

by MORRISON & FOERSTER (213) 892@5200f)
01 PUBLIC HEARING
02 STATE WATER RESOURCES CONTROL BOARD
03 DIVISION OF WATER RIGHTS
04 STATE OF CALIFORNIA
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07
08 SUBJECT: AMENDMENT OF CITY OF LOS ANGELES' WATER RIGHT
09 LICENSES FOR DIVERSION OF WATER FROM STREAMS THAT ARE
10 TRIBUTARY TO MONO LAKE
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14 Held at:
15 Resources Building
16 Sacramento, California
17 Friday, October 29, 1993
18
19 VOLUME VIII
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21 ---o0o---
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23
24 Reported by: Kelsey Davenport Anglin, RPR,
24 CM, CSR No. 8553
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01 BOARD MEMBERS
02
03 BOARD MEMBERS
04
05 MARC del PIERO
06
07
08 STAFF MEMBERS
09
10 DAN FRINK, Counsel
11 JAMES CANADAY, Environmental Specialist
12 STEVE HERRERA, Environmental Specialist
13 RICHARD SATKOWSKI, Engineer
14 HUGH SMITH, Engineer
15
15
16
17
18
19
20
21
22
23
24
25

0003

01 COUNSEL AND OTHERS
01 For the U.S. Fish and Wildlife Service:
02
02 ERIKA NIEBAUER
03 Assistant Regular Solicitor

03 Office of Solicitor
04 Pacific Southwest Region
04 2800 Cottage Way
05 Sacramento, California 95825
05
06 For the Sierra Club:
06
07 LARRY SILVER
07
08 For California Department of Fish and Game:
08
09 HAL THOMAS
09 VIRGINIA CAHILL
10 McDonough, Holland & Allen
10 555 Capitol Mall, Suite 950
11 Sacramento, California 95814
11
12 For the U.S. Forest Service:Ô
13 JACK GIPSMAN
13 Office of General Counsel
14 U.S. Department of Agriculture
14
15 For the National Audubon Society and Mono Lake
15 Committee:
16
16 BRUCE DODGE
17 PATRICK FLINN
17 Attorneys at Law
18 755 Page Mill Road
18 Palo Alto, California 94304
19
19
20 For California Trout:
20
21 RICHARD ROOS-COLLINS
21 CYNTHIA KOEHLER
22 Attorneys at Law
22 114 Sansome Street, Suite 1200
23 San Francisco, California 94104
23
24
24
25
25

0004

01 COUNSEL AND OTHERS

01
02 For the City of LA and LA DWP:
02
03 THOMAS W. BIRMINGHAM
03 JANET GOLDSMITH
04 ADOLPH MOSKOVITZ
04 Attorneys at Law
05 Kronick, Moskovitz, Tiedemann & Girard
05 400 Capitol Mall, 27th Floor
06 Sacramento, California 95814
06
07 For State Lands Commission, Department of Parks and
07 Recreation:
08

08 JOHN STEVENS
 09 Assistant Attorney General
 09 1515 K Street
 10 Sacramento, California 95814
 10
 11 For Meter Water District of Southern California and
 11 LA MWD:
 12
 12 VICTOR GLEASON
 13 Attorney at Law
 13 1111 Sunset Boulevard
 14 Los Angeles, California 90050-0153
 14
 15 FRANK HASELTON
 15 Haselton Associates
 16
 16 JOHN ARCULARIUS
 17 MARY SCOONOVER
 17
 18
 18
 19
 19
 20
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E X H I B I T S

L.A. DWP Exhibits Nos. 1-8, 1-A 231

01 SACRAMENTO, CALIFORNIA
02 FRIDAY, OCTOBER 29, 1993, 9:00 A.M.
03 ---o0o---
04 HEARING OFFICER del PIERO: Ladies and Gentlemen,
05 this hearing will again come to order. For those of
06 you that may be new, my name as Marc del Piero. I'm
07 Vice-Chair of the State Water Resources Control Board,
08 and I'm acting as the hearing officer in regards to
09 this matter regarding the amendment of the City of Los
10 Angeles' water rights licenses for diversions of water
11 from streams that are tributary to Mono Lake.
12 Yesterday, we concluded the four panels that
13 presented the substance of the Environmental Impact
14 Report on behalf of Jones and Stokes. Today, we will
15 begin presentation by the City of Los Angeles and the
16 City of Los Angeles Department of Water and Power.
17 Before we begin, is there anyone here who was --
18 who has not been sworn? Both of you? Both of you?
19 Okay. Anyone wishing -- anyone intending to present
20 testimony today, I need to administer the oath to you.
21 If you would please rise and raise your right
22 hand. Do you promise to tell the truth during the
23 course of these proceedings?
24 THE WITNESSES: I do.
25 HEARING OFFICER del PIERO: Good. Thank you very

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01 much, Gentlemen.
02 And Mr. Birmingham?
03 MR. BIRMINGHAM: Thank you very much.
04 HEARING OFFICER del PIERO: Coffee in hand, ready
05 to go.
06 MR. DODGE: Mr. del Piero, before we -- could I
07 note that we have --
08 HEARING OFFICER del PIERO: You told me he didn't
09 get testy until the afternoon, Mr. Birmingham.
10 MR. DODGE: We have been joined by one of the
11 lions of the California Bar, my long-time adversary and
12 colleague, Mr. Adolf Moskovitz, and I'd just like to
13 welcome him.
14 HEARING OFFICER del PIERO: Good morning.
15 DIRECT EXAMINATION BY MR. BIRMINGHAM
16 Q Good morning, Dr. Chapman, Dr. Platts.
17 Before I ask you to present an oral summary of
18 your testimony, I have a few preliminary questions.
19 First, I've placed before you a number of documents;
20 Los Angeles Department of Water and Power Exhibit 2,
21 and Los Angeles Department of Water and Power Exhibit
22 3. I would ask, are those documents currently
23 copies -- excuse me. Are those documents, L.A.
24 Department of Water and Power 2 and 3, copies of your
25 current Curriculum Vitae?

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01 A BY DR. CHAPMAN: They're slightly out of date, but
02 reasonably current.
03 Q And are L.A. DWP Exhibits 4, 5, 6, 7, and 8
04 documents to which you referred and relied in forming
05 opinions that you will express today?
06 A Yes.
07 Q And is L.A. DWP Exhibit 1 a true and correct copy

08 of the direct testimony of Dr. Donald W. Chapman and
09 Dr. William S. Platts?
10 A With the exception of three errors that I found.
11 Q What are those errors, Dr. Chapman?
12 A On Page 14, second paragraph, strike the word
13 "only."
14 Q Can you refer specifically to which line in the
15 second paragraph?
16 A The line that begins, "Anglers fished," should
17 read, "Anglers fished the section from Grant Dam,"
18 striking "only."
19 On Page 12 --
20 MR. DODGE: Excuse me. Thank you.
21 DR. CHAPMAN: On Page 12, last paragraph, second
22 line, strike the word "springs." The line should read,
23 "Lower Rush Creek since," et cetera.
24 And I found one additional error on Page 15,
25 Paragraph 4, Line 6, where it reads, "17 hours," should

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01 read, "18 hours." So the sentence now has a phrase
02 that says, "Where anglers had to fish 18 hours to," et
03 cetera. Those are the only errors that I'm aware of.
04 Q BY MR. BIRMINGHAM: With the exception of the three
05 corrections that you just made, is L.A. DWP Exhibit 1 a
06 true and correct copy of the testimony which you
07 prepared for these proceedings?
08 A BY DR. CHAPMAN: Yes.
09 Q And do you affirm that L.A. DWP Exhibit 1 is your
10 testimony?
11 A It is our testimony, yes.
12 Q Would you briefly, first, Dr. Chapman, and then
13 I'll ask Dr. Platts the same question. Would you
14 briefly summarize your professional experience and
15 qualifications?
16 A Yes, sir. My career in fisheries began in 1955
17 with work on steelhead in the Alsea River Basin,
18 continued into the Alsea watershed study on Drift Creek
19 on the Oregon coast. That period extended while I was
20 working on a doctorate and teaching at the
21 University -- at Oregon State University, and I then
22 went to the Oregon Fish Commission where I was director
23 of research for a year and a half. Then I moved to the
24 University of Idaho where I was leader of the Idaho
25 Cooperative Fishery Unit working with fish ecology and

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01 fresh water, chiefly with trout and salmon, and guiding
02 graduate student research, conducting my own research.
03 Subsequently, I went to the United Nations and
04 worked for three and a half years in Africa on Lake
05 Tanganyika in stock assessment, and then a year and a
06 half on the Rio Magdalena in Columbia working on catch
07 assessment. And then in 1978, I returned to the United
08 States and opened a consulting business, and I have
09 been at that for the last 15 years. And currently I
10 have a firm with about, I guess I've got six or seven
11 full-time professionals, several support staff, and we
12 do work all around the northwest from California to
13 Alaska to Montana and Canada.
14 In the Mono Basin, I've been associated with this

15 litigation and the surrounding efforts for the last
16 couple of years. Dr. Platts has been involved for
17 longer and I'm sure he'll add to this. But our firm
18 now is under contract to L.A. to provide consulting
19 services on Mono Basin tributaries and on work in the
20 Owens River.

21 And that should suffice for a brief summary. The
22 only thing my information and vitae does not reflect is
23 I'm now on the National Academy of Science's National
24 Conservation Council committee for northwest salmon and
25 on a national oceanographic and a NOAA committee for

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01 evaluating the effects of oil spills. And -- can I
02 turn this over to Dr. Platts?

03 Q Yes. Dr. Platts, can you briefly summarize your
04 professional experience?

05 A BY DR. PLATTS: My name's William Platts, and I have
06 over 30 years of experience working in fishery research
07 and fishery management. I have my Ph.D. out of Utah
08 State University in fishery science and a master's
09 degree out of Utah State University in wildlife
10 management. I received my B.S. from Idaho State
11 University in conservation education.

12 Early, my first career job was I was a fishery
13 biological aid for the Utah Fish and Game Department.
14 I then transferred to Idaho as a fishery biologist,
15 became a regional fishery biologist in the Idaho Fish
16 and Game Department, and the last few years there I
17 supervised the Conservation Enforcement Division.

18 I then transferred to the U.S. Forest Service as a
19 zone fishery biologist making input into fishery
20 decisions on seven forests in Idaho, worked on some
21 forests in Utah, and also some forests in Wyoming. I
22 then transferred within the Forest Service to the SCENE
23 program which was a national program that consulted to
24 different mining companies, different mining ventures,
25 and mining as related to Forest Service and private

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01 lands.

02 After that assignment, I transferred to a research
03 fishery biologist position with the Utah Mountain
04 Station, and from that time on, I did research on the
05 effects of logging, livestock grazing, road
06 construction. I developed classification systems for
07 identifying and mapping river and riparian systems.

08 Then I retired from the Forest Service in 1988 on
09 a Friday night and went to work for Don Monday morning,
10 and I've been with the consulting firm since that
11 time.

12 My resume as it is attached here has a few errors
13 in it, mainly because it hasn't been updated for a
14 while. I was a member of the Outer Rights Water
15 Resource Board for a few years. My terms expired this
16 year, and so I'm no longer a member of the Outer Rights
17 Resource Board at this time. I also just recently
18 retired out of U.S. Environmental Protection Agency
19 Advisory Board in the last two or three weeks. So that
20 is an update that needs to be made.

21 Other than that, I think my resume is fairly

22 complete up and to date.
23 Q Thank you very much, Dr. Platts.
24 A I wasn't through, but --
25 Q Excuse me, I'm sorry.

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01 A I just talked a little bit about my experience in
02 the Mono Basin. I have been in the Mono Basin now for
03 two or three years watching these streams rehabilitate
04 and putting input into it as required. Also, I'm
05 working on the Lower Owens and the gorge for the
06 Department. We're helping out in the process of
07 rewatering and rehabilitating the Owens River. I have
08 been working on the ranches on the L.A. Department
09 water lands, and we're setting up ranch management
10 plans so that we can bring streams back that have been
11 taking stress on ranch lands. And we've been moving
12 fairly fast on that.

13 And that's my experience in the basin.

14 Q Thank you. Would you briefly summarize the
15 written testimony which has been submitted as L.A. DWP
16 Exhibit 1?

17 A BY DR. CHAPMAN: Yes. I'm going to do that. The
18 arrangement we have is I'm going to provide the oral
19 summary and I'm going to catch a plane and leave
20 Dr. Platts to face the medicine.

21 We testify today on the history and the present
22 condition of the trout fishery of Lower Rush Creek in
23 Mono County. Can we have Figure 1?

24 MR. DODGE: Excuse me, Mr. Chairman. I assume we
25 are going to be afforded the opportunity to

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01 cross-examine Dr. Chapman?

02 DR. CHAPMAN: I was only kidding, Mr. Dodge.

03 HEARING OFFICER del PIERO: Mr. Dodge --

04 DR. CHAPMAN: I knew you would take me seriously.

05 HEARING OFFICER del PIERO: Mr. Dodge, you didn't
06 have the benefit of seeing his face.

07 (Laughter.)

08 MR. DODGE: This is one of the few pleasures in my
09 life.

10 DR. CHAPMAN: I wish I could say the same.

11 MR. DODGE: One for you. We'll see how it ends
12 up.

13 HEARING OFFICER del PIERO: The names are spelled
14 D-O-D-G-E and C-H-A-P-M-A-N, so the record's clear
15 who's talking.

16 (Laughter.)

17 MR. BIRMINGHAM: May the record reflect that I'm
18 putting up a blowup of Fishery 1 from the direct
19 testimony of Robert Bester. Is that it?

20 DR. CHAPMAN: No. This is -- this is supposed to
21 be -- the wrong -- this is -- we want the one from --
22 Figure 1 from Chapman and Platts. I think they're in
23 the back right there behind --

24 MR. BIRMINGHAM: I'm informed, and we'll check the
25 L.A. DWP Exhibit 9 just to make sure, but Figure 1 from

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01 Dr. Bester's testimony I believe is the same as Figure
02 1 from the Chapman testimony.

03 DR. CHAPMAN: All right. We'll probably leave
04 that up with the Board's permission. That is a --
05 shows the salient features of Lower Rush Creek
06 including the reach from Grant Lake to Parker Creek
07 which occupies about 62 percent of the length of Lower
08 Rush Creek.

09 Lower Rush Creek, in my definition here, extends
10 from Grant Outlet to Mono Lake, and the -- there is a
11 section called the Narrows to Mono Lake that I will
12 refer to periodically through the testimony as well.
13 We're going to emphasize historically the condition of
14 the fishery before 1941.

15 As fishery scientists and consultants, we rely
16 mostly on published scientific documented information.
17 Secondly, we rely on careful analysis of the
18 observations of the trained observers. We regard
19 anecdotal information and hearsay extremely
20 cautiously. We have followed these guidelines in
21 preparing the opinions stated in our testimony.

22 The first thing we want to point out is that
23 grazing damaged the river and riparian habitat of Lower
24 Rush Creek long before 1940. By the 1860s, huge heard
25 of transient cattle and sheep grazed through the Mono

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01 Basin. By 1900, the range lands of the Great Basin
02 including the Mono Basin were overfilled with domestic
03 livestock. An early scientific observer wrote that the
04 natural pastures were nearly ruined by 1889. At the
05 time of that observer's arrival in 1881, the Basin's
06 landscape had already been significantly changed.

07 Grazing continued through the first half of the
08 1900s, and on April 1st of 1940, there were about 1900
09 cattle, 825 horses, and 25,000 sheep grazing in the
10 Mono Basin. Those grazing animals were such a nuisance
11 during the trout fishing season that temporary declines
12 in trout catches and angling effort resulted. Sheep
13 that grazed and watered along Rush Creek roiled the
14 waters of Lower Rush Creek so that the stream was
15 unfishable at times.

16 Elden Vestal, a fisheries specialist, described
17 Lower Rush Creek as bordered in part by willows, dead
18 sheep, and highlining. Highlining indicates heavy
19 grazing by sheep over an extended period. Once the
20 riparian vegetation is highlined, the herbaceous
21 vegetation beneath it is severely damaged. Vestal's
22 court exhibit photos -- and those are the Figures 3 and
23 4 from my testimony. Let's put 3 up first. That
24 exhibit indicates heavy grazing damage. In the left
25 center of the photograph, one can see a bank. We call

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01 that a false bank. It's been sloughed as a result of
02 bank sheering. And, essentially, there are two banks
03 there, one in the stream and one away from the stream,
04 and that's an indication of heavy grazing damage.

05 The stream is also dish-shaped. Rather than being
06 box-shaped and having undercut banks in close proximity
07 of the riparian vegetation on both sides, the stream
08 has been dished.

09 Can we see the next figure, please? This is
10 Figure 4 from our testimony. This also indicates

11 severe cropping and highlining of willows, and it shows
12 a dish-shaped stream as well. And we consider both of
13 those figures indicative of heavy grazing use of Lower
14 Rush Creek. Those banks are laid back as a result of
15 heavy grazing. That's all I have for those two
16 figures.

