "provides for comparison and control to the rest of the Upper Owens River in which high flows augmented by diversion from the Mono Craters Tunnel and land management practices have decreased stream bank stabilities and reduced overall channel length."
A    Do you agree with that statement?
Q    Finally, let me ask you to turn to Table 6 --
A    Could I make a comment?
Q    Please.
A    In the questioning of the channel widening as being the primary cause or resulting from the over-widening, we need to remember that those channels were in extremely poor condition before The Portal discharges started. In other words, those channels were pretty badly eroded before that time, so they were set up for this to happen.
Q    Had the Owens River been in excellent condition, the results of The Portal discharge would have been quite different.
A    Based on the photographs I've seen that were shot in the 1930s.
Q    Do you know whether those photographs are in the record of this proceeding?
A    No, I do not.
Q    Let me ask you to turn to Page 36, final paragraph, where the report states, "As described above
in the geomorphology section, the Upper Owens River is
which sinuosity increases over time and hydrologic
deficiency of the channel decreases. With the decrease
in channel efficiency, over-bank flows are more likely
to occur and cause meander cut offs or new eroded
channels where over-bank flows coalesce back into the
main channel. This process is typically very slow in
natural channels that have relatively small
fluctuations in flows under natural hydrologic
conditions for all vegetative stream banks and relative
cohesive bank sediments."

Based on your prior -- your answer to my prior
question, is it your opinion that this paragraph is
incorrect if it is applied to the Upper Owens River
before 1941?
A This paragraph here is applying to natural
channels. The Upper Owens River was not a natural
channel prior to the diversion of waters.
Q You previously testified, in answer to questions
put to you by Mr. Dodge and Ms. Cahill, that the
channel form of the Upper Owens River might narrow if
no Mono Basin water were imported. Was that your
testimony?
A Yes. It would be a slow process, but it would.
Q And, in turn, if the import from the Mono Basin
were reduced from the 1941 through 1985 average as a
result of this Board's order, you would also expect a
narrowing of the channel over time; is that correct?
A I would expect that.
Q Yesterday, during your direct examination by
Mr. Birmingham, you indicated that the City of Los
Angeles is undertaking various initiatives to improve
the management of the lands that it owns along the
Upper Owens River. Could you describe what those
initiatives are?
A Yes. The DWP is in the process now of setting up
the management plans for the three branches in the
Upper Owens River so that once these management plans
are implemented, the land-use practices that will
continue to be practiced there then will have no effect
on the Upper Owens River.
Q Is the City of Los Angeles considering removing
grazing from the area -- areas adjacent to the Upper
Owens River?
A Those decisions have not been made. In the
process of submitting my plans to the department, that
could be part of the scenario. It will be a different
mix of scenarios because different reaches require
different types of land use plans.
Q If the City of Los Angeles did decide to remove
grazing from riparian areas, would you expect riparian
vegetation to emerge as a result?
A Yes, I would.
Q And how would riparian vegetation emergence affect
the width of the channel of the Upper Owens River?
A It will narrow the width of the Upper Owens River.
Q Let's assume that the import from the Mono Basin
is reduced as a result of this Board's order and let's
also assume that grazing is removed from riparian areas
at the initiative of the City of Los Angeles, would
your estimate of bank-full flow change given those
assumptions?
A  Yes. It will change over time, but it would not
change in the beginning.
Q  Your estimate would change as the channel itself
changes?
A  Yes.
Q  Do you have an opinion about the specific
restoration measures discussed beginning on Page 218 of
this report?
A  I believe that I skimmed this when I was looking
at the flow data, but I didn't pay too much attention
to it.
Q  Then I won't ask any further questions. I ask you
to assume that these measures are complex and many in
number, so I will ask you a different question.
On Page 225 --
MR. DODGE: Mr. Chairman, let me just say, so that
everyone is apprised, that I'm not objecting to
Mr. Roos-Collins' questions because I just -- well, for
whatever reason, I'm not objecting. But I will, at
some point, take the position that rebuttal ought to be
limited to rebuttal and, you know, I think that in
fairness, he's going well beyond what Dr. Platts put
into evidence as rebuttal.
I'm just -- I just want everyone to know that I'm
not -- I'm planning to take that position as
necessary.
MR. BIRMINGHAM: I think what Mr. Dodge is telling
us is that when I start to ask questions on redirect
about these subjects which Mr. Roos-Collins is going
into -- he's not objecting because he and
Mr. Roos-Collins are allies, but when I start questions
on the same subject, you're going to get objections. I
think that's what Mr. Dodge meant.
(Laughter.)
HEARING OFFICER DEL PIERO: I see other heads
nodding vigorously in regard to your analysis,
Mr. Birmingham. Obviously, you're correct.
Mr. Herrera, how much time has Mr. Roos-Collins
had?
MR. HERRERA: He has one minute remaining.
HEARING OFFICER DEL PIERO: Make good use of it,
Mr. Roos-Collins.
Q BY MR. ROOS-COLLINS: Dr. Platts, let's turn to
Tennant as a method for determining fish flow. Are you
recommending that this Board use Tennant and not IFIM?
A  BY DR. PLATTS: No, I'm not.
Q  Are you making any recommendation to this Board
regarding the method it uses for determining fish flow
in this proceeding?
A  No, I am not.
MR. ROOS-COLLINS: No further questions.
HEARING OFFICER DEL PIERO: Thank you very much.
Ms. Scoonover?

MS. SCOONOVER: I have no questions of this panel.

Ms. Scoonover.

Mr. Frink?

MR. FRINK: Yes. I have just a few.

CROSS-EXAMINATION BY THE STAFF

Q BY MR. FRINK: Dr. Platts, when did you last visit the Upper Owens River?

A BY DR. PLATTS: Excuse me. I was trying to figure out where the voice comes from.

(Laughter.)

Q BY MR. FRINK: It's over here. Here we go. You're going to be dreaming this.

HEARING OFFICER DEL PIERO: This is a test, Dr. Platts.

MR. CANADAY: My lips didn't move.

DR. PLATTS: I was there this last October.

Q BY MR. FRINK: Do you know approximately what the flow was on the day that you visited?

A BY DR. PLATTS: No. I did not check to see what the flow was.

Q And how would you describe the channel conditions in the portion of the Upper Owens River that you visited at that time?

A Fairly poor.

Q In what way?

A The channel was transporting fines. The stream banks were eroded. Some areas of the channel over-widened.

Q What portion of the Upper Owens River did you visit?

A I visited that area from the lower Arcularius Ranch to Crowley Reservoir.

Q In terms of the stream bank erosion that you referred to, what do you believe was the cause of that?

A That year's erosion or over the long-term?

Q The ongoing erosion. The erosion you saw at the time.

A Most of it was due to livestock grazing.

MR. FRINK: That's all the questions I have.

Thank you.

HEARING OFFICER DEL PIERO: Mr. Satkowski?

MR. SATKOWSKI: Yes. I just have a couple of questions.

Q BY MR. SATKOWSKI: Dr. Platts, earlier Mr. Dodge asked you questions dealing with the Owens River, and I wasn't exactly clear on what you had said. You had responded to a question by saying that having a 200 cfs flow on the Owens River would be okay if you wanted to go back to the original type of system and narrow the channel. Is that correct?

A BY DR. PLATTS: I think my statement was that if you had a 200 cfs flow that was uniform over the year -- was that your statement that you understood? A 200 cfs flow over the year that the channel would change?

Q Yes. Go ahead.

A Yes. The channel would change if it had a uniform
200 cfs flow.
You also said something about a 300 cfs flow might be something that we might want to look at, at least for an initial period of time, something to that effect. Could you elaborate on what you meant by that?

Yes. I make that statement because I believe that the Upper Owens River needs to go under a series of flows that will rehabilitate the river and in order to bring the stream banks of the Owens up and bring them out and in requires some flows over the top of the bank that would allow the bank morphology to change.

So in the beginning, I would -- I recommend -- that's one of the basic main reasons I recommended the 300 cfs flow was mainly to rebuild the Owens River -- Upper Owens River channel at a faster pace.

And for what period of time would you recommend that this 300 cfs flow take place?

During a period of the natural hydrograph peak.

And for, say, how many years into the future before we would be able to decrease the 300 cfs down to some other value?

That would be difficult because I would not want to see any additional water put into the Owens River for the next three to five years that would get to that type of a flow. And then once those flows come in those types of valley bottom types, the process is fairly slow except the Upper Owens does have a fairly high sediment transport rate.

I would have to guess that to bring the stream banks back to meet the natural flows with increased vegetation vigor, you're looking at a quarter to a half a decade and maybe even more. Excuse me, a century.

A quarter to a half a century?

Yes.

Mr. Hasencamp, I understand that you'll be returning to testify on LAAMP, LAASM, water supply, and the L.A. management plan; is that correct?

Yes, that's correct. I understand the deadline is Thursday at 5:00 p.m. for that testimony?

That's my understanding. Yes.

Mr. Hasencamp, you've trained him well, Mr. Birmingham.

Has L.A. modified its stream-flow and flushing-flow recommendations based on additional evidence?

Yes. We will, and we will present that in the new plan. But before we presented that, we wanted to run it through the final LAAMP and the L.A. model and look at the results to make sure that they work rather than a micro scale, macro scale of the whole system.

From what you said, it sounds like you do have the stream-flow and flushing-flow recommendations already developed; is that correct?

Very close to a final draft. I should say a final draft, yes.
Q    Is it possible that you could provide those to us
as soon as possible, either through this hearing or
outside the hearing, so that other parties could use
that information and evaluate it using the models?

MR. BIRMINGHAM: Excuse me.

HEARING OFFICER DEL PIERO: Mr. Birmingham?

MR. BIRMINGHAM: I think Mr. Hasencamp testified
that the final figures are going to be dependent upon
LAAMP, and this testimony is directly related to LAAMP.
And it's our understanding that it is due, all of his
testimony is due Thursday at five o'clock.

We are willing to share with people -- we have
been and will continue to be willing to share with
people any data we have, but at this point, I'm going
to have to ask that it be a reciprocal arrangement, and
the other thing is to state that this is not final.
Until the LAAMP has been finalized, and we're able to
analyze it, the specific flows may change.

HEARING OFFICER DEL PIERO: Is there some
information Mr. Satkowski has not delivered to you, or
are you talking about the other parties?

MR. BIRMINGHAM: Not other parties.

HEARING OFFICER DEL PIERO: Oh.

MR. BIRMINGHAM: No. I'm not complaining about
anything Mr. Satkowski has done. All I'm saying is
that if we're going to show our testimony, we'd like to
to see other people's testimony, too. And we're not
trying to be obstreperous, but as I've said a couple of
times, we've bent over backwards to try and provide
people with data, and we would just appreciate the same
courtesy.

MR. SATKOWSKI: The reason I was asking for that
is, as you know, time is short and if other parties --
HEARING OFFICER DEL PIERO: No one knows that
better than I, Mr. Satkowski.

MR. SATKOWSKI: Yes.

-- want to evaluate the L.A. management plan
values, I don't know if enough time will be available
after we receive the information. So that's why I was
recommending that we receive that information as soon
as possible if it's available.

HEARING OFFICER DEL PIERO: Mr. Birmingham, can I
ask you a question? What information are you
suggesting is not being provided you in a timely
fashion?

MR. BIRMINGHAM: I don't want to reopen old
arguments, but I still would love to look at various
documents we've requested from the Mono Lake
Committee. There have been efforts throughout these
proceedings for us to get information from the
Department of Fish and Game. I will say quite honestly
that the Department of Fish and Game has been much more
forthcoming in providing data and documents recently
than they were at the beginning, but what I'm saying is
if we're going to provide our testimony before Thursday
to the State Board and the other parties, we'd like the
other parties to provide their testimony to us earlier
on this subject.

HEARING OFFICER DEL PIERO: Mr. Frink?

MR. FRINK: Yes. I believe Mr. Satkowski wasn't really interested in the testimony on behalf of the Department of Water and Power, and we realize that you're not in a position to finalize that yet. What he was interested in receiving, if it's available, and with the recognition that the numbers are tentative, would be the tentative-flow recommendations and flushing-flow recommendations that the Department of Water and Power would use in their management plan if the numbers are feasible. I don't know if you're at that stage or not, but if you are, it might be helpful and expedite the hearing later on.

HEARING OFFICER DEL PIERO: Mr. Hasencamp, do you know the answer to that question?

MR. HASENCAMP: Yes. We can certainly provide draft numbers.

I think Mr. Birmingham was also referring to Mono Lake Committee as putting together a management plan as well for some of their own goals, and I don't know if there's a request also for them to provide their input in the same manner. I think that's part of Mr. Birmingham's objection.

HEARING OFFICER DEL PIERO: When do you propose to put that information on, Mr. Dodge?

MR. DODGE: What?

MR. VORSTER: The management plan?

HEARING OFFICER DEL PIERO: Would you like to have the Reporter read the question back, Mr. Dodge?

MR. DODGE: How many times have I asked you to get our management plan together, Mr. Vorster?

MR. VORSTER: Many times. If I can give my answer, it's similar to what I think I've heard before. Until we have the final LAAMP, the LAAMP does not work at this point to do the management plan --

MR. DODGE: It's the same excuse I hear every time I ask him. We don't have it yet.

MR. VORSTER: We don't have the model yet so I can run it.

MR. BIRMINGHAM: Can I make a motion that we delete the expletive and --

HEARING OFFICER DEL PIERO: Sounds like a personal problem to me.

Which expletive?

MR. BIRMINGHAM: There's a reference --

HEARING OFFICER DEL PIERO: Ms. Anglin didn't hear it either. So --

MR. DODGE: We have a deadline which is, as I understand it, based on when we expect LAAMP to be amended, and I am sympathetic, but I can't do it either. I'm sympathetic to Mr. Birmingham's thought that he can't beat that deadline.

MR. FRINK: If we get the information on Thursday, I think we can work with it. It's not worth stirring everything up at this point.

HEARING OFFICER DEL PIERO: We will try our best to persevere. Okay?
Now, where were we? Who's on first?

MR. SATKOWSKI: Those are all the questions I have at this time.

HEARING OFFICER DEL PIERO: Thank you.

Mr. Smith?

MR. SMITH: Thank you, Mr. Del Piero. I have a couple of questions for Dr. Platts.

Q BY MR. SMITH: Despite your explanation a couple of minutes ago about the 300 cfs and the 200 cfs and the Upper Owens, I'm still not capturing exactly what you mean.

For the near term, are you saying we should have flows up to 300 cfs in order to build the banks, build the willows? Is that for the near term, like for the first five years? Is that what you're saying?

A Yes. I'm saying that we need those type of flows once the Upper Owens is ready for those in order to start the building process.

Q How long is this period once the Owens is ready for it? What kind of time period are you talking about?

A I'm estimating that it will be three to five years under proper management before the Owens is ready for that type of flow.

Q So in the meantime, during this three- to five-year period, what type of flows would you recommend during that period of time, maximum?

A I did not look at that.

Q Okay. But then after the 300, do you foresee any kind of a period where the flows would then be slowly restricted down to, say, for instance, 200?

A Yes. Over a fairly long period of time as the channel rebuilds and the channel bank flows would be less, you're correct.

A BY MR. HASENCAMP: And if I could just add, there are wet years when the natural flow in the Upper Owens River is above 200 and, in fact, it was 227 in June of '83. So you could never limit more than, obviously, the natural flow in the creek.

Q Right. I'm just speaking about the ways in which we could artificially augment it only. I was not talking about natural flow. Okay. Fine. Thank you for that clarification.

I have one other request from you, though. You stated that you saw some aerial photographs of the deterioration of the Upper Owens taken in the twenties or the thirties. I'd like request that the department provide the Board with those photographs.

A BY DR. PLATTS: These were on-ground photographs.

Q Whatever kind of photographs they were, I would like to have them.

HEARING OFFICER DEL PIERO: Mr. Birmingham, do you have those?

MR. BIRMINGHAM: I have some photographs that Mr. Tillemans gave me a few moments ago. I believe they're some of those that Dr. Platts referred to in his testimony, and I had intended on asking Mr. Tillemans and Dr. Platts questions on this subject.
But I believe they're some of the photographs Dr. Platts referred to, and again --

HEARING OFFICER DEL PIERO: Were they on the shelf, too?

MR. BIRMINGHAM: Mr. Del Piero, if we brought in every document that DWP has on the subject, we could fill this room and the building next-door.

HEARING OFFICER DEL PIERO: I don't doubt that, Sir.

MR. BIRMINGHAM: We have reports, photographs, maps, 90 percent of which I have never seen and 90 percent of which probably most of the witnesses have never seen. But we'll provide these photographs to the Board and any other photographs that we have.

MR. SMITH: Mr. Birmingham, did you have a catalog, a bibliography of all that material?

MR. BIRMINGHAM: We do have a data bank of all of the material that was -- when did we stop compiling it? In 1989, I believe, is when we stopped compiling it. And Ms. Goldsmith tells me it's not all of DWP's. But we do have a data bank of a lot of material that literally would fill that wall.

HEARING OFFICER DEL PIERO: Let me ask this question, Mr. Birmingham. Have these photographs been part of any evidentiary exhibits in prior activities?

MR. BIRMINGHAM: No.

HEARING OFFICER DEL PIERO: They have not?

MR. BIRMINGHAM: They have not.

HEARING OFFICER DEL PIERO: Has anybody representing any of the other parties ever seen these before?

MR. BIRMINGHAM: Well, California Trout Incorporated has been working with the Department of Water and Power cooperatively over the last few years in developing a management plan that Dr. Platts has referred to. I don't know whether Mr. Edmondson, who is the representative of California Trout, has seen them, but I know that he has been working cooperatively with the department. And maybe Mr. Roos-Collins can address that.

HEARING OFFICER DEL PIERO: Let me ask Dr. Platts. Dr. Platts, since you have been working with Mr. Edmondson, do you know if he's seen the pictures you're referring to?

DR. PLATTS: I don't know if he's seen the pictures I'm referring to. I know, in talking with Mr. Edmondson, he would answer the question the same way I did. He has the same interpretations.

MR. SMITH: As a final request, all of the pictures upon which you relied, could you provide us with copies of those pictures, please?

DR. PLATTS: Yes.

MR. SMITH: Thank you. That's all I have.

HEARING OFFICER DEL PIERO: Mr. Roos-Collins?

MR. ROOS-COLLINS: Several points. First, I hope the record is clear that Dr. Platts was expressing his opinion about Mr. Edmondson's opinion. Mr. Edmondson's
opinion may be different than Dr. Platts —

HEARING OFFICER DEL PIERO: The record is clear,

Mr. Roos-Collins.

MR. ROOS-COLLINS: Secondly, I agree with
Mr. Birmingham that Cal-Trout does work closely with
the City of Los Angeles in developing improved
management practices for the Upper Owens. I do not
know whether Mr. Edmondson has seen these photographs.

HEARING OFFICER DEL PIERO: I sensed that because
it was my understanding that you were not one of the
participants in this cooperative working arrangement
between Cal-Trout and the City of Los Angeles.

MR. FRINK: Mr. Hearing Officer, I'd like to
express the concern that I have as we approach the end
of the hearing, as witnesses are appearing on rebuttal
and probably will not be back again, that we not
augment the hearing record in unnecessary ways and
extend the proceeding indefinitely or unnecessarily.
I'm not sure how essential this information is on the
pre-diversion conditions of the Upper Owens River
because I don't believe that anybody is alleging that
the reductions in -- well, I won't get into the
reasoning.

But in any event, on any requests for additional
information, I think we all have to keep in mind that
the hearing is approaching a close and many of the
witnesses who could testify to the information probably
will not be back again.

HEARING OFFICER DEL PIERO: Mr. Dodge?

MR. DODGE: Mr. Frink was about to say that no one
is taking a position that, in fact, he realizes we are
taking, which is why he didn't finish the sentence.

MR. SMITH: Could I address that?

HEARING OFFICER DEL PIERO: No. No.

You can have a seat unless you have something to
say, Mr. Birmingham.

MR. BIRMINGHAM: I thought I was up next.

HEARING OFFICER DEL PIERO: I'm sorry. Forgive
me.

This issue has been discussed enough. I think you
are on next, Mr. Birmingham, unless Mr. Herrera and
Mr. Canaday had questions. You do? Fine. Gentlemen,
please proceed.

Q BY MR. HERRERA: Dr. Platts, in your earlier
testimony, you made some comments to the effect that
you were not a proponent of constant stream flows but,
in fact, you were a proponent of, and maybe I've gotten
this right or wrong, but mimicking the natural flow
regime. Is that correct?

A BY DR. PLATTS: That would be true.

Q And you recommended that in the Upper Rush Creek
area earlier, and you're recommending the same thing
for Owens River; is that correct?

A I have never worked with flows on Rush Creek, but
I did recommend that on the Upper Owens.

Q You made a comment yesterday, I believe, that --
in reference to the Department of Fish and Game's
recommendation of a maximum of 200 cfs on the Upper
Owens, and I believe your comment was that it was too low because it was strictly a flow for fish and will not protect fish habitat, just fish for a short period of time. Is that correct?

A That's correct.

Q Could you tell me why it will not protect fish habitat?

A Because the 200 cfs flow would be far below the bank level. Therefore, the banks and the riparian habitats would never see flows and never have the flows to cause the rebuilding of those systems or have the sediments deposited or the vegetative water or the seeding process. You would have no seeding process on those banks in the Upper Owens if you never had bank forming -- bank-topping flows.

Q And further you said that it would not protect fish habitat, just fish for a short period of time. In other words, these flow regimes would just allow for the protection of the fish for a short period of time.

A I'm a little bit concerned about what "short period of time" is and what you really meant by just protecting fish for a short period of time.

Q I'm a little hazy on that, too. I have a hard time visualizing the Owens at a constant 200 cfs, but I think eventually over time with the constant 200 cfs, it would go to fit that form of the channel which would be a very uniform channel and not the high diversity fish habitat channel.

Q Would you support this same kind of philosophy for Rush and Lee Vining Creek?

A The principles that I expressed on the Upper Owens, I would express those same principles for Rush and Lee Vining knowing that they are different streams, and they occupy different land types, they occupy different channel types. Therefore, the principles would apply, but the final recommendations or suggestions may be different.

Q Okay. You were present yesterday when, I believe, Mr. Tillemans and Dr. Beschta presented the videotape of Rush Creek?

A Yes, I was.

Q Would you depict that flow as being out-of-bank for Rush Creek?

A I depict that flow as being out-of-bank on those very lower banks, but not a flow that would be out-of-bank for the upper banks.

Q And what was your understanding of the flow at that time?

A My understanding of the flow at that time was that it was a flow of the type that we need at this time to enhance the vegetative riparian corridors along the borders of those flows.

Q And I believe when Mr. Tillemans responded to my question yesterday the flow was 78 cfs, Am I correct, Mr. Tillemans?

A BY MR. TILLEMANES: I think the flows are 79 and 80.