17 Now, beyond the point -- beyond the fact of
18 grazing and overgrazing, we emphasize that the
19 semi-arid -- in the semi-arid Mono Basin, summer long
20 forage production required heavy irrigation. Most of
21 the Basin could not be cultivated because water was
22 insufficient or physically unavailable to place on the
23 land.

24 Beginning about the mid 1800s, settlers diverted
25 the water of Rush Creek onto the land to irrigate crops ô

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01 and forage and provide stock water. From around the
02 turn of the century to 1923, ranch and hydropower
03 interests were said to have competed to use water.
04 Storage reservoirs eventually regulated the flow of the
05 creek. Rush Creek has not flowed naturally now for
06 approximately 100 years or a little over 100 years.
07 The various uses of Rush Creek and the regulation of
08 natural flows reduced the quality of fish habitat in
09 the stream.

10 The area of greatest emphasis in my testimony, or
11 our testimony, is the Grant Lake to Parker Creek reach,
12 and that covers about 6.8 stream miles or, again, about
13 62 percent of the main channel of Lower Rush Creek from
14 Grant Lake to Mono Lake. Now, that area suffered
15 severe flow-related habitat degradation in most years
16 of the decade before 1941. The census of 1919 revealed
17 4190 acres irrigated from tributaries of Mono Lake. By
18 1929 the census indicated 11,500 acres irrigated. The
19 increase over ten years occurred mainly in the areas
20 managed by the Cane Irrigation Company and the Rush
21 Creek drainage. That irrigation used 26,000 acre-feet
22 of water per year in Rush Creek, and Rush Creek
23 produced an average of about 50,000 acre-feet per
24 year. So that converts to something well over 50
25 percent of the -- a little over 50 percent, I should

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01 say, of the total flow of Rush Creek used for
02 irrigation.

03 Diversions from the stream diminished the natural
04 flow along much of the upper portion of the Grant
05 Lake-Park Creek reach and dessicated parts of the lower
06 portion. By 1930, the mile-long stretch of Rush Creek
07 just down from Grant Reservoir had been modified to
08 function as a supply channel for two irrigation
09 ditches. The operation of the ditches diverted most
10 Rush Creek water during much of the irrigation -- most
11 of the irrigation season, and daily flow data will tell
12 us that during most years, there were periods of zero
13 or no -- zero or very low flow.

14 The soils of the Cane Ranch, the pastures in the
15 Cane Ranch, required more water to be applied than
16 actually was transpired by plants or evaporated.
17 Irrigation managers had to deliver up to 45 acre-feet

18 per acre per year in the Pumice Valley area. There was
19 a concentrated effort to use all of the Rush Creek
20 water to its full potential for crop land irrigation.

21 The period from 1929 and 1940 included drought,
22 and normal, and above normal flow years. So that
23 decade offers a range of water production to permit
24 some examination of historical flow ranges. It is
25 clear that little or no water passed down below Rush

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01 Creek in many periods except in the high flow of the
02 1937-38 water year.

03 We had a table, Table A, that I think I'd like to
04 put up.

05 HEARING OFFICER del PIERO: You know, Dr. Chapman,
06 I'm sorry to interrupt your presentation, but
07 Mr. Sat-Kowski, can you arrange to get that tripod
08 moved over here? It's extremely inconvenient for all
09 of the parties to have it where it is, and in all
10 candor, rather than the people keep jumping up and down
11 like jumping beans out of their chairs, it'd be better
12 if we put it over here so everyone can see it.

13 This is not going to be deducted from your time,
14 Mr. Birmingham.

15 (Laughter.)

16 MR. BIRMINGHAM: Thank you, Mr. del Piero.

17 HEARING OFFICER del PIERO: Any time. Actually,
18 Rich, why don't you pull it farther back toward the
19 television set? That way I can see it. Over near the
20 wall. Yeah, there. That's great. Okay.

21 Thank you very much, Doctor.

22 DR. CHAPMAN: Table A from our testimony indicates
23 the number of flow days in which the stream flow near
24 Highway 395 was zero or less than 1 cubic foot per
25 second. In 1934, a drought year, it was all year. In

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01 1935, there were 74 days with zero or minus -- or less
02 than 1 cfs. '36 there were 30. '39 there were 13. In
03 '94 there were 108 --

04 So in that decade that spanned something of a
05 spectrum of flow conditions from drought to high flow,
06 there were many days in which irrigation reduced the
07 flow to 0 or less than 1 --

08 HEARING OFFICER del PIERO: Dr. Chapman, where is
09 the location of this less-than-1-cfs flow?

10 DR. CHAPMAN: This is at a gauge near Highway 395.

11 HEARING OFFICER del PIERO: Above or below the
12 highway?

13 DR. CHAPMAN: That's -- it would be just above the
14 highway.

15 HEARING OFFICER del PIERO: How far?

16 DR. CHAPMAN: 100 yards. 400 yards he says. I
17 say within 100, but I may be off.

18 HEARING OFFICER del PIERO: Okay. Thank you.

19 DR. CHAPMAN: The effects of water withdrawals on
20 Rush Creek habitat were exacerbated, we believe, by the
21 way ranchers diverted water into various ditches that
22 are depicted in Figure 5, which is -- shows the A, B,
23 and C ditches.

24 MR. SMITH: Mr. del Piero, might I point out that

25 the old highway is the place they're talking about that
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01 those figures come from?

02 HEARING OFFICER del PIERO: Yes, I understand.

03 DR. CHAPMAN: The flows in Rush Creek between the
04 A Ditch, which goes off to the right looking
05 downstream, and the C and the B Ditch in the period
06 before the ditch was blocked off fluctuated as water
07 managers moved their water to irrigate the various
08 pastures. The daily flow and diversions records were
09 not available for the pre-1934 period. However, that
10 post-1934 record reveals that the daily stream flow
11 fluctuations greater than 100 cubic feet per second
12 were not uncommon and that flows fluctuated both widely
13 and irregularly.

14 The diversions at and above the B Ditch, which
15 lies above Old Highway 395, dewatered the Grant
16 Lake-Parker Creek reach for up to 12,500 feet below the
17 B Ditch diversion point.

18 Diversions greatly reduced the instream flows for
19 fish at times beginning from April to June, with a
20 start date depending on temperature and precipitation,
21 through August, September, sometimes into October and
22 November. During the warmest part of the summer, flows
23 were often reduced the most.

24 The combined A Ditch, with 52 cubic feet per
25 second average capacity, and the B Ditch with 20 cubic
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01 feet per second, and the C ditch with 12 could demand a
02 total mean diversion of 84 cubic feet per second on
03 Rush Creek. And those withdrawals certainly reduced
04 habitat quality of trout. They must have caused
05 catastrophic drift of stream food organisms, that means
06 downstream movement of stream food organisms, and were
07 likely to lead to summer impoverishment of those
08 important community components. Those flows would
09 divert fish to fields. They'd become stranded and
10 perish when irrigation ceased. We know that sheep
11 herders are said to have collected fish that had been
12 stranded by water manipulation in irrigation ditches
13 and in Parker and Walker Creeks.

14 Irrigation had its worst effects during the
15 drought of the 1930s. Gauge Station data show that
16 during the -- again, at the Old Highway 395 gauge, show
17 that during the 60 months from 1930 to 1935, the Rush
18 Creek channel at Highway 395 was dry during 28 of those
19 months. Continuous dry channel periods lasted as long
20 as nine months in the worst years. Rush Creek was
21 dewatered, except for some return flow, except below
22 the gorge or the Narrows where inflow from springs
23 occurred. The springs attenuated but they did not
24 eliminate flow fluctuations in the meadow and delta
25 area of Lower Rush Creek.

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01 Flow records indicate that during the 210 months
02 of available record between January of 1923 and
03 December of 1940, Rush Creek, at Old Highway 395,
04 carried zero flow for a total of 132 months. In most
05 years of record in the thirties, there were many days

06 when stream flows were zero or less than 1 cfs.
07 When flows went to zero, fish were stranded in
08 isolated standing water. They were vulnerable to
09 predation by birds and mammals. Those birds and
10 mammals are listed in a footnote in Elden Vestal's 1954
11 paper on the experimental fishery in Lower Rush Creek.
12 Extended 0 or low flows would lead to evaporation of
13 isolated pools and to death of fish contained in them.
14 In some years, such as 1934, '36, and '40, flows were
15 almost non-existent when the alevins or small fry that
16 were moving upward in the spawning nests were
17 attempting to emerge.

18 As daily flows in Table A indicate, flows of zero
19 or less than 1 cfs occurred from 1935 to 1940. Monthly
20 average flows mask those effects, and they will not
21 serve to evaluate habitat conditions. Daily flows
22 offer a superior indicator of conditions faced by fish
23 and food organisms. During the 1930 to '40 decade, the
24 reach of Rush Creek between the B Ditch and 300 feet
25 upstream from Parker Creek had 0 flow on many days in

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01 all years except 1937 and 1938. Wide flow fluctuations
02 would not only reduce fish populations but would
03 decrease fish growth in part because of loss of aquatic
04 foods to drift and dessication. These, in quotes,
05 inner-tidal areas that were periodically watered and
06 dewatered do not maintain and cannot maintain diverse
07 and abundant aquatic plants and insects. Actually,
08 hourly flow data would be more useful in evaluating the
09 effects of irrigation on fish habitat, but we cannot
10 find hourly data.

11 High stream temperatures may have been a factor in
12 hottest months when irrigation water withdrawals
13 greatly reduced stream flow, but we found no data to
14 evaluate this point except for a single point
15 observation by Smith and Neidham, 1984, in which he
16 measured a temperature of 75 degrees Fahrenheit in
17 Lower Rush Creek. Grant Lake was one of the warmest
18 lakes that were measured by Smith and Neidham in the
19 eastern Sierras.

20 In the current era, EAA Engineering in 1981
21 analyzed temperature data and flow data for Rush Creek
22 and concluded that water temperature is not a
23 significant limiting factor for brown trout in Lower
24 Rush Creek. We have no reason to believe that water
25 conductivity has changed significantly in Lower Rush

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01 Creek from the 1800s. Lower Rush Creek has
02 conductivity of about 40 micromols per centimeter which
03 we consider too low for a productive trout stream, a
04 lot too low. Studies of brown trout activity in hard-
05 and soft-water streams indicate that brown trout do a
06 great deal better, grow faster, reach larger size in
07 very conductive hard waters.

08 EAA Engineering work has pointed out that all high
09 trout biomasses in the eastern Sierra stream that they
10 looked at or where data were available, that is,
11 biomasses of over 400 pounds per acre of trout in the
12 Owens River drainage, have been in streams with 120 to
13 350 micromols per centimeter or three to nine times the

14 conductivity of Lower Rush Creek. The median
15 conductivity in the eastern Sierra streams is well
16 below 100 micromols.

17 The available information tells us that fish
18 habitat in the Grant Lake to Parker Creek reach was of
19 low quality in the decade before the Los Angeles
20 Department of Water and Power began diverting water out
21 of the stream in the basin. Instream flows were
22 variable and often were zero or near zero. Grazing
23 likely contributed to the problem through bank sheering
24 and lay back and destruction of herbaceous cover that
25 overhung the stream, increased turbidity, and by

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01 reducing -- excuse me. I already said herbaceous
02 vegetation. However, we believe that the flow regime
03 alone was sufficiently impaired to reduce fish-carrying
04 capacity.

05 Vestal stated that the springs of the Lower Rush
06 Creek were unaffected by the Los Angeles Department of
07 Water diversion before 1947. Thus, the fishery
08 conditions before 1941 in Lower Rush Creek below the
09 Narrows were similar to those found in the Vestal study
10 period in the late 1940's, a point that Dr. Messick
11 agrees with in a letter of 1989. Vestal found that in
12 season spaced plantings of catchable trout were
13 required to provide reasonably good angling in Rush
14 Creek. Without that stocking, fishing would have
15 deteriorated early in the season. Anglers caught some
16 trout that were 12 to 14 inches long, according to
17 Vestal, but the average size, again according to
18 Vestal, was perhaps closer to 8 or 9 inches.

19 His published study on Lower Rush Creek for 1954
20 reflecting work from 1947 and 1951 shows that it took
21 an average of 18 hours to catch one wild trout. In
22 fact, in 1947 and 1948, the first two years of the
23 study when, and very importantly, I want to point out,
24 when the effects of undiminished springs would still be
25 demonstrated, it took 23 hours or 6.6 fishing days at

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01 3.6 hours per fishing day to catch a wild brown trout,
02 the dominant naturally produced species then and now.
03 I think any of us in this room who are familiar with
04 fishing success would say that is poor, poor fishing.

05 HEARING OFFICER del PIERO: Dr. Chapman?

06 DR. CHAPMAN: Yes.

07 HEARING OFFICER del PIERO: How many fish were
08 caught before that?

09 DR. CHAPMAN: Before when?

10 HEARING OFFICER del PIERO: Before the one in
11 native --

12 DR. CHAPMAN: The total catch was -- when they had
13 catchable trout, of course, this was the period when
14 they put catchable trout in, so they were catching
15 catchables and wild --

16 HEARING OFFICER del PIERO: That's why I'm asking
17 the question. We also had testimony, I think, two
18 days ago about that being one of the most used and
19 available trout fishing streams in the eastern Sierras.
20 How many fish were actually being taken out prior to

21 the one native being taken out?
22 DR. CHAPMAN: It took about two hours to catch a
23 catchable hatchery fish, so there's -- if you look at
24 23 hours in the first couple of years to catch a brown
25 trout, it took about ten times as long to catch a wild

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01 fish as it did a catchable. Does that answer your
02 question?

03 HEARING OFFICER del PIERO: No.

04 DR. CHAPMAN: Would you explain, please, and I'll
05 try to do better?

06 HEARING OFFICER del PIERO: My question is real
07 simple. How many fish were caught by the person doing
08 the sampling prior to catching the one native brown
09 trout?

10 DR. CHAPMAN: These were not people doing the
11 sampling. These were actual anglers.

12 HEARING OFFICER del PIERO: This is a stream
13 survey?

14 DR. CHAPMAN: This is a stream survey and a
15 complete check of all the anglers using Lower Rush
16 Creek. They checked all the anglers that fished from
17 1947 to 1951.

18 HEARING OFFICER del PIERO: Then I still have the
19 same question. How many fish were caught before the
20 one native brown trout was identified? I -- it's been
21 my experience that fishermen don't hang out in a place
22 where fish don't bite. So if it took that many hours
23 to catch one native brown trout, one would normally
24 assume either they're very bored and have nothing else
25 to do or they're catching other
things.ô

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01 DR. CHAPMAN: The catch was half a fish an hour
02 for the catchable hatchery fish.

03 HEARING OFFICER del PIERO: That answers my
04 question.

05 DR. CHAPMAN: I'm sorry I took so long.

06 HEARING OFFICER del PIERO: Thank you.

07 MR. CHAPMAN: We need to remember that Vestal's
08 study area was from the gorge or the Narrows in Lower
09 Rush Creek to Mono Lake, the area that included the
10 springs of Lower Rush Creek. The area included in his
11 study was, according to him, the best part of Lower
12 Rush Creek. We need to remember that Vestal said the
13 springs had not been affected by the L.A. Department of
14 Water and Power diversions when his Rush Creek study
15 began in 1947. The key point here is the fishery did
16 not deteriorate when the springs deteriorated. I think
17 this is a most revealing piece of information about the
18 effect of the springs and the value of the springs to
19 lower the Rush Creek fishery to the fishery.

20 Based on Vestal's published data and statements,
21 we are skeptical about assertions by some parties that
22 the alluvial reaches of Rush Creek supported the finest
23 brown trout fishing in the eastern Sierra. Fishing
24 elsewhere would have had to be extremely poor indeed.
25 And we also are very skeptical of claims that trout of

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01 several pounds were produced in Rush Creek.

02 Because Vestal considered the Rush Creek fishery
03 from the Narrows to Mono Lake in his study reach as the
04 highest quality habitat, he had to consider the
05 remainder of Rush Creek to Grant Lake as the poorer
06 portion. Thus, the data that Vestal obtained in the
07 highest quality reach showing poor fishing or mediocre
08 fishing, at the very best, allow us to infer that even
09 poorer quality -- a fishery of even poorer quality
10 occurred in the Grant Lake to Parker Creek reach.

11 The percentage of wild trout that were harvested
12 by anglers in a successive five years of Vestal's study
13 did not change significantly as the springs began to
14 diminish. The total catch of wild trout was 1300,
15 1300, 1600, 1,000, and 1200 over the five years, which
16 tells us that springs had little to do with the
17 production of catchable adult brown trout or catchable
18 trout.

19 Vestal's 1954 description of the fishery of Rush
20 Creek downstream from Parker Creek tells that -- tells
21 us, we believe, that all of Rush Creek from Grant Lake
22 to Mono Lake offered poor to mediocre fishing for wild
23 brown trout. Trout biomass in the decade before 1941
24 in Lower Rush Creek had to be relatively low. The
25 factors responsible would include flow manipulations,

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01 low flows, wide flow fluctuations caused by irrigation
02 manipulation, and low nutrient availability as well.