MR. HERRERA: Thank you. That concludes my questions. Thank you, Gentlemen.
Mr. Canaday?

Q BY MR. CANADAY: Dr. Platts, I'm concerned that we're going to get some confusion in expectations by some of the parties. Could you describe what -- when you talk about riparian vegetation on the Upper Owens, the kind of riparian vegetation that you have in mind was there historically?

A BY DR. PLATTS: What type of vegetation was historically on the Upper Owens before the entrance of European man? Is that the question?

Q That you're attempting to restore.

A Attempting to restore. What I would be attempting to restore on the lands that I'm working on is mainly an herbaceous over-story with clustered willow, not a lot of willow, but a clustered willow, and the herbaceous over-story will come first. And what I really want to do on those lands is drive the root systems down to where we get high bank stability and we get the over-cover and the necessary matting so that high flows will not affect those banks, but they will build those banks, and then the flows, at the same time, give us a chance in certain reaches of that river to again have some brushy species. And the only way we can get brushy species is to have the flows that would distribute the seeding process and allow the survival of those seeds as they come down. Otherwise, it would be very difficult to get any brushy species again on the Upper Owens.

Q Your understanding of the difference between, say, Rush Creek and the Upper Owens River is that the expectations of a riparian community that has recently been seen in Rush Creek is not something that you would expect to occur in the Upper Owens; is that correct?

A That is correct. They are different streams. They occupy different valley bottoms. They occupy different channel types, therefore they will react differently, and you are correct.

Q Dr. Orton, can you explain your definition of over-bank flows? I'm confused that your recommendation of 45 cfs would result in over-bank flows for riparian vegetation, yet from my view of the video we saw yesterday, I wasn't impressed by any real, what I would call, over-bank flows. I need you to define that.

A BY DR. ORTON: Yes, Sir. Over-bank flows, as their name implies, would be flows that go over a bank. And identifying the banks -- if you were in Rush Creek at a flow of 19 cfs and you increased flows to above 45, you would start to see those banks over-top. As you increase the flows beyond that, you would then bump into the next terrace, a new bank-flow discharge. It varies throughout the stream. So you'd hit the next terrace and increase the flows.

As you increase the flows further, then you go over the next terrace until you start to get into what you might call a flood flow in the sense of, say, a
1986 event where the whole valley gets flooded.

The intent of my recommendation was to over-top the banks in the immediate vicinity of the stream channel as defined by, say, 19 cfs or, actually, anywhere between 19 cfs on up to about 45 cfs.

Q: Your understanding of the channel morphology, let's say, of the lower Rush Creek below The Narrows, that 19 cfs was a full-bank discharge. So you're not talking about over-bank flows, you're talking about an artificial bank created by a 19 cfs flow?

MR. BIRMINGHAM: I'm going to object on the grounds the question is ambiguous.

HEARING OFFICER DEL PIERO: As to?

MR. BIRMINGHAM: May I ask that it be reread?

HEARING OFFICER DEL PIERO: Certainly.

(Whereupon the record was read by the Reporter.)

MR. BIRMINGHAM: I don't understand what the question means.

HEARING OFFICER DEL PIERO: Dr. Orton?

DR. ORTON: I'm having a little bit of a problem with the term "artificial bank."

HEARING OFFICER DEL PIERO: Fine. Mr. Canaday, please restate your question. I'm going to overrule your objection, though, because I don't know that -- I understood the question. But if Dr. Orton doesn't understand it, I'm going to ask Mr. Canaday to restate it.

Q: You saw the video that we viewed yesterday; is that correct?

A: That's correct.

Q: And the channel in which the stream was contained, you saw that, correct?

A: At a scale of -- yes. From up in the air, yes.

Q: And that flow, we've heard, is somewhere between '78 to '80 cfs. Is that your understanding?

A: That's true, yes.

Q: Did the visual that we saw yesterday include over-bank flow, in your definition?

A: No. I would say that for the amount of flow that was in the channel, you'd probably have to go up, say, another 15 cfs to over-top those banks that you saw on the video. And that would be my minimum estimate, and I would restrict that estimate to the lower reach, Reaches 4 and 5.

HEARING OFFICER DEL PIERO: Dr. Orton, just for my edification, what was the existing flow in the stream in the videotape?

DR. ORTON: In the videotape?

HEARING OFFICER DEL PIERO: Yes.

DR. ORTON: '79 to '80, was my understanding, cfs.

Q: But in your testimony, though, you state that over-bank -- I'm not wearing my glasses today. Can I borrow Dr. Platts'? My eyesight's not bad. My arms are too short.

In your testimony you talk about over-bank flows, and are over-bank flows, by your definition, the same as riparian maintenance flows by Dr. Platts'?
A BY DR. ORTON: Yes. In fact -- the answer's yes. My explanation is that that is -- I developed those flows in consideration of the functions that those flows -- the biological functions that those flows are intended to achieve. In putting that together, I envision Rush Creek at 19 cfs, which I've seen that creek for several years at that flow.

I also saw flows increased beyond that. So that if you had -- if you could envision Rush Creek at 19 cfs with the riparian vegetation down right to the water's edge and then you increase flows beyond that, you would start to inundate the riparian vegetation that had grown around the edge of that stream since 1983 or so. That vegetation would then start to collect fines, organics.

If you brought the flow then back down the organics that had been in the water there would be deposited on the stream, and you could start to develop your riparian corridor adjacent to the channel as the channel is defined by 19 cfs. That would result in a process, in my opinion, of narrowing that channel.

Q But the channel that we saw yesterday was a channel that was defined by a 78 cfs flow that had the riparian community that Dr. Beschta was testifying to that was coming up along next to the stream and defining the channels; is that correct?

A That is correct and, in fact, that riparian vegetation defining those channels, to my understanding, is doing so because that riparian vegetation is in the water. It's intercepting a flow, creating turbulence, and having that effect.

Q At that flow yesterday?

A Yes.

Q And then you're defining a flow to narrow the channels, but Dr. Beschta, I believe, testified yesterday that the channels were already narrow and were representative of pre-'41 conditions. Do you recall that testimony?

A Could you repeat that, please?

Q In Dr. Beschta's testimony yesterday, he indicated that the stream widths of the Lower Rush Creek of which that video was taken is similar to -- equal or similar to the stream widths that were in that stream prior to diversions.

A I recall that testimony, yes.

Q Do you agree with that or disagree with that?

A I would defer to Dr. Beschta's opinion on that. He has far greater skill at interpreting those photographs. I have looked at those same aerial photographs that he has. I'm impressed by his expertise.

Q On Lee Vining Creek, in talking about channel-maintenance flows or flushing flows, you advised them that, "Any of these channel-maintenance flows or flushing flows be deferred until the populations of adults in Lee Vining Creek rises to pre-1989 levels." That was your testimony?

A I believe so. Yes.
Q So, then, to understand how the populations -- to determine if they met that 1989 level, you -- erase that.

So for you to make the determination that they -- that the fish population had, in fact, achieved these pre-1989 levels, you would, then, support fish population monitoring to make that determination; is that correct?

A That is correct. I would support -- the existing population data would indicate -- I wouldn't start looking for it because I wouldn't expect the population in the near future to return to that level.

Q So, then, you would support, for some period of time, fish population monitoring as the scientific way of determining that they ultimately reached those pre-1989 levels; is that correct?

A Mr. Canaday, when you say "for some period of time," are you implying that we would begin immediately or do you mean -- I guess I don't understand the question. I'm sorry.

Q Well, the question is, you set the basis of your recommendation that the fish population needs to reach the 1989 condition, some level of population, before your recommendation of these flows, these channel-maintenance flows. How would you determine that the population has reached the 1989 conditions?

A I would, in approximately three years, begin monitoring. I don't think the population, due to its present demographics, is capable of getting back up there without outside stocking.

Q But you wouldn't want -- you wouldn't want to take sampling now?

A I don't think you would learn much, no. I would not.

Q Was it your testimony on Rush Creek that you believe that Rush Creek has the capability of supporting a relatively good fishery? Or --

A Fishery? Did I -- I'm not sure whether I said "fishery."

Q Your testimony -- I'll get to the point. You suggested that the population indices of Rush Creek for the fishery are equal to, and you have in parenthesis, are better than, what is found in the eastern Sierra streams. Do you still agree with that testimony?

A And I don't mean to be evasive here. Can you point me to where I say that?

Q Page 5 under the topic of Frequency. The second paragraph.

A Yes. What I say there is that, in fact, all population indices are equal to what is found in other -- equal to or better than what is found in other eastern Sierra streams. Fishery implies angling. A fish population --

Q Okay. A fish population.

A Okay. Then with that understanding, could you repeat the question? I'm sorry.

Q All population indices of fish on Rush Creek are equal to or better than what is found in eastern Sierra
streams. Do you agree with that?
A I do.
Q So you would not typify Rush Creek as a
low-productivity stream compared to other eastern
Sierra streams; is that correct?
A That is correct. However, I want to say "other
eastern Sierra streams," that would not include, for
example, the Owens River. That would include streams
that are coming down and draining the watershed.
Q One last question, Dr. Orton. You made a
statement that in the L.A. DWP plan -- I understand
we're going to have a revised plan, but nevertheless,
in this revised plan, the development of riparian
vegetation, especially in and immediately along the
stream is, in fact, still an important goal of the L.A.
DWP plan?
A That is correct.
Q And that --
A Well, to the degree that I have an input in that
plan, and I don't think I would be disputed in that, I
believe that is an important goal, yes.
Q So if it was found that 45 cfs was not adequate
for certain maintenance flows, in this case riparian
maintenance flows, you would encourage adoption of a
flow that did meet that goal; is that correct?
A I would have to see that -- I would have to see
the details of the recommendation. In some
circumstances, I would not support that.
Q Well, let's assume that there was a flow necessary
greater than 45 cfs. To meet the plan's goal, under
that assumption, you would support that flow; is that
correct?
A Again, my answer is not necessarily.
Q And the basis of that?
A Because depending on how the flow -- once a flow
would be identified to encourage the growth of riparian
community, if that flow were implemented poorly, for
example, too soon, then it would work at cross purposes
to that goal, I think. For example, if a flow -- if a
flow of too high a magnitude were released down Rush
Creek, I think -- and Dr. Platt or Dr. Beschta could
speak to this, I think a potential for scouring or
removing present-day vegetation, which is not yet --
stem diameters are not yet wide enough to blow them
out -- they'd be lost.
Q Do you have any idea what flow rate that would be?
A Only very roughly. For example, if 200 -- if a
1986 event came along and that were released, I think
that you'd set the stream back.
Q To your recollection, in what kind of frequency

would you expect a 1986 event? Is this a ten-year
event, a five-year event, or 100-year event?
A I'd say 10- to 25-year event.
Q Okay. Mr. Tillemans, just a couple of questions
for you, Sir. You collected the Bartole thalweg data.
Is there any reason why that data was not collected
above The Narrows in any sections or below?
A BY MR. TILLEMANS: Yes. Why wasn't there any data collected above The Narrows? Is that what your question is?

Q: It appears from the data that I'm looking at that the data was collected from below The Narrows to what we call The Ford; is that correct?

A: Correct.

Q: Can you explain why that was the only section of the stream that the Bartole thalweg was collected in?

A: Basically, due to time and, basically, what Dr. Beschta asked me to do was, you know, if you can sneak in the time and get something of this matter done, do it from The Ford to The Narrows.

Q: So that question's better asked of Dr. Beschta, then?

A: Yes.

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

HEARING OFFICER DEL PIERO: Thank you very much.

Mr. Canaday.

Mr. Birmingham, how much redirect do you have?

MR. BIRMINGHAM: I expect that my redirect will go well beyond 20 minutes, and I'm wondering if we could take a lunch recess now. I think that my redirect examination of my witnesses would be more effective and efficient if I had a little time to prepare it, and I'd ask for that time over the lunch hour.

HEARING OFFICER DEL PIERO: Mr. Dodge?

MR. DODGE: Well, I would have thought we could finish up before lunch.

MR. BIRMINGHAM: I would have thought so, too. We have gone -- as Mr. Dodge correctly pointed out, we went beyond the scope of rebuttal testimony, I think, with respect to just about everyone. And I doubt that I will be able to complete a redirect after three hours of cross-examination within 20 minutes.

HEARING OFFICER DEL PIERO: Mr. Dodge?

MR. DODGE: Well, my experience is that we're much more likely to move ahead quickly if he asks questions now than if he talks for an hour and a half at lunch.

(Laughter.)

HEARING OFFICER DEL PIERO: Mr. Roos-Collins?

MR. ROOS-COLLINS: I have two comments. First, with respect to cross-examination going beyond the scope of direct, I note that I took 20 minutes and not more. If Mr. Birmingham will do that in his cross-examination of my witnesses, I will be delighted.

Secondly, I am concerned about Mr. Birmingham's representation that he may need more than 20 minutes for his redirect. I suggest that we're on a slippery slope to a longer hearing than you have scheduled, and I request guidance as to the justification necessary for getting more than 20 minutes on redirect.

HEARING OFFICER DEL PIERO: I can't very well give guidance like that, Mr. Roos-Collins, until the end of the 20 minutes so I can hear what Mr. Birmingham's justification is.

But, Mr. Birmingham, I want you to start
questioning now.

MR. BIRMINGHAM: Sure.

HEARING OFFICER DEL PIERO: Ladies and Gentlemen,

we'll break in about 20 minutes.

DR. ORTON: Excuse me, Gentlemen. I don't mean to

speak out of order. Can I be excused for about a

minute?

HEARING OFFICER DEL PIERO: Yes, go ahead.

Mr. Birmingham, why don't you begin?

MR. BIRMINGHAM: Thank you. Before I do, may I

ask Mr. Roos-Collins for a copy of Cal-Trout Exhibit

5-P, which is a photograph? My copy of the photograph

is a black-and-white Xerox which is not very good.

HEARING OFFICER DEL PIERO: Ladies and Gentlemen,

we'll break at about five after the hour, and we'll

return here at 1:15.

MR. BIRMINGHAM: Excuse me. May I ask if the

State Board has an original copy of Cal-Trout Exhibit

5-P?

HEARING OFFICER DEL PIERO: I don't know.

Mr. Smith, do we have an original copy of 5-P?

I've seen that picture several times. Is there a

reason why we need it?

MR. BIRMINGHAM: I would like to ask a question of

Dr. Orton of 5-P.

HEARING OFFICER DEL PIERO: Is that the picture of

Rush Creek?

MR. BIRMINGHAM: It's the picture of Rush Creek

with the fisherman standing at a meander. And it's an

exhibit to the testimony of Eldon Vestal.

Actually, Mr. Herrera has discovered it.

HEARING OFFICER DEL PIERO: Thank you,

Mr. Herrera.

MR. BIRMINGHAM: Thank you, Mr. Herrera.

/ / / / /

REDIRECT EXAMINATION BY MR. BIRMINGHAM

Q The copy that Mr. Herrera discovered is a copy

that apparently was submitted as Figure 1-A by the

Department of Water and Power. The reason I wanted to

use the Cal-Trout copy was because Mr. Beschta was the

first to view this and describe it.

Dr. Orton, I'm handing you a copy of an Exhibit

5 -- it's Cal-Trout 5-P and DWP Figure 1, L.A. DWP

Figure 1-A, an enlargement of Cal-Trout 5-P. Do you --

have you seen this photograph before?

A BY DR. ORTON: Yes, I believe so.

Q Now, I'm referring to the testimony of Eldon

Vestal, which is Cal-Trout Exhibit 5 -- have you read

Mr. Vestal's testimony, Dr. Orton?

A Yes, I have.

Q Now, let me read to you a description -- this is

Paragraph 36 of that photograph. "Attached hereto as

Cal-Trout 5-P is a photograph I took of an angler

fishing on Rush Creek as it existed in 1947 with dense

riparian cover, beautiful gravels, and a nice flow of

approximately 20 cfs. This photograph is

representative of the conditions on Rush Creek before

L.A.'s diversions began to have a serious impact."
Now, apparently the flow that is depicted in that
photograph is approximately 20 cfs. If there were a
flow of 45 cfs in that channel, do you have an opinion
as to whether or not the flow of 45 cfs would go out of
bank?
A    I have an opinion, yes.
Q    What is your opinion?
A    Three observations, first off --
HEARING OFFICER DEL PIERO: Excuse me. Before you
begin, can I ask you a question? I just want one
clarification. Is it your opinion that it's a 20 cfs
flow in that picture?
DR. ORTON: It's hard to tell because the depth --
HEARING OFFICER DEL PIERO: I understand. Given
what you can see, does it appear to you that that's a
20 cfs flow?
DR. ORTON: It could be.
HEARING OFFICER DEL PIERO: Would you be fishing
in that stream if it were a 20 cfs flow with that
width?
DR. ORTON: Would I be fishing? Yeah. I guess I
could. I point out on the photograph, Sir, that the
angler standing on the bank is in water up to about his
knees. He's casting to the bank --
HEARING OFFICER DEL PIERO: I understand that.
That's why I'm asking because I have a general
understanding of what 20 cfs running in about two to
three feet looks like, and I'm just interested in your
opinion as to whether or not that appears to be 20 cfs
or greater, regardless of what the representation is,
Mr. Birmingham.
MR. BIRMINGHAM: It's not my representation. It's
the representation of Cal-Trout.
DR. ORTON: Yes, I think it could be 20 cfs.
HEARING OFFICER DEL PIERO: Could it be more?
DR. ORTON: Yes.
HEARING OFFICER DEL PIERO: Significantly more?
Could it be 40?
DR. ORTON: It could be 40.
HEARING OFFICER DEL PIERO: Yeah. I'm sorry for
interrupting you, Mr. Birmingham.
Ms. Anglin -- do you recall the question that
Mr. Birmingham asked you, Dr. Orton?
DR. ORTON: Yes, I do.
HEARING OFFICER DEL PIERO: Why don't you go ahead
and answer and if you need any help, I'll have
Ms. Anglin read those questions back.
DR. ORTON: I believe the question was whether it
was my opinion whether or not those banks would over
flow if the flows went up to 44 cfs.
Q BY MR. BIRMINGHAM: 45.
A BY DR. ORTON: 45 cfs. And my response -- I have an
opinion, three observations. First off, there is
submerged vegetation in the stream. You can see that
on the right. There are some stems. There also seem
to be some stems in the middle of the stream just off
the left at the center of the photograph. Apparently,
the stream is over-topping some terrestrial vegetation in the stream, which is kind of an interesting observation, to my mind.

The second observation is the bank on the right clearly is two feet, maybe three feet above the stream. It would not over-top that bank. On the left you see a bank which has a very dished-out shape, and it's got no vegetation on it and my opinion is that there, the 40 cfs could over-top that bank and probably create a channel that would cut across that point. In fact, it looks like it might have done so.

Q    Thank you, Dr. Orton.
A    You said that you have observed Rush Creek at 19 cfs?
Q    At the time you observed Rush Creek at 19 cfs, were there portions of the stream with depths that are similar to the depths that appear in the photograph described or identified and in evidence as Cal-Trout Exhibit 5-P?
A    Yes.
Q    Dr. Platts, I have some questions of you. Before I do that, let me just ask some questions of Mr. Hasencamp.
A    Mr. Hasencamp, in the development of your management plan, before you established flows, did you consult with experts?
Q    You didn't pick the minimum flow by yourself, you did that in consultation with fishery biologists?
A    Yes, that's true.
Q    In particular, Mr. Hanson and Dr. Hardy?
A    Yes, I relied on their written testimony.
Q    And with respect to the flushing flows or the channel-maintenance flows or the riparian-maintenance flows, you consulted with Dr. Orton?
A    Yes.
Q    And did you consult with any other individuals developing the criteria that you would use to select those flows?
A    Yes. Yes, I did.
Q    Who were they?
A    Dr. Beschta, some field personnel who are familiar with some of the daily hydrology of the region.
Q    And so you didn't pull the figures out of the thin air?
A    Certainly not. I took all the recommendations of the various experts and took the micro recommendations and put them in a big plan. Because sometimes there are certain resources that are in conflict, and you have to resolve is water going to go into the Upper Owens River or Rush Creek or Lee Vining Creek, and you can't put it all three places at once. So there's a lot of management of the entire system in developing the management plan.
Q    Did you consider the flushing flows that had been established by the court based on the recommendations of witnesses who testified before Judge Finney?
I'm a little unclear.

Well, the interim stream flow order contains flushing flows; is that correct?

Yes, it does.

Did you consider the flows that had been established based upon the recommendations of experts in that case when you were establishing your flushing flows?

Yes. I took those recommendations into account and the data.

Dr. Platts, with respect to the Upper Owens River, you stated a couple of times -- and I want to make sure that I understand what you meant. You stated a couple of times that monthly flows mask out what is really going on.

How do monthly flows mask out what's really going on?

Well, if you had a zero flow and 100 cfs flow taken during that month, you'd have a monthly flow of 50 cfs, and that doesn't show what's going on.

Is it your understanding that excluding what Mr. Dodge termed "artificial flows" from the Mono Basin, excluding artificial flows from the Mono Basin, is it your understanding that flows in the Upper Owens River sometimes exceed 200 cfs?

They have.

Do you have any information on that subject, Mr. Hasencamp?

Yes. As I said before, it was 227 cfs in 1983, and the only data -- daily data I looked at was from '73 to more recently. But I assume that probably happened in '69 and '67 and some of the other big years as well.

Now, Dr. Platts, Mr. Dodge asked you if there was a constant flow -- if the Department of Fish and Game recommended a constant flow from the Mono Craters Tunnel, would you have an objection to that, and I believe you said no, you wouldn't; is that correct?

I would have no objection to that as long as it was within certain boundaries.

As long as you stay within those certain boundaries, would you have an objection if the flow out of the Mono Craters Tunnel fluctuated?

No, I would not.

Now, as I understand the department of -- what I understand is not relevant here, so let me ask it differently.

Assuming that the Department of Fish and Game recommends that once an export for a year has been established, that that export remain constant, that the flows through the Mono Craters Tunnel remain constant, and assuming that they have established a recommended maximum flow of 200 cfs in the Upper Owens River, are those two recommendations consistent with one another?

Can I answer the question?

Certainly, Mr. Hasencamp.

No, they're not. Most of the exports under the
flows under DFG proposed recommendations would occur in wet years. And if you were to have a constant export, for example, of 50 cfs and in the month of June, for example, the flow was naturally 180 cfs, you could not add the 50 cfs, so you could not add a constant flow, and it would top out at 200 cfs. I could draw it on a chart, if you'd like.

Q Would you, please?

A Certainly.

Maybe you have another question.

HEARING OFFICER DEL PIERO: Actually, we're going to break. We're going to break. Okay? And you can have that chart prepared so we don't take up additional time after lunch.

MR. BIRMINGHAM: I'll have it prepared during lunch.

HEARING OFFICER DEL PIERO: And, Ladies and Gentlemen, we'll be back at one -- we're going to be back at 1:15 and before we end, I want to point something out. Okay? I think I'd like to remind all the parties that -- including -- all the parties. Okay? -- that rebuttal testimony is supposed to be -- the rebuttal phase of this hearing is supposed to be limited to rebuttal testimony and cross-examination on that testimony. Okay?

And it seems to me that -- not to cause anybody any heartburn, but it seems to me it would be appropriate, and I'd appreciate it very much if all of those participants here would focus on that which we are supposed to be focusing on during the rebuttal phase. Understanding that all of you have a variety of issues you want to address and hoping that I can extend to you every opportunity to do that, it strikes me that now, after a day and a half, this phase of the hearing has not necessarily proceeded in as expeditious or informative a fashion as I would have hoped. So if those of you that are going to be asking questions -- all of you that are going to be asking questions can ensure that structure and focus are applied during the course of this rebuttal phase, I would appreciate it. I'm sure the record would be much cleaner, and we won't have requests for clarifications or objections beyond those that we would normally expect. Okay?

And I will leave you all with that thought. Have a nice lunch. Ladies and Gentlemen, we'll be back at 1:15.

(Whereupon the lunch recess was taken.)

HEARING OFFICER DEL PIERO: Mr. Birmingham, we're back on the record.

MR. BIRMINGHAM: Thank you. I am informed by Mr. Herrera that I have an additional nine minutes of my additional 20, so I will try and move this along.

HEARING OFFICER DEL PIERO: Okay.

Q BY MR. BIRMINGHAM: Mr. Hasencamp, before the lunch recess, I asked a question of this panel which you were responding to regarding the consistency between a recommendation that water that flows in the Upper Owens
be limited to 200 cfs and the recommendation that exports from the Mono Basin be maintained at a constant level. Do you recall that question?

A BY MR. HASENCAMP: Yes, I do.

Q And you had given us an answer, and you were going to explain your answer through the presentation of a graph; is that correct?

A Yes.

Q Over the course of the lunch hour, did you have an opportunity to prepare the graph?

A A hurried graph, yes.

Q And that's been marked as L.A. DWP Exhibit 141; is that correct?

A Yes.

Q Would you please explain L.A. DWP Exhibit 141?

A Certainly.

Q Take the microphone with you if you would, Mr. Hasencamp.

A Okay. I chose an actual -- actual data from runoff year 1986. It certainly is not the biggest year on record, but it is one of the more recent wet years. And under most of the plans, especially with the DFG flows, the only times significant export would occur is in wet years. The bottom line here on the chart shows the actual Upper Owens River flows on a monthly basis in runoff year 1986. The peak occurs in June, which is approximately 164 cfs, and then the base around here is between 90 and 100 cfs for most of the fall and winter.

Q That's from the period August through March?

A August through March of 1986. Or March of 1987. I'm sorry. April. April '86 through March '87. And there's both the component of the spring component and the runoff component.

HEARING OFFICER DEL PIERO: Mr. Hasencamp, I'm glad you clarified that. I thought the font might have been off on this one.

Q BY MR. BIRMINGHAM: The runoff year runs from April through March; is that correct?

A MR. HASENCAMP: Yes.

Q And that's the reason April is the first month on L.A. DWP Exhibit 141?

A Yes. Now, in 1986 the runoff for the Mono Basin was about 170,000 acre-feet, which is about 140 percent of normal, and under many of the plans, a runoff of about 40 percent is a reasonable export. It would maintain just about any lake level. In fact, the lake went up a half a foot in 1986. So if 40 percent of the Mono Basin runoff was allowed to be exported, it would translate into a constant flow of 95 cfs under the Department of Fish and Game recommendations.

Now, if you add the 95 cfs --

MR. DODGE: Excuse me, Mr. Hasencamp. Do you mean 40 percent of 140 percent?

MR. HASENCAMP: I mean 40 percent of the 170,000 acre-feet, which translates to 68,000 acre-feet.

MR. BIRMINGHAM: And I will only note, for the record, that Mr. Dodge has objected many times when I
have asked a witness for clarification and has stated, quite accurately, "maybe Mr. Birmingham could do his cross-examination on his own time."

MR. DODGE: I apologize.

HEARING OFFICER DEL PIERO: You did get that down, didn't you?

THE REPORTER: Oh, yes.

HEARING OFFICER DEL PIERO: Thank you.

MR. HASENCAMP: With the 95 cfs constant export, as proposed by the Department of Fish and Game, if you add 95 cfs to the monthly peak of 164 cfs and, in fact, the daily peak was even higher than that, but on a monthly basis it would translate to about 260 cfs and this, of course, is 60 cfs above the maximum that they allow, 200 cfs.

And, in fact, in this runoff period, all of this export would not be allowed with a 200 cfs cap, and so what you then have is a flow in the Upper Owens of -- rising to 200, being constant for a number of months until July or August, and then falling to about 190 or 180 constant. So, in effect, you'd have fairly constant flow between 160 and 200 cfs, and you'd lose the peak that you would see in a natural hydrograph, and you also are not allowed to have the constant export of 95. In fact, here, you're only allowed about 35 cfs.

Q BY MR. BIRMINGHAM: So, Mr. Hasencamp, if I understand L.A. DWP Exhibit 141, using actual runoff data from 1986 and implementing the Department of Fish and Game proposals, it would not be possible to implement a proposal to maintain constant export from the Mono Basin at a continuous level and maintain a maximum flow in the Upper Owens River below 200 cfs?

A BY MR. HASENCAMP: Yes. Unless the export was dropped to a very minor amount. But if the export is in the range that we're talking about, you'd be much -- you could not do it.

Q Dr. Platts. You were asked by Mr. Roos-Collins, and actually, by Ms. Cahill, a number of questions about the condition of the Upper Owens River before diversions began. And Mr. Smith asked you a question about your use of -- excuse me, Dr. Smith asked you a question about the use of photographs in determining the condition of the Upper Owens River before the Department of Fish and Game began its diversions.

I'd like to show you a number of photographs, and may I take a moment and provide them to opposing Counsel first, Mr. Del Piero?

HEARING OFFICER DEL PIERO: Mr. Birmingham, I assume these are the photographs?

MR. BIRMINGHAM: These are the photographs, yes.

HEARING OFFICER DEL PIERO: Dr. Platts, which shelf in the garage did these come off of?

(Laughter.)

DR. PLATTS: I wasn't looking for paper.

(Laughter.)

MR. TILLEMANS: I've got to leave.

(Laughter.)
HEARING OFFICER DEL PIERO: What did we all have for lunch? I want to know.

Q BY MR. BIRMINGHAM: Mr. Tillemans, I'm handing you a number of photographs —

HEARING OFFICER DEL PIERO: They all missed it, so it's okay.

MR. BIRMINGHAM: I heard it.

Q BY MR. BIRMINGHAM: Mr. Tillemans, where did you find those photographs?

A BY MR. TILLEMANS: These were —

Q Actually, I'd like to withdraw that last question.

The photographs I've just handed you, Mr. Tillemans, are those photographs that were in your possession?

A Recently, yes.

Q Do you know when those photographs were taken?

A Prior to Crowley Lake. The exact dates, I'm not sure, but it's somewhere in the thirties. Randall may have a more —

Q Dr. Orton, do you know when those photographs were taken?

A BY DR. ORTON: Again, I don't know the exact date, but they are 1939, '40, before Crowley Lake.

Q Dr. Platts, the photographs I'm handing you, are those photographs on which you relied in support of your opinion concerning the condition of the Upper Owens River channel before diversions began?

A BY DR. PLATTS: Yes.

MR. BIRMINGHAM: The State Board Staff, made photocopies of these photographs over the lunch hour.

In response to Dr. Smith's request, we would have these marked and then reproduce them so that all of the parties have better quality photographs than those -- the Xerox copies or the photocopies.

HEARING OFFICER DEL PIERO: Thank you.

Q BY MR. BIRMINGHAM: Let me ask you, Dr. Platts, before L.A. began diversions out of the Mono Basin -- I think you testified that the Upper Owens River channel is in a degraded condition; is that correct?

A BY DR. PLATTS: That's true.

Q What were the causes of the degraded condition of the Upper Owens River channel before DWP began its diversions?

A It was primarily due to heavy livestock grazing.

Q Do any of the photographs which I've handed you contain evidence of damage due to heavy livestock grazing?

A Yes, they do.

Q Can you show us an example of that, please?

A These two photos —

Q Maybe I could write an exhibit number on the back of each one of them. On the first one, I will write L.A. DWP Exhibit 142, and it is a photograph which shows -- actually, would you please describe L.A. DWP 142, Dr. Platts?

A This is a photo of the Upper Owens River, and I'm
assuming it's in Crowley Lake or above Crowley Lake.
And the photograph shows that this river has had a long
period of extremely heavy grazing. Stream banks are
very poor. A lot of recent shearing by livestock.
There's been a change in vegetative composition. The
stream is over-widened, and the stream is susceptible
to high-flow events because the vegetative condition
has extremely low vigor.

MR. SMITH: Could you hold that up so we could see
that photo?
Q BY MR. BIRMINGHAM: That's L.A. DWP 142.
I'm now showing you a photograph, Dr. Platts, that
has been marked on the back as L.A. DWP 143. It
appears to be the portion of a channel taken from a
bluff. Is that correct?
MR. HERRERA: Excuse me, Mr. Birmingham. Your 20
minutes has expired.
MR. BIRMINGHAM: I make an application for an
additional 20 minutes, Mr. Del Piero.
HEARING OFFICER DEL PIERO: The reason for the
application?
MR. BIRMINGHAM: The showing on which I would base
the application is I'm attempting to conduct redirect
after approximately three and a half hours of
cross-examination of a panel of four witnesses on
testimony, some of which went beyond the scope of the
original -- the original direct, and in order to cover
that testimony adequately, it's necessary to go beyond
the 20 minutes.
HEARING OFFICER DEL PIERO: Granted.
MR. BIRMINGHAM: Thank you.
HEARING OFFICER DEL PIERO: I assume you'll be
done within the next 20 minutes?
MR. BIRMINGHAM: Yes. We will be done.
Q BY MR. BIRMINGHAM: Can you describe that photograph,
Dr. Platts?
A BY DR. PLATTS: Yes. This is marked 143, and this
photograph shows much the same as the other photographs
did. The valley bottom has received extremely heavy
grazing because that's where the forage is being
produced. The stream is showing that it has come
apart. The river is not doing well at all. There was
willow here, and it looked like there may be a few
stragglers. It's pretty well eliminated. The stream
banks are very susceptible to any stress. There's been
changes in vegetative diversity of the plant
community.
Q Thank you.
Now, Dr. Platts, I'm going to ask you a
hypothetical question. I'm going to ask you to assume
that in 1941, that the Upper Owens River was not in a
degraded state. Had the Upper Owens River not been in
degraded state in 1941, would exports from the Mono
Basin have had the same effects on that channel as they
did?
A Not the same effects.
Q What would the effects have been, in your opinion?
A If the Upper Owens River had been a natural system
with natural stream banks and natural vegetation, it would have been a river that could have accepted higher flows without so much damage. The high flows still would have changed the channel, but the channel would have been narrower and deeper and the channel would not have been so over-widened in order to take on the excess flows.

Q    Now, Dr. Platts, again, to make sure that the record is clear on your opinions. For a period of the next three to five years after implementation of a grazing management plan, is it your opinion that flows in the Upper Owens River should be limited to approximately 200 cfs?
A    Yes. Before the effects of the plan implementation take effect, I would not want to see high flows on the Upper Owens.

Q    During the period of the next three to five years after implementation of a grazing management plan, why would you want to limit flows in the Upper Owens to approximately 200 cfs?
A    Because at this time, the vegetative condition on the banks is not ready to accept the erosive forces. The vegetation hasn't built to the point that it can accept the sediments and trap those sediments and contain the sediments, and the stream bank is also not tough enough to hold up under those types of flows.

Q    Now, is it correct that if the stream or channel receives a flow not exceeding 200 cfs or approximately 200 cfs for a period of three to five years after implementation of a grazing management plan, that the channel will become more stable?
A    Would you repeat the question, please?
Q    Certainly. The process that you just described, when I asked you why you'd want to limit flows for a period of three to five years, is that so that the channel will become more stable?
A    That's correct. That's to give the vegetation a jump start.

Q    Now, after the channel has become or had an opportunity to become more stable, is it your recommendation that there be periodic flows of approximately 300 cfs in the Upper Owens River?
A    That is correct.
Q    And how often would you recommend these flows occur after the channel has had an opportunity to become more stable?
A    If the management plan is followed and if the vegetative response occurs, as I am predicting it would occur, I would want to see our bank maintenance flows occur on the average of about once every three years over a fairly long period of time.

Q    Now, what would be the purpose of these flows of approximately 300 cfs every three years?

A    Yes. I would like to see a narrower river.
Q    Now, after the channel has narrowed, as you've described it, in your opinion, should flows in the Upper Owens be limited to 200 cfs?
A    No. Definitely not.
Q    Why not?
A    Well, if you finally rebuild the Owens or get it on the rebuilding process and then decide you're going back to a 200 cfs continuous flow, then you've defeated the purpose of what we're trying to do.
Q    What is it that we're trying to do?
A    We're trying to develop those flows that will keep that stream bank and the channel in good condition and good form from this time on, so we're going to need those type of flows over time.
Q    Now, after this process has been completed, the restoration that you anticipate based upon the flow regime that you've just described, would exports from the Mono Basin represented by the historic exports damage the Upper Owens River channel?
A    No, they would not, if they're within certain boundaries.
Q    Within the boundaries of historic exports, would the channel be damaged?
A    If I'm interpreting it correctly, we wouldn't be going over flows of 360, 370 cfs? I would say that those flows would be favorable.
Q    Those flows would not damage the river?
A    Not once it's toughened up.
Q    Does your answer depend upon the continuation of a land management program?
A    Yes. And it has to be followed. It has to be a good land management program in order to get to that type of response.
Q    I'd like to talk just a few moments about ramping criteria. Mr. Dodge asked you some questions about this, and I believe he referred to some hydrographs that were in the testimony of Dr. Beschta, the rebuttal testimony.
A BY MR. HASENCAMP: I think it was Mr. Hasencamp.
Q    Excuse me. I believe that Mr. Hasencamp is right.
I'd like you to look at the Figure 1 from the rebuttal testimony of William Hasencamp, which is L.A. DWP Exhibit 133. Figure 1 is a hydrograph from Lee Vining Creek above the intake for the period 1981, and before I ask questions of Dr. Platts, Mr. Hasencamp, is it correct that Lee Vining Creek is a creek in which flows are less impaired than the flows of Rush Creek?
A    Generally, yes.
Q    Why is that?
A    Well, there's -- the storage capacity where the bulk of the runoff goes in Lee Vining Creek is much less, and so spills of the reservoirs occur much more frequently, and they're uncontrolled more than Rush Creek.
Q    So the flows in Lee Vining Creek are more typical of natural flows than flows in Rush Creek?
A    Yes, they would be.
Q: Now, looking at this hydrograph from 1981, Dr. Platts, is it correct that for the period April through July, there are 26 days during which the descending flow was in excess of 10 percent?
A BY DR. PLATTS: That sounds about right.
Q: Now, looking at Lee Vining Creek above the intake in 1986, which is Figure 3 to the testimony of William Hasencamp, is it correct that on the descending limb of the hydrograph represented by Figure 3, that there are 16 days in which the descending limb of a hydrograph is in excess of a 10 percent change in the flow?
A: That's correct.
Q: Dr. Beschta, in his testimony, talks about the article that we have all submitted as an exhibit. It's an article which you wrote with Dr. Beschta and one of your colleagues, Mark Hill. Is that correct?
A: That's correct.
Q: Now, I'd like to refer you, if I can, to the latter part of Dr. Beschta's rebuttal testimony, which is in evidence or has been identified as L.A. DWP Exhibit 137. And in the first paragraph, he refers to the 1991 publication. I'm sorry. Not the first paragraph. This is the first paragraph under the section on ramping flows on Page 14 of his testimony. He refers to your 1991 article. Is that correct, Dr. Platts?
A: Yes, he does.
Q: And then in the next paragraph he says, "Given that both high flows and low flows within the range of natural conditions will occur in a flow-regulated stream, one of the issues that still needs clarification is the rate at which flow changes will occur; i.e., the ramping rate. For recession limbs of stream hydrographs, it is suggested by Hill et al., that in the absence of supporting research, we recommend that flows be reduced by no more than 10 percent of the previous day's flows. And in most cases, a reduction of less than 10 percent of the previous day's flow would be highly preferred."
Q: Now, that's what you wrote in 1991; is that correct, Dr. Platts?
A: That's correct.
Q: Then he goes on to state that, "The term supporting research is probably too strongly worded for this sentence and does not mean that a recession rate for a given stream should automatically be set at 10 percent unless a major scientific research effort is carried out that thoroughly studies various hydrologic aquatic vegetation relationships for that stream. Instead, for streams with long-term records of daily flows such as Rush Creek above Grant Lake, the historical hydrographs provide abundant information regarding the magnitude and frequency of daily flow changes during both rising and falling stages. In such circumstances, it would seem prudent to simply utilize the existing hydrological record to assess the normal occurrence of flow changes of various magnitudes and
use them as guidance for establishing ramping rates.
For streams without any hydrologic data, the
recommendation of 10 percent may be reasonable or it
may not, but it was our recommendation in 1991."
I've just read a very large portion of
Dr. Beschta's testimony, but do you agree with what
Dr. Beschta has stated in that portion of his
testimony?
A   Yes, I agree. If you've got good data, you've got
good hydrologic data, good flow regime analysis, that
should set your ramping rate criteria. Our guidelines
to our profession at that time -- and most of our
streams do not have good data, then we put out the
conservative 10 percent in order to get protection.
Q Now, yesterday I asked you a question, and it was
followed up on by a number of my opposing Counsel, and
I want to clarify it a little bit further.
Is it correct that one of the differences between
the Upper Owens River on the one hand, and Rush and Lee
Vining Creek on the other that the Upper Owens River is
a spring-fed stream to a large degree and Rush and Lee
Vining Creeks are snow-melt streams?
A   That would be part of it.
Q And therefore, based upon that difference, you
would consider different ramping flows in the different
streams?
A   Yes, I would. If the hydrologic data you had gave
you the reason to have different ramping flows, I
would.

HEARING OFFICER DEL PIERO: Excuse me,
Mr. Birmingham.
Dr. Platts, so I know, what percentage of the
Owens River is spring fed as opposed to snow-melt --
that question has been asked now by Mr. Birmingham,
Ms. Cahill, Mr. Dodge. And I don't have an answer.
MR. DODGE: I didn't ask that question.
HEARING OFFICER DEL PIERO: Oh, maybe --
MR. DODGE: The question is vague. Upper Owens
River where?
HEARING OFFICER DEL PIERO: Well, I'm asking --
if you wish to object, Mr. Dodge.
MR. DODGE: I do. I think the answer is different
if you're looking at East Portal versus somewhere
downstream.

HEARING OFFICER DEL PIERO: Why don't you describe
for me what percentage is spring-fed as opposed to
snow-melt fed above Portal and then below Portal?
MR. HASENCAMP: Maybe I can answer that question?
HEARING OFFICER DEL PIERO: I don't know. Can you
answer the question?
MR. HASENCAMP: I think I would be more qualified
to answer.
HEARING OFFICER DEL PIERO: Let me ask Dr. Platts,
first, and then if I'm not satisfied with his answer,
I'll try you.
DR. PLATTS: Okay. It depends, too, depending on
what you're relating this spring flow versus snow-melt
flow to, whether it's just the actual flow going down
the channel or is it the processes that each one
affects.

The snow-melt processes have the most effect on
the Upper Owens River than the stream --

HEARING OFFICER DEL PIERO: I'm talking about just
flow. I'm not talking about biological processes that
might result or what effect it has on riparian
corridors. That's not the question. I just want to
isolate just the flow so I can get an answer on that.
A number of people have asked that question

including Mr. Birmingham, and I've never heard a
number. I've never heard a percentage of even more
than 50 percent or smaller than a bread box, so please
quantify it for me.

DR. PLATTS: I did do a quick calculation on
monthly flows below East Portal from 1941 to 1989, and
above East Portal, it was flowing 58 cfs in the average
month.

HEARING OFFICER DEL PIERO: What percentage of
that was snow-melt as opposed to -- that's a monthly
average.

DR. PLATTS: I would guess about 70 to 80 percent
was spring-fed.

HEARING OFFICER DEL PIERO: 70 to 80 percent is
spring-fed?

DR. PLATTS: Now, you may have more accurate
figures.

HEARING OFFICER DEL PIERO: Mr. Hasencamp?

MR. HASENCAMP: It depends on the year type, of
course. In dry years, it rises very little, and you
get almost a constant flow, especially in the recent
drought. And then in wet years, you do get some of the
upstream components coming, you get a relatively large
peak. So I would say dry --


Wait. Wait. You get an upstream component of what,
snow-melt?

DR. PLATTS: Yes.

HEARING OFFICER DEL PIERO: In dry years, I'm
assuming -- maybe I'm wrong, but the stream that feeds
the headwaters of the Owens River, I'm assuming, with
the exception of perhaps severe drought years or after
multiple years of drought, it runs more or less
constant. Is that a correct assumption, or is that an
incorrect assumption?

DR. PLATTS: It's constant, but it decreases in
prolonged droughts.

HEARING OFFICER DEL PIERO: I don't want to talk
about prolonged droughts. I want to talk about average
or median, or anything that you can characterize that's
not completely unique and unusual. Okay? So let's not
talk about 1991. Let's talk about something else.
Don't worry, Mr. Birmingham, this is not being
discounted from your 20 minutes.

MR. BIRMINGHAM: I was turning around because I
was trying to decide if I should assume the role of the
Hearing Officer and say, "Answer the question."

(Laughter.)
HEARING OFFICER DEL PIERO: That's okay. I'm more than capable of getting an answer. Really.

MR. HASENCAMP: In a ballpark figure, I would say that about 50 cfs is from springs, and on an average, about 10 cfs from snow melt. But the average is very skewed. In wet years, you know, obviously, the base remains more or less the same. In wet years, you'll get a much larger chunk from the average of ten, and the dry years, much less.

HEARING OFFICER DEL PIERO: Above The Portal, how many cfs is running in the stream that's attributable to spring water?

MR. HASENCAMP: About 50.

HEARING OFFICER DEL PIERO: By cfs?

MR. HASENCAMP: It's a little bit less right now.

HEARING OFFICER DEL PIERO: Average monthly flow?

MR. HASENCAMP: Yes.

HEARING OFFICER DEL PIERO: Okay. Okay. So I assume then -- no. Is it appropriate, then, to conclude that anything above 50, on average, is attributable to either snow-melt or some other source of water?


MR. BIRMINGHAM: Thank you very much, Mr. Del Piero.

HEARING OFFICER DEL PIERO: He answered the question.