03 Flow manipulations would dewater spawning areas.
04 They would cause catastrophic drift of invertebrates,
05 strand fish, as I said before, and reduce the quality
06 of living space for fish of all size ranges and lead to
07 below-average density of aquatic insects that fish use
08 for an important part of their food intake.

09 Grazing damage probably was relatively less
10 important in effect in comparison to instream flow
11 factors, but there is evidence of grazing damage in the
12 rivering riparian system. The wild trout fishery then
13 of Grant Lake-Parker Creek portion of Rush Creek was
14 mediocre at best. Average trout size is eight to nine
15 inches. No large fish in a three-pound-or-over class
16 and very few in the one-to-two-pound class were
17 actually seen by Vestal or recorded as taken.

18 Fish in Rush, Parker, and Walker Creeks were not
19 an important food resources during the Great
20 Depression, although sheep herders collected fish that
21 had been stranded in irrigation ditches and in Parker
22 and Walker Creeks, as I mentioned earlier.

23 Out-of-basin diversions by the Los Angeles
24 Department of Water and Power began to significantly
25 affect stream flow in Lower Rush Creek and, in 1948 to

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01 1951, dry creek. Summer minimum flow in the alluvial
02 area of Rush Creek declined to 24 cfs in '47, 12 cfs in
03 '48, 13 cfs in '49, and 2 cfs in 1950 and '51. Average
04 flow in the 1951 season was only about two and a half
05 cfs.

06 Subsequent wet years returned flows to the stream,
07 and from 1951 and 1978, virtually no water passed Grant
08 Lake Dam and little tributary inflow came from Walker

09 and Parker Creeks. So Lower Rush Creek became
10 virtually dessicated, riparian vegetation degraded, and
11 trout populations were eliminated.

12 Wet years returned in the early eighties
13 reestablishing some riparian vegetation and allowing
14 brown trout and a few rainbow trout to recolonize the
15 stream. The El Dorado Superior Court set interim flows
16 of 40 cfs and 28 cfs in the summer and winter
17 respectively.

18 Now, irrigation water withdrawals have ceased in
19 Lower Rush Creek and livestock no longer use the area.
20 Flows are relatively constant at 19 cfs in January of
21 '85, February of '89, but they range from 50 to 344 cfs
22 in March to August of '86. Riparian vegetation is
23 developing, the best word I can use is explosively,
24 along the stream and areas that have been dessicated,
25 and instream habitat will improve accordingly if

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01 allowed to develop naturally.

02 The main effect of the recent flow regime in Lower
03 Rush Creek has been to eliminate zero and very low
04 flows, to greatly reduce the flow manipulation
05 frequency and amount, and provide water for the
06 rivering riparian community throughout the year. And
07 that flow regime is vastly superior to that of the
08 decade preceding 1941. Conductivity of water in Rush
09 Creek remains low in the 40-micromolar-percent range,
10 and we would not have expected it to have changed
11 materially since the 1940s.

12 EAA Engineering evaluated water temperatures of
13 Rush Creek and conclude that temperature is not a
14 significant limiting factor for brown trout in Lower
15 Rush Creek. Beek Consultants does not consider water
16 temperature as a limiting factor in Lower Rush Creek
17 and did not recommend a flow regime to modify
18 temperatures.

19 Now, brown trout dominate the current population
20 of Rush Creek, fish population of Rush Creek. EAA
21 Engineering compared brown trout biomasses for the
22 years '85 to '89 with 26 other eastern Sierra Nevada
23 streams in the Owens River drainage and concluded that
24 brown trout biomass in Lower Rush Creek fluctuated at
25 typical levels for eastern Sierra streams. They also

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01 reported that the recent fish population in Lower Rush
02 Creek was similar to fish population in most other
03 streams with similar minimum stream flows,
04 conductivities, and elevations.

05 The average fork length of brown trout, which is
06 to say the average length of trout equal to or larger
07 than 200 millimeters, now is large in Rush Creek
08 compared to the average size in Bishop and Levining
09 Creeks. The mean length of catchable trout in the
10 Grant Lake Park Creek segment of Rush Creek in 1985 to
11 '89 averaged 8.6 to 10 inches, very close to the
12 average size noted by Vestal in his deposition. The
13 largest fish captured in Lower Rush Creek and the lower
14 canyon reach, which lies partly on the Grant Lake Park
15 Creek segment, in the 1985-89 period was 16 inches. So
16 providing year-round flows and dependable flows has

17 improved the fish habitat in the reach of interest,
18 certainly from Grant Lake to Parker Creek, over that
19 available in the pre-1941 decade.
20 Elimination of grazing has probably helped improve
21 habitat, but I think -- we think that the provision of
22 dependable flows has been most critical.
23 We conclude that overall habitat condition today
24 in Lower Rush Creek is superior in quality and quantity
25 and dependability to that available in a pre-1941

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01 decade. In accord with the improved habitat in the
02 Grant Lake to Parker Creek stream reach, fish
03 populations had to improve over the 1930s. Riparian
04 vegetation is reproducing and growing again
05 explosively, and if we leave the stream alone, the
06 conditions for fish will improve more and quickly.
07 Short of replicating Vestal's study, we can only
08 indirectly compare the fishery in Rush Creek downstream
09 from Parker Creek to the fishery of the pre-'41
10 period. But the size of the fish taken by EAA
11 Engineering compare well to the size of fish described
12 by Vestal for the forties and for pre-1941. Fish
13 biomass for Lower Rush Creek falls within the middle of
14 the biomasses found within the streams of the eastern
15 Sierras.
16 We conclude that brown trout populations, the
17 population from Grant Lake to Mono Lake, does not
18 differ in size composition today from that of the
19 pre-1941 period. Today it may contain more fish than
20 it did in the pre-'41 period. We also conclude that
21 the quality of the fishery and the size of the brown
22 trout in Lower Rush Creek have been exaggerated for the
23 period before 1941.
24 And that concludes the summary of our written
25 testimony.

0037

01 MR. BIRMINGHAM: Thank you very much,
02 Dr. Chapman.
03 Thank you.
04 HEARING OFFICER del PIERO: Dr. Platts? That's
05 it? Okay. Mr. Thomas? Or is it Mrs. Cahill?
06 MR. THOMAS: Mrs. Cahill today, although, I will
07 be kibbitzing regularly.
08 HEARING OFFICER del PIERO: So long as you guys
09 kibbitz on your own time.
10 Good morning.
11 MS. CAHILL: Good morning.
12 CROSS-EXAMINATION BY MS. CAHILL
13 Q Good morning, Dr. Chapman and Dr. Platts. I'm
14 Virginia Cahill, attorney for the California Department
15 of Fish and Game.
16 I wish you would start, if you would, by reading
17 us the title of your prepared testimony.
18 A BY DR. CHAPMAN: Status of the Trout Habitat and
19 Fishery in Rush Creek, California, from Mono Gate to
20 the Confluence of Parker Creek in the Present and
21 Before 1941.
22 Q So that testimony really is primarily to a stretch
23 between Mono Gate and the confluence of Parker Creek

24 with Rush Creek?
25 A Yes.

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01 Q I'd like to just put up briefly, I'm not sure how
02 to do this, this is a quotation from your testimony,
03 and I would just like to go on the second sentence.
04 "Prior to 1941, Rush Creek between Grant Lake and
05 Parker Creek did not produce large trout." Is that
06 correct?
07 A That's correct.
08 Q And that sentence relates to the stretch between
09 Grant Lake and Parker Creek?
10 A That's what that sentence relates to, yes.
11 Q And the next sentence -- and the second sentence,
12 would you read that, please? Can you? Let me give you
13 a copy.
14 A "Testimony concludes that Rush Creek in the
15 evaluation reach now produces more trout than it did
16 before 1941."
17 Q Okay. So that sentence relates to your evaluation
18 reach; is that right?
19 A That's correct.
20 Q And your evaluation reach again is which area?
21 A Grant Lake to Parker Creek.
22 Q Okay. And your last conclusion on this summary.
23 "The habitat now available in the evaluation reach is
24 superior in quality, quantity, and dependability to the
25 habitat that existed there prior to 1941." Does that

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01 relate only to the evaluation reach?
02 A In that sentence, it does, yes.
03 Q Thank you.
04 How did you select your evaluation reach?
05 A Go ahead and answer.
06 A BY DR. PLATTS: It was a request by Mr. Trihey that
07 we evaluate this section as to the effects of
08 irrigation and livestock grazing.
09 Q And do you know why it is that Mr. Trihey asked
10 you to evaluate only this stretch rather than the
11 entire stretch from Mono Gate One to Mono Lake?
12 A No, I do not.
13 Q Did you think it unusual to evaluate only a
14 portion of the stream in order to determine pre-1941
15 conditions?
16 A No, I did not based on the thinking that the
17 bottom end would probably be evaluated, anyway, in
18 time.
19 Q Did you believe that your evaluation reach was
20 representative of the entire stream?
21 A Would you repeat the question, please?
22 Q Do you believe that the evaluation reach was
23 representative of the entire Rush Creek stream prior to
24 1941?
25 A No, I did not.

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01 Q Did you, in fact -- pardon me.
02 Were there any particular selection criteria,
03 then, that you were aware of for choosing this
04 evaluation reach?

05 A BY DR. CHAPMAN: No. No. We were just requested to
06 evaluate this reach.
07 Q Okay. So do you believe that your testimony gives
08 a somewhat incomplete picture of the entire Rush Creek
09 situation prior to 1941?
10 A No. The reason it doesn't is that we went ahead
11 and discussed some of the area below.
12 Q Did you devote the same time and attention to
13 discovering the various sources available on the lower
14 section?
15 A BY DR. PLATTS: Probably not.
16 A BY DR. CHAPMAN: I suspect not because we had a good
17 published paper by Vestal on that section, so I think
18 we relied most on that with ancillary information in
19 his depositions.
20 Q But we ought not to assume that all of your
21 conclusions that we put up here before are necessarily
22 true of the entire stream. For example, just focusing
23 on the second sentence, the testimony concludes that
24 Rush Creek in the evaluation reach now produces more
25 trout than it did before 1941.

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01 Can you honestly say that that conclusion would
02 hold for the reach downstream of your evaluation reach?
03 A I think with the addition of the word "wild" in
04 front of trout we could say that. We can't say it for
05 hatchery fish because the hatchery planting of the
06 '47-51 period is not going on, but I think with wild
07 trout we could say that.
08 Q And what would you base that on in terms of adult
09 wild trout?
10 A I didn't say "adult wild trout," but --
11 Q Would it be true of the adult wild trout?
12 A I can't answer that with a yes or no without
13 explaining.
14 Q Well, let me ask you a slightly different
15 question. Do you have any evidence that would show
16 that there are more large adult wild trout now in what
17 we call the bottom lands, the area below your
18 evaluation reach, than there were pre-1941?
19 A I'd have to say we can't make that comparison
20 directly because we lack Vestal's data sheets.
21 Q Have you seen Vestal's data sheets that I believe
22 are in evidence in California Trout's Exhibit 5 and
23 some of the exhibits that go with that?
24 A I have seen no length data sheets for Lower Rush
25 Creek that allow us to determine the length

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01 distribution of those trout. I do think we have an
02 area of confusion here between adult large trout and
03 more trout, and I --
04 Q Yes. My question was adult large trout.
05 A Again, I can't answer you with a yes or no because
06 an adult large trout now is not the same as an adult
07 large trout was in the period of the forties, and
08 there's no way you can directly compare those two. The
09 reason you can't -- if I may explain.
10 Q Yes.
11 A I fished in Rush Creek, and I fished in the area

12 of the eastern Sierras from the time I was 11 years old
13 until I was 18. The standard equipment was hip boots,
14 a split bamboo fly rod, a cheap one, cat gut leader,
15 when I started, and a fishing creel, a basket. The
16 reason for the basket was to keep all the fish, and
17 when we fished, we were out for the 15 fish-limit. And
18 there was no size limit, and we kept everything that
19 went on the hook. We fried, deep fried the four-inch
20 fish and ate them head, bones, and all, and the fish
21 from five or six inches up, we gutted and fried.

22 And what I'm trying to say here is that a trout, a
23 catchable trout in 1947 was not a seven-inch plus fish.
24 It was any fish that got on the hook. And my
25 experience is not unique. The families I fished with

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01 were three or four families, and we began fishing -- I
02 began fishing in 1939. We kept everything. So the
03 reason is -- that's what I'm saying. I can't compare.
04 When you say "adult large trout," that doesn't mean
05 anything in the 1940s.

06 Q Prior to 1941, where was the best fishing?

07 A Lower Rush Creek, and --

08 Q And Mr. Vestal considered that to be the --

09 MR. BIRMINGHAM: Mr. del Piero, I believe that
10 Dr. Chapman had not concluded his answer before
11 Ms. Cahill started with the next question.

12 HEARING OFFICER del PIERO: Is that true,
13 Dr. Chapman?

14 DR. CHAPMAN: I had made enough of a speech. I
15 think I finished.

16 HEARING OFFICER del PIERO: Okay.

17 Q BY MS. CAHILL: Mr. Vestal considered the Rush Creek
18 bottom lands to be the -- in fact, this is from your
19 report, "The Rush Creek fishery from the Narrows to
20 Mono Lake is the highest quality habitat and fishery
21 reach in the Rush Creek drainage."

22 Is that right?

23 A That's what he said.

24 Q And that's even after -- this is even in the early
25 1940s?

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01 A This is before the springs were diminished in any
02 way, before the flows in the bottom lands were
03 reduced. It was equivalent, according to Messick, to
04 the pre-1941 condition, and he called it -- it was the
05 best condition in Rush Creek. But obviously, it was
06 very poor, nevertheless.

07 Q At the risk of beating a dead horse, then, your
08 evaluation reach did not include what was reputed to be
09 the best fishing or the best fishery on Rush Creek?

10 A In the narrow context of the quotation that you
11 provided for me, no.

12 Q And on Page 14 of your report where you made your
13 correction, your testimony originally said that, "Elden
14 Vestal said anglers fished only the section from Grant
15 Lake Dam to Old Highway 395," and you've now taken out
16 the "only." You didn't intend to suggest that
17 Mr. Vestal said that no one fished below the Narrows in
18 the bottom lands?

19 A I think that would go along with removing the word

20 "only."
21 Q Yes. Let me read this. This is the question that
22 Mr. del Piero was exploring with you in your amount of
23 angling for catching one wild trout. This was, in
24 fact, in Mr. Vestal's period a heavily planted stream.
25 Is that right?

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01 A It was heavily planted from 1947 to 1951.
02 Q And during the time he was there, there would be
03 considerable angling pressure; is that not right?
04 A I think that could be said to be true, yes.
05 Q Okay. And the numbers in your own report, which
06 you have taken from Vestal's report, show 66,000 trout
07 captured in 118,000 hours of angling; is that accurate?
08 A No. That's not correct. You added a time to
09 that, and that's incorrect. 66,000 trout were caught,
10 but there's nothing said there about hours.
11 Q Well, you had that the wild trout were caught
12 after 118,000 hours of angling. And I'm assuming
13 that -- in fact, I have checked Mr. Vestal's records,
14 the 118,000 hours of angling, wasn't that really for
15 both wild and hatchery trout?
16 A That's correct.
17 Q Okay. So in 118,000 hours of angling, there were
18 66,000 approximately fish caught; is that right?
19 A That's right.
20 Q And so as you've told Mr. del Piero already, that
21 means a fish was caught every two hours by the typical
22 angler?
23 A Roughly.
24 Q And he caught wild trout considerably less
25 frequently?

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01 A A lot less frequently.
02 Q Approximately 20 percent of the fish were wild
03 trout?
04 A That's right.
05 Q Isn't it, in fact, more difficult to catch wild
06 trout than planted trout, typically?
07 A I would say this is a pretty good example because
08 it would take over six days at the rates extant in the
09 stream, six days to catch a wild fish --
10 Q But typically, typically, isn't it more difficult
11 to catch wild trout than planted trout?
12 A Depends on the species.
13 Q Wouldn't you expect that the catch rate for the
14 planted rainbow trout would be greater than that for
15 the wild brown trout in a stream where they exist
16 together?
17 A Sure. There were huge numbers of planted
18 catchables, and rainbow trout are notoriously easier to
19 catch than brown trout.
20 Q So isn't it likely that the fishermen who were
21 catching the rainbow trout were, in fact, having a
22 reasonable or better-than-reasonable fishing success?
23 A At two hours per fish?
24 Q Isn't that a fairly normal catch rate?
25 A 43 percent of these people caught nothing,

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01 according to Vestal's report. I would say the fishing
02 was pretty poor even with the heavy intensity of
03 angling. Maybe I'm biased by being an Idaho angler,
04 but that's pretty poor fishing.
05 HEARING OFFICER del PIERO: If that's the
06 standard, Doctor, you are.
07 Q BY MS. CAHILL: You've shown us a number of photos
08 from different areas in your evaluation reach. What
09 criteria did you use to determine whether or not these
10 photographs were typical of the entire evaluation
11 reach, or do you think perhaps they are not typical?
12 A We have to go back and point out that the photos
13 from the evaluation -- the photos in our testimony, the
14 two photos showing overgrazing effects are not from the
15 evaluation reach. They're from Lower Rush Creek.
16 Q And do you --
17 A There is one photo in upper -- the upper portion
18 above Parker Creek.
19 Q And do you -- are you confident that your
20 photograph is, in fact, typical of the entire reach or
21 is it possible that there were -- it would be compound
22 if I go on. Was it typical?
23 A Certainly, there would be areas of Rush Creek that
24 those photos would not represent properly. Those were
25 the only photos available to us because they were in

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01 Vestal's depositions. I'm sure one can find photos
02 that would not reflect grazing damage.
03 Q When willows are high lined, do they still provide
04 shade to the stream, some shelter for insects, roots to
05 anchor the banks?
06 A BY DR. PLATTS: Some, but a lot less.
07 HEARING OFFICER del PIERO: Excuse me. Just for
08 my own clarification, Dr. Chapman, Dr. Platts,
09 whichever, can you -- I think I know what we're talking
10 about in terms of highlining. Is that where a grazing
11 animal will eat up the green vegetation on the bottom
12 of a willow? Is that essentially correct?
13 DR. PLATTS: You are correct.
14 HEARING OFFICER del PIERO: Okay.
15 Q BY MS. CAHILL: One of those photographs does show
16 developed stands of black cottonwood and quaking aspen
17 along the channel; is that true?
18 A BY DR. CHAPMAN: Would you point out the photo that
19 you had in mind?
20 MR. BIRMINGHAM: May I confer with Ms. Cahill for
21 a moment?
22 HEARING OFFICER del PIERO: Sure.
23 MS. CAHILL: Rather than take the time --
24 HEARING OFFICER del PIERO: What's the problem
25 here, folks? Are we missing an exhibit?

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01 DR. CHAPMAN: It's my fault. I asked for her to
02 show me the figure from which she was speaking, and I
03 think it's Figure 2 in our testimony.
04 HEARING OFFICER del PIERO: Do you have that
05 there?
06 MS. CAHILL: I had thought there was a photograph

07 of the canyon reach, and for some reason I'm not
08 finding it.
09 HEARING OFFICER del PIERO: Is there, Doctor? Is
10 there a photograph of the canyon reach?
11 DR. CHAPMAN: (Witness shakes head.)
12 HEARING OFFICER del PIERO: All right. Let's
13 proceed.
14 Q BY MS. CAHILL: With regard to the effects of
15 irrigation diversion, I believe it's your testimony
16 that during the period of the thirties, irrigation took
17 about 26,000 acre-feet out of Rush Creek; is that
18 right?
19 A BY DR. PLATTS: That's correct.
20 Q And it was also your testimony that the total Rush
21 Creek flow averaged approximately 50,000 acre-feet?
22 A That would be during that drought period, yes.
23 Q So assuming that during that drought period, the
24 flow was 50,000 and, in fact, not in a drought period,
25 you would expect that flow to be higher; is that right?

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01 A You are correct.
02 Q Assuming a flow of greater than 50,000, then still
03 approximately half of the flow in Rush Creek remained
04 and was not irrigated, was not taken for irrigation?
05 A It's a common practice for irrigators to use the
06 available water in high water years and use more water
07 in lower water years, they use less water.
08 Q But in any event, there would have been water
09 still in the stream, certainly, at least in the
10 non-irrigation months?
11 A There might have been a little more. It depends
12 on how efficient they were in taking water out of the
13 stream.
14 Q But by your own figures, on an average, half of
15 the water would still be in the stream?
16 A BY DR. CHAPMAN: I think we have to distinguish
17 when. Half the water, it's true, would go down the
18 channel, but a lot of that would go down in the spring
19 peak flow and not be distributed properly.
20 Q Okay. But I'm just getting at the fact that there
21 was still water available to the stream, to the
22 vegetation, at least to some extent?
23 A BY DR. PLATTS: To some extent, yes, you're right.
24 A BY DR. CHAPMAN: At some times of the year.
25 Q And your table that shows some times of zero or 0

0051

01 low flow at Old Highway 395, your Table A, that really
02 only applies to the gauge, I think, or the measuring
03 point at approximately Old Highway 395; is that right?
04 A BY DR. PLATTS: That is correct.
05 Q And even when there was zero or low flow at Old
06 Highway 395, there was still flow in the bottom lands;
07 was there not?
08 A During what period?
09 Q During this entire period. Wasn't there still
10 flow because of the springs down in, what we call the
11 Rush Creek bottom lands?
12 A You are correct.
13 Q And that water that was diverted from the stream,

14 wouldn't a large percentage of it find its way back
15 into Rush Creek?
16 A That's possible.
17 Q And did you honestly mean 45 acre-feet per acre?
18 A BY DR. CHAPMAN: We did.
19 Q And would some of that have percolated down and
20 come back into the springs feeding Rush Creek?
21 A Probably.
22 Q With regard to your conclusions with regard to
23 conductivity and fish productivity, was it your
24 testimony that a conductivity of 40 micromols per cubic
25 centimeter would lead to an unproductive fishery?

0052

01 A It would lead to a fishery far less productive
02 than a stream with a conductivity of 140-50, 200, 300,
03 yes.
04 Q Now, in your evaluation reach, you have no reason
05 to believe that the conductivity has changed from the
06 pre-diversion conditions?
07 A That's right.
08 Q And it seems to me that near the end of your
09 testimony, you were finding, based on some EAA data,
10 that the biomass in Rush Creek presently was similar to
11 that of other eastern Sierra streams; is that right?
12 A That's right.
13 Q So in other words, the conductivity pre-'41 would
14 have been sufficient to maintain a fishery similar to
15 other eastern Sierra streams?
16 A Where the conductivity is also low as a rule.
17 Q And was it likely that the conductivity might have
18 been higher in the Rush Creek bottom lands where there
19 were springs with a different composition feeding the
20 stream?
21 A It may have been somewhat higher, and I think I've
22 seen one figure in Dr. Stein's testimony that suggests
23 that one seep spring is flowing at something like 80
24 micromols. By the time that's diluted by main stem
25 flow, it would perhaps be less for the springs on

0053

01 average.
02 Some of the flow in the bottom lands was leakage
03 from irrigation district that would not reflect the
04 higher conductivity irrigation ditches. It would not
05 reflect a higher conductivity. I think one could also
06 say that even if the entire Lower Rush Creek was 80
07 micromols, the productivity of Lower Rush Creek would
08 still be low.
09 Q But in any event, it might have been somewhat
10 higher in the bottom lands than in your evaluation
11 reach?
12 A True.
13 Q You have, I think, testified that the most
14 productive fishery pre-'41 was in what we call the
15 bottom lands, which is that portion of Rush Creek below
16 your evaluation reach. Did that area consist of
17 multiple channels?
18 A There must have been multiple channels in the
19 area, yes. Area photos support that.
20 Q Given -- if we were to seek to restore the fishery
21 that existed before 1941 in that lower stretch of Rush

22 Creek, given today's conditions, how would you get the
23 water there?
24 MR. BIRMINGHAM: I'm going to object on the
25 grounds that the question is ambiguous. Ô

0054

01 Q BY MS. CAHILL: I'll ask it more directly.
02 In order to get the water to Lower Rush Creek,
03 would it need to pass through your evaluation stretch?
04 A Yes. It wouldn't have to, physically, but that
05 would presume -- I would presume that would be the way
06 it would get there.
07 HEARING OFFICER del PIERO: How would it get there
08 if it didn't?
09 DR. CHAPMAN: Run it through a pipe.
10 HEARING OFFICER del PIERO: Okay. Artificial
11 means.
12 Q BY MS. CAHILL: What is the riparian habitat value of
13 a pipe?
14 A Obviously poor.
15 Q So the better way to get the water to the lower
16 reach would be to take it through the channel?
17 A I think I'd agree with that, yes.
18 Q Dr. Chapman, I believe you said that Mr. Vestal
19 had said that the springs did not diminish when Los
20 Angeles started its diversion; is that right?
21 A That's correct.
22 Q Would -- in fact, though, when Los Angeles first
23 started its diversion, the diversions were relatively
24 low, particularly compared to the second half of the
25 pre-diversion period; is that right?

0055

01 A I don't -- I'm confused by your question.
02 Q Okay. When Los Angeles originally began
03 diverting, it did not divert its entire entitlement,
04 did it?
05 A I think that's correct.
06 Q And wouldn't you expect that if irrigation return
07 was percolating back into Rush Creek in the springs and
08 the bottom lands, that it might take some time to show
09 an impact of reduced diversions?
10 A I think I could respond generally, yes.
11 Q Didn't Mr. Vestal, in fact, find a trend of
12 decreasing flows over the period of his study?
13 A Not until after 1947, however.
14 Q Yes. But when he began to see decreasing flows,
15 didn't they, in fact, trend downward?
16 A Yeah. I think my testimony states that.
17 Q Dr. Platts, I believe you're the expert on
18 grazing. Was grazing constant throughout this period,
19 or did it come and go depending on economic factors?
20 A BY DR. PLATTS: It probably had fluctuations
21 depending on the economic factors.
22 Q And could you tell us again briefly what your
23 experience is with grazing and the impact it has on
24 riparian systems?
25 A Yes. Under season-long continuous grazing with

0056

01 heavy grazing use, most stream types degrade in
02 habitat quality.
03 Q And have you been involved in restoration programs
04 on the Upper Owens River related to grazing?
05 A Yes, I have.
06 Q Could you describe that program for us, please?
07 A I'm just in the very beginning stages of working
08 in the Upper Owens, and all I have done now is taken a
09 look at the ranches to see what improvements we can
10 make. But I have not gone beyond that point.
11 Q What are the problems that you would be attempting
12 to correct with grazing management?
13 A Vegetation, bigger vegetation diversity, stream
14 bank form, channel form.
15 Q And how do you think you may attempt to correct
16 these problems?
17 A Pretty much the same as -- it will be different
18 because we're in a different situation, but it would be
19 much the approach that I've taken on the Long Valley
20 and Chance Ranches and that is to control the animal
21 distribution and the timing of grazing.
22 Q And would you use measures such as exclusionary
23 fencing or rest-rotation strategy?
24 A Probably not rest-rotation. There would be -- and
25 not always exclusionary fences, no.

0057

01 Q Have you observed the result of corrective
02 measures particularly in the Convict and the D Creek
03 reaches?
04 A Yes, I have.
05 Q And what measures were implemented there?
06 A It was a -- it was a control of distribution and
07 timing and control of utilization, and we are still
08 grazing the pastures, only we're doing it under a more
09 managed approach, and results are quite spectacular.
10 Q And what are the results?
11 A The results are an increase in species diversity,
12 especially, and an increase -- not species diversity,
13 an increase in vegetative species diversity, an
14 increase in vegetation biomass. We're not far enough
15 along to see the big increase in the rooting structure
16 that will come, but we're in the beginning stages of
17 the vegetation expression.
18 Q Is it possible that corrective measures such as
19 some that we've mentioned would improve fish habitat
20 along the Upper Owens River?
21 A Yes.
22 Q And do you have an opinion on what the quality of
23 the fish habitat might be along the Upper Owens River
24 below East Portal if there were limited grazing and
25 regular flows on the range of 50 to 150 cfs?

0058

01 A I would not say "limited grazing." If you would
02 qualify that and say "properly managed grazing," I will
03 say that we will get increases in fish productivity and
04 an increase in quality of the fish habitat.
05 MS. CAHILL: Thank you. We have no further
06 questions.
07 HEARING OFFICER del PIERO: Thank you very much.

08 We're going to take a break, ten minutes. We'll
09 be back.
10 (Whereupon a recess was taken.)
11 HEARING OFFICER del PIERO: This hearing will
12 again come to order.
13 Mr. Dodge, are you and Mr. Flynn going to be
14 kibbitzing, also?
15 MR. DODGE: Mr. Flynn has given me the field.
16 HEARING OFFICER del PIERO: He has?
17 CROSS-EXAMINATION BY MR. DODGE
18 Q Dr. Chapman, good morning.
19 A BY DR. CHAPMAN: Good morning, Sir.
20 Q Let me start with this evaluation reach. You say
21 it's 6.8 stream miles long, correct?
22 A Over 6. I don't remember whether it was 6.2 or
23 6.8.
24 Q Page 1 it says, "6.8 miles," 62 percent of the
25 main channel of Lower Rush Creek?

0059

01 A It's not that I don't trust you, Mr. Dodge. 6.8,
02 yes.
03 Q How did you determine that?
04 A We don't remember.
05 Q Did you rely on Dr. Stein?
06 A Probably.
07 A BY DR. PLATTS: I don't know.
08 Q So if he says it's actually 4.8 miles, you
09 wouldn't quarrel with that, would you?
10 A BY DR. CHAPMAN: I might.
11 Q On what basis?
12 A I don't know. I'd have to see what he based it
13 on, and if he's correct, we buy his description better
14 than ours.
15 Q We're talking about Old Grant Dam to Parker Creek,
16 correct?
17 A Yes.
18 Q So the -- would I be right that if it's 4.8 miles,
19 then the 62 percent would become about 49 percent of
20 Lower Rush Creek?
21 A It would become less, yes.
22 Q Now, that's a -- as I understand it, a percentage
23 of the main channel -- main channel only; is that
24 right?
25 A That's correct.ô

0060

01 Q And you're aware that historically, pre-diversion
02 Rush Creek below the Narrows consisted of multiple
03 channels, correct?
04 A Rush Creek had a number of distributory channels
05 in the bottom lands, yes.
06 Q And by "distributory channels," we mean channels
07 that carry water on a year-round basis only?
08 A I'm sure that some carry water year round and some
09 carry water during the summer period when I -- my
10 understanding is that there was more water coming
11 across the bottom lands than during the winter.
12 Q But a number of those distributory channels

13 carried water year round, correct?
14 A Yes.
15 Q And are you aware of any calculations of the
16 stream length of the distributory channels below the
17 bottom lands?
18 A As I think Dr. Stein has calculated, some lengths,
19 30,000 feet, if I remember correctly.
20 Q About 39,500, would it be?
21 A That sounds close, yes.
22 Q And you don't have any quarrel with that, do you?
23 A With the measurement itself, no.
24 Q No. Now, let's take a look at Figure 5, if we
25 can. Now, that comes from your testimony, doesn't it,

0061

01 Dr. Chapman?
02 A Yes.
03 Q Now, as I understand your testimony -- it's
04 probably not a good idea to block off the Hearing
05 Officer -- that the channel lake from Old Grant Dam to
06 B Ditch always had water in it, correct?
07 A I don't think that's correct.
08 Q Are you aware of a single measurement of zero flow
09 during that time -- during that stretch?
10 A Well, there's no gauging that I know of between
11 the B Ditch and the A Ditch, but we believe that the
12 manipulations of water to the various ditches would
13 have led at times to zero or very low flow between the
14 A Ditch and the B Ditch.
15 Q Are you aware of any measurements of that?
16 A I already said no.
17 Q But wasn't it true that there was substantial
18 seepage between the A Ditch and the B Ditch that kept
19 Rush Creek continuously flowing?
20 A There may have been some continuous seepage, but
21 again, whether it was zero or 1 cfs, we don't know.
22 Q Or 5 cfs?
23 A We don't know.
24 Q You don't know. All right. But as I understood
25 your testimony, the other portion of what's shown here

0062

01 on Figure 5 from B Ditch to Parker Creek was
02 periodically dewatered, correct?
03 A Yes.
04 Q And would you agree that the stream length from B
05 Ditch to Parker Creek is about 11,300 feet?
06 A Close.
07 Q So that historically, if there were approximately
08 65,000 linear feet of stream channel in Rush Creek, the
09 portion that was dewatered periodically was
10 approximately 17 percent, correct?
11 A I can't accept the word "dewatered." The portion
12 subject to extreme low flows and to great flow
13 fluctuations is much longer than that.
14 Q You're now referring to include the portion from
15 Old Grant Dam to B Ditch, correct?
16 A The portion from Old Grant Dam all the way to
17 Parker Creek.
18 Q Okay. But let me just short-cut this. If the
19 dewatered portion were only -- periodically dewatered
20 were only B Ditch to Parker Creek, that would be

21 approximately 17 percent of the historic channel length
22 of Rush Creek; is that correct?
23 A Could you repeat that question?
24 HEARING OFFICER del PIERO: The question,
25 Dr. Chapman, was whether or not the stretch from B Ô

01 Ditch down to the confluence of Parker Creek is 17
02 percent of the historic channel.
03 DR. CHAPMAN: I don't quarrel with that figure,
04 with that measurement.
05 Q BY MR. DODGE: Thank you, Sir.
06 Let's look at Table A, if we can. Now, Table A
07 represents that very portion of stream that we were
08 talking about, doesn't it? A portion of the stream
09 between B Ditch and Parker Creek, correct?
10 A Yes.
11 Q Now, you've already told us that 1934 was a
12 drought, and I notice that 1935, you show 74 days of
13 less than 1 cfs?
14 A With zero or less than 1.
15 Q Zero or less than 1, right. Now, this is done on
16 a calendar year, rather than a runoff year, isn't it,
17 Sir?
18 A Calendar year.
19 Q So you'd agree with me that the early portion of
20 the 1935 year would have been affected by the drought,
21 too, wouldn't you?
22 A Yes.
23 A BY DR. PLATTS: He says possible, and I say yes.
24 Q I'll accept both those answers.
25 And then in 1940, 108 days, was there something

01 going on in 1940 that was out of the ordinary?
02 A Irrigation was continuing. They might have been
03 building a new dam. I think they were building a new
04 dam then.
05 Q Building a new dam?
06 A Yeah.
07 Q You think that those zero to minus 1 or -- excuse
08 me, zero to less than 1 cfs might have reflected their
09 filling that new dam?
10 A We don't know.
11 Q Let me get back to your testimony.
12 On Page 2, if I can find it here, under Diversion
13 of Water, it says, "Lower Rush Creek, Figure 1, has not
14 flowed naturally; i.e., without human impairment, for
15 more than 100 years. Beginning about the mid 1800s,
16 settlers diverted water from Rush Creek onto the land
17 to irrigate crops, forage, and provide stock water."
18 Can you tell me what your evidence is to support
19 that proposition?
20 A We did this some time ago, but our memory is that
21 the Fruit Growers' publication that's in exhibit --
22 with our materials.
23 MR. BIRMINGHAM: May the record reflect that
24 Dr. Chapman has referred to L.A. DWP 6, Fruit Grower
25 Laboratory, Inc., report Appraisal of Agriculture and

01 Irrigation for Portions of Mono Lake Area for
02 Department of Water and Power, City of Los Angeles,
03 dated 1946.
04 MR. CHAPMAN: We cite in -- we have cited in a
05 draft portion of this Beek 1991.
06 Q BY MR. DODGE: Well, was it Fruit Growers, or was it

07 Beek 1991?

08 A BY DR. CHAPMAN: We believe it's Beek 1991.

09 Q We're talking about here -- Sir, with all due
10 respect, we're talking about going back to the mid
11 1800s. What evidence is there of irrigation in the mid
12 1800s?