Q BY MR. BIRMINGHAM: Mr. Tillemans, you're probably more familiar with the Owens Valley than any other member of this panel, so I'm going to ask you a question about these photographs, L.A. DWP 142 and 143, in hopes of laying additional foundation.

Do you know where those photographs were taken?

A BY MR. TILLEMANS: Yes, I do.

Q Can you please tell us -- first, L.A. DWP 142. Where was that photograph taken?

A Okay. Both these photos are taken essentially about the same site. I was there last week and verified it. This -- both these photos are looking from a northwest perspective to kind of a southeasterly perspective, and its looking -- in the area of Upper Crowley Lake, looking towards Latent Springs on the far left corner and you have White Mountain Peak barely in the background and kind of Casa Diablo area in the middle.

Q And now with respect to 143, where was that photograph taken?

A Excuse me. I just described 143. I'll describe 142 now.

Q Where was 142 taken?

A It's in the same place, down in the riverbed.

Q The same area of the Owens Valley?

A It's not the Owens Valley, it's Long Valley.

Q Excuse me. L.A. DWP 144 is -- would you please describe what's depicted in this photograph?

A This is the Crowley Lake area before Crowley Lake was there. It's a picture looking, I think, in a
northeasterly perspective towards the Glass Mountains and Alligator Point.

MR. DODGE: Can we have a copy of 142?

MR. BIRMINGHAM: Mr. Dodge, I'm going to ask for foundational purposes, and then we'll get you copies of them.

Q BY MR. BIRMINGHAM: L.A. DWP 145 is another photograph. Will you please tell us where that photograph was taken?

A BY MR. TILLEMANS: This photograph was taken from a higher elevation looking down on Crowley. It's in the Hilton Peak/McGee Creek area and what it looks down on is near the dam site and the boat dock and basically, you're looking at all of Crowley, a large portion of Crowley. I think some of McGee Bay is not in this photo.

Q Now, that photo was taken before Crowley began to fill?

A Yes.

Q So when you say you're looking down at Crowley, you're looking at the location of Crowley before Crowley formed?

A That's correct.

MR. BIRMINGHAM: Mr. Del Piero, I have two photographs, historic photographs of cattle operations. Do we want to have these marked and introduced?

MR. CANADAY: Staff has no desire for those, Mr. Del Piero.

HEARING OFFICER DEL PIERO: Unless you have some overwhelming desire, I see no reason to.

MR. BIRMINGHAM: Actually, Mr. Tillemans does point out that one of the photographs does contain a good view of the Upper Owens River channel, which I'll --

MR. TILLEMANS: It shows the upper one-third --

MR. BIRMINGHAM: Actually, let me mark it, and I'll ask you what it shows, Mr. Tillemans. Excuse me. I've marked this photograph as L.A. DWP 145. I thought it was a cattle operation, but apparently, it has other significance.

What is that significance, Mr. Tillemans?

MR. TILLEMANS: This fence line is still here.

This photo was taken in the McGee area and on the right-hand side of it would be anywhere from a half to the upper third of McGee Bay.

MS. SCOONOVER: Excuse me, Mr. Birmingham. I believe the last photo was marked as 145. The McGee Creek aerial looking down at Crowley --

MR. BIRMINGHAM: That's correct. This would be 146. Let me mark it and ask you to describe it again.

I've marked this photograph as 146. Would you describe it again?

MR. TILLEMANS: This is, again, Long Valley, and this fence line is still there that goes towards the Glass Mountains. On the right-hand side by the willow today, there would be about a third to a half of McGee Bay showing -- of Crowley Lake.
Q BY MR. BIRMINGHAM: In that photograph?
A BY MR. TILLEMANS: Yes.
Q    Thank you.
A    I visited that site, also.
Q    How often do you visit these sites during the
course of a year, Mr. Tillemans? Not for purposes of
identifying these photographs, but how often do you go
out to these areas?
A    I'm out on our property quite a bit in many such
places.
MR. BIRMINGHAM: Again, Mr. Del Piero, we'll have
these reproduced over the weekend and supplied to all
the parties. I'll give them to Mr. Dodge or
Ms. Cahill, assuming they have questions for
cross-examination.
HEARING OFFICER DEL PIERO: Thank you very much.
MR. BIRMINGHAM: And that concludes my redirect.
HEARING OFFICER DEL PIERO: Thank you.
Ms. Cahill, would you like the opportunity to look
at the pictures beforehand?
MS. CAHILL: No. I don't think I have questions
about the pictures.
HEARING OFFICER DEL PIERO: Then perhaps,
Mr. Birmingham, you may want to pass those on to
Mr. Dodge or Mr. Roos-Collins or Ms. Scoonover.
Recross Examination by Ms. Cahill
Q    Dr. Orton, let me just ask again. Your 45 cfs
figure -- how did you characterize that? That was
bank-full or over-bank?
A    Over-bank.
Q    And you based that on the transects from the IFIM
study; is that right?
A    Yes.
Q    And those were the transects that both Beak and EA
used in their studies?
A    That's my understanding, yes.
Q    And did you look at the transects as they are
presented in the EA report, which is L.A. DWP Exhibit
15?
A    I'm not familiar. Can you identify it?
Q    It's the EA instream flow analysis for lower Rush
Creek. It's L.A. DWP Exhibit 15, and there are
cross-sections of the various transects that are
contained in that document.
A    No. I did not rely on that.
Q    If I were to tell you that that document contains
transects that were located below The Narrows,
Transsects 47, 49 -- well, anyway, beginning with
Transact 47, the transects shown were below The
Narrows, and if I were to tell you that there were four
lines that represented flows of 13 cfs, 19 cfs, 60 cfs,
and 100 cfs, would it be possible for a person to take
those transects and locate your 45 cfs line
approximately midway, slightly higher than midway
between the 20 cfs flow and the 60 cfs flow line?
A    Located with respect to the figure? The stream
bank on the figure? I guess I don't understand the
question.
Q    The question is by examining these cross-sections, could one determine where 45 cfs lies in relation to the banks?
A    Not by the banks. If you refer to the banks in a real sense as opposed to the banks as depicted on the drawing, there is a difference there.
Q    What is the difference?
A    Well, the difference is that what you see in front of you is a representation of the banks, and I would need to know, for example, the spacing of the verticals. It's a transect, and you drop verticals down from the transect. So if -- for example, in the line -- it would depend on how well this represents the bank, the actual bank.
Q    Can you examine those and tell us whether that's a rough approximation of where the bank is? Would that provide useful information for one who wanted to know what a 45 cfs flow would mean in terms of banks below The Narrows?
A    It would be useful in one -- I'd have to spend some time with it, I'm afraid.
Q    What -- how did you use the IFIM transects to determine what would be over-bank?
A    I'm sorry. I was --
Q    How did you go from the information in the IFIM studies to determining what was over-bank?
A    By using the PHABSIM output. The weighted usable area versus flow information.
Q    How does the weighted usable area output tell you where the bank is?
A    By the -- the transects feed into the PHABSIM model, and the PHABSIM model is sort of your -- if you're thinking in terms of a flow chart, the beginning of the flow chart would be the transect data and the output would be the weighted usable area versus flow. So it's a very integrated measure.
Q    If you look at the fry curves, specifically the weighted usable area versus flow curves for fry, you will find a point where the slope changes direction. And that usually indicates that you've identified a point where the channel, the slope of the channel, the bank, itself, has a sharp break to it.
A    Absolutely, yes.
Q    And is -- but for a person who wanted to get a rough idea of where the banks are, wouldn't these transects give them a relatively good rough idea?
A    Yes. If you had all of them -- yeah. If you'd go through them, that might be so.
Q    Thank you. Doctor -- actually, it's not for Dr. Platts.
    Mr. Hasencamp, this L.A. DWP 141, that was 1986; is that right?
A    The actual Upper Owens River was 1986, not the Mono Basin export.
Q    Right. And you said that 1986 was 140 percent of
04 normal runoff; is that right?
05 A    For the Mono Basin.
06 Q    And you sometimes have a problem with too much
07 water in very wet years; isn't that right?
08 MR. BIRMINGHAM: Objection. It's vague,
09 ambiguous.
10 MS. CAHILL: Isn't it true --
11 HEARING OFFICER DEL PIERO: You're going to
12 withdraw the question?
13 MS. CAHILL: I'll withdraw it.
14 Q BY MS. CAHILL: Isn't it true that Los Angeles has a
15 concern with being forced to take Mono Basin water in
16 some very wet years where your aqueduct is already at
17 capacity?
18 A BY MR. HASENCAMP: Certainly. We are very concerned
19 about that, and that's why 1986 is such a perfect year
20 because, in reality, we exported about 65,000
21 acre-feet, which is almost the same number I put up
22 there. So that's almost exactly --
23 Q    And isn't it true that in 1986, you did not export
24 any water in the months of May, June, and July?
25 A    That's right. We exported more later.
0158
01 Q    And you didn't export any in May, June, and July
02 because you didn't need it in those months or couldn't
03 accommodate it?
04 A    We were concerned about capacity. So we put water
05 in Grant Lake, knowing that we could get the water
06 later in the year when the runoff in the Long Valley
07 area declined, and that's different than how we operate
08 in a wet year.
09 Q    So, in fact, you weren't deprived of that peak --
10 this is a combination of a hypothetical and a real, but
11 the truth was that in 1986 when the Upper Owens River
12 had its natural high flows, you didn't take any water.
13 MR. BIRMINGHAM: I'm going to object for the exact
14 reasons that Ms. Cahill stated, that in prefacing her
15 question -- the question is ambiguous because she is
16 combining actual operations with a hypothetical
17 question. L.A. DWP 141 deals with Department of Fish
18 and Game's proposed rules for operating, and the
19 purpose of Mr. Hasencamp's testimony was not to
20 describe what actually happened in 1986, but to
21 demonstrate what would happen if the Department of Fish
22 and Game's rules had been implemented.
23 MS. CAHILL: I'm willing to withdraw that
24 question.
25 Q BY MS. CAHILL: Mr. Hasencamp, let me read to you
0159
01 Fish and Game's recommendation. It's found on Page 217
02 of DFG 62. "Given that water is not available for such
03 a release, meaning a constant year-long release of 200
04 cfs just below East Portal, the recommendation to
05 optimize conditions for trout is to release at a
06 constant rate the augmentation from Grant Lake that
07 becomes available over the year starting July 1st as
08 long as," and there are a number of conditions, and the
09 last one is, "Such releases do not cause Upper Owens
10 River flow below East Portal, and then -- " I'm going
11 leave out the Hot Creek part, "To exceed 200 cfs."
So does that recommendation prioritize which takes precedence between the constant flow and the do not exceed 200 cfs?

A BY MR. HASEN.CAMP: The way you worded it, it's an inconsistency.

Q If it says, "Take at a constant rate unless it would cause the river to go above 200," that isn't inconsistent is it?

A No. That wouldn't be then. In that case, then the 200 would --

Q And, in fact, when the Upper Owens River's natural flow approaches 200, isn't it true that in most cases, that will be a very wet year in which Los Angeles is not going to want to take large amounts of Mono Basin water into the Upper Owens River in the months of May, June, and July?

A Well, I would not agree. In this year, in fact, in reality, we exported the 265. It just didn't happen in June. It happened later in October and September. So, in fact, that is a serious cap at 200 cfs, and it would impede the operations, both historically and in the future.

Q And you took it in what months?

A Well, the total flow in the Upper Owens or in the Owens River below East Portal in September and October was about 265.

Q In other words, though, the peak caused when you exceeded 200 was not related to the natural peak in the Upper Owens River; is that right?

A That's correct.

Q So that we are clear, L.A. DWP 141 roughly shows the flows in the Upper Owens River in the bottom line, but it is not an accurate representation of how L.A. DWP, in fact, took its exports that year, even though that was a year prior to any court lake level injunction?

A No. The purpose of L.A. DWP Exhibit 141 was to choose an example year with conditions and show the problems with the DFG criteria.

MS. CAHILL: Thank you.

HEARING OFFICER DEL PIERO: Thank you very much, Ms. Cahill. Mr. Dodge?

MR. DODGE: I'm going to set a record for the fewest questions.

MR. BIRMINGHAM: I have that record already, Mr. Dodge.

HEARING OFFICER DEL PIERO: I'm afraid, Mr. Dodge, it's true. You'd have to stipulate to set that record.

RECross EXAMINATION BY MR. DODGE

Q Dr. Platts, would you take a look at one of my favorite documents, Mr. Hasencamp's testimony, in particular, Figure 3 and Figure 4?

HEARING OFFICER DEL PIERO: Mr. Hasencamp, I bet you didn't know that was his favorite document.

MR. HASENCAMP: I certainly did not, but I'm flattered.

HEARING OFFICER DEL PIERO: I'm sure you are.
Q BY MR. DODGE: Figure 3 shows Lee Vining Creek daily variations for 1986. Figure 4 shows the same information for Rush Creek for 1986. Do you see that, Sir?
A BY DR. PLATTS: I do.
Q On the down limb, if that's what we're calling it, in each case would you agree with me, that there are only two days that exceeded 20 percent?
A I would.
Q And I appreciate I'm not giving you much time to do this, but just looking at the information on Figure 3 and Figure 4, would that information suggest to you, if that's all the information you had, that a ramping criterion of 10 percent on the downside was within the range of reason?
A It's difficult to make any statement just from this in this short time period, but I would say it may be reasonable. You know, I would want to qualify that with some time to really go into it.
Q I understand.
Mr. Hasencamp, I have a really good question for you, and I hope you get it right.
MR. BIRMINGHAM: Is the Indian Ditch -- (Laughter.)
Q BY MR. DODGE: No. No. I'm waiting on that one.
MR. BIRMINGHAM: I'm going to object on the grounds that it calls for utter speculation --
HEARING OFFICER DEL PIERO: I'm sorry. That objection is overruled. He asked simply if he could think of one. He didn't ask him to identify it.
MR. HASENCAMP: I probably could think of one.
Q BY MR. DODGE: And would one way to deal with that
MR. BIRMINGHAM: I'm going to object on the grounds that it calls for an opinion beyond the expertise of this witness.

HEARING OFFICER DEL PIERO: Excuse me, Mr. Birmingham, but it's going to have to be better than that because the expertise of this witness relates to how much water goes down Rush Creek. So --

MR. BIRMINGHAM: But the question is --

HEARING OFFICER DEL PIERO: The terminus of Rush Creek, I understand, is Mono Lake. At least it has been during most of the course of this hearing.

MR. BIRMINGHAM: The question deals with more environmentally sensitive ways to use this water within the Mono Basin. And I'm not sure that Mr. Hasencamp is qualified to express an opinion concerning whether or not putting this water down into Mono Lake would necessarily be environmentally sensitive. Ultimately, that is the question that is presented to this Board for resolution.

HEARING OFFICER DEL PIERO: Mr. Dodge?

MR. DODGE: I stand by the question.

HEARING OFFICER DEL PIERO: I'm going to overrule the objection. I'm going to overrule it, and I would -- Mr. Birmingham, I would recommend that you read the record and particularly the way that the question was framed afterwards because I think the nature of your objection is -- doesn't necessarily jive with the objection -- pardon me, the nature of the question and --

MR. BIRMINGHAM: May I ask that the question be reread now so that --

HEARING OFFICER DEL PIERO: Certainly.

Ms. Anglin, would you be kind enough to read both the first and the second of Mr. Dodge's questions?

(Whereupon the record was read by the Reporter.)

MR. BIRMINGHAM: I will withdraw my last objection.

HEARING OFFICER DEL PIERO: Thank you very much, Mr. Birmingham.

MR. BIRMINGHAM: And I will assert a new objection. The question is vague in that it does not define what environmentally responsible is, and it also lacks foundation because there are many elements of putting water down Rush Creek that are not set forth in Mr. Dodge's hypothetical question.

MR. DODGE: I took out the environmentally responsible just to move the thing ahead.

HEARING OFFICER DEL PIERO: I understand that, and I'm going to overrule the objection because you did remove that from the second question.

Mr. Hasencamp, you can answer the question with a yes or no. If you would like to expand on that, you're welcome to, Sir.

MR. HASENCAMP: One way is to put water down the creeks into Mono Lake. There are other ways including increasing irrigation, trying to manage Grant Lake.
storage in such a way that this 200 cfs concrete stone
was that you could try to get the water out, but it
would severely restrict the export out of the Mono
Basin with both the 200 cfs and the constant flows.
And I know that there's potentially problems,
environmental problems, putting in it Mono Lake if
you're concerned about sand Tufa and some of the
nesting isles on Paoha Island. There's a lot.

Q BY MR. DODGE: If I understand it -- let's not you
and I get into a debate about environmentally
sensitive. I'll get into that debate with someone
else.

But as I understand your testimony, assuming that
200 cfs is chipped in granite, the Upper Owens River is
not to exceed that, one way to deal with the excess
water is to send it down the four tributary streams,
right?

A    Yes.

Q    One way to deal with the water is through
irrigation, right?
A    Some of it, yes.

Q    Some of it, yes. And one way to deal with the
water is to raise the level of Grant Lake, right?
A    Yes.

Q    But that has a lot of perils to it, doesn't it?
A    If it's done without planning. But if you plan
properly, you can certainly accomplish it a lot more
effectively.

Q    But in a 140 percent runoff year, there's a limit
to how much Grant Lake can accommodate; is that right?
A    That's correct.

Q    And the capacity of Grant Lake is 47,500
acre-feet, isn't it?
A    That's very close.

MR. DODGE: Thank you. No further questions.

HEARING OFFICER DEL PIERO: Thank you very much.
Mr. Roos-Collins?

You didn't set a record, Mr. Dodge.

MR. DODGE: Well, Mr. Hasencamp is --

HEARING OFFICER DEL PIERO: Promises, promises.

MR. DODGE: -- more clever than I thought. It
took a while.

HEARING OFFICER DEL PIERO: He's as clever as I
thought he was.

Mr. Roos-Collins.

Ladies and Gentlemen, I may as well tell you --
what are we looking for Mr. Roos-Collins?

MR. BIRMINGHAM: I have the photographs,
Mr. Roos-Collins. Mr. Dodge gave them to me because he
said not to let you have them, that you may want to ask
questions about them. But I have never followed
Mr. Dodge's direction.

HEARING OFFICER DEL PIERO: Mr. Roos-Collins, I'd
like to point out to you, Sir, that at a quarter to the
hour, I'm going to have to take a break because I have
to make a phone call. And so I don't mean to interrupt
your examination, but you may as well just assume
you're going to get six or seven minutes after the
Recross Examination by Mr. Roos-Collins

Q: Mr. Hasencamp, you were asked several questions by Mr. Birmingham on his redirect examination regarding the people with whom you consulted in preparing the L.A. DWP management plan. Do you recall those questions?

A: Yes, I do.

Q: Let me ask you a related question. What is the fishery objective of the L.A. DWP management plan?

A: To follow the Court's decision, which in Cal-Trout 2, I believe it is to maintain the fish in good condition that are planted or are naturally below the diversion dams.

Q: Dr. Orton, on Page 2 of your written testimony, you state that you believe that Dr. Hardy's and Mr. Hanson's recommended flows to be capable of maintaining fish in good condition downstream of the Mono Basin diversions of the City of Los Angeles. That is your opinion?

A: Yes, I do, and yes, it is.

Q: Will you turn now to the phrase on Page 5 of your written testimony, "all population indices." In forming your opinion that the recommended flows just described would maintain the fish in good condition, were you referring to particular population indices?

A: In part, yes.

Q: Which ones?


Hearing Officer Del Piero: Mr. Dodge, I'm sure that Mr. Pollack will be happy to give you a copy of that work product.

Mr. Pollack: I can't stipulate to that, Mr. Del Piero.

Hearing Officer Del Piero: Okay.

Mr. Dodge: The last comment he wrote down is, "Hi there, Bruce."

(Laughter.)

Mr. Pollack: That's also incorrect.

Mr. Birmingham: I saw it. It wasn't, "Hi there, Bruce."

Hearing Officer Del Piero: It helps my concentration if everyone sort of stays in their own chair.

Please proceed, Mr. Roos-Collins.

Mr. Roos-Collins: During a prior break, Counsel were chatting about the subject of upcoming testimony. I characterize the subject as "discretion."

Mr. Birmingham said that Mr. Dodge had none.

Mr. Birmingham: And then, Mr. Dodge set out to prove that I was absolutely correct. Let's leave it at that.

Mr. Valentine: Thank you.
answer. One of the population indices you just listed is biomass. What biomass in Rush Creek, in your opinion, would be indicative of a fishery in good condition?

A BY DR. ORTON: I could not answer that by itself. I mean, you can't throw a single index out. I'd have to see how it compares with other streams. It's a relative measure.

Q You'd give the same answer with respect to abundance?

A No. On that one, you could be specific to the degree that taking them by year classes, if the number of young-of-the-year was being produced in sufficient numbers to maintain subsequent year classes, then at a certain point, it wouldn't matter how many of them you have.

Q Abundance refers to the number of fish in a stream?

A Yes.

Q What abundance, in your opinion, is indicative of a fishery in good condition in Rush Creek?

A I think it would be the same answer I gave on the first index, biomass. I'll specify it a bit more. Abundance in Rush Creek, for various year classes, has varied quite a bit. It's hard to give a simple answer to that.

Q What range of abundance, in your opinion, is indicative of fish in good condition in Rush Creek?

A Taking them by different year classes, the young-of-the-year, we've seen numbers of close to a hundred thousand. We've also seen numbers as low as -- this is stretching it. My memory at this point, probably about 8,000. So, you know, you're dealing with an order of magnitude for young-of-the-year.

And then for each subsequent year class, there's usually about an order of magnitude reduction to the point where in Rush Creek, three-year olds would be on the order of, oh, less than a thousand. Say anywhere from 200 on up to, I believe, 600 three-years olds. Four-year olds, a fraction of that, and five-year olds, to my knowledge, have not been found with the exception of one scale that I've seen. The older they get, the harder they are to read their scales. It's hard to read the scales, and there's not very many of them, so it's hard to get a population estimate at all at that point.

Q Let me read more of the paragraph, which is the predicate for this line of questions. Again, this is on Page 5 of your written testimony. "Although the abundance of trout in Rush Creek has fluctuated within the last ten years, primarily, the younger-age classes, these fluctuations are natural and expected. There is no indication that the population is under any risk of extirpation. In fact, all population indices are equal to or better than what is found in other eastern Sierra streams."

In your opinion, is the fishery in Rush Creek
today in good condition?
A Yes.
Q And today, the flow regime in Rush Creek is controlled by the stream and lake level orders issued by the El Dorado Superior Court?
A In part.
Q Is it your understanding that, but for the diversion of 2,000 acre-feet in 1991 for the Upper Owens River IFIM, no diversions have occurred from Rush Creek in the last several years?
MR. BIRMINGHAM: Excuse me. I'm going to object to the question on the grounds that it's ambiguous. Mr. Roos-Collins uses the term "diversion." I wonder if he could state it to mean out-of-basin diversions. In fact, there are diversions ongoing in the basin.
MR. ROOS-COLLINS: I thank Mr. Birmingham for that clarification, and I accept it.
Q BY MR. ROOS-COLLINS: Dr. Orton, do you understand the question?
A BY DR. ORTON: I do. I'm afraid I forgot the time period. For what period of time?
Q You've testified that the fishery in Rush Creek, in your opinion is in good condition today?
A Yes.
Q My question went to the effect of the existing court orders on diversions. But for the diversion, the export of several thousand acre-feet for the Upper Owens River IFIM, is it your understanding that no export from the Mono Basin has occurred in the last several years?
A Well, no. If you're talking about from 1989 to the present, I would agree with that.
Q Okay. So the fishery is in good condition today and no export but for that IFIM export has occurred since 1989. If exports commenced again, would the fishery remain in good condition?
A I think if the export resulted in stream flows that we've seen over the period of record beginning about 1987, I believe that's true. Yes. I think the fish have remained in good condition since they recolonized the stream.

compares the fishery in Rush Creek to the fisheries in the fishery in Rush Creek is in good condition as long as its population indices are comparable to those in
A If they're comparable to those in other eastern Sierra streams, if you note -- in the statement, it
Q Morhardt. Actually -- yes. Data presented there. The indices as of that moment. Of course, if something
volcanism, for example.
Q If there were what?
A active area. The last reported volcanism was about 90 years ago.
So, in other words, if something happened that lowered the indices across the board, I would expect that.

HEARING OFFICER DEL PIERO: Mr. Roos-Collins, we're going to take a break. We'll be on break for about ten minutes, Ladies and Gentlemen.

(Whereupon a recess was taken.)

HEARING OFFICER DEL PIERO: Ladies and Gentlemen, we're back on the record. Mr. Dodge?

MR. DODGE: Yes. Three quick things. One, pursuant to your direction, I have caused to mark as an exhibit the cover page of the Mono Lake Newsletter together with the information on fisheries. It's National Audubon Society and Mono Lake Committee Exhibit 256 and --

HEARING OFFICER DEL PIERO: And I've already ruled that into the record.

MR. DODGE: -- I would offer it into evidence.

HEARING OFFICER DEL PIERO: I think it was already offered and already entered into the record, but nonetheless, it's been done.

MR. DODGE: The next witness is Mr. Miller for whom I have no questions, so I'm going to depart.

There are at least two procedural matters that I think we ought to discuss. One is, as you know, except for Mr. Vorster, whose testimony is still in limbo, I have only one witness in rebuttal. That's Dr. Stine. He is available Tuesday afternoon or Thursday, and if we could set him now, I would appreciate it.

HEARING OFFICER DEL PIERO: He's available Tuesday afternoon. Does he have classes Tuesday morning?

MR. DODGE: I don't remember what --

HEARING OFFICER DEL PIERO: Is he available all day Thursday?

MR. DODGE: All day Thursday, yeah.

MR. CANADAY: Dr. Stine has classes Tuesday morning.

HEARING OFFICER DEL PIERO: On Tuesday mornings but not on Thursday?

MR. BIRMINGHAM: Do you expect to have significant examination of Dr. Stine?

MR. BIRMINGHAM: No, I don't. And on this issue of witnesses, I think it would be appropriate to have Dr. Stine appear on Tuesday afternoon because I don't expect a lot of cross-examination of Dr. Stine.

HEARING OFFICER DEL PIERO: Okay. I just don't want to have him here on Tuesday afternoon and not get done with him by five o'clock. That's the concern that I've got. So if you feel confident that's not a problem, we'll do him Tuesday afternoon. If not, Thursday.

Ms. Scoonover?

MS. SCOONOVER: I'm concerned about the order of the witnesses who are going next because it seems to me we have Mr. Miller, Mr. Barnes.

MR. BIRMINGHAM: We have additional witnesses.

MS. SCOONOVER: And then Department of Fish and Game had a witness lined up. I'm concerned about the
HEARING OFFICER DEL PIERO: The overall picture to try and accommodate everyone's schedule and accommodate the witnesses' schedule and make sure testimony before they put on their presentation and examinations, the schedule, at this point, is not inappropriate characterization, but it's not much better than that.

Have you thought about that? You have none now.

MS. SCOONOVER: We have none now.

Mr. Canaday? Who do we have on Tuesday? We have the balance of Mr. Birmingham's witnesses, is that Mr. BIRMINGHAM: We have, on Tuesday, Jerry Gewe, who is a water supply panel witness who has to be related to this subject.

HEARING OFFICER DEL PIERO: Which city council,

MR. BIRMINGHAM: Los Angeles. So we had hoped to call him on Wednesday.

Tuesday? Let's figure this out now. Let's assume -- ask everyone else.

Ms. Cahill, do you anticipate significant

MS. CAHILL: No.

HEARING OFFICER DEL PIERO: Ms. Scoonover?

HEARING OFFICER DEL PIERO: Give me an estimate of time, 20 minutes?

Mr. Birmingham.

HEARING OFFICER DEL PIERO: That's not helpful.

HEARING OFFICER DEL PIERO: That's helpful.

Mr. Roos-Collins? There you go. How much time

MR. ROOS-COLLINS: Cal-Trout is jointly calling Dr. Stine. I anticipate two minutes on my direct.

four, and it took an hour and a half.

MR. BIRMINGHAM: Dr. Stine, compared to the panel

MR. ROOS-COLLINS: On my direct examination, less than ten minutes.

HEARING OFFICER DEL PIERO: Less than ten minutes?

HEARING OFFICER DEL PIERO: I'll assume 20.

Mr. Dodge? Are you putting him on, also?
MR. DODGE: I am putting him on, period.

HEARING OFFICER DEL PIERO: And 20 minutes for you?

MR. DODGE: I'll ask him to summarize in 20 to 30 minutes, yeah.

HEARING OFFICER DEL PIERO: How much time for cross?

MS. CAHILL: Probably none. Little to none.

Let's say five minutes.

HEARING OFFICER DEL PIERO: We're at two and a half hours already. When do you expect him to be here on Tuesday? Does he arrive at two?

MR. CANADAY: He has stated he would be here at approximately 2:00 p.m.

HEARING OFFICER DEL PIERO: That gives --

MR. DODGE: I'll get him here as early as I can.

HEARING OFFICER DEL PIERO: I understand, but I also understand what his class schedule is. The best he can do by car is to get here by two o'clock. We had that conversation two or three days ago. I'm a little, in fact, I'm a lot concerned that we'll put him on at two. We're already -- the estimates, even being a little conservative, are already two and a half hours. If we go over at all, even considering the break, we're going to be pushing up against five o'clock, and we won't get him done.

Pardon me?

MR. VORSTER: Wednesday's a terrible day for Dr. Stine.

HEARING OFFICER DEL PIERO: I don't think Wednesday's a consideration. Tuesday afternoon or Thursday morning. What would we have Tuesday afternoon if we did not have him here.

MR. DODGE: We have two brief Department of Fish and Game witnesses. We have Mr. Hanson. He can be here on Tuesday.

HEARING OFFICER DEL PIERO: Mr. Hasencamp?

MR. DODGE: Mr. Hasencamp. I could be ready for Mr. Hasencamp on Tuesday.

MR. BIRMINGHAM: Ready for Mr. Hasencamp -- we have additional -- Mr. Miller's here this afternoon. We had hoped to get him on and off this afternoon. His testimony shouldn't be terribly long. We have Mr. Barnes, who will be available on Tuesday. Mr. Barnes, I'm not sure what kind of cross-examination parties have for Mr. Barnes. We also have Mr. Hanson, who's been sitting here most of the day waiting. In fact, all day waiting, and I believe he will be available on Tuesday to come back if he arranges some meetings that he was supposed to attend in Los Angeles, but I think he can accommodate us.

HEARING OFFICER DEL PIERO: Is that true, Mr. Hanson?

MR. HANSON: Well, I've got some meetings in Los Angeles Tuesday and Wednesday. I'd rather be on Thursday or Friday. If that doesn't work out, I'll cancel it.

MR. BIRMINGHAM: So there's a pretty full day,
Game witnesses for Tuesday.

HEARING OFFICER DEL PIERO: Are we going to have

MS. CAHILL: We have Mr. Cordone here today. If
we don't get to him today, I think he'd be available
his schedule to be here Tuesday.

MR. BIRMINGHAM: That would make Wednesday a dark
Wednesday.

MS. CAHILL: It would probably be better to count
on Tom Payne on Wednesday.

HEARING OFFICER DEL PIERO: Mr. Birmingham, are
Dr. Stine?

MR. BIRMINGHAM: Without Dr. Stine, it's probably
outlined.

HEARING OFFICER DEL PIERO: Mr. Dodge?

MR. BIRMINGHAM: Thursday would probably be a good
day for Dr. Stine. And Mr. Gewe will be here on

MR. FRINK: Who do you have on Tuesday again,
Mr. Birmingham?

and Mr. Hasencamp.

MR. FRINK: On the management plan?

testimony I gave yesterday.

MS. SCOONOVER: What about Mr. Kimmerer and --

testimony, so he will not be -- he will be withdrawn.
The others are dependent on LAAMP.

HEARING OFFICER DEL PIERO: Mr. Roos-Collins, do
we have left, Mr. Canaday, after Thursday of next
week?

HEARING OFFICER DEL PIERO: Three?

MR. CANADAY: If you're going to meet your

Friday the 21st, Monday the 24th, and Tuesday the 25th.

HEARING OFFICER DEL PIERO: How much time are we
Beschta and -- well, is it gone, or is that going to
take a half a day for Beschta?

HEARING OFFICER DEL PIERO: A whole day?

MR. DODGE: I would guess.

MR. DODGE: They have a lot more to say than this
panel and look how long we've taken with these folks.

Mr. Dodge an opportunity to prepare was so that he
could do an organized and effective cross-examination.
I certainly understand that he may need an additional
20 minutes, but -- for the two of them, but all day
with two witnesses, I think --
    MR. DODGE:  I do believe over the long haul that I
have a world's record for being the briefest, so I'm
going to finish them in an orderly way.
    HEARING OFFICER DEL PIERO:  Okay.  Besides
Hardy -- you guys can argue it later on.  I'm trying to
figure out timing here to make sure that we get this
process done.  Okay.  Whose testifying on LAAMP?
Vorster?
    MR. DODGE:  Yes.
    HEARING OFFICER DEL PIERO:  Who else?
    MR. DODGE:  Hasencamp.
    MR. HASENCAMP:  Mike Deas.
    MR. VORSTER:  Russ Brown.
    HEARING OFFICER DEL PIERO:  One day for this?
    MR. VORSTER:  Hutchison?
    MR. FRINK:  Probably one day on the modeling
itself, and probably another day on impacts or
operations that are directly related to the modeling.
    HEARING OFFICER DEL PIERO:  And they're supposed
to be done Thursday afternoon, Mr. Vorster?
    MR. VORSTER:  My understanding is the testimony is
due Thursday at 5:00 p.m.  And then we have -- that
includes not only on LAAMP, but the water supply
models.  I think there's NHI.  I think that's what you
were referring to.
    MR. FRINK:  Correct.
    MR. VORSTER:  I assume that would take a day in
addition to the modeling and operational plans.
    HEARING OFFICER DEL PIERO:  Is everybody going to
be prepared to do that on Friday of next week?
    MR. VORSTER:  The testimony will be coming in on
Thursday at 5:00 p.m.
    HEARING OFFICER DEL PIERO:  I understand that.  I
also understand the schedule we've got laid out allows
us three days after Thursday of next week; Friday,
Monday, and Friday, and Monday's already taken up with
Drs. Beschta and Hardy, so that means we've got two
days.  We've got Friday next week, less than 24 hours
after the receipt of the testimony, and the following
Friday.  Everybody going to be ready?
    MR. BIRMINGHAM:  I --
    HEARING OFFICER DEL PIERO:  I don't see anybody
jumping up very quickly.
    MR. BIRMINGHAM:  I suspect that we will suffer
from the same disability that Mr. Dodge complained
about yesterday.  I don't know what Mr. Vorster's
testimony's going to look like nor do I know what the
other LAAMP testimony is going to look like, but I'm
sure it's going to be complex.
    HEARING OFFICER DEL PIERO:  We've got to do
scheduling.  We've got a problem.  I'm not going to be
able to go to Monterey.  It's just that simple.  If I
do go, it's going to be one-day turnaround.  It's just
not going to work out.
extreme case on which we ought to consider a Saturday?
HEARING OFFICER DEL PIERO: I don't know, Ladies
try and get this done, but given what's going on,
there's no purpose in going on evenings because
problem. The thing that's going to be holding us up
is -- I guess we could go in the evening on Tuesday and
a lost day. We have nothing at this point that we can
put on.
put Payne on Wednesday.
MR. BIRMINGHAM: We also have Jerry Gewe on
MR. CANADAY: Is the Board meeting still scheduled
for Wednesday?
turnaround, two hours.
MR. BIRMINGHAM: We would support having a session
Monday. We fully support that idea.
MS. CAHILL: What about Beschta and Hardy? I
wonder if they could make Saturday?
day before yesterday. Okay. Look. We're going to
do -- Mr. Birmingham, we're going to do all your
MR. BIRMINGHAM: The way that it currently looks
is Tuesday we would have Mr. Barnes, Mr. Hanson, and
then the two Department of Fish and Game witnesses.
Thursday we would have Dr. Stine. And then that --
testimony.
HEARING OFFICER DEL PIERO: I want to ask a
at all of getting the modeling testimony by eight
o'clock in the morning on Thursday as opposed to five
MR. VORSTER: We're meeting on Monday. Meeting
all day Monday and, hopefully, we can bring to a
That would be an optimistic outlook.
HEARING OFFICER DEL PIERO: The reason I ask that
day would be Thursday, particularly if we could get the
do cross-examination on Friday because everyone would
have all day Thursday to evaluate it. So, is the
MR. DODGE: Why don't we address that question on
Tuesday morning after the Monday meeting?
MR. VORSTER: There's a lot -- once the model is
done, and not only do all the operational plans have to
be done, but all that input to the water supply stuff
has to be done.

HEARING OFFICER DEL PIERO: Mr. Dodge, you be
prepared to have Dr. Stine here Tuesday afternoon and,
Ladies and Gentlemen, we'll go Tuesday evening. Okay?
MR. DODGE: Stine is Tuesday afternoon.
HEARING OFFICER DEL PIERO: Tuesday afternoon.
We'll finish him up Tuesday evening. We'll put him on
after we get done with all of Mr. Birmingham's
witnesses.

Mr. Birmingham, you want to read those witnesses
again that you've got scheduled for Tuesday?
MR. BIRMINGHAM: We have Barnes, Hanson, and
Hasencamp's cross and, as Ms. Goldsmith points out,
that could be shoved back to the panel on Monday with

Dr. Beschta.

HEARING OFFICER DEL PIERO: Either way.
MR. BIRMINGHAM: Tuesday -- or Wednesday, I'm
sorry, we would have Gewe, Cordone, and Payne. And
then Tuesday night presumably Dr. Stine.
HEARING OFFICER DEL PIERO: Late Tuesday
afternoon, Tuesday evening, Dr. Stine.
MR. BIRMINGHAM: Thursday would be --
HEARING OFFICER DEL PIERO: A dark day.
MR. BIRMINGHAM: -- a dark day.
HEARING OFFICER DEL PIERO: We're just hoping,
Dr. Vorster, but -- if you can get -- I think a number
of the people who are meeting with you on Monday are in
this room and are going to have that information.
Given the process, I don't mean to push people, but if
it's at all possible for you all to take that day, if
the information is obviously available, and review it.
MS. CAHILL: It may not be an entirely dark day
because the people designated additional responsive
experts need to be on Thursday. After having a blank
day to fill in.

HEARING OFFICER DEL PIERO: It may well work out
that way, anyway. Okay?
And then -- who's got a real aversion to doing a
Saturday session? There was only one hand in the air,

Mr. Dodge?

MR. VORSTER: My wife --

HEARING OFFICER DEL PIERO: You're not a --
MR. VORSTER: My wife has an aversion, not me.
MR. DODGE: I'm joking. I'll be here on Saturday,
if I have to be.

HEARING OFFICER DEL PIERO: I don't really relish
the idea of a Saturday hearing, but in the event that
we are obliged to do that in order to get done in a
timely fashion, as I pointed out, a number of people
are going to be leaving around the 1st of February. I
am prepared to miss some of those, if not all of those,
days in Monterey that I'm scheduled to be there to get
this matter wrapped up by the end of the month.
Inasmuch as there are 36 people showing up there for
three days and they all scheduled it around my
schedule, it's going to be a tad embarrassing, so I'm
going to try and do what I can do, and if you all can
be accommodating as best you can, I understand all
get it finished up by the end of the month.

MR. DODGE: The other procedural matter, and I to address is that I understand that Mr. Satkowski is putting the arm on us to outline management plans in some way or another by Monday, and I want to know exactly what my obligations are in that regard.

now afforded the opportunity to put the arm on in public.

Monday would be at least an idea as to what types of standards your group is proposing during rebuttal so modified can accommodate and handle any new standards that might arise. If you can get more specific, that MR. DODGE: We will be as specific as we can, given the status of LAAMP. And I understand that Los MR. ROOS-COLLINS: Mr. Satkowski -- HEARING OFFICER DEL PIERO: Wait. Wait. Wait,

but it was certainly soliciting a response from Mr. Birmingham.

Water and Power intends to attend the meeting on Monday prepared to discuss hypothetical flows with the are not cast in granite because they may change based

HEARING OFFICER DEL PIERO: We understand that.

We understand that completely, and that's clear on the Mr. Roos-Collins?

MR. ROOS-COLLINS: So Mr. Satkowski is requesting alternatives?

HEARING OFFICER DEL PIERO: Mr. Frink?

from my understanding, is the technical representatives of the parties who attend the modeling meeting on reasonable flows in their plans. Now, obviously, if it doesn't work out right in the models or if, for some entirely permissible. It's totally off the record, but it's an effort to make sure that the models, as much as recommendations that they may be asked to evaluate.

HEARING OFFICER DEL PIERO: Satisfied,

MR. ROOS-COLLINS: Yes.

HEARING OFFICER DEL PIERO: Good.

a very long drive in front of him. I'm informed by
Mr. Roos-Collins he has no questions. May he be excused?

HEARING OFFICER DEL PIERO: Mr. Tillemans, have a safe trip.

MR. BIRMINGHAM: And Dr. Platts has to catch an airplane, so I wonder if we could resume with his cross-examination.

HEARING OFFICER DEL PIERO: Is everyone clear as to which witnesses are going to be on now on Tuesday and Wednesday? So we can put that issue to rest? Everyone's clear so they can be prepared to cross-examine?

Mr. Tillemans, our best to your family, have a safe trip Sir.

Dr. Platts, Mr. Roos-Collins.

MR. ROOS-COLLINS: Mr. Tillemans, I renew my request that you stop at the garage on the way home.

Q BY MR. ROOS-COLLINS: Dr. Orton, I have one final question for you, and then I will move on to Dr. Platts.

In your opinion, how do the population indices of the fisheries in the eastern Sierra streams referred to on Page 5 of your written rebuttal testimony compare to the corresponding population indices of the fishery in Rush and Lee Vining Creeks before 1941?

A BY DR. ORTON: There's no data comparable to the data presented in either Dr. Mark's testimony or the EA reports. Electrofishing wasn't done then, that wasn't done by anybody then. So any numbers would have to be inferential. I guess that is two answers. The first answer is you can't draw a direct comparison. I'm not sure you can make a comparison.

Q You said there were two answers. That's your first answer. Do you have a second answer?

A How would those numbers compare? I think it would be safe to say that the numbers of young-of-the-year are comparable now to what existed before. That is to say that they were supporting whatever age classes followed. And I don't think it would have been that far out of the range that we've seen in the data collected over the last ten years in Rush Creek.

Lee Vining Creek, it's a different beast. Lee Vining Creek, prior to 1940, had a completely different flow regime. It had, when the power plant was operating, irrigation ditches down below were operating, and they are no longer. So it's very difficult to say.

Q Dr. Orton, let me make sure I understand your answer. My question was, how do the population indices in the eastern Sierra streams referred to on Page 5 of your testimony compare with the corresponding population indices in Rush and Lee Vining Creeks prior to 1941? Did you answer that question?

A I thought I had.

Q Thank you.

Q Dr. Platts, let me move on to you in the interest of your catching your flight.

In your redirect examination by Mr. Birmingham,
River had come apart before 1941. Was that your testimony?

Q Is that a technical term?

A No.

What I mean by that, "coming apart" is a phrase to throw the whole mix in that has happened to the Owens follow at the elevation of the following banks. The banks are -- have a lot of sheer damage. You can see level. The plant species composition has changed. So the river is just not in its natural condition.

the middle foreground, there appears to be an undercut

A Yes. I can't tell whether it's undercut, but I think I see the bank you're referring to.

To a very small degree.

Q Has the Upper Owens River come apart at that closest to the viewer in L.A. photograph --

HEARING OFFICER DEL PIERO: Mr. Roos-Collins,

on the picture so there's no ambiguity in terms of what you're asking?

the bend approximately one inch from the lower edge of the photograph.

in very poor condition. I can see a lot of slumping of banks, and these banks are now lying down in the of slippage areas where livestock have actually pushed the banks in. It's just not a good bank.

morning, I asked you how the pre-1941 fishery in the Upper Owens River compares to the current fishery. I recall that your answer was it was better. Was that your answer?

proof of that.

Q Do you still have DFG Exhibit 62, the Upper Owens

A I do.

Q Could you turn to Page 34? The section entitled section. Quote, changes in meander bend configuration, location, and channel length along the Upper Owens channel apparent in aerial photographs taken in 1944 and 1990 are presented in Figure 18 and Table 5. The a net loss of 3.6 miles of river channel between 1944 and 1990."
Do you see that paragraph?

A Yes, I do.

Prior to 1941, had channel grazing caused a loss of river channel in the Upper Owens River?

A I would assume that it had.

And how would that loss compare with the loss of 3.6 miles between 1944 and 1990?

A I would guess that it would be less.

Substantially less?

MR. BIRMINGHAM: I'm going to object on the grounds that it calls for speculation.

MR. ROOS-COLLINS: If that objection represents this witness' knowledge, I accept the objection and withdraw the question.

DR. PLATTS: That's a very difficult --

HEARING OFFICER DEL PIERO: The question is withdrawn.

Q BY MR. ROOS-COLLINS: Dr. Platts, I do understand it's difficult.

Let me ask you now about another paragraph in this same exhibit on Page 55. This is in the section where EBASCO presents its analysis of the relationship between flow and sediment movement. First full paragraph on Page 55, quote, based on the sediment transport calculations, flows upstream of Hot Creek in the range of approximately 20 to 200 cfs are optimal for development of coarse bed surface pavement and hence, conditions for gravel improvement."