13 A We took that information from Beek Consultants,
14 Incorporated, 1991 Instream Flow Requirements for Brown
15 Trout, Rush Creek, Mono County, California, Department
16 of Fish and Game, Stream Evaluation Report Number 91-2.

17 Q So your -- to cut this short, Sir -- I mean, your
18 statement on Page 2 of your testimony is just as good
19 as the basis that you used for it. Is that a fair
20 statement?

21 A Yes.

22 Q Now, let's take a look at Figure 6 and Figure 3,
23 in that order, if we may. Now, Figure 6, you've
24 testified, shows grazing damage, correct?

25 A Yes. Ô

0066

01 Q Okay. And does it also show damage from
02 construction work relating to Highway 395?
03 A I can't tell you that. I don't know.
04 Q Does it show damage from construction work
05 relating to something?
06 A We don't know.
07 Q You can't tell. Okay. Now, that's -- 1939 photo
08 of Rush Creek near 395, correct?
09 A Yes.
10 Q Okay. Now, let's look at the next one, Figure 3.
11 Now, that's a 1947 photo showing again grazing damage
12 in 1947 on -- would you agree with me, Dr. Chapman,
13 newly relicted land near Mono Lake?
14 A Yes.
15 Q And would you agree that newly relicted -- the
16 vegetation on newly relicted land would not be
17 representative of upstream riparian vegetation?
18 A That's possible.
19 Q Now, my question to you is just this. Do you have
20 any evidence that Figures 3 and 6 represent the
21 riparian vegetation situation on the rest of Rush Creek
22 pre-diversion?
23 A Yes. We have seen other photographs that indicate
24 overgrazing as well.
25 Q Overgrazing, you mean highlining of willows?

0067

01 A I mean highlining and loss of herbaceous
02 vegetation and bank trampling.
03 Q Can you identify those photos so that we can take
04 a look at them at the appropriate time?
05 A Yes, if you'll give us a moment.
06 MR. DODGE: Mr. Chairman, we are perfectly happy
07 to do this at a break off the record. I don't need to
08 have this on the record. If they have other photos,
09 we'd like to see them, but I don't need them recited at
10 this point.
11 DR. CHAPMAN: It won't take us very long.
12 Q BY MR. DODGE: Okay. Dr. Chapman has handed me Aiken
13 Exhibit G-3.
14 What does that show, Sir?
15 A BY DR. PLATTS: This shows a section of Rush Creek,
16 and it says on the back that Rush Creek on upper
17 property. So I assume this upper property is the Cane
18 Ranch, and it shows a stream that is extremely heavily
19 high lined, probably by sheep from the looks of it.
20 The stream banks are undergoing severe sheer damage,
21 with sheer damages so heavy that the sediments are
22 laying in the stream, and this is probably what caused
23 a lot of the turbidity that Vestal keeps talking about,
24 Mr. Vestal.
25 The stream is widened, over-widened. The willows

0068

01 are high lined. There's hardly any vegetation in the
02 lower end. The stream banks have become faults. They
03 have been laid back. They've been moved back from the
04 side, and the fine sediments are now laying alongside
05 of the stream bank.
06 Q Okay. Any other photographs that you're aware of,

07 Dr. Platts?
08 A We haven't had a chance to look through this yet.
09 We just happened to find this one this morning.
10 Q Are you aware of any others as you sit here today?
11 A Not -- no. We have not looked through --
12 Q Okay. Let's take a look at --
13 MR. BIRMINGHAM: Excuse me, Mr. del Piero. May
14 the record reflect that the photograph which Dr. Platts
15 was referring to is Exhibit G-3 from the proceedings
16 before the El Dorado County Superior Court in the Mono
17 Lake water rights proceeding?
18 HEARING OFFICER del PIERO: Fine.
19 MR. DODGE: I don't think it is, but I'm sure we
20 can identify it.
21 HEARING OFFICER del PIERO: Is it?
22 DR. CHAPMAN: We're also aware of two photographs
23 that --
24 HEARING OFFICER del PIERO: Excuse me,
25 Dr. Chapman. Is it? Ô

0069

01 MR. BIRMINGHAM: Mr. Dodge is correct. I
02 misspoke. I beg your pardon.
03 DR. CHAPMAN: We're also aware --
04 HEARING OFFICER del PIERO: Excuse me,
05 Dr. Chapman.
06 What is the picture from?
07 MR. DODGE: It's an Exhibit G-3 from the Aiken
08 case, Mr. del Piero.
09 HEARING OFFICER del PIERO: It has not been
10 introduced into the record?
11 MR. DODGE: In this record.
12 HEARING OFFICER del PIERO: Yes.
13 MR. DODGE: Not to my knowledge.
14 HEARING OFFICER del PIERO: It's a topic of
15 discussion, Gentlemen, I mean --
16 MR. BIRMINGHAM: Excuse me, Mr. del Piero. We
17 will check to make sure, and we'll have a copy of the
18 photograph made. But I believe that this is an exhibit
19 in the Mono Lake water rights cases, and we will have
20 it -- may I show you the photograph? We'll have
21 reproductions made, and we will mark this L.A. DWP 1-A.
22 HEARING OFFICER del PIERO: When was this
23 photograph taken?
24 DR. CHAPMAN: We think it was 1947, but I'm not
25 sure.

0070

01 HEARING OFFICER del PIERO: And what causes you to
02 think that? What causes you to think that,
03 Dr. Chapman?
04 DR. CHAPMAN: I believe it's a photo taken by
05 Vestal, but I'm not sure. And Vestal took a lot of
06 these photographs in 1947.
07 HEARING OFFICER del PIERO: Before it's introduced
08 as evidence, I want to know where it came from and what
09 it represents. When you're capable of identifying it,
10 I'm prepared to accept it as introduction on the part
11 of L.A. DWP.
12 DR. CHAPMAN: There are two photos, also, that are
13 in Vestal's testimony that indicate overgrazing, and

14 these are -- were taken in 1948. They are from the
15 Rush Creek test stream report, and I believe these are
16 of sufficient quality that they are far superior to the
17 photocopied copies that we've seen before. But both of
18 these show heavy grazing influence in the meadows of
19 Rush Creek, Lower Rush Creek.
20 Q BY MR. DODGE: Do you have in mind, Sir, that my
21 question relates to the status of the riparian
22 vegetation pre-diversion?
23 A Yes.
24 Q And how does the 1948 photograph help us on that?
25 A I see no reason to think that the situation

0071

01 changed between 1941 and 1947. Grazing continued on
02 Lower Rush Creek with high intensity in that period.
03 Q Let's now look at Figure 4. Now, Dr. Platts, I
04 believe --
05 HEARING OFFICER del PIERO: That's your wake-up
06 call. That's -- your 20 minutes are up, Sir.
07 MR. DODGE: I request an additional 20 minutes.
08 HEARING OFFICER del PIERO: All right.
09 Q BY MR. DODGE: Dr. Platts, Figure 4 is a photograph
10 from 1947 showing highlining, correct?
11 A BY DR. PLATTS: That's correct.
12 Q Would you agree with me that that highlining has a
13 fairly minimal effect on the fishery?
14 A I would not.
15 Q Would you agree that the roots of the high lined
16 vegetation is still holding the bank stable?
17 A I would not.
18 Q Would you agree with me that the vegetation is
19 still providing shading and insects to the stream?
20 A I would.
21 Q Are you aware of -- let me ask you this. Do you
22 think that there's any stability problem that results
23 from that highlining?
24 A Yes.
25 Q Are you aware of the 1938 high flows that went Ô

0072

01 down Rush Creek?
02 A Only from reading Dr. Stein's report.
03 Q Are you aware of any significant damage that
04 occurred to the banks of Rush Creek as a result of that
05 1938 flood?
06 A No, I'm not.
07 Q Does that suggest to you that even high lined
08 riparian vegetation can hold the banks pretty well?
09 A No, it doesn't.
10 Q What am I missing?
11 A I think you're missing -- because I haven't seen
12 the aerial photographs. I don't know how well you can
13 interpret -- it's very difficult to interpret stream
14 bank conditions underneath a canopy of high lined
15 willow when all you can see is the top of the canopy.
16 So I don't know how the interpretation was done or how
17 detailed it was done. We have not looked at it.
18 Q Now, let me change subjects and go back to the

19 evaluation reach that you've talked about with
20 Ms. Cahill. Is it -- the evaluation reach again is
21 basically Old Grant Dam down to Parker Creek, and you
22 conclude as Page 15 of your testimony, Dr. Chapman,
23 that that as a fishery was mediocre at best. Do you
24 recall that?
25 A Yes.

0073

01 Q And would you agree with me that that description
02 applies even if that reach has consistent water?
03 A BY DR. CHAPMAN: By "that reach" you mean --
04 Q The evaluation reach. Even with consistent water,
05 would you agree it's mediocre at best?
06 A I would expect the fishery to have been better if
07 it had been -- if the area had been exposed to
08 reasonable flows because the habitat would have been
09 better, better than poor.
10 Q Better than poor. But it's not an area -- even
11 with consistent flows, it's not an area that has
12 superior trout habitat, is it?
13 A No. Neither is Lower Rush Creek, so I would have
14 to say yes, that's true.
15 Q Now, hypothetically, if the fishery below the
16 Narrows pre-diversion were a really fine brown trout
17 fishery, you'd agree with me that you can't restore the
18 equivalent fishery by rewatering the stretch, the test
19 stretch that you looked at, correct?
20 A Well, they're two different areas, so I guess I
21 would have to answer yes. I can't agree -- I mean -- I
22 don't remember whether I can agree or not agree.
23 Q Well, hypothetically, we'll get to the -- whether
24 the hypothetical is true in a second. Hypothetically,
25 if Rush Creek below the Narrows were a great brown

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01 trout fishery, pre-diversion, then you could not
02 restore an equivalent fishery by rewatering the test
03 stretch. Would you agree with that?
04 MR. BIRMINGHAM: Excuse me, Mr. del Piero.
05 Dr. Platts and Dr. Chapman weren't here in earlier
06 testimony, and they're not aware of the fact that when
07 a question is directed to Dr. Chapman, if it is
08 appropriate for Dr. Platts to answer, he may.
09 HEARING OFFICER del PIERO: Forgive me. I thought
10 you gentlemen had been so advised. Either one of you
11 can respond to that question. Okay?
12 Do you understand the question, Doctor?
13 DR. CHAPMAN: I think I understand the
14 hypothetical.
15 HEARING OFFICER del PIERO: Do you want to restate
16 it? No? Okay.
17 DR. PLATTS: Being as this is a hypothetical
18 situation, I would state that hypothetically, over
19 time, Rush creek in the area of the reach that you are
20 talking about would gain a fishery status fairly
21 comparable to that that existed prior to 1941. In
22 other words, we would be having pretty much the same
23 trout productivity that Vestal put in his scientific
24 document.
25 Q BY MR. DODGE: Dr. Chapman, let me ask you to try

01 that question. I will repeat it.
02 Hypothetically, if Rush Creek below the Narrows
03 with its multiple channels and meanders and spring fed,
04 et cetera, et cetera, hypothetically if that were a
05 great trout fishery, would you agree with me that you
06 could not create the equivalent fishery by simply
07 sending water down what you have called the evaluation
08 stretch?
09 A BY DR. CHAPMAN: I can't answer your question with a
10 yes or no.
11 HEARING OFFICER del PIERO: Well, Dr. Chapman, try
12 answering it some way because, at this point, we've
13 got -- he's asked the question now four times, and
14 we've not gotten any kind of a substantive response.
15 DR. CHAPMAN: Well --
16 HEARING OFFICER del PIERO: He didn't ask for a
17 yes-or-no answer.
18 DR. CHAPMAN: I'll say yes.
19 Q BY MR. DODGE: Thank you. I thought you could say
20 that.
21 Now, below the Narrows, Ms. Cahill asked you some
22 questions about the pre-'40 fishery, and I believe, I
23 don't want to put words in your mouth, but I believe
24 you indicated in substance that you felt the fishery
25 below the Narrows pre-diversion was not that much

01 different than on the rest of Rush Creek. Is that a
02 fair summary of what you're telling us?
03 A Oh, I think it was a little better than the upper
04 part of Rush Creek.
05 Q A little better but not great?
06 A No.
07 Q My question is a very simple one. On what grounds
08 or data do you base that opinion?
09 A I base that on doctor -- on Mr. Vestal's testimony
10 and his depositions.
11 Q Just on Vestal?
12 A And also on Dr. Messick's opinion that the
13 conditions in 1947-51 approximated the conditions of
14 the pre-diversion period.
15 Q Are you aware of the spring flows that fed into
16 Lower Rush Creek pre-diversion?
17 A There were some spring flows, yes.
18 Q What were the magnitude of those pre-diversion?
19 A Well, I believe that the area between the Narrows
20 and the area below the springs accreded about 18 cfs in
21 one late February measurement report by Vestal. I
22 believe that summer flows were probably considerably
23 greater than that.
24 Q Excuse me, Sir, but pre-diversion, Mr. Vestal
25 wasn't there measuring it, was he?

01 A No. But he said that L.A.'s diversion had not
02 affected the springs in 1947, so I'm assuming that
03 conditions in 1947 were similar to conditions before
04 1941 in respect to spring flows.
05 Q So your testimony is based on an assumption that
06 in 1947, spring flows were approximately equal to
07 pre-diversion conditions?

08 A I'm following Vestal in that respect and answering
09 yes.
10 Q Are you aware that after 1940 the spring flows
11 decreased?
12 A No, I'm not.
13 Q You told us that the Vestal study took place from
14 1947 to 1951, correct?
15 A Yes.
16 Q And you're assuming a constant spring flow during
17 that time period; is that right?
18 A No.
19 Q You said you weren't aware of any decrease.
20 A I'm not assuming a constant spring flow. The
21 spring flow was undoubtedly not constant.
22 Q And if, in fact, it went down quite a bit, would
23 that affect your opinion as to the reliability of the
24 1947 to 1951 data?
25 A I can only respond by saying no, but we're relying on

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01 on the man that was there, Vestal, to tell us
02 otherwise.
03 Q Why is conductivity important to a productive
04 fishery?
05 A Conductivity indicates the dissolved nutrients
06 that are present, the salts that are present in the
07 stream, the nutrients that are used by aquatic plants
08 such as algae.
09 Q Which leads to fish food?
10 A Yes.
11 Q So conductivity is a surrogate for fish food?
12 A Within broad limits, yes.
13 Q Are you aware as to whether the springs that
14 existed pre-diversion in the bottom lands of Rush Creek
15 provided substantial food for the brown trout down
16 there?
17 A The springs undoubtedly provided lots of food
18 within the distributory channels of Rush Creek, yes.
19 Q And that would be true regardless of the
20 conductivity of the stream, wouldn't it?
21 A No.
22 Q I don't understand your answer, Sir, I'm sorry.
23 A I would expect a higher conductivity to have more
24 food than a lower conductivity.
25 Q Okay. All right. But you say undoubtedly the

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01 spring's pre-diversions in the bottom lands of Rush
02 Creek provided substantial food for brown trout,
03 correct?
04 A No. I said they provided substantial food in
05 distributory channels.
06 Q And, again, you're not aware of the volume of the
07 spring flows pre-diversion?
08 A No.
09 Q But you are aware that the spring flows would have
10 substantially higher conductivity than the
11 approximately 40 -- I've got to get the right term
12 here, the approximately 40 micromols per centimeter
13 that you find in Rush Creek today?
14 A I would expect the springs to have a higher

15 conductivity, but I want to point out that a lot of the
16 water that entered the bottom lands did not come from
17 springs. It came from the Indian ditch. So I would
18 expect that water to have essentially the same
19 conductivity when it begins flowing across the bottom
20 lands as water in Rush Creek.