Do you agree with that statement?

A BY DR. PLATTS: No, I don't.

What's the basis for your disagreement?

A I think 20 cfs is too low.

What's the basis for your disagreement?

I doubt if 20 cfs in the Upper Owens River with that type of a channel configuration would move the necessary gravels to create a coarse bed surface.

Q Have you reviewed the sediment transport analysis that immediately precedes Page 55?

A No, I have not.

So your disagreement is based on professional judgment?

A Yes.

In answer to questions by Mr. Birmingham on his redirect, I believe you testified that a flow of 200 cubic feet per second or more would not damage the Upper Owens River channel once that channel had been toughened. Was that your testimony?

A I think it was as long as the flows are in certain boundaries, yes.

Let's assume that this Board adopts its license amendment before the City of Los Angeles has taken action on the land management initiatives for the Upper Owens River and let's specifically assume that there is no assurance available to this Board that grazing will be removed from the Upper Owens River. In that circumstance, would you still be comfortable that a flow in excess of 200 cubic feet per second would not cause damage in the Upper Owens River?
A: I would not be comfortable.
Q: Thank you.

recommendations. On Page 1 of your written rebuttal testimony under the section Maintenance Flows, you bank-full flows at least once every three years for channel and bank maintenance."

ecological principles discussed in the article to which Mr. Birmingham referred in his redirect examination? principles in that article.
Q: And do those principles apply as well to Rush and
A: They could.
Q: Would you recommend to this Board that this Board maintenance in Rush and Lee Vining Creeks?
A: I would not at this time because I've never looked would say that I'm not prepared or familiar enough with those streams to make a recommendation to the Board. I
Q: But based on general ecological principles, you as a general matter?
A: Yes. That is correct.

HEARING OFFICER DEL PIERO: Thank you very much,
Mr. Valentine -- is Ms. Scoonover --
MR. VALENTINE: She's making some calls, but we
HEARING OFFICER DEL PIERO: You have no questions.
MR. FRINK: Yes.
RECROSS EXAMINATION BY THE STAFF

catch. I do have one brief question.
You testified earlier that providing occasional
HEARING OFFICER DEL PIERO: That's -- excuse me,
Mr. Frink. That's one our exhibits, I think, isn't
MR. BIRMINGHAM: Yes, L.A. DWP 142.
HEARING OFFICER DEL PIERO: Is that ours?

Please proceed.
Q BY MR. FRINK: Okay. Dr. Platts, you stated earlier approximately 300 cfs on the Upper Owens River would serve to narrow the channel. Could you briefly
describe how that process would occur?
A BY DR. PLATTS: Yes. And I'd like to refer to them more as stream bank maintenance flows rather than channel.
The only way that those stream banks can move in on the Upper Owens is that they receive sediment and they're capable of holding that sediment so they can build. This means that you have to develop the vegetation base and the vegetation mat, and that you have those mats in place at the time the sediments are being moved off of the channel out into the bank and the flood planes.
And then vegetation has to catch this, and by catching this, it builds the banks, and it also brings the banks in. See, if you never have flows going up over the bank, like the 200 cfs flow recommended, that means those sediments go all the way to the Crowley Reservoir. We want those sediments to go up on to the banks and form the banks, then that would be the new Owens River banks under the new flow regime on a better vegetative base.
Q So the purpose of the flows is that they would deposit sediment above the existing banks?
A Yes. That's on the existing banks.
MR. FRINK: Okay. That's all I have. Thank you.
HEARING OFFICER DEL PIERO: Mr. Satkowski?
MR. SATKOWSKI: No questions.
HEARING OFFICER DEL PIERO: Mr. Smith?
MR. SMITH: Thank you. I have one question for Mr. Hasencamp but not for Dr. Platts.
HEARING OFFICER DEL PIERO: Are there any other questions for Dr. Platts? Mr. Canaday, why don't you take the mike and get Dr. Platts on an airplane, okay?
Q BY MR. CANADAY: Dr. Platts, you testified that the -- are you the primary person developing the management plan for the L.A. DWP --
A BY DR. PLATTS: Yes.
Q And you've identified that this is a very long and ongoing process, this recovery; is that correct?
A Yes, it will be.
Q Do these plans include elements that deal with fish monitoring, channel plan form monitoring, and riparian vegetation monitoring?
A They include plans to do the habitat and the stream bank and vegetation monitoring but not the fish monitoring.
MR. CANADAY: Thank you.
HEARING OFFICER DEL PIERO: Mr. Herrera, any questions?
MR. HERRERA: No, I do not, Mr. Del Piero.
HEARING OFFICER DEL PIERO: Have a safe trip, Sir.
DR. PLATTS: Thank you.
HEARING OFFICER DEL PIERO: Thank you very much.
Mr. Smith?
MR. SMITH: Yes.
Q BY MR. SMITH: Mr. Hasencamp, I've got a question for you with some -- feel free to defer this question off

Game, but I just wanted to bring it up so that we would have L.A. DWP 141 when your questions come up.

Fish and Game is going to cross Mr. Hasencamp further? Then I'm going to ask the question --

MR. SMITH: I'm inquiring as to whether you will be further crossing Mr. Hasencamp in these -- this

Q BY MR. SMITH: I'd like to ask a question now and perhaps it would be a better time to answer it then,

On L.A. DWP 141, you have high flows in May and June, and I wanted to quote from DFG 62, Page 216,

not the high-flow months of May and June, would increase the monthly average flow by so and so cfs."

that clarified. Please?

HEARING OFFICER DEL PIERO: Do you understand the

MR. HASENCAMP: No.

HEARING OFFICER DEL PIERO: I didn't think so. I

Q BY MR. SMITH: Okay. In Department of Fish and Game Exhibit No. 62, it's speaking about the further months and DFG is recommending ten months, not the high flow months of May and June.

A BY MR. HASENCAMP: You mean the Mono Basin export?

Q Yeah. The Mono Basin exports. It concerns your

months and DFG is recommending ten months, not the high flow months of May and June.

A I see.

Q When that issue comes up --

question? Are you prepared to respond to that now as to why, rather than waiting for Department of Fish and answer, if he doesn't, he can have the answer ready for you.

MR. HASENCAMP: I'm still not sure --

HEARING OFFICER DEL PIERO: What the question is?

HEARING OFFICER DEL PIERO: I think, Mr. Smith, are you asking him to articulate why their

MR. SMITH: Why his understanding of Fish and Game's -- frankly, I'm a little bit confused. This Department of Fish and Game says clearly ten months and not May and June. So I'd like to have this cleared here.

MR. HASENCAMP: I'm not sure I do either at this
MR. SMITH: Take some time to think about it. I'd like to have an answer, please.

HEARING OFFICER DEL PIERO: Mr. Frink?

MR. FRINK: Mr. Hasencamp, I think I can clarify what the question is aiming at.

In your Exhibit 141, did you assume a flow augmentation over a 12-month period?

MR. HASENCAMP: Yes, I did.

MR. FRINK: If you had the flow augmentation over a ten-month period and excluded May and June, could you avoid the problem that you discussed earlier on Exhibit 141 where flows would exceed 200 cfs?

MR. HASENCAMP: No. You could not. I'm not sure exactly how -- what we're talking about. If you're talking about starting in April with a certain flow and then cutting it off in May and June and resuming in July, this 95 cfs then would increase by 12-tenths, so this would be a larger number now since you're not exporting in this time period. And so you would probably be over the 200 for a longer period here.

And so you would certainly have a flat hydrograph without any peak, and you would still, by just looking at it, there will be some places where you will be over 200 cfs.

MR. FRINK: But if you did operate in that way, it would serve to flatten out the flow on the Upper Owens River?

MR. HASENCAMP: Not really. It's impossible to operate that way, from my understanding, because if you have a flow of 95 cfs in April and if the Department of Fish and Game wants to ramp 10 percent, you could not then shut it off in May and June or whatever months. It would be a long process to get back down and get back up -- you certainly would infringe in this point.

MR. FRINK: Okay. I believe that answers the question. Thank you.

HEARING OFFICER DEL PIERO: I don't know. Does it answer your question?

MR. SMITH: Not completely. Let's address it --

HEARING OFFICER DEL PIERO: Fine. Maybe you can break it down next week when we have Mr. Hasencamp back.

Any other questions of this panel? Mr. Canaday?

MR. HERRERA: No, I do not.

Q BY MR. CANADAY: Dr. Orton, I want to go back to the recommendation for over-bank flooding of 45 cfs to make sure I'm clear on what your recommendation is based on.

That's based on a theoretical 19 cfs channel or a channel that would contain a 19 cfs flow; is that correct? And that a -- if 45 cfs were to be put in that channel or if flow was raised to a flow rate, a cue of 45, then you would expect that channel to over-bank.

A BY DR. ORTON: Yes in many locations.
A: Yes.
Q: Okay. The next question I have is that -- if you want to refer you to the Bartole-thalweg diagram, Figure 2.

Q: And unfortunately, Mr. Tillemans' not here, but my recollection is that this Bartole-thalweg was collected cfs, I believe.

MR. BIRMINGHAM: I believe it was Mr. Tillemans'
MR. CANADAY: 79.
MR. BIRMINGHAM: That would be a discharge at Mono

MR. CANADAY: Thank you.
Q BY MR. CANADAY: What would your opinion be based on, existing Bartole-thalweg was measured this last month,

A: Over the range of 40 to 80, I would expect to see it dropped. Between 40 going down, I

Q: In the videotape that we saw yesterday, there was described the pool formation that either had occurred the stream, the stream that's approximately 79 cfs. Would you expect that that natural pool formation would

A: The scenario that you've described -- yes, I would. But I have to qualify that by saying you'd have all over again.
Q: Okay. So the pools that we saw in that video flow rate. Okay, at the state of the stream at the time that that video was taken, your testimony is that and those pools that were developed on the margins would no longer be pools or available, and you'd have

plan form of the stream, 19 or 20 cfs.

A: makes a difference is the grazing, and if you went back -- at 19 cfs, the stream was definitely responding much as it could because there was grazing on the stream, and every time vegetation would start to grow, yesterday, vegetation was cut back due to grazing. So if the flows were reduced now from 80 down to

start to encroach on the stream. As soon as it had encroached on the stream to a significant degree, then
you would start to have pools forming again. The process -- would they be of the same depth? I can't answer that.

Q But would you agree with me that the pools and the riparian vegetation that is recovering and healing itself along the stream that was identified in the video had a flow rate of 70 cfs, near 80, if that flow rate was now reduced to a flow rate at or near 20 to 30 cfs, a continual flow, as we heard from Dr. Hardy, that the healing that's occurring now is going to have to start over again?

MR. BIRMINGHAM: I'm going to have to object on the grounds that this goes outside the scope of Dr. Orton's expertise and, in addition, I think it misstates the testimony in that the flows that we have talked about are not the flows strictly -- that we've heard testimony about from DWP witnesses, is not strictly flows of 20 cfs, but it includes flows of -- a minimum flow of 20 cfs plus channel-maintenance flows and over-banking flows and riparian-vegetation flows for the purposes of maintaining pools that have started to form.

HEARING OFFICER DEL PIERO: Ms. Anglin, could you read that question back again, please?

(Whereupon the record was read by the Reporter.)

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

You need to break that question up into three portions, okay?

MR. CANADAY: I'll withdraw the question.

HEARING OFFICER DEL PIERO: Well, I'm interested in knowing the answer. I'll ask it.

MR. CANADAY: I have a degree in biology and not law, Mr. Del Piero.

HEARING OFFICER DEL PIERO: Okay. Mr. Frink? You want to help Mr. Canaday?

MR. FRINK: I have a degree in law. I'm still not sure I can do this.

Dr. Orton, I believe Mr. Canaday asked you a question about the flows in the video and you confirmed that they were approximately '79 to '80 cfs.

DR. ORTON: I did, yes.

MR. FRINK: And he then asked with the channel having a flow of 19 cfs, 19 to 45 cfs, I believe, is the flow that you have testified or the range of flows that you had testified before would not result in over-banking. Is that correct?

DR. ORTON: Yes.

MR. FRINK: If you were to reduce the flows to that -- the flows in lower Rush Creek to the range of 19 to 45 cfs, would the riparian vegetation recovery that is occurring higher up on the bank at a higher flow have to, in essence, begin again at a lower level to accommodate the lower flows?

DR. ORTON: Can I ask a question to see if I understand the question?

MR. BIRMINGHAM: Excuse me. If Dr. Orton doesn't understand the question, he should say he doesn't
Dr. Orton, what part would that vegetation die if the flows were reduced, I agree that that is outside of my expertise. If the bank to a new part of the stream, I think it would, if given time, and that's -- it certainly wouldn't -- walk it down, I see no reason why the riparian vegetation wouldn't encroach on the stream, as it were, of 45 or 19 cfs.

HEARING OFFICER DEL PIERO: But you don't know level would die or not? Is that a question better put to Dr. Beschta?

Whether it would continue to do things, that's clearly a question for Dr. Beschta.

Would have? Or is that something you think Dr. Beschta -- that is there are several places, quite some distance from the stream, that riparian vegetation is doing responding in a way that is complex. And I have no information on that.

riparian vegetation immediately adjoining the flow of water in the stream, if you were to reduce the flows to involved before you would have the same degree of riparian vegetation immediately adjoining the stream as.

MR. BIRMINGHAM: I'm going the object on the grounds that the question is beyond the scope of requires expertise in riparian vegetation, and Dr. Orton is a fisheries biologist.

flow in excess of 45 cfs for maintenance of riparian recommendation.

HEARING OFFICER DEL PIERO: Overruled.
Dr. Orton, do you understand the question?

Dr. Orton: Yes, I do. I think I can help out.

Hearing Officer Del Piero: Okay.

Dr. Orton: My flow recommendation was related to the results of a fisheries study. It talks about the physical process of where water will be. Its effects on riparian vegetation that you're directing the question to has to do with what kind of riparian vegetation would exist ultimately. So at some point, I have to sort of stop talking, as it were, and let someone else start talking about what the end point would be.

Mr. Frink: I believe that answers the question. Jim, did you have anything else?

Hearing Officer Del Piero: Mr. Canaday, let me ask you this question. Did that answer what you were looking for?

Mr. Canaday: No.

Hearing Officer Del Piero: Okay. Then let me ask this. Did it answer a portion of what you were looking for?

Mr. Canaday: A portion.

Hearing Officer Del Piero: Then what portion -- explain for me what issue you wish to get to and, perhaps we can get there, okay?

Mr. Canaday: I'm trying to understand, we've heard testimony in the video that is showing the stream is repairing itself. By repairing itself, I mean that there is -- at a flow rate of 70 to 80 cfs, we see bank-side riparian vegetation coming in and vegetation coming slightly away from the bank. It's claimed that there are pools being developed in a stream that, we heard testimony in recent times, has not had deep pools.

My question to Mr. -- Dr. Orton would be if, in fact, a flow regime was now implemented on that stream at a range between 20 and 30 cfs as a minimum flow, that those pools that are developing at the higher flow no longer will be developing?

Hearing Officer Del Piero: You mean would those pools?

Mr. Canaday: Would those pools --

Hearing Officer Del Piero: Dr. Orton, do you understand that question?

Dr. Orton: I think so, yes.

Hearing Officer Del Piero: Mr. Birmingham, do you want to object to that question?

Mr. Birmingham: I do want to object to the question because it goes beyond the scope of Dr. Orton's expertise. Mr. Canaday is absolutely correct in his characterization of the testimony that he heard yesterday, but Dr. Orton did not present that testimony. That testimony was presented by Dr. Beschta who is an expert on fluvial geomorphology, who has studied riparian vegetation for many, many years and has studied stream restoration for many, many years.

The question that Mr. Canaday is posing is a perfectly legitimate question, but ought to be posed to
relates to what he did in consulting with Mr. Hasencamp in developing the L.A. DWP management plan. We all
principles and the mechanics of formation of streams, or at least I hope we all have an understanding after
proceeding for a number of months, and in other proceedings, for a number of years. But Dr. Orton is
And again, I think if -- that it's a perfectly
answered, but it should be put to the expert.
MR. FRINK: I think we can hold the question until
HEARING OFFICER DEL PIERO: Okay. Mr. Canaday,
I'm going to sustain Mr. Birmingham's objection.
make a notation of that. On the 24th when Dr. Beschta comes back, I want you to ask that question because I'm
Do we have any other questions of these individuals? Seeing none, Gentlemen, thank you very
MR. BIRMINGHAM: At this time, the Department of Water and Power for the City of Los Angeles and the
Mr. Pollack will conduct the examination of Mr. Miller.
HEARING OFFICER DEL PIERO: Fine. Again,
MR. POLLACK: Mr. Del Piero, we may need the screen lowered.
your own tripod. I just do screens, not tripods.
Do you promise to tell the truth during the course
MR. MILLER: I do.
Mr. Hasencamp is also involved in forecasting one of the inputs into operating the L.A. aqueduct, so for the
we're asking Mr. Hasencamp to stay on that panel.
HEARING OFFICER DEL PIERO: Have a seat,
MR. HASENCAMP: Thank you.
HEARING OFFICER DEL PIERO: Mr. Miller, would you
Q And are you familiar with -- what is the next number, Mr. Smith, for L.A. DWP exhibits?
Q BY MR. POLLACK: Mr. Miller, are you familiar with
the document that Mr. Smith has just allowed me to identify as L.A. DWP No. 147?

A BY MR. MILLER: Yes. Referring to my rebuttal testimony, yes, I am.

Q Did you prepare that testimony?

A Yes, I did.

Q Is Attachment 1 to L.A. DWP Exhibit 147 your summary of qualifications?

A Yes, it is.

Q Can you briefly relate how your summary of qualifications relates to the testimony marked as L.A. DWP 147?

A Yes. In December of 1986, I received my Bachelor of Science degree in civil engineering from the University of California at Davis. My emphasis was in structural engineering, and I took the relevant courses listed, primarily structural design, but also engineering, economics, water quality, hydrology, and geotechnical engineering.

After graduating, I started working for the Department of Water and Power. For a period of approximately five and a half years, I worked in the design division designing water structures including water tanks, pumping plants, site work, hydrology work related to runoff and runoff control. During that time, I received my professional engineer's license. I oversaw all aspects of projects from planning through design through construction.

In August of 1992, I moved to my new position, which is now supervision of the forecasting and operations group within the aqueduct division. These groups oversee the preparation and implementation of plans for the operation of the aqueduct system, amongst other duties relevant to that system.

Q And what does the operator of the Los Angeles aqueduct do?

A The operator of the Los Angeles aqueduct division prepares plans and implements these plans to cover the operations of the aqueduct for any given year, and what I'd like to do next is to run you through the flow chart to describe those operations as they occur.

Q Before you do that, let me ask a question so you can respond to it. Can you summarize your testimony which includes the operations plan?

A Yes, I can. If you'll allow me. If I speak loudly, will this be acceptable? Can everybody hear me?

HEARING OFFICER DEL PIERO: Mr. Miller, you sound like you have a voice comparable to another witness that frequents this room, so we may not have difficulty getting along.

MR. MILLER: Deep baritone does carry, doesn't it?

To give you just a general idea of what we go through every year, in the beginning of the runoff year or just prior to it, we start what we call operations planning. The first stage of this is to prepare a runoff forecast. This is done using data from our
taken from snow pillows, precipitation gauges, and
also, forecasts of long-range precipitation for any
This information is input into a program. From
that program we get a prediction of water supply which
emphasize supply. We have to know how much supply is
available before we can plan on how to utilize that
The next step is to prepare a prop run program.
This program forms the initial basis of how we will
averages. We try and figure out what our approximate
uses and losses are. These uses and losses can be in
of transit losses. They can be in the form of
irrigation uses, and various other questions that must
available supply.
This program is pretty good; however, it only
change and be very different from the averages used in
the prop-run program. Therefore, we use the initial
data here to prepare daily operations. It's in these
daily operations that we take care of the day-to-day
filling reservoirs, draining reservoirs. We also
prepare for maintenance operations or for special
Now, once these two programs have been run,
sometimes there will be contradictions between one,
If that's the case, we go back and revise the initial
prop-run program and then run daily operations program
if we have a good program, we move on and start
consulting with other DWP organizations, and those are
testimony.
We solicit their input about specific
that our highest deliveries be during the periods when
the City of Los Angeles has its highest demand, such as
that depending on what they intend to do as far as
supplying water to the city.
and adjusted our plans to meet their needs, we move on
division head approves the plan, then we move on and
distribute this plan to the various affected
Now, comes the fun part and where 90 percent of my
job is, and that is updating the plans for daily
March and April, we are making a long-range forecast of
what the situation with the aqueduct operations will
Precipitation might not have been the way we wanted it. Who can predict the weather perfectly? We may require shut downs for maintenance work. Timing of runoff can vary considerably from what we plan on plan.

And I think this constant updating of the plan is as having no plan for operations. They maintain you just fly this aqueduct system by the seat of your where it starts. I would liken our operations of the aqueduct system to flying an airplane. The first step,

let's say you want to fly from Los Angeles to New York, plan, which indicates how far you're going to go, what stops you're going to make, what kind of route you're initiate operations.

However, if, during your flight, you run into a

your way, or you start to run out of fuel, you may modify that plan. You may not be able to make it to "Well, geez, Chicago's as far as I can get." The important thing, when you are flying an airplane or crash the plane into the ground. The important thing is that our plan constitutes a set of goals.

implementation of that plan, we have to change that plan, otherwise significant damage could occur. And the end of the runoff year, and we start the whole process over again.

your testimony, Mr. Miller, regarding operation of Long Valley Reservoir?

A BY MR. MILLER: Yes, I can. What I have up on the screen here is a copy of Attachment No. 4 to my

Which Mono Basin is Available. As you can see, there are three years here, and these are the actual during those years. We have a dry year, a normal year, and a wet year compared to the historical average.

Now, as you can see, there's a great deal of variability. In dry years, we tended to draw down the primary purpose is for flow regulation and storage of runoff. Any recreational uses or uses as a fishery are runoff and regulation of flows.

Now, during wet years, we tend to keep the
the high runoff. As you can see, the runoff is stored between June and approximately August. This is a high, so we need room to accommodate these storages while the runoff south of the reservoir is moving out.

The problem that you could have, given setting a

at the graph, this historical average roughly corresponds to Fish and Game's recommendation of
during the period between June and August, reservoir storage climbs sharply. If you were to move that up a come so close to that capacity as to remove the operator's flexibility to deal with changing

In the planning of our operations, flexibility is everything. We can't predict exactly when runoff is going to come, how much of it is going to come, or what form it's going to take. I mean, it can come in as certain rivers. It can come in just as regular flow. We need flexibility in order to deal with this. We also need flexibility in order to deal with such problems as failures of portions of the aqueduct. Therefore, setting it too high eliminates a large amount of flexibility.

As I mentioned before, in dry years, we had taken down the reservoir farther than that. This we realized, or our department management realized and has made a conscious decision after 1989 not to take the reservoir as low as it did in 1989. Our management saw that the fact that taking the reservoir storage that low reduced recreational opportunities at Long Valley and also impacted the economy of the local town. Knowing that, the department decided to keep storages higher voluntarily.

That does not mean that we are restricting ourselves to that. We need the flexibility to take the reservoir lower in the cases of high years, particularly since runoff can vary anywhere from 30 percent of the long-term average to over 170 percent of the average.

Now, during wet years, if the storage was to go higher than the 183,000 acre-foot capacity or any limit like that, there is a risk of spilling the reservoir. If that reservoir spills, there's a serious risk of damage to department property as well as the Owens River below Long Valley Reservoir and Pleasant Valley because that water has to go somewhere.

Other problems could be in operations of it. Fish and Game has decided that they feel we should not draw down the reservoir during the periods between July and October. Historically, those are periods when the runoff south of the reservoir is lower. As that runoff south of the reservoir declines, we need to pick the flows up out of Long Valley to maintain steady flows
and keep water moving south. To limit drawdowns of the reservoir during the late season will mean that water into the river in the aqueduct will be less. The water's got to come from somewhere.

the aqueduct without Mono Basin water available. Now, on this one, as I've stated in the testimony, two of aqueduct simulation model because we have no historical precedent for them. Those are the normal-year wet-year precipitation and operations of the aqueduct. What we did in these cases was we took the actual reservoir without Mono Basin water. But again, even with no Mono water, no Mono Basin water available, as tend to start trying to bring it down. If we have to and Game's requirements we would have to do, we'd have really start increasing our late season deliveries when operational problems including the fact that it gets very cold and sometimes the rivers tend to freeze up, Reservoir. In other words, a lot of these restrictions I think the main thing I'd like to emphasize minimum storage or reducing drawdowns during certain It is an interconnected series of facilities, be they When you start putting restrictions on one of these and the downstream portions.

unit. If you're going to propose anything and you're manner that addresses the system as a whole, not just Q I have one further question to ask you, storage level of 125,000 acre-feet have during dry A Well, as I stated, in dry years, as you can see, set the flow or the minimum storage at 125,000, what's going to happen is there's less water to take out of below Pleasant Valley. That will have the effect of Reservoir, reducing opportunities for recreation but, water to the City of Los Angeles.
It could also affect how much water we have to pump from the ground to meet irrigation needs in the Owens Valley. It could mean drawing more water out of the San Fernando Basin to meet water needs in the City of Los Angeles.

Q Are there legal requirements for outflows from other reservoirs below Crowley Lake Reservoir, excuse me, that might be impacted by such a restriction?

A The current restriction that we face is a legal agreement with the Department of Fish and Game to provide a minimum outflow from Pleasant Valley Reservoir of 75 cubic feet per second. That could be impacted in a severely dry year.

MR. POLLACK: Thank you, Mr. Miller. That concludes our direct testimony.

HEARING OFFICER DEL PIERO: Thank you, Mr. Pollack.

Does National Audubon have any cross-examination?

MR. VORSTER: I informed Bruce Dodge that there were no questions necessary of Mr. Miller, so that's why he left.

HEARING OFFICER DEL PIERO: You're representing that Mr. Dodge actually left?

Please proceed, Ms. Cahill.

CROSS-EXAMINATION BY MS. CAHILL

Q Good afternoon, Mr. Miller.

Was it your understanding when you prepared your testimony that the California Department of Fish and Game had an inflexible recommendation of a minimum storage level of 125,000 acre-feet in all year types?

A Yes, it was.

Q Were you provided with the testimony of Curtis Milliron of the department to review before you presented your testimony?

A Yes, I was.

Q Do you not recall, then, that Mr. Milliron testified that, "It's my feeling that during a wet year, it's probably not an issue," when he was asked whether he had specific recommendations as to Crowley Lake levels?

A Yes, I do remember that statement.

Q And do you recall that he said, "In dry years, I think it's common that we all give, and as Mr. Hasencamp stated in a proposed water management plan, they suggest a minimum level of 80,000 acre-feet, that's slightly above what we have experienced in the last several years and so I would be comfortable with that"?

A No. I am not familiar with that statement.

MR. HASENCAMP: I also think that misstates my testimony.

HEARING OFFICER DEL PIERO: That's not the issue. That would have been an appropriate objection at the time, but that's not the issue. The issue is she's reading what he said.

Q BY MS. CAHILL: So you were not made aware that the Department of Fish and Game indicated enough
flexibility that they might, in fact, accept a minimum
level of 80,000 acre-feet in dry years?
A BY MR. MILLER: No, I was not.
MR. BIRMINGHAM: Actually, I think, if the record
is clear, Mr. Del Piero, that was Mr. Milliron stating
what he thought Mr. Hasencamp said. What Mr. Milliron
thinks Mr. Hasencamp testified to is really
irrelevant. Mr. Hasencamp's testimony speaks for
itself.
HEARING OFFICER DEL PIERO: Obviously. As does

Mr. Milliron's.
MS. CAHILL: Fish and Game apparently --
HEARING OFFICER DEL PIERO: Ms. Cahill, proceed.
I understand where we are, okay?
Q BY MS. CAHILL: All right. Did you read this
testimony and not see that?
A BY MR. MILLER: I read the testimony, yes.
Q Okay. And did you have the sense that the 125,000
acre-feet was an inflexible requirement or a
recommendation that the Department of Fish and Game was
asking Los Angeles to take into account?
A I had the understanding that it was a
recommendation that they very much were wanting to
pursue.
Q But would some of your concerns be alleviated if
you understood the department's recommendation not to
be an inflexible recommendation that this Board set
that as a target level, but more an input to Los
Angeles as to how we would like to see Long Valley
operated, if possible?
A I'm not sure I understand what you mean by a
"recommendation" that they put their input in. Do you
mean that -- well, can you explain that, please?
Q Yes. Are your concerns with inflexibility
reflected in your testimony based on the thought that
the Department of Fish and Game's recommendation was an
inflexible recommendation that this Board set 125 as an
inflexible minimum storage level?
A To understand your -- my understanding of your
question, I would have problems with any kind of
recommendation requiring minimum storages being set by
the Department of Fish and Game, the absolute
recommendations.
In operating the aqueduct system as a whole and
Long Valley Reservoir in particular, the department
needs a great deal of flexibility in order to deal with
unforeseen circumstances.
Q You indicated that since the experience in 1989,
the Department of Water and Power has voluntarily
attempted to keep the level of Crowley higher than it
went in that year; is that right?
A That is correct.
Q And that is to take recreation into account?
A Yes.
Q Is the Department of Water and Power willing to
also at least consider what might be good for the
trophy fishery in Crowley Lake in determining how to
operate that reservoir?
A: I believe you're asking me to make a policy statement, and that is beyond both my expertise and my capabilities and my line of employment to make a policy statement such as that.

Q: Do you know whether, at this point in time, the Department of Water and Power is taking recreation into account?

A: Yes, they are.

Q: And at this time, are they in any way taking fishery or fishing into account?

A: Yes.

Q: And are they willing to accept input from the Department of Fish and Game in a given year with regard to what might be beneficial for the fishery?

A: Yes, we're willing to take input. In fact, we do as matter of course.

Q: On Page 6 of your rebuttal testimony, you list potential results of limiting Long Valley Reservoir draw down between July and October in wet years. What is the definition of "wet year" in that case?

A: In this case, wet year, as I used our department definition, if I remember correctly, precipitation and runoff greater than a 120 percent of Mono?

MR. HASENCAMP: For this run, I believe that is correct.

Q BY MS. CAHILL: And where you state that, "One of the consequences of limiting draw downs between late July and October is lower flows in the Owens River south of Long Valley Reservoir." Which stretch of the Owens River are you referring to?

A: That would be the stretch of the Owens River between Pleasant Valley Reservoir and Tinemaha Reservoir.

Q: Would that be what we call the Middle Owens?

A: Yes, I believe so.

Q: Do you know of any adverse impacts of having lower flows in the Middle Owens?

A: You mean direct knowledge or speculating?

Q: Well, are you aware of any?

A: I'm aware that there will be -- if there are lower flows below Pleasant Valley Reservoir, there are less opportunities for recreation. There are also problems with meeting our irrigation requirements. If it gets too low, it could cause problems such as that. Also, during that period, we still have a net loss of water between Pleasant Valley and Tinemaha Reservoir. There are actual losses in transit, so that would, of course, impact our operations.

Q: When you refer, on Page 6, "That draw downs will force L.A. DWP to set October through March flows higher, which may prove infeasible to weather conditions," has there ever actually been a time that the aqueduct downstream of Tinemaha has frozen?

A: Yes, just this past year. When water temperatures get extremely low, Tinemaha Reservoir, the water temperature in Tinemaha gets very cold. The water south of Tinemaha Reservoir begins to freeze up and
form what I believe is referred to in our northern aqueduct.
What can happen with that is by limiting the water in Tinemaha, which proves to be a problem because as you store more water in Tinemaha, the surface area colder. So you're faced with a Catch-22. In that case, the only other option is to begin reduction of course, entails reducing draw down of Long Valley Reservoir.
commonly?
A It happens commonly.
A I can only speak to my experience. I've only been operating the system for a year and a half, but in my last year. And it usually occurs for a couple of days.
find in the transcript references to flexibility, but rather than take anyone's time, I will just conclude.

HEARING OFFICER DEL PIERO: Thank you very much, Ms. Cahill.

Mr. Roos-Collins? Actually, Mr. Roos-Collins, we're going to take a five-minute break because I've minutes.
(Whereupon a recess was taken.)

CROSS-EXAMINATION BY MR. ROOS-COLLINS Good afternoon, Mr. Miller. I'm Richard proceeding.
A BY MR. MILLER: Good afternoon, Counsel.
A No, I have not.
Mr. Roos-Collins: Mr. Del Piero, there's your Mr. Roos-Collins: Mr. Del Piero expressed a seen.
HEARING OFFICER DEL PIERO: Your face is it, Sir.
Q BY MR. ROOS-COLLINS: Are you familiar with the June 10th, 1993, letter from Richard Nagel to Reg Cullin, information request?
A BY MR. MILLER: No, I'm not.
I ask you to read the second paragraph on the first
HEARING OFFICER DEL PIERO: Mr. Birmingham, Mr. Dodge represented to me that you could read and listen to two conversations at once. Is that not true?

MR. MILLER: Did you state the second paragraph on the first page?

MR. ROOS-COLLINS: I did.

HEARING OFFICER DEL PIERO: Oh, it isn't.

MR. MILLER: Okay. I've read the paragraph.

Q BY MR. ROOS-COLLINS: Mr. Nagel stated in that paragraph, "The Los Angeles Department of Water and Power does not have any written documents stating management practices used in operating Grant Lake Reservoir."

Do you agree with that opinion?

A Yes, I do.

Q So the spreadsheet programs which constitute the prop-run are not written documents stating management practices used in operating Grant Lake Reservoir?

A No, they are not.

Q On Page 1 of your rebuttal testimony, you state that the operations plan, quote, constitutes a set of goals, unquote, for the aqueduct operations. What are the goals for the operation of Grant Lake Reservoir?

A Are you talking about currently?

Q Yes.

A Currently, I am not involved directly in the operation of Grant Reservoir because we are not exporting water from the Mono Basin, so I really don't feel I can address that issue.

Q Attachment 3 to your rebuttal testimony states, "System capacities at various control points including Grant Lake Reservoir;" is that correct?

A That is correct.

Q And among other things it recommends minimum storage of 11,000 acre-feet and maximum storage of 47,500 acre-feet in that reservoir; is that correct?

A That is correct.

Q So if this Board adopts a license amendment that allows storage in Grant Lake Reservoir to remain between 11,000 and 47,500 acre-feet, in your opinion, would Grant Lake Reservoir be operated safely and within its capacity?

A Yes.

Q Let's return to Page 1 of your --

A I would like to add one clarifying statement.

Q Please do.

A I believe it will be operated safely from an operation standpoint. I can't speak to any other aspect, such as the structural safety of the reservoir. I want to be clear about that. You could be operating the reservoir very high and an earthquake could come along, and it would fail. As far as water supply, yes, that would be safe.

Q Mr. Hasencamp, do you agree with that?

A BY MR. HASENCAMP: Could you restate the question again, please?
Q    What did you mean in Attachment 3 in recommending
minimum storage of 37,000 acre-feet and maximum storage
of 47,500 acre-feet in Grant Lake Reservoir?
A    I meant that for the purposes of the LAAMP model
and also L.A. DWP's LAASM model that for operational
planning, that these constraints should be used. These
are not recommended minimums as far as a hard number
because there are certain circumstances you might want
to go below 11,000, but for planning, for running
specifically the LAAMP model and for an extended
period, this is a good range for planning purposes.
Q    Is there any document other than Attachment 3 to
Mr. Miller's written rebuttal testimony which describes
operational constraints in storage in Grant Lake
Reservoir that might differ from the recommended
minimum and maximum for planning purposes?
A    There's Judge Finney's preliminary injunction,
which says that, "For the purposes of releasing water
to Mono Lake, in order to achieve 6377, Grant Lake does
not have to go below 11,480 acre-feet? As far as
operating for export, there's no restrictions on that.
Q    Thank you.
Mr. Miller, let's return to Page 1 of your written
rebuttal testimony. In the section entitled Aqueduct
Operation Planning, you state that the plan, the
operations plan, quote, incorporates a great deal of
flexibility due to the extreme variability of
circumstances involved in operating the Los Angeles
aqueduct, unquote.
Are you describing the operations plan as having a
great deal of flexibility?
A    Yes.
Q    Does the aqueduct system as well have a great deal
of flexibility?
A    If the plan is properly prepared, it does. The
physical constraints of the system are enumerated in
Attachment 3. As an example, many of these maximum
flows that we have, they are physical constraints of
the system. So if I want to get 750 cfs out of South
Haiwee Reservoir, that's the maximum I can go. I can't
force 900 cfs out of that. So these physical
constraints in some cases are absolute maximums.
A properly prepared plan will always leave some
room below those maximums, as I believe I state on Page
4 of my testimony. I state that, "Under normal
operating conditions, flows and reservoir storages
range from slightly above the minimums to slightly
below the maximum levels given in Attachment 3." You
never want to have a plan where for five or six months
out of the year, you have to run a reservoir at a
maximum level or a minimum level or run a portion of
the aqueduct at a maximum or minimum level. You have
to give yourself some room to allow for the
unforeseen. You might have more runoff than you
expect. You might have less. You need to give
yourself a little bit of room to operate, but above
all, flexibility is the very important thing in the
operations plan. These goals are not hard and fast. If we state that our goal is to export 300,000 acre-feet of water to the City of Los Angeles and for some reason runoff isn't what we expected to be, we're not still going to say we're going to export 300,000 acre-feet of water to Los Angeles if it means draining reservoirs and damaging the system.

Q Attachment 1 of your resume, states that, "You evaluate aspects of ongoing litigation on operations." You understand that this litigation may have an effect on the flexibility of the aqueduct system?
A Yes, I do.

Q Let me ask you about the runoff forecast model described in the second section on Page 1 of your written rebuttal testimony. You state that, "Forecasts are made around the 1st of the month in February, March, April, and May;" is that correct?
A Yes, that is.

Q So the first forecast for 1994 will be made in about two and a half weeks on the 1st of February?
A Correct.

Q And those forecasts are subsequently integrated into the operations plan?
A I don't know if you're misstating my testimony or not, but what my testimony says is those forecasts are used to make predictions of the runoff which is then used to prepare the plan.

Q That is a better statement of your testimony, and I apologize for misstating it.

Have you ever read an article at the beginning of any year where a reporter compares the predictions of various seers with actual events that occurred in the prior year?
A Predictions on what?

Q Events like Princess Diana getting divorced, that sort of thing?
A Yes, occasionally I do grab The Enquirer at the market.

Q There is a point to this line of inquiry. Does the forecasting group retroactively evaluate the accuracy of your forecast of runoff?
A Yes, we do. Our forecasting group performs a function known as the runoff recap which entails gathering and analyzing various hydrologic data provided by a northern district hydrology group. They run that through a computer to figure out how much runoff we did have and to see how that corresponds to the predicted runoff.

HEARING OFFICER DEL PIERO: It's like the NFL Today.

Q BY MR. ROOS-COLLINS: What is the long-term accuracy of your February 1st forecast?
A BY MR. HASENCAMP: If I could answer that, I've been the chief forecaster for the last five years for the Department of Water and Power, and I don't believe you were here during my direct testimony. I covered forecasting, and a great part of it was my testimony. And February 1st, of course, the rain is quite large,
the possible outcome; March 1st is more narrow; April, that great. We do have a handle on whether it's going to be a relatively dry year or wet year, but as far as

HEARING OFFICER DEL PIERO: Excuse me, Mr. Roos-Collins.

you make a final?

MR. HASENCAMP: You mean -- we have a February, on an official scale. In-house, of course, we update it, but we have -- May 1st is our last official

HEARING OFFICER DEL PIERO: Thank you.

Q BY MR. ROOS-COLLINS: You just said that the February 1st forecast was not particularly accurate. In your forecast in percentage terms?

A BY MR. HASENCAMP: Yes, we do.

1st forecast on a long-term basis?

A Unfortunately, I don't know that off the top of my head, I don't know that off the top of my

of the exhibits which does have the specific numbers, and I would not want to -- I might know of several

Q Mr. Hasencamp, I will reserve further questions on this issue until you return.

Q Mr. Miller, the prop-run plan serves as the foundation for the daily operations program?

Q You state on Page 4 of your written rebuttal testimony that the daily operations program is updated conditions. By "constant," do you mean daily?

A Daily.

Q More frequently than daily?

A Monday through Friday, assuming working days, we update it as necessary during the day depending on requests that we may get from user groups or relayed to

on opening day last year, the fishing season, the Bishop Chamber of Commerce requested that we increase stated a certain flow was beneficial to the recreational use and the people really thought it was a good idea so we evaluated whether we could change operations to and we did.

So yes, it's updated every working day for sure, requests come to us from various groups within the
department or from our own needs.

Q Let's say that the daily operations program is updated on Day Two to change Day One's release from Grant Reservoir into Rush Creek. How quickly can the actual operator of Grant Reservoir put into effect the new release requirement in Day Two's daily operations program?

A In your question you said on Day Two you decide to change Day One's operation?

Q Excuse me. If the question is confusing, and I think it is, let me ask it differently. Let's say that on Day One, the release from Grant Reservoir is 20 cubic feet per second into Rush Creek. You then revise the daily operations program for Day Two and decide that the release into Rush Creek should be 25 cubic feet per second. How quickly after that operations plan is updated can the operator of Grant Reservoir put that new release into effect?

A Okay. I'll describe the process that we use to initiate flow changes in the northern district. When we decide to initiate a flow change in the northern district, we are not in control of the personnel who actually make those changes, so we call our northern district engineering group in the Bishop office and request a change. Many of the times we do not specify an exact time. Sometimes we will specify a day. Sometimes we'll just say do it this week. But if need be, a change can be implemented immediately, particularly if it's an emergency.

However, normally, we would say -- say on Day One, we decide to change the flows. We would call up the northern district group and tell them, "Tomorrow, please change the flows," and they will, if necessary, dispatch a person specifically to do it or make that part of their daily plan of duties in addition to whatever else they are going to do.

Q Is the control device for the release from Grant Reservoir into Rush Creek automated?

A I'm not familiar with the control device for the releases of Grant Lake.

Q Mr. Hasencamp, are you familiar?

A By Mr. Hasencamp: A little bit.

Q Do you have an answer to that question?

A By "automated," you mean from a remote facility?

Q Yes.

A No.

Q Same question for the diversion facility on Lee Vining Creek?

A No, it is not. We do have a telemetry system to give us a flow reading from a distant location. We don't have control from a distant location.

Q So a person physically visits either facility in order to control release into either stream?

A Yes, that's correct.

Q Mr. Miller, let's say that the daily operations program calls for a release into Rush Creek of 25 cubic feet per second. How close would the actual release
come to the release specified in the program?
A BY MR. MILLER: Well, the program itself does not
specify the release. The releases are input by the
operator.
Q That question must not be clear. Let me ask the
question differently.
Can the operator of Grant Reservoir control the
release so that it is within a few percentage points of
the desired release specified in the daily operations
program?
A I can't speak to the accuracy of what those meters
are. That's beyond my expertise. You'd probably have
to ask our personnel in the Bishop office regarding the
accuracy of the measuring devices that they use.
Q Mr. Hasencamp, do you have an opinion about that
question?
A BY MR. HASENCAMP: Yes. The release from Grant Lake
is one of the more accurate release points within the
Mono Basin. So it is accurate to within a few cfs.
As far as the controlling, as far as the
measurement device, there's some additional error
between the measurement device and what's recorded, but
as far as what's recorded, you can get it within a few
cfs.
Q Thank you.
MR. HERRERA: Mr. Roos-Collins, your 20 minutes
has expired.
MR. ROOS-COLLINS: Mr. Del Piero, I request an
additional ten minutes of time in order to complete my
examination of Mr. Miller. My grounds for requesting
the additional time is that he is presenting
information regarding the capacity of the aqueduct
system to respond to flow allocations which is novel to
me, at least, and critical, in our opinion, to this
Board's decisions.
HEARING OFFICER DEL PIERO: Granted. I understand
that Ms. Scoonover has, what, five minutes? Do you
expect to have a number of questions, Mr. Pollack?
MR. POLLACK: Not so far, but we'll see what
develops.
HEARING OFFICER DEL PIERO: Okay.
Proceed, Mr. Roos-Collins.
Q BY MR. ROOS-COLLINS: If my questions were innocuous
so far, you can rest easy.
Mr. Miller, Attachment 3 to your written testimony
identifies reservoirs in the aqueduct system. Does the
aqueduct system also have storage capacity in
groundwater basins?
A BY MR. MILLER: Yes, it does.
Q Where?
A These would be groundwater basins in the Owens
Valley.
Q Now, can that capacity be used to store water that
is exported from the Mono Basin?
A BY MR. HASENCAMP: We're restricted in the amount
that we can pump by the green book restrictions in the
Owens Valley, and the current agreement calls for --
that pumping will be the same in the future as it was
in the last 20 years. And so when you say use the
groundwater basin as a storage, yes, water could be put
into that. Could water be taken out? Any additional
water? That's very questionable. So in that case,
it's not really a storage basin.

Q Thank you.
Mr. Miller, several days ago, Mr. Birmingham was
asked to provide a copy of an agreement between
Southern California Edison and the City of Los Angeles
affecting the operations of your respective facilities
on Lee Vining and Rush Creeks. He subsequently
provided a document I now show you. This document has
not yet been marked as an exhibit. It is entitled
Agreement of Sale and Purchase Between the Southern
Sierra Power Company and Associated Companies and
Department of Water and Power of the City of Los
Angeles, and it appears to be dated in October of
1933.