21 Q I notice in looking at the historic fishery you
22 quoted Smith and Neidham and concluded that Rush Creek
23 was not noted as a special interest. Do you see that,
24 Sir?

25 A I think we see that, yes.

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01 Q Why was that of importance to you?

02 A Well, if Rush Creek were an important fishery, for
03 example, providing large trout, I would have expected
04 Smith and Neidham to discuss it along with Hot Creek
05 and the Owens and the East and West Walker.

06 Q The Smith and Neidham article came out in 1935; is
07 that right?

08 A Yes.

09 Q Was there any event that related to Rush Creek
10 that was happening in 1935?

11 A That's -- I can't -- that's a very broad
12 question. There were events. There was grazing going
13 on. There was irrigation going on.

14 Q Let me ask you to answer a hypothetical question,
15 then. Assuming hypothetically that Grant Lake was
16 being built in 1935 and it was expected that that was
17 going to take up the substantial portion of Rush Creek,
18 would that possibly have affected Smith and Neidham's
19 interest in Rush Creek?

20 A Well, Dr. Platts has pointed out to me that they
21 did their work in 1934 and reported it in 1935. I have
22 no reason to think that that would have affected their
23 statement about -- or their statements about streams of
24 interest.

25 Q The last line of questions, and just simply about

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01 riparian vegetation today, which you described, I think
02 I wrote down the word "explosive." Is that a correct
03 statement?

04 A That's correct.

05 Q And would you agree with me that in light of water
06 table problems created by the reliction that the
07 riparian vegetation band is substantially narrower than
08 it was historically?

09 A I think I would agree with that for the area from
10 the Narrows downstream.

11 Q And would you agree that the riparian vegetation
12 is not recovering explosively along the historic
13 channels now dry in the bottom lands of Rush Creek?

14 A BY DR. PLATTS: That is true.

15 Q Would you agree that, in fact, in only
16 approximately 10 percent of the bottom lands of Rush
17 Creek is the riparian vegetation returning?

18 A I do not know.

19 MR. DODGE: Thank you, Sir.

20 HEARING OFFICER del PIERO: Thank you very much.

21 Mr. Roos-Collins?

22 CROSS-EXAMINATION BY MR. ROOS-COLLINS
23 Q Dr. Chapman, Dr. Platts, good morning.
24 When did you first visit Rush Creek?
25 A BY DR. PLATTS: 1990 or 1991. You mean officially?
0082

01 Q In any capacity.
02 A I've passed by and observed Rush Creek probably
03 since 1961.
04 Q Dr. Chapman?
05 A BY DR. CHAPMAN: I fished Rush Creek back about 1939,
06 '40, '41, in that area.
07 Q You took no scientific data when you fished Rush
08 Creek back in 1939?
09 A No.
10 Q Are you relying on Elden Vestal's 1954 article and
11 his 1990 deposition and trial testimonies in your
12 testimony?
13 A Substantially, yes.
14 Q You considered him to be a reliable witness on the
15 subject addressed by your testimony?
16 A I couldn't qualify whether he's a reliable witness
17 or not. I do have faith in his
18 scientifically-collected evidence, especially that it
19 went through peer review. I would not know how to
20 evaluate any anecdotal or hearsay evidence that
21 Mr. Vestal would provide.
22 Q But it would be fair to say that you relied
23 heavily in your testimony on his deposition and trial
24 testimonies and on his 1954 article?
25 A That's correct. That's about the only good
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01 scientific data.
02 Q Now, in response to a question by Ms. Cahill, you
03 stated that you chose the evaluation stretch because
04 you were instructed to do so by Mr. Trihey. Is that
05 correct?
06 A Requested by Mr. Trihey to do so. That's correct.
07 Q Mr. Trihey requested that you choose the
08 evaluation stretch purpose of your testimony to this
09 State Water Board?
10 A BY DR. PLATTS: That is not correct.
11 Q For some other purpose?
12 A For some other purpose.
13 Q For the purpose of your testimony to this Board,
14 why did you choose the evaluation stretch?
15 A That's what we had the best data on. As fishery
16 scientists, I think we've made it clear that we do
17 like to rely on good solid scientific data and go on
18 what's available.
19 Q You have testified, I believe, that the fishery of
20 Rush Creek between 1947 and 1954 was comparable to the
21 fishery which existed before 1941. Is that correct?
22 A BY DR. CHAPMAN: No. 1947 and 1951, we consider that
23 interval and most especially the early parts of that
24 interval, the first three years or so, as indicative of
25 conditions before
1941.0

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01 Q Let me read to you from Mr. Vestal's testimony in
02 deposition, March 1st, 1990, Page 254 of the Reporter's

03 transcript -- excuse me, page 255, beginning at Line
04 4.

05 "What was happening to Rush Creek or Rush Creek
06 fishery as the project progressed -- "

07 MR. BIRMINGHAM: Excuse me, Mr. Roos-Collins. May
08 Dr. Chapman have a chance to find the location in his
09 copy?

10 MR. ROOS-COLLINS: Certainly, Mr. Birmingham.

11 MR. BIRMINGHAM: Thank you.

12 DR. CHAPMAN: Page 254 did you say?

13 Q BY MR. ROOS-COLLINS: I misspoke. Page 255 beginning
14 at Line 4.

15 A Yes.

16 Q "What was happening to Rush Creek or Rush Creek
17 fishery as the project progressed, the test stream
18 project? Answer, well, the -- Question, the flows were
19 declining? Answer, the flows were declining and the
20 fishery itself was going down to what I have referred
21 to in the past as -- I use the expression was developed
22 with the friant project, the vital thread, it was going
23 down, shrinking down, down. As the thread of the
24 stream got less and less, the habitat shrunk, and we
25 were just hanging on. We were really hanging on to try

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01 to maintain any semblance of the original objectives of
02 the program."

03 And then, dropping down to Line 23, "We were being
04 strangled by diminished flows."

05 A Yes.

06 Q Is it your understanding of Mr. Vestal's testimony
07 that he considered the 1947 to 1951 conditions to be
08 equivalent to the pre-'41 conditions?

09 A He considered the spring flow conditions to be
10 undiminished by L.A. Department of Water and Power
11 activities in 1947, and I assume that during the
12 '47-to-'51 period, he must have considered that he
13 could provide a reasonable study because he set up the
14 study for that section of stream four- or five-year
15 period.

16 Q Let me return then to Page 255 and read the
17 paragraph which I omitted from my prior question,
18 beginning at Line 17 and continuing through to Line
19 22.

20 "Had we been better advised and changed canoes in
21 the stream as a figure of speech, we would have shifted
22 to a different program of management, but we were bound
23 to follow up on your classes and markings and so as to
24 exhaust those marks and get the total returns out of
25 those year classes."

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01 Is it your understanding of the testimony now in
02 its entirety on Page 255 that Mr. Vestal considered the
03 fishery conditions from 1947 to 1951 to be comparable
04 to those which existed before 1941?

05 A In the entirety of the five-year study plan,
06 obviously not.

07 Q Thank you.

08 On Page 1 of your written testimony, you state,
09 "Historically, the fishery was poor in Rush Creek."

10 A Yes.

11 Q Have you seen Mr. Vestal's written testimony
12 submitted to the Board in this proceeding?
13 A Yes.
14 Q Let me read you from Page 6, Paragraph 16 of that
15 testimony. "Rush Creek undoubtedly supported thriving,
16 healthy trout populations from the time trout were
17 first introduced into the system from about 1880
18 through the mid 1940s." Do you agree or disagree with
19 that statement?
20 A I think -- I agree with it.
21 Q Let's turn to Page 11, Paragraph 29. "There is no
22 doubt that Rush Creek -- "
23 A Just a moment, Mr. Roos-Collins. Paragraph 16
24 refers to Rush Creek. It does not refer to Lower Rush
25 Creek, so I have to make that clear. Rush Creek

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01 extends clear up in the lakes and headwaters and all
02 the way to Mono Lake. So there are portions of Rush
03 Creek that at all times have reported, since trout were
04 introduced into the area, thriving and healthy
05 populations.
06 Q Assuming that this paragraph refers to the stretch
07 of Rush Creek which is at issue in this proceeding, do
08 you agree with the statement that I just read?
09 A Yes.
10 Q You agree that this stretch of Rush Creek which is
11 the subject of this proceeding supported thriving,
12 healthy trout populations from 1880 to the mid 1940s?
13 A The portions that were not seriously affected by
14 irrigation and livestock use did, yes. The word
15 "thriving and healthy" is -- it's a difficult term to
16 quantify.
17 Q Let me return to Paragraph 29 on Page 11.
18 Mr. Vestal states, "There is no doubt that Rush Creek
19 produced among the largest and hardiest trout in the
20 region in keeping with the statement in the Fish and
21 Game Commission report cited above regarding the
22 potency of Rush Creek fish eggs."
23 Again, assuming this statement concerns the
24 stretch at issue in this proceeding, do you agree with
25 it?

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01 A No. It does not concern Lower Rush Creek. It
02 concerns the area between Grant Lake and Silver Lake.
03 Q Assuming that it concerns the stretch at issue in
04 this proceeding, do you agree with it?
05 A No.
06 Q Paragraph 30 on Page 12 of Mr. Vestal's written
07 testimony in this proceeding states, "Without
08 exception, the trout caught on Lower Rush were in good
09 condition."
10 A I see the statement.
11 Q "I never saw and never heard of anyone catching
12 fish on Rush Creek which were of poor quality." Do you
13 agree with that statement?
14 A No, I do not. I can't believe he said that about
15 those hatchery catchables.
16 Q Let me turn to Page 15 of your written testimony.
17 In your conclusions regarding the pre-1941 fishery

18 conditions, you state, "No large fish in the three- to
19 six-pound class were taken."
20 A Where are you? Which page?
21 Q Page 15.
22 A I'm sorry. I'm trying to keep up.
23 Q Mr apologies, Dr. Chapman.
24 A BY DR. PLATTS: Which paragraph?
25 Q Page 15, section entitled Conclusions Regarding

0089

01 the Pre-1941 Fishery Conditions.
02 A BY DR. CHAPMAN: Yes.
03 Q You state, "No large fish in the three- to
04 six-pound class were taken."
05 A That's right.
06 Q What's the basis for that statement?
07 A We have absolutely no record of any fish in Lower
08 Rush Creek larger than 15 or 16 inches. Mr. Vestal's
09 testimony, in fact, relied for his photo of brown trout
10 for a fish from Grant Lake that had moved up into the
11 egg collecting station, and all we have is some
12 anecdotal information that suggests that there were
13 some large trout taken in Lower Rush Creek. Vestal
14 fished there for all those years and never caught
15 anything over about 14 inches, according to his own
16 information.
17 Q So the basis for this statement is your review of
18 Mr. Vestal's 1954 article and his testimony?
19 A And the testimony of those individuals like
20 Mr. Trihey who have indicated that large trout were
21 taken there, but they rely on anecdotal information,
22 too, unsubstantiated by measurements or photos that I
23 know of.
24 Q You have no fish census?
25 A No what?

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01 Q You have no fish census on which to base this
02 statement?
03 A Well, we have the mean size of fish that Vestal
04 indicates, and he obviously must have measured fish.
05 He says they went to 13 or 14 inches, the average
06 length was eight or nine inches. In one place in his
07 testimony he talks about good size being up to eight
08 inches. I think that the evidence overwhelmingly
09 indicates that the population in Lower Rush Creek was
10 of small size. They were small fish.
11 Q Turning to Paragraph 31 on Page 12 of Mr. Vestal's
12 written testimony to this Board, you stated, "I
13 regularly observed brown trout in Lower Rush Creek
14 averaging 13 to 14 inches in length and people often
15 spoke of catching even larger fish up to 18 to 20
16 inches."
17 Do you agree with that statement?
18 A No. Because in his deposition, he indicates the
19 average length of fish was eight or nine inches.
20 Q This doesn't concern average length of fish, does
21 it?
22 A Averaging 13 to 14 inches is what he says. He's
23 dropped out the statement about eight- or nine-inch
24 fish on average.

25 Q Let me turn now to Page 14 of your written

0091

01 testimony, the section entitled Fishing Pressure. The
02 second paragraph states, "Vestal found that in-season,
03 spaced plantings of catchable trout were needed to
04 provide reasonably good angling in Rush Creek."

05 That's your opinion?

06 A Yes. Pardon? That's Vestal's opinion.

07 Q Is it your opinion as well?

08 A Yes.

09 Q Have you ever heard the expression "loving
10 something to death"?

11 A Yes, I have.

12 Q Is it possible that Rush Creek was stocked in the
13 period discussed by Mr. Vestal because it was
14 overfished?

15 A It's possible. If that's the reason, yes. Most
16 of the streams of the eastern Sierra that were
17 accessible were heavily fished at that time.

18 Q You're familiar with Mr. Vestal's 1954 article on
19 which you relied --

20 A Yes.

21 Q -- in your written testimony. He states on Page 1
22 of this 1954 article which is Cal Trout Exhibit 5-S --

23 A You mean Page 89?

24 Q Excuse me. I do mean Page 89. Thank you.

25 "The stream was fairly typical of heavily-fished

0092

01 trout streams on the east slope of the Sierra Nevada."

02 Would you agree, then, that Rush Creek at the time
03 of the test stream project was heavily fished?

04 A Yes.

05 Q On Page 1 of your written testimony, you state,
06 "By 1940, Rush Creek was relatively unproductive for
07 anglers." Is that your opinion?

08 A Yes.

09 Q On Page 13, you discuss Mr. Phillips' recollection
10 that during below-normal water years Rush Creek was dry
11 and he seldom observed anyone fishing or camping in the
12 evaluation reach. It was not considered much of a
13 fishery. Are you implying that other stretches of Rush
14 Creek were not considered much of a fishery before L.A.
15 began diversions?

16 HEARING OFFICER del PIERO: Dr. Platts, if you can
17 answer it, you can go ahead and answer it.

18 DR. PLATTS: We only questioned Mr. Phillips on
19 the reach between Grant Lake and Parker because at that
20 time that was our assignment, or to the confluence of
21 Parker Creek.

22 Q BY MR. ROOS-COLLINS: You previously agreed that
23 Mr. Vestal stated in his 1954 article that Rush Creek,
24 at least the test stretch, was heavily fished?

25 A Yes.

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01 A BY DR. CHAPMAN: It's important to distinguish that
02 the test stream area was below the Narrows.

03 Q I understand that, Dr. Chapman. Are you familiar
04 with Cal Trout Exhibit 5-Q in this proceeding, an
05 excerpt from the Fish and Game Commission's biennial

06 report from the years 1940 to 1942?
07 A 1940 to '42?
08 Q Yes.
09 A That's attached to Vestal's testimony. Yes, we
10 have seen that.
11 Q Page 13 includes Table 4, Leading Counties of
12 Trout Catch. You see that table?
13 A Yes.
14 Q It shows that Mono County is the leading county in
15 California for the years 1936 through 1941 for trout
16 catch?
17 A Yes.
18 Q I apologize, by the way, for going from one
19 document to another, but as you know we're under a very
20 tight time element, and we have a lot of ground to
21 cover. I'm not attempting to confuse you with fancy
22 footwork.
23 Let me return to Mr. Vestal's written testimony
24 submitted to this Board, Pages 6 to 7, Paragraph 17.
25 "I attribute the unusual productivity of Rush Creek to

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01 a fortuitous blend of factors, the level of flow, the
02 channel, and the habitat complexity of Lower Rush Creek
03 combine to make it a fishing paradise, more than
04 deserving of its reputation as an excellent trout
05 stream, among the best in the eastern Sierra."

06 Do you agree with that statement?

07 A Absolutely not.

08 Q Let's return, then, to a document on page --

09 A Do you want me to explain that?

10 Q Please do.

11 A Well, his own discussion of the characteristics of
12 Lower Rush Creek tells us there were very few pools?
13 The area was mostly gravel riffles. He talks about a
14 riparian jungle. We don't agree with that statement at
15 all. I think this statement is simply wrong. It's no
16 place close to Hot Creek in terms of its capabilities.

17 Q Thank you. Let's turn to the 1954 article with
18 which you are very familiar, Cal Trout Exhibit 5-S, and
19 focus on Table 5 Angling Data From Rush Creek Test
20 Stream 1947 to 1951.

21 A Table which?

22 Q Table 5.

23 A Okay.

24 Q Do you see the row Average -- excuse me, Number
25 Angler Days in that table? That's the third row in the

0095

01 table.