To the best of your knowledge, is this agreement
still in effect?
A I have no knowledge of that agreement. I haven't
seen it before. I know it exists, but I have no
knowledge of the agreement itself.

Q Your testimony, on Page 2, in the bullets refers
to the fact that the operations plan must take into
account such elements as operation of Southern
California Edison reservoirs. How do you take into
account the operation of Southern California Edison
reservoirs in the development of your operations plan?
A The chief operator contacts the operators of
Southern California Edison reservoirs to find out their
plans for their operations including monthly releases
on average and things like that.

As I've said, I've never consulted that agreement,
so I'm not familiar with it.

Q In the last ten years, how many acre-feet of water
total have been delivered from the L.A. aqueduct system
to other parties for irrigation?
A Actually, if -- pardon me for one second. I need
to get one set of notes. Excuse me.

What I have are some figures by area. I can give
you a 20-year average readily.

Q I modify my question for the last 20 years.

A Over 20 years, the average delivery of irrigation
stock water in the Mono Basin is 8,500 acre-feet. This
also reached a maximum of 12,000 acre-feet in 1986 and
a minimum of 1,000 acre-feet in 1991. That's per the
data that I had access to.

In the Long Valley area, the average from 1970 to
1990 was 19,900 acre-feet. The maximum delivered in
any one year was 41,600 acre-feet. The minimum was
8,830 acre-feet.

In the Round Valley area, the 1970 to 1989 average
was 8,300 acre-feet with a maximum year delivery of
10,800 acre-feet and a minimum yearly delivery of 4,500
acre-feet.

And the area from -- let's see. Where do I have
it? I'm looking for my figures on irrigation. The
next figure that I had available was Tinemaha to Haiwee an average between 1970 and 1989 of 15,200 acre-feet per year with a minimum value of 18,900 acre-feet a value of 18,900 per year and a minimum of 11,000 acre-feet per year.

unless you want this on the record, we would be more computation sheet to you, and then we could stipulate it into the record.

offer and accept it.

MR. HASENCAMP: If I could just say that the data Los Angeles aqueduct simulation model documentation. So all of the 20- year averages are available.

keep in mind this is not the net irrigation, but applied irrigation. So there is return water from this Los Angeles aqueduct simulation model documentation.

Q BY MR. ROOS-COLLINS: Understood.

Mr. Miller, let me turn now to LAASM. On Page 4 forecasting and operations groups are preparing programs to allow the use of LAASM as the primary tool that to say that you intend that LAASM will become part of the actual operations model for the aqueduct system?

to help prepare plans to operate on a year-to-year basis. As I state, "Development of spreadsheet programs to use data from the LAASM for generation of prop-runs will begin in 1994," so the data from the prop-runs. The values from the prop-runs will then be used to develop the daily operation sheet. It will be replace any of the processes because it still requires a lot of judgment and input from the operators.

the aqueduct system run by a computer. Q So it is your intention that LAASM will be used in aqueduct this year?

A I can't make that statement. I don't know use. We will have to do some development work and check it and make sure we're happy with it before we plans.

A BY MR. HASENCAMP: We're in a transition phase in our the other prop-run program. Now, we develop a new -- the L.A. aqueduct simulation model. Right now, it's The next step within the model is to make it more of an
annual model with much more controls on an annual basis. And so it will be phased in as it's developed a little more.

Q    One final line of inquiry. Mr. Miller, your written testimony describes the annual development of an operations plan for the aqueduct system. Does the Department of Water and Power have a long-term supply-and-demand analysis which you use in developing the annual operations plan?

A BY MR. MILLER: If you refer to a specific document? Are you referring to a specific document?

Q    I'm asking whether such a document exists.

A    Not to my knowledge, no.

MR. ROOS-COLLINS: Thank you. No further questions.

HEARING OFFICER DEL PIERO: Thank you very much.

Ms. Scoonover?

MS. SCOONOVER: I have a question of Mr. Hasencamp that I think I'll hold until Tuesday, since we'll be seeing you again, in order to keep things moving quickly this evening.

That leaves me with just two brief questions for you, Mr. Miller.

CROSS-EXAMINATION BY MS. SCOONOVER

Q    You have described the process by which the Los Angeles Department of Water and Power prepares its operations plans for the Los Angeles aqueduct and you described a set of goals. You described that the plan constitutes a set of goals for Los Angeles aqueduct operations. Is that an accurate summary?

A BY MR. MILLER: Yes, it is.

Q    Can you tell me is one of the goals to meet as much of the Los Angeles area demand as possible with eastern Sierra water?

A    Yes.

Q    My second question refers to some of your concerns you voiced in keeping Long Valley Reservoir too high. You said there was some damage that could occur from uncontrolled spills from Long Valley Reservoir, and one area that you specifically identified as unacceptable to potential damage from high flows was the Owens River. Do you recall that testimony?

A    Yes. It's on Page 6.

Q    Are you familiar with the stretch of the Owens River referred to as the Lower Owens River?

A    Yes, I am.

Q    And are you also familiar with the approximately 60-stream miles of historic channel in the Lower Owens River, a large portion of which has no or low flows at this time?

A    By "familiar," if you mean I'm aware of their existence, yes. Do I know specifics about those 60-mile stretches, no, I do not.

Q    Are you also familiar with the associated wetlands that lie to both the east and the west of the Lower Owens River?
MR. POLLACK: I'm going to object to that, Mr. Del Piero. I fail to see the relevance to Mr. Miller's testimony which dealt with aqueduct operations and a question that dealt with wetlands as a part of the Lower Owens River which is not part of the aqueduct system.

MS. SCOONOVER: Wetlands immediately adjacent to the Lower Owens River have a large effect on whether or not the Lower Owens River is susceptible to damage from high flows as Mr. Miller alleges. I'm simply trying to get a little bit of background on his degree of knowledge of the system, the Lower Owens River system.

HEARING OFFICER DEL PIERO: I'm going to overrule the objection, but I'm going to caution you. The nature of this witness' expertise may be limited to the answer to that question and no others, but go ahead and pursue it.

MS. SCOONOVER: I won't pursue it much further.

Q BY MS. SCOONOVER: Do you recall the question?
A BY MR. MILLER: Actually, I would like you to repeat the statement, but I also have a clarification for what my testimony states.

HEARING OFFICER DEL PIERO: Let's take it one step at a time.
Ms. Anglin, would you read the question back?
(Whereupon the record was read by the Reporter.)
MR. MILLER: I would have to give you the same answer that I gave on the question previous to that. I am familiar with their existence. I am not familiar with the specifics of what they look like or anything like that.

Q BY MS. SCOONOVER: So you would be unable to answer questions regarding the capacity of these wetlands to carry overflow, to handle overflow?
A BY MR. MILLER: That is correct.
Q In the Lower Owens River?
A That is correct.

MS. SCOONOVER: That's all. Thank you.

MR. MILLER: The one clarification I would like to make to my testimony, though, is when I stated that uncontrolled spills from Long Valley could result in damage to the Owens River, and I believe this question came out under cross-examination, was I meant the Middle Owens River immediately below the Pleasant Valley Reservoir.

MS. SCOONOVER: So --
MR. MILLER: I was not speaking to damage in the Lower Owens, I was speaking to potential for damaging the Middle Owens.

MS. SCOONOVER: Middle Owens. Thank you.

HEARING OFFICER DEL PIERO: Thank you very much.
Mr. Frink?
MR. FRINK: I have none, but Mr. Satkowski does.

HEARING OFFICER DEL PIERO: Mr. Satkowski?
CROSS-EXAMINATION BY THE STAFF

Q BY MR. SATKOWSKI: I just have I believe three questions. The first one deals with Attachment 5, which is Long Valley Reservoir Storage, No Mono Basin...
Water.

Down near the dry-year line, it's labeled 1990 through 1991, there's a couple of asterisks, and when you look down at the asterisks, it says that, "The actual 1972-73 dry year, Long Valley Reservoir storage." Can you explain what this means?

A BY MR. MILLER: You've caught us in an error. What this data is, as I pointed out in my earlier testimony, is for no Mono water Basin available. We have only had historical operations for a dry year. So that double asterisk should read, "Actual 1990 to 1991 dry-year, Long Valley Reservoir storage." Not '72-73, as it is shown on the graph. That appears in error.

Q Thank you.

My other questions deal with Attachment 3, which is Los Angeles Aqueduct System Capacities, and I guess this question is for either of you. In the table, the fourth line down, Tinemaha Reservoir, historical maximum storage is about 16,000 acre-feet. The recommendation for the maximum on that reservoir is 6,300 acre-feet. For the record, can you explain why the large difference?

A Certainly. Currently, Tinemaha Reservoir is under a state order from the State Division of Dam Safety to be held at a lower elevation. The previous high led to a storage of 16,000, approximately, 300 acre-feet. Currently, due to the limitations regarding safety of that dam, it's current maximum storage is limited to 6,300 acre-feet.

The department is preparing a plan to begin remedial work on the reservoir to increase its capacity, but this will, of course, require approval from the State Division of Safety of Dams.

Q How long do you believe it would take to get this approval?

A That's really out of my expertise and my group is not preparing the plans to submit to the state. I really don't have a firm timetable on that now.

Q Okay. In the Grant Lake Reservoir line, the recommended minimum is 11,000 even. Is that L.A.'s recommendation, or is it 11,500?

A BY MR. HASEN CAMP: This is not a recommendation for a hard condition. This is a recommendation for use in the LAAMP planning model. We're not recommending that a minimum 11,000 be put on the reservoir. We're saying for long-term planning purposes, use that as the minimum.

Q Use 11,000?

A Yes.

A BY MR. MILLER: Again, that's for long-term planning. As I've mentioned before, the flexibility of storage is paramount. If it looks like we're getting a really heavy year up there, we will need to have reserve storage in Grant Lake Reservoir or any of the other reservoirs. Therefore, we may have to go below these recommended minimums.

Q My last question deals with the Pleasant Valley outflow. In the historical maximum column, it shows
809 cfs. The recommendation for maximum flow from Pleasant Valley is 600 cfs. Why the discrepancy?

A BY MR. HASENCAMP: Well, Pleasant Valley used to have a larger capacity than it does now, and the historical maximum is when the reservoir was at capacity and spilling. When both of those things were taking place, through the power plant and through the bypass, we could get 809 cfs. But again, for planning purposes and for long-range planning, through the power plant, 600 cfs, and if you want to use the bypass, then 700 cfs is a usable number, a reasonable number to use.

Q Could you also get 800 cfs through the system if you were to use the bypass?

A No. Not without encroaching the maximum. Pleasant Valley, like Tinemaha, has a lower maximum than it historically had. So unless you take Pleasant Valley above the legal level and, in fact, spill it, then you can get more water through the bypass.

A BY MR. MILLER: And to spill that reservoir requires permission from the State Division of Dam Safety, and we have to try and get that very far ahead of time. And they are not very willing to give that out on just a, you know, a one-phone-call basis. The only time they've allowed it in the recent past was for maintenance purposes of the Pleasant Valley Power Plant. When we couldn't flow water through the power plant, they will allow us raise the reservoir and spill it.

MR. SATKOWSKI: Thank you very much. Those are all the questions I have.

HEARING OFFICER DEL PIERO: Mr. Smith?

MR. SMITH: I have no questions. Thank you.

HEARING OFFICER DEL PIERO: Mr. Herrera?

MR. HERRERA: I have one question.

Q BY MR. HERRERA: Are there any restrictions from the Department of Fish and Game for maximum releases out of Pleasant Valley Reservoir?

A BY MR. MILLER: There are none that I am aware of.

Q Mr. Hasencamp?

A BY MR. HASENCAMP: I don't believe there are.

MR. HERRERA: Thank you.

HEARING OFFICER DEL PIERO: Mr. Canaday?

Q BY MR. CANADAY: This would be for either one of you. On the telemetry, how far -- what's the sending range of the telemetry, let's say, from the Grant Lake of the measuring devices? Is there a limitation on the range?

A BY MR. MILLER: I'm not an expert on the telemetry, but our telemetry divisions, such as those, go to our Bishop office either through hard wire or radios, and once it's in Bishop, it can be entered into a computer, and from there it can go anywhere.

Q My last question is for Mr. Miller. When you're going through these planning operations for a particular water year and you identify different irrigation amounts of water in various places along the
system, is that part of the planning? Is there a
switch in your planning criteria that evaluates whether
you reduce the irrigation deliveries?
A  Okay. I am not directly involved in setting
irrigation limits on water. That is handled by our
Bishop office.
What we do during the planning of the operations
is we consult with our personnel in the Bishop office
to find out how much water they plan to deliver. Now,
our normal commitment is five acre-feet of water per
acre of irrigated land. However, we do have the option
during dry years to reduce that.
Q  When you say "we," the Bishop office has that
option, or is it --
A  We, the Department of Water and Power.
MR. CANADAY: All right. Thank you.
HEARING OFFICER DEL PIERO: Mr. Frink, you have
one question?
MR. FRINK: Yes. I do have a followup on the
question Mr. Satkowski asked about the maximum storage
capacity of Tinemaha Reservoir.
Q BY MR. FRINK: Mr. Miller, I believe you indicated
that the maximum reflected in Attachment 3 is a result
of the restrictions imposed by the Division of Safety
of Dams. Mr. Satkowski asked if you knew how long it
would be until you had the approval to go higher.
Has the Department of Water and Power made any
improvements on Tinemaha Reservoir in response to the
Division of Dam Safety's requests?
A BY MR. MILLER: No. We have not made any
improvements. We have started the process to improve
the reservoir. We've begun doing geological studies
and investigations, but we have made no physical
modifications to the reservoir.
Q  Mr. Hasencamp, I believe Mr. Miller stated he
didn't know how long it would be until the Department
of Water and Power could expect approval from the
Division of Dam Safety. Do you have an opinion on
that?
A BY MR. HASENCAMP: No, I do not.
MR. FRINK: Thank you.
HEARING OFFICER DEL PIERO: I have one question in
regards to that matter, Gentlemen.
CROSS-EXAMINATION BY THE BOARD
Q BY HEARING OFFICER DEL PIERO: Have you identified a
strategy yet as to addressing the problems that the
Division of Dam Safety have identified?
A BY MR. MILLER: That question would probably be best
addressed by our dams and geology group.
Q  The question I'm asking is has an action been
taken by whoever is in authority to identify a repair
or improvement strategy?
A  As I stated, we've initiated the studies to come
up with a plan of action.
Q  But they are not completed?
A  No. We don't have any recommended plan yet. We
are in the initial stages.
Q  Have you completed an environmental impact report
Q Are you still scoping the basis of the work?
A I'm not aware of any activities of that sort as far as --
Q Is it being done by someone on your staff or is it being done by a consultant? Or do you know?
Mr. Hasencamp, do you know?
A BY MR. HASENCAMP: In the past, our practice has not been to improve the reservoirs, but to determine what operation is safe. If there was an earthquake, how much would the dam slump. It's too costly to get in there and actually bring these reservoirs up to the standard.
Q So what course of action is being pursued by the Department of Water and Power in regard to this matter?
A Well, we've already gone through at South Haiwee. We've got, just in the last couple of years, the maximum South Haiwee restored to 27,000 acre-feet. So that was a number one priority.
A BY MR. MILLER: I will address this. I have been in with a meeting with the group, Water Engineering Design, which is a division of Water and Power. They have personnel who are working on a remediation plan for the reservoir. We have indicated that we don't want any storage lower than 63,000 acre-feet, and if possible and if they can come up with a remediation plan that will allow higher storages, they should pursue that matter.
Now, whether they're going to actually do the calculations or not, I'm not sure, and whether they have any consultants on board performing those calculations, I'm not sure.
Q How recently was that?
A Probably within about the last six months or so.
MR. FRINK: I believe Mr. Miller meant to state lower than 6300 acre-feet not lower than 63,000?
MR. MILLER: That would be correct.
MR. FRINK: Thank you.
HEARING OFFICER DEL PIERO: Mr. Birmingham?
MR. POLLACK: Actually, it's me.
HEARING OFFICER DEL PIERO: I'm sorry,
Mr. Pollack. Forgive me.
MR. POLLACK: Can I have just a moment?
HEARING OFFICER DEL PIERO: Certainly, Sir.
MR. BIRMINGHAM: We only have a half an hour of questions, Mr. Del Piero.
MR. POLLACK: We have no redirect, Mr. Del Piero.
HEARING OFFICER DEL PIERO: Thank you very much,
Mr. Pollack.
I'll recall --
MR. BIRMINGHAM: As Ms. McKeever said several months ago, I lost control of this a long time ago.
HEARING OFFICER DEL PIERO: I'll recall Mr. Birmingham's lame joke on Tuesday.
HEARING OFFICER DEL PIERO: Ms. Cahill?
MS. CAHILL: One question.
CROSS-EXAMINATION BY MS. CAHILL
Q. Mr. Miller, again on Attachment 3 where you have the maximum and minimums listed for your reservoirs, are there any legally required minimum pools for any of those reservoirs?

A BY MR. MILLER: Not that I'm aware of, no.

MS. CAHILL: Thank you.

HEARING OFFICER DEL PIERO: Thank you very much.

Mr. Roos-Collins?

MR. BIRMINGHAM: Is this a question by Mr. Vorster?

MR. ROOS-COLLINS: It is. Would you prefer that he ask it?

MR. VORSTER: I'll ask it.

MR. BIRMINGHAM: You know Bruce Dodge has a rule about these questions and the rule is you take them like this and you throw them over your shoulder. Let the record reflect that I have returned Mr. Roos-Collins' question to him.

HEARING OFFICER DEL PIERO: I appreciate that.

MR. ROOS-COLLINS: That story brings to mind the Biblical saying about throwing pearls to swine. And in case that's too abstract, I'm characterizing Mr. Vorster's question as pearls.

CROSS-EXAMINATION BY MR. ROOS-COLLINS

Q. Mr. Hasencamp, in answer to one of my earlier questions, you referred to the green book. Does the green book restrict the Department of Water and Power's storage of excess water in the Big Pine volcanic formation?

MR. POLLACK: Mr. Del Piero, while I didn't object the first time the green book was mentioned, the testimony that is being offered today is regarding aqueduct operations in regard to Crowley Lake and this proceeding, the Mono Basin. And Mr. Roos-Collins is now bringing up the Owens Valley, which is the subject of long litigation and controversy and a completely different situation. I fail to see the relevance as regards this proceeding.

MR. ROOS-COLLINS: The relevance, Mr. Del Piero, is based on the representation by Mr. Miller in which Cal-Trout joins that the aqueduct system should be considered as an integrate whole and what happens in one part affects the other. I'm asking about the capacity of one part of the aqueduct system to store groundwater given the possible effect on the Mono Basin.

HEARING OFFICER DEL PIERO: Ms. Scoonover?

MS. SCOONOVER: Mr. Hasencamp did indeed raise the green book in answer the one of Mr. Roos-Collins' previous questions. Mr. Hasencamp will be back next Tuesday. Perhaps you could wait 'til then to ask Mr. Hasencamp more about the green book.

HEARING OFFICER DEL PIERO: We can take care of it now.

I'm going to overrule your objection, okay? But let's not get too far afield on this, okay?

MR. ROOS-COLLINS: Thank you.
HEARING OFFICER DEL PIERO: Did you understand the question, Mr. Hasencamp?
MR. HASENCAMP: I think I do.
HEARING OFFICER DEL PIERO: If you would prefer to have it read back to you, Sir, we can do that.
MR. HASENCAMP: No, that's okay.
HEARING OFFICER DEL PIERO: Okay.
MR. HASENCAMP: I'm not aware of that.
Q BY MR. ROOS-COLLINS: Thank you.
We previously discussed the use of automated devices to control releases from Grant Reservoir and other facilities in the Mono Basin. Are flow -- are automated flow control devices used anywhere in the L.A. aqueduct system to control releases from reservoirs?
A BY MR. MILLER: By -- well, if you mean like remote control?
Q I do.
A The valves at the power houses are controlled from within the powerhouse, but they are not controlled from, say, like Bishop office or anything like that. They're controlled at the facility, itself, but they do have remote operators.
Q Have the forecasting and operations groups investigated the possibility of installing remote control devices at your Mono Basin facilities?
A No, we have not.
MR. ROOS-COLLINS: Thank you. No further questions.
HEARING OFFICER DEL PIERO: Thank you.
MR. MILLER: Mr. Miller, would that serve any purpose?
HEARING OFFICER DEL PIERO: How long does it take to dispatch a person to that location?
MR. MILLER: You'd have to ask our Bishop office about what the average turnaround time --
HEARING OFFICER DEL PIERO: Mr. Hasencamp, do you have a sense?
MR. HASENCAMP: Not very long. We have a person in the Mono Basin fairly routinely, and we make changes usually every day.
HEARING OFFICER DEL PIERO: What is it, 45 minutes?
MR. HASENCAMP: It depends on the time of day. In the morning, certainly within an hour, if it's the first thing in the morning.
MR. MILLER: Mr. Del Piero, to answer part of your question, too, one of the reasons is we usually call in changes about a day ahead of time so that it can be done with our aqueduct and reservoir keepers as part of their morning routine when they take readings and such.
HEARING OFFICER DEL PIERO: Ms. Scoonover?
MR. SCOONOVER: I have no further questions.
HEARING OFFICER DEL PIERO: Mr. Frink?
MR. FRINK: No questions.
HEARING OFFICER DEL PIERO: Mr. Satkowski?
MR. SATKOWSKI: No questions.

HEARING OFFICER DEL PIERO: Mr. Smith? Mr. Canaday? Mr. Herrera? Any further questions, Mr. Smith?

Gentlemen, thank you very much for your kindness and participation. Mr. Hasencamp, we'll see you next week. Mr. Miller, I don't know if we'll see you again, but it's been a pleasure.

Ladies and Gentlemen, unless there are any procedural items to take care of, I'll see you Tuesday morning at 8:30. Good. Thank you.

(Whereupon the hearing was adjourned at 5:30 p.m.)

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REPORTER'S CERTIFICATE

STATE OF CALIFORNIA )
   ss.          )
COUNTY OF SACRAMENTO )

I, KELSEY DAVENPORT ANGLIN, certify that I was the official court reporter for the proceedings named herein; and that as such reporter, I reported, in verbatim shorthand writing, those proceedings, that I thereafter caused my shorthand writing to be reduced to typewriting, and the pages numbered 1 through 279 herein constitute a complete, true and correct record of the proceedings:

PRESIDING OFFICER: Marc Del Piero
JURISDICTION: State Water Resources Control Board
CAUSE: Mono Lake Diversions
DATE OF PROCEEDINGS: January 14, 1994

IN WITNESS WHEREOF, I have subscribed this certificate at Sacramento, California, on this 31st day of January, 1994.

Kelsey Davenport Anglin, RPR
CM, CSR No. 8553