02 A Yes.

03 Q On the far right-hand side of the table, column
04 Yearly Average, does that show that the yearly average
05 during 1947 to 1951 was 6,686 angler days?

06 A It does. With an angler day of about 3.5 hours a
07 day.

08 Q Do you agree with that estimate for that period?

09 A Yes. I have no reason to disagree. I think those
10 data were probably very accurately recorded.

11 Q And elsewhere in the article Mr. Vestal estimated
12 that there were an average of ten fishermen per mile in
13 the test stretch during the test period.

14 A I believe I remember that, yes.
15 Q Is it your opinion that there would be ten
16 fishermen per mile in a poor fishery?
17 A The fishery was a subsidized hatchery-trout
18 fishery with periodic planting with people following
19 essentially the planting trout, the data show. So I
20 would think the hours reflect that reputation.
21 Q Let's turn now to irrigation diversions and the
22 effect that they had on Rush Creek before 1941. You
23 rely on L.A. DWP hydro data for the conclusion that
24 there were many days of zero flow in the evaluation
25 reach. Is that correct?

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01 A BY DR. PLATTS: Yes, we did.
02 Q Are those data included in the exhibits L.A. DWP
03 submitted to this Board?
04 A I do not know.
05 Q Did you examine the gauge from which the data were
06 taken?
07 A I did not examine the gauge, no.
08 Q Did you examine any records which assessed the
09 reliability of that gauge's measurements?
10 A I did not.
11 Q Is it possible that the gauge was inaccurate?
12 A It's possible, but I would imagine they calibrate
13 their gauges like most other people do.
14 Q You would imagine. Have you reviewed any records
15 of calibration by L.A. DWP staff for that gauge during
16 the period addressed by your testimony?
17 A I have not. I don't know where their policy is.
18 Q Table A from your written testimony shows that in
19 the year 1934, there were 365 days where the flow was 1
20 cfs or less in an evaluation stretch. Is that correct?
21 A Yes.
22 Q Do L.A. DWP hydro records exist for the period
23 January through March 1934?
24 A I do not recollect.
25 Q Are you familiar with Cal Trout Exhibit 15 in this

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01 proceeding? A publication by Trihey and Associates
02 entitled Summary Comparison of Pre-1941 and Post-1941
03 Conditions Affecting Fish Populations in Lower Rush
04 Creek?
05 A We have seen the document, yes.
06 Q Let me ask you to examine Photograph 7-7 on Page
07 7-26 in that exhibit.
08 A Yes.
09 Q What is the date on which that photograph
10 purported to have been taken?
11 A There are two photographs. Which one?
12 Q Excuse me. The top photograph.
13 A It says, "March 1934."
14 Q Is there water in the stream in March of 1934 in
15 that photograph?
16 A There is water in the water area depicted in the
17 photograph, but I don't know where that photo was
18 taken. It may have been in the bottom lands.
19 Q Let me ask you to assume that it was in the bottom
20 lands. You would agree that there is water in that

21 stretch of Rush Creek in March of 1934?
22 A Sure. That's a distributory area for irrigation,
23 return flow, and irrigation water, and springs.
24 Q Ms. Cahill and Mr. Dodge asked you questions about
25 gauges elsewhere on the stream, other than the

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01 evaluation stretch. To make sure that I understand
02 your prior testimony, you have no gauge records for
03 flow in Rush Creek below Highway 395?
04 A At the time we did our evaluation, we did not.
05 Q You testified today that the flow in Rush Creek
06 often fluctuated by 100 cubic feet per second or more.
07 Is that -- was that your testimony?
08 A Yes.
09 Q Could you help me find the -- that statement in
10 your written testimony? Where is it located? I found
11 it. Page 9.
12 A Page 9, fourth paragraph.
13 Q Extreme Fluctuations in Flows in Rush Creek is the
14 section title. "The post-1934 record, however, reveals
15 daily fluctuations greater than 100 cfs were not
16 uncommon."
17 What does the term "not uncommon" mean?
18 A It means they occurred not once but more than
19 once.
20 HEARING OFFICER del PIERO: Mr. Roos-Collins? 20
21 minutes.
22 MR. ROOS-COLLINS: Mr. del Piero, I request an
23 additional 20 minutes.
24 HEARING OFFICER del PIERO: Based on?
25 MR. ROOS-COLLINS: Based on the complexity of the

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01 subject matter addressed by this testimony and its
02 importance to California Trout.
03 HEARING OFFICER del PIERO: Mr. Birmingham, you're
04 going to regret ever having offered that
05 justification.
06 Go ahead, Mr. Roos-Collins. That's okay.
07 Excellence is often mimicked.
08 Q BY MR. ROOS-COLLINS: Have you examined Figure 2
09 entitled Daily Stream Flow Fluctuations on Rush Creek
10 Due to Irrigation Diversions and Reservoir Operations
11 1934 to 1941 taken from L.A. DWP's comments in the
12 Draft EIR in this proceeding?
13 A I have seen them, yes.
14 Q This is found in Chapter 3-D, Page 25.
15 A Three what?
16 Q 3-D, Page 25.
17 A 3-D. The answer is yes. We have seen it.
18 Q How many fluctuations equal to or greater than 100
19 cfs are shown in Figure 2 of this document for the
20 period April 1934 through November of 1940?
21 A I count about five.
22 Q So this figure in L.A. DWP's comments showed five
23 fluctuations equal to or exceeding 100 cfs for the
24 six-year period depicted in this figure?
25 A You'd expect more than that in hourly flow,

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01 probably, but that's correct. There's about five in

02 this figure.
03 Q On a daily basis, then, one per year?
04 A On average.
05 Q Page 7 of your written testimony in describing the
06 semi-arid Mono Basin cites Russell 1989 as concluding,
07 "Nearly the entire -- "
08 A Which page? I'm sorry.
09 Q Page 7 in your written testimony in the section
10 Effects of Irrigation Diversion. You cite Russell 1989
11 for the proposition, "Nearly the entire valley is
12 without the limit of cultivation for the reason that
13 water cannot be had for irrigation."
14 A Yes.
15 Q Are you implying that in the Rush Creek or
16 Levining Creek basins in 1989 water could not be had
17 for irrigation?
18 A I think that he's talking about outside the
19 physical limit of cultivation because you can't get
20 water to the site.
21 Q I see. Have you prepared an analysis of pre-1934
22 diversions from Rush Creek for irrigation purposes,
23 let's say the decade 1928 to 1930?
24 A I believe we just concentrated mainly on the
25 decade prior to 1940.

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01 Q For the period 1934 to 1940 who owned the water
02 rights upstream of the evaluation stretch?
03 A I do not know.
04 Q Let's turn now to --
05 MR. SMITH: Mr. Roos-Collins, a point of
06 clarification, please. Did you say 1989 Russell or was
07 it 1889?
08 MR. ROOS-COLLINS: 1889.
09 MR. THOMAS: I think you did say 1989.
10 MR. ROOS-COLLINS: My apologies. Thank you for
11 the clarification.
12 Q BY MR. ROOS-COLLINS: Let's turn now to grazing and
13 its impact on the fishery.
14 Page 3 of your written testimony, section Effects
15 of Grazing, first paragraph, you again cite Russell
16 1889, the proposition that natural pastures in the Mono
17 Basin were nearly ruined by 1889. Are you implying
18 that the natural pastures adjacent to Rush and
19 Levining Creeks why nearly ruined by 1889?
20 A BY MR. PLATTS: I do not know what pastures Russell
21 was talking about, but I imagine that those pastures
22 along Rush Creek were grazed about the same intensity.
23 Q You imagine?
24 A I do not have the actual data on utilization.
25 Q Let me turn now to Page 13 of your written

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0102

01 testimony, the final paragraph in the section entitled
02 Water Quality. You site Vestal as follows: "Vestal
03 reported that some 4,000 sheep watering along Rush
04 Creek roiled the waters to the point that the stream
05 was unfishable."
06 A BY MR. CHAPMAN: Yes.
07 Q Continuously?
08 A I wouldn't think so.

09 Q Okay. Occasionally?
10 A Well, it did it often enough for him to mention
11 it.
12 Q On Page 94 of Mr. Vestal's 1954 article, he
13 states, "Grazing animals are a nuisance at intervals
14 during the trout season. Some 4,000 sheep -- "
15 A We're not keeping up with you. Page which?
16 Q Page 94.
17 A God, I hate bifocals.
18 What paragraph now?
19 Q The second paragraph on the page.
20 A "Grazing animals are"?
21 Q "A nuisance at intervals during the trout season.
22 Some 4,000 sheep are watered along the stream roiling
23 the water and causing a temporary decline in catches in
24 angling effort."
25 Is this paragraph the basis for the paragraph I

0103

01 just read from your written testimony?
02 A Yes.
03 Q So the roiling caused temporary effects on the
04 fishing and angling; is that correct?
05 A Yes.
06 Q On the fish and angling, excuse me.
07 A Yes.
08 Q Let me ask you about Figure 4 from your direct
09 testimony. You have previously testified that this
10 photograph shows highlining by sheep; is that correct?
11 A And grazing damage to the banks and laid-back
12 banks and a dish-shaped channel.
13 Q Who owned the land depicted in Figure 4 in your
14 direct testimony at the time the photograph was taken?
15 A I do not know.
16 Q Let's turn now to water quality, specifically,
17 temperature. Page 12 of your written testimony, first
18 paragraph under the section Fish Habitat Condition,
19 cites Smith and Neidham with the proposition that a
20 water temperature of 24 degrees centigrade was recorded
21 in the evaluation reach; is that correct?
22 A Yes.
23 Q Let's return to Mr. Vestal's 1954 article. Table
24 1 on Page 92. Table 1 is entitled Average and Range in
25 Temperatures at Rush Creek Test Stream, Season of 1948.

0104

01 A Yes.
02 Q Is it your understanding of that table that it
03 shows stream temperature in the test stream at the
04 stated time?
05 A It shows temperatures in Rush Creek -- apparently,
06 the paragraph just ahead of it says, "Temperatures of
07 Lower Rush Creek." I don't know where the temperatures
08 were taken -- it says, "Recorded at the checking
09 station," so that's way down at the county road on the
10 lower end of Rush Creek, in the lower part of the test
11 site.
12 Q The temperatures shown in Table 1 of Mr. Vestal's
13 1954 article are stated in degrees Fahrenheit; is that
14 correct?
15 A Yes.
16 Q You can do the mathematical calculation better

17 than I. Are any of those temperatures in excess of 34
18 degrees centigrade?
19 A No.
20 Q You previously discussed with Mr. Dodge your
21 concern about the conductivity of the water in Rush
22 Creek. Do you recall that discussion?
23 A Yes.
24 Q Have you ever heard the expression the "fish is
25 the thing" which Mr. Vestal informs me is the

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0105

01 fisherman's equivalent of "the proof is in the
02 pudding"?
03 A I don't think I ever heard that expression, no.
04 HEARING OFFICER del PIERO: Neither have I.
05 Q BY MR. ROOS-COLLINS: It may be Mr. Vestal's
06 invention. Anyway, you understand the concept behind
07 the expression?
08 A BY DR. CHAPMAN: Not at all.
09 Q Would you agree that the presence of fish is a
10 better indicator of a fishery than the conductivity of
11 the water?
12 A BY DR. PLATTS: I would say no, not when you're
13 dumping truckloads of catchable trout in there.
14 Q Would you say that the presence of wild trout is a
15 better indicator of the fishery than the conductivity
16 of the water?
17 A BY DR. CHAPMAN: I've got to ask you to be more
18 precise in the term "fishery." What do you mean by a
19 "fishery"? The population? The catching?
20 A BY DR. PLATTS: What time -- fish could be migrating
21 in. They didn't live there. They just come in for a
22 few hours to spawn, and they're leaving. It's not
23 giving us a term to answer to.
24 A BY DR. CHAPMAN: Why are we helping him?
25 Q Because we're not enemies.

0106

01 MR. DODGE: Assumes facts not in evidence.
02 (Laughter.)
03 DR. PLATTS: Since when?
04 HEARING OFFICER del PIERO: Sustained, Mr. Dodge,
05 good.
06 Please proceed, Mr. Roos-Collins.
07 Q BY MR. ROOS-COLLINS: Dr. Platts had a salmon or
08 trout pin on yesterday which I appreciated. I had
09 hoped that he would wear it today.
10 In answer to your concern, Dr. Chapman, Page 1 of
11 your written testimony states, "The fishery was poor in
12 Rush Creek." What did you mean by the term "fishery"?
13 A BY DR. CHAPMAN: In this instance, I meant the
14 catching.
15 Q You meant the what?
16 A The catching.
17 Q Angling?
18 A The angling.
19 Q I see. I have one further question about grazing
20 which I omitted from my earlier line of questions.
21 Have you seen Cal Trout Exhibit 5-D which purports
22 to be a photograph of Levining Creek taken on July
23 14th, 1916?

24 A It would help if you just showed me the photograph
25 and then I could tell you which exhibit this is. Yes.

0107

01 We've seen that.

02 Q Do you see any highlining in that photograph?

03 A No. That is Levining Creek. I will tell you also
04 gratuitously that there are places in Rush Creek, I am
05 sure, that the sheep could not reach where one could
06 expect to see no highlining.

07 Q Let me engage in some bait and switch. I said I
08 have one more question about grazing. Your answer
09 prompts another.

10 Let's examine Figure 4 from your direct
11 testimony. Is it possible that insects live in the
12 upper story of the vegetation depicted in Figure 4?

13 A It's possible.

14 Q Do you have any scientific evidence which would
15 lead you to believe that insect production is
16 significantly affected by sheep browsing?

17 A Oh, I would think, definitely, yes. Definitely.

18 Q Do you have any scientific evidence contemporary
19 with that photograph?

20 A No.

21 Q Let's turn finally to today's conditions in Rush
22 Creek. You state on Page 2 of your testimony, "The
23 habitat now available in the evaluation reach is
24 superior in quality, quantity, and dependability to the
25 habitat that existed there prior to
1941."ô

0108

01 A Yes.

02 Q That is your opinion of the evaluation reach?

03 A Yes.

04 Q Is it also your opinion for the reach of Rush
05 Creek below Highway 395?

06 A In the main channel of Rush Creek, I think that
07 the system probably has about the same number of pools
08 that it had during Vestal's time. He talks about very
09 few pools and gravel areas. I think that the main
10 thread of the system is much like it was before 1941.
11 I think that the distributive channels in the bottom
12 lands no longer exist. The watered channels no longer
13 exist. So that portion is not as good as it was before
14 1941 but, again, I don't think that that bottom land
15 area mattered to the fishery because of the evidence in
16 his 1954 paper.

17 Q Are you familiar with the estimate in the Draft
18 Environmental Impact Report that over 90 percent of the
19 mature cottonwood and willow trees riparian to Rush
20 Creek have been lost between 1941 and 1989?

21 A I have seen that statement.

22 Q Do you agree with it?

23 A I think a lot has been lost. I don't know whether
24 it's 90 percent or not, but a lot has been lost.

25 Q Do you have any --

0109

01 A But there were lots of areas of Rush Creek that
02 had no canopy at all, as these photos indicate, and
03 were heavily influenced by grazing well before the
04 cottonwoods went out.

05 Q Are you familiar with Cal Trout Exhibit 12 in this
06 proceeding, Trihey and Associate's report entitled Past
07 and Present Geomorphic, Hydrologic, and Vegetative
08 Conditions on Rush Creek, dated September 19th, 1992?

09 A I think we've seen that, but we don't have it
10 here.

11 Q Are you familiar with it?

12 A BY DR. PLATTS: I skimmed it. I'm not real familiar
13 with it.

14 Q So you are not prepared to assess the reliability
15 of estimates of channel loss in Cal Trout Exhibit 12?

16 A BY DR. CHAPMAN: I don't think so.

17 A BY DR. PLATTS: I wouldn't.

18 Q Let me ask you about Figure 3 from your direct
19 testimony. You previously discussed this with
20 reference to grazing --

21 MR. BIRMINGHAM: I'm not sure whether this is bait
22 and switch, Mr. Roos-Collins, or fraud about the number
23 of remaining questions you had.

24 HEARING OFFICER del PIERO: Those were questions
25 on grazing as opposed to others. I'm keeping track.

0110

01 Go ahead, Mr. Roos-Collins. You've got about, what,
02 four or five minutes left?

03 MR. ROOS-COLLINS: I'm emulating my colleague,
04 attempting to get the good stuff by the time runs out.

05 Q BY MR. ROOS-COLLINS: Figure 3 from your direct
06 testimony. You previously discussed Figure 3 with
07 reference to the impact of sheep on the bank.

08 A BY DR. CHAPMAN: Yes.

09 Q Have you visited this site?

10 A Yes.

11 Q What's its condition today?

12 A It's got an explosively growing crop of riparian
13 vegetation on it.

14 Q Where is the channel relative to its location as
15 depicted in Figure 3?

16 A Can you answer that?

17 A BY DR. PLATTS: No. I cannot answer that.

18 Q Finally -- Mr. Birmingham, this is any final line
19 of questions -- let's focus on recommendations you may
20 have to this Board regarding remedy. You previously
21 discussed your statement that the habitat now available
22 in the evaluation reach is superior in quality,
23 quantity, and dependability to the habitat that existed
24 there prior to 1941?

25 A
Yes.ô

0111

01 Q You understand that at this time L.A. DWP is not
02 diverting water from Rush Creek?

03 MR. BIRMINGHAM: Excuse me. I'm going to object
04 on the grounds that it misstates the evidence. DWP
05 does divert water from Rush Creek.

06 HEARING OFFICER del PIERO: That's correct. That
07 objection's sustained.

08 You may want to rephrase your question. Water's
09 diverted for experimental purposes, I understand, in
10 the Upper Owens River; is that correct?

11 MR. BIRMINGHAM: That's correct, Mr. del Piero, as

12 it is diverted for storage in Grant Lake Reservoir.
13 MR. ROOS-COLLINS: Is that my clock?
14 HEARING OFFICER del PIERO: That's your clock.
15 MR. ROOS-COLLINS: I request five additional
16 minutes, and I will not exceed it.
17 HEARING OFFICER del PIERO: Go ahead.
18 Q BY MR. ROOS-COLLINS: With the qualifications stated
19 by Mr. Birmingham, is it your understanding that
20 relatively little of the natural flow of Rush Creek is
21 now diverted by L.A. DWP?
22 A BY DR. PLATTS: You're -- the reach below Grant Dam?
23 Q Diverted into the aqueduct system?
24 A Yes. Little.
25 A BY DR. CHAPMAN: Relatively little.

0112

01 A BY DR. PLATTS: Relatively little.
02 A BY DR. CHAPMAN: Compared to the past, yes.
03 Q Have you reviewed L.A. DWP's management plan
04 committed to this Board?
05 A We haven't spent any time with the management
06 plan, no.
07 Q Are you making a recommendation about the flow
08 regime which this Board should consider?
09 A It's not part of our testimony.
10 A BY DR. PLATTS: Not at this time.
11 Q Are you making a recommendation regarding grazing
12 on lands riparian to Rush Creek?
13 A We already have.
14 Q And that recommendation is?
15 A It's to cease grazing in Rush Creek bottoms.
16 MR. ROOS-COLLINS: Thank you. No further
17 questions.
18 HEARING OFFICER del PIERO: Thank you very much.
19 Ladies and Gentlemen, we'll be in recess until
20 1:30.
21 (Whereupon the lunch recess was taken.)
22 HEARING OFFICER del PIERO: Ladies and Gentlemen,
23 this hearing will again come to order. This is a
24 continuation of the hearing on -- regarding amendments
25 to the City of Los Angeles' water rights, the water

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01 rights licenses for diversions from tributaries to Mono
02 Lake.
03 When we last left, Mr. Roos-Collins, you had just
04 completed, Sir?
05 MR. ROOS-COLLINS: I had.
06 HEARING OFFICER del PIERO: Okay. And Mr. Stevens
07 or Ms. Scoonover?
08 MS. SCOONOVER: We have no questions at this
09 point.
10 HEARING OFFICER del PIERO: You have no
11 questions. Okay.
12 Is there anyone else wishing to cross-examine
13 these folks? Mr. Haselton? You'll forgive me for not
14 going through the whole list of folks who are
15 occasional participants here.
16 MR. HASELTON: More than forgiven.
17 CROSS-EXAMINATION BY MR. HASELTON
18 Q Dr. Chapman, Dr. Platts, my name is Frank
19 Haselton. I'm here on behalf of John Arcularius. He

20 has a ranch of about a thousand acres on the Upper
21 Owens River of which the east portal historically has
22 brought water from the Mono Basin to about midpoint on
23 the ranch. He has approximately six miles of the Upper
24 Owens River and about midpoint gets water from the Mono
25 Basin.

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01 I have I think what you might consider
02 refreshingly general-type questions and just really,
03 for my information, so I can report back to my client.
04 However, before I get started, I'd like to go back
05 to a comment that was made, and I forget which person
06 made it, but I think the comment was Rush Creek, quote
07 unquote, was overfished because it was stocked. Do you
08 remember that comment that it could have been
09 overfished because it was stocked?
10 I would think perhaps, and would you agree with
11 me, that the reciprocal that it was stocked because it
12 was overfished?
13 A BY DR. PLATTS: Yes, it could be.
14 Q Could you briefly tell me what your understanding
15 is of the objective of these proceedings as it relates
16 to Levining Creek and -- also including the R.T.C?
17 A The objectives, as I understand them, are to
18 determine the proper flows that would be released in --
19 or would occur naturally in Levining and Rush Creek
20 that would be compatible with the lake levels that are
21 designated.
22 Q Okay. Could you also, then, further just describe
23 the characteristics and maybe this might be more for
24 Dr. Vestal, but I'll give it a shot here -- of what has
25 been -- Rush Creek has been referred to a typical

0115

01 eastern Sierra snow melt creek, and I'll narrow it
02 down. What I'm interested in apart from its
03 characteristic is its flows, daily flows. Is it
04 correct for me to assume or believe that these daily
05 flows have a tendency to fluctuate?
06 A That's correct.
07 Q Moderately, greatly fluctuate?
08 A If you're speaking of over time say on a 5-, 10-,
09 15-year period, they have great fluctuations.
10 Q Does it have a potential, say, for the flows to
11 fluctuate, let's say on a daily basis greater than 10
12 percent from day to day?
13 A Yes.
14 Q Give me a second here. Are you familiar with the
15 testimony of Darryl Long? He's the associate biologist
16 for the Department of Fish and Game. Have you had a
17 chance to read this?
18 A I skimmed it, but I did not read it.
19 Q I'm sorry. I don't know what the exhibit number
20 is.
21 MR. SAT-KOWSKI: DFG 1.
22 Q BY MR. HASELTON: It's the first one? Okay.
23 Well, if you would indulge me, let me read a quote
24 that he actually quotes from a paper -- actually, of
25 which you were an author titled Ecological and

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01 Geomorphological Concepts for Instream and
02 Out-of-Channel Flow Requirements, provide the following
03 summary, and it's Number 9 on the second page of his
04 testimony.

05 "Healthy fish populations are a dependent on
06 stream flow regimes that protect the ecological
07 integrity of their habitat. Fish habitats are the
08 consequence of linkage among the stream flood plane
09 riparian and upland zones and watershed geography.
10 Fluvial geomorphic processes form and control the fish
11 habitat. Because of this multiple in-channel and
12 out-to-channel flows are needed to maintain these
13 processes. We present a conceptual methodology for
14 measuring four types of stream flows regimes." Then it
15 goes on to describe the four types of regimes.

16 This is part -- his testimony is basically part of
17 describing what is important to consider in creating
18 and restoring a stream, and further on, on the -- the
19 next page, under Number 11 in his testimony, he says,
20 on the second full paragraph, "Because reducing the
21 duration of the peak flows may adversely affect some
22 channel forming processes and vegetation seeding, these
23 authors," referring back to your paper, "these authors
24 conclude that, quote, in most cases a deduction of less
25 than 10 percent of the previous day's flow would be

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01 highly preferred, unquote."

02 My question then is are we running the risk --
03 risk may not been the right word. But are we maybe
04 approaching to where we're creating an artificial
05 environment as opposed to what is expected from a
06 natural eastern Sierra snow-melt stream?

07 A BY DR. PLATTS: I'm not sure what is going to come
08 out of these sessions. I don't know what the flows
09 will be or recommended. We haven't entered into that
10 part, but it could be.

11 Q A general question. Considering that 50 years
12 have gone by since the pre-diversion period and the
13 whole dynamics of the area whether natural, or induce,
14 grazing, no grazing, that type of situation have
15 passed, that's a dynamic process, can we really expect
16 to go back and restore a stream to a condition that
17 existed 50 years ago? Is that a possibility?

18 A It depends on the stream and the modifications.
19 Sometimes you can rehabilitate them back to existing
20 conditions. Other times, and this is quite often, they
21 go back to a near condition or a different type of
22 condition.

23 Q Are you familiar with the Upper Owens River?

24 A I've been on the Upper Owens a couple of times.

25 Q Okay. Are you familiar with the Arcularius Ranch?

0118

01 A Yes, I spent a few hours on the Arcularius Ranch.

02 Q Are you familiar with -- in one of the exhibits
03 that we have prepared out of the Haselton and
04 Associates Arcularius Ranch, we have a fish survey that
05 was prepared or sponsored by the Department of Fish and
06 Game in 1985.

07 A I'm not aware of that.

08 Q Okay. Well, let me just go ahead and read it.
09 "There were over 40 sections of the Owens River
10 watershed that was surveyed and fish counts were taken
11 and the Arcularius Ranch. The section on the
12 Arcularius Ranch had a total of over 11,000 fish per
13 mile, 580 pounds per acre."
14 Now, in your opinion, is that representative of a
15 good, excellent fishery?
16 A Good to excellent fishery?
17 Q Good or excellent?
18 A Good to excellent fishery.
19 Q Could something of those numbers, notwithstanding
20 the difference between two streams, Rush Creek and the
21 Owens River, could something like that be accomplished,
22 do you think, in Rush Creek?
23 A BY DR. CHAPMAN: I think that one might accomplish
24 that approach to that, not necessarily that number, but
25 an approach to a higher number than the stream would

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01 produce naturally by allowing the riparian system and
02 the interaction and the rivering riparian habitat to
03 develop over time and possibly by fertilization.
04 Q Okay. But by some -- let me back up. In order to
05 approach comparable numbers, and that's probably not
06 even a fair way of comparing them, but it would
07 warrant some artificial enhancement?
08 A BY DR. PLATTS: Yes. Rush -- if you're talking about
09 Rush Creek, Rush Creek and the Lower Owens are two
10 different types of stream. Therefore, they do not have
11 the same potential.
12 A BY DR. CHAPMAN: I don't think you're ever going to
13 get 3 or 400 pounds per acre in Rush Creek even with a
14 good riparian zone without subsidization with
15 fertilization.
16 Q Are you aware that the flows in the Upper Owens
17 River range between 50 and 80 cfs?
18 A BY DR. PLATTS: I was not. I have not worked on
19 flows in the Upper Owens River.
20 Q Being a spring-fed stream, it's a fairly steady.
21 A Fairly well controlled.
22 Q Pretty steady flow, correct?
23 One of the concerns that we have is the impact on
24 the Upper Owens River as a result of whatever -- as you
25 put it, whatever occurs or happens out of this hearing

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01 here, and there's been some discussion of restoration
02 of the Upper Owens. Now I realize you've only been
03 on -- you've been on the Upper Owens, but the
04 Arcularius Ranch for a few hours. Does the Upper Owens
05 warrant restoration, in your opinion?
06 A Yes, it does.
07 Q Does it? Okay. And what may that be? What --
08 A The Upper Owens River is a fairly badly degraded
09 river, and it will be a fairly easy system to bring
10 back. But there will have to be changes in management
11 to do it.
12 Q Specifically grazing?
13 A Mainly land uses.
14 Q Lands?

15 A Um-hum.
16 Q Part of the restoration, would you consider part
17 of the restoration efforts on the Upper Owens involve
18 fishing regulations, also?
19 A Yes, I would.
20 Q And in particular, that of restricted take?
21 A I used -- talking about a killing?
22 Q Yeah. No kill or limited kill?
23 A Yes. I think that in time that that would be one
24 of the movements in order to have higher fishing
25 quality.

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01 MR. HASELTON: No further questions.
02 HEARING OFFICER del PIERO: Thank you very much,
03 Mr. Haselton.
04 Anyone else wishing to cross-examine? None.
05 Staff? Mr. Frink?
06 MR. FRINK: Yes, I have just a few. Mr. Herrera
07 has the bulk of our questions.
08 CROSS-EXAMINATION BY THE STAFF
09 Q BY MR. FRINK: Gentlemen, on Page 14 of your written
10 testimony, the second paragraph under Section B,
11 Harvest, you cite Mr. Vestal's study on the fishery
12 conditions between 1947 and 1951 in which he reported a
13 relatively low catch rate in the reach between the
14 Narrows and the lake. And you conclude the paragraph
15 with the statement, "If this catch rate is at all
16 representative of the wild trout fishery before 1941,
17 the fishery in Rush Creek was poor or mediocre."
18 My question is this. Do you have any information
19 from the writings or reports of Mr. Vestal that he
20 personally considered the conditions between 1947 and
21 1951 to be representative of the pre-diversion fishery
22 conditions?
23 A BY DR. CHAPMAN: I have to say --
24 Q By pre-diversion, I mean pre-1940.
25 A I have to say that Mr. Vestal himself did not make

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01 a statement of that nature in his depositions or
02 testimony, so far as I know.
03 Q All right. Other than the writings of Mr. Vestal,
04 do you know of any other fishery experts' evaluations
05 of the conditions of the Rush Creek fishery before
06 1941?
07 A Well, there are a couple of points that are
08 pertinent in response. The first is that Dr. Messick
09 produced a letter to Randall Wharton dated 1 December
10 '89 in which he talked about conditions in '47-51 being
11 pertinent. He says, "It is reasonable to assume that
12 the wild trout fishery from 1919 to 1941 was similar to
13 the wild trout fishery described in Vestal's study 1914
14 to 1941."
15 Q Do you know what he bases that statement on, by
16 any chance?
17 A He goes on to talk about the species mix, the
18 quick catch of hatchery fish, the characteristics of
19 the anglers, and adds several provisos, a statement,
20 reasons, for his conclusion. The second point in
21 addition to Messick's letter I found in reference to a
22 May 1, 1940, check of anglers, Mr. Vestal's comment

23 that he checked a bag or some bags of lock leven or
24 brown trout and rainbow trout of good size up to eight
25 inches.

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01 Q And that was in 1941?

02 A That was in 1940, May 1 of 1940. We have those
03 two items, and those are the only two that come to mind
04 at the moment.

05 Q Okay.

06 A Except, of course, the general statement in his
07 testimony that he considered the springs undiminished
08 in 1947. We drew the inference then that conditions
09 then would be representative of the 3-41 condition.

10 Q Okay. Thank you. Let's see.

11 On Page 15 of your written testimony, you cite a
12 personal communication from R. Goodman to Randall
13 Wharton in which Mr. Goodman recalled that fishing in
14 Rush, Parker, and Walker Creeks were not an important
15 food resource during the great depression. Who is R.
16 Goodman?

17 A BY DR. PLATTS: I think Mr. Goodman was once a
18 hydrographer for the L.A. Department of Water and Power
19 and collected street flow data releases in Grant Lake
20 for the Department. He visited the area or lived near
21 the area and did work, did hydrography type work.

22 Q Was that -- that statement was an oral statement
23 to Mr. Wharton in recent years?

24 A Yes, it was. You're correct.

25 Q Okay. Mr. Roos-Collins asked you earlier if you
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01 knew who owned the water rights on Rush Creeks. I
02 believe this is in the reach below Grant Lake in 1939
03 and 1940, and you said that you did not know.

04 Do you know who owned the irrigated land adjoining
05 Rush Creek during the 1930s which was served by ditches
06 A, B, and C?

07 A I don't know for sure.

08 Q Okay. I'm going to switch the subject just a
09 little bit.

10 Have either of you done any study or evaluation of
11 the fishery or future fishery conditions on Walker or
12 Parker Creek?

13 A I have not.

14 MR. FRINK: Okay. That's all the questions I
15 have. Steve?

16 Q BY MR. HERRERA: I have a few questions. I'm going
17 to go back and maybe follow up a little bit on
18 conductivity.

19 You were talking about a low conductivity as an
20 indication of low nutrient levels in Rush Creek. And
21 you also made a statement to the effect that the
22 springs could be adding nutrients or adding -- and
23 nutrients being -- which would increase the
24 conductivity in the form of algae or some other
25 nutrient loading as well as the minerals?

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01 A BY DR. CHAPMAN: Not with algae. I would think that
02 some nitrate salts, for example, would be picked up as
03 irrigation water leached through crop lands, perhaps

04 from sheep feces, perhaps from decomposing material,
05 perhaps from the parent materials. Those salts along
06 with other salts would presumably end up issuing forth
07 at some of the springs.

08 I also pointed out that I thought that some of the
09 bottom land channels were supported by leakage or
10 irrigation from Indian Ditch, so I would expect the
11 conductivity of those to be like Rush Creek.

12 Q It has been indicated that grazing has been a
13 problem on Rush Creek, and several of the exhibits that
14 have been up here have indicated grazing not only on
15 the lower portion of Rush Creek but on the areas that
16 you gentlemen have examined.

17 Would you expect from the feces materials or from
18 the activity of livestock in the area to having
19 increased the nutrient loading in Rush Creek in those
20 areas?

21 A BY DR. PLATTS: I would assume that it would increase
22 during certain times of the year, like snow melt or
23 storms, with livestock grazing and the feces laying
24 around on the surrounding uplands when water movements
25 or percolates from the surface. You can get spikes of

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01 nutrients, and the studies have pretty well
02 demonstrated that, which is different than the slow
03 process of nutrient release from plant decaying
04 or dying.

05 Q You talk about the slow and the different types of
06 nutrient loading that's going on here in the stream.
07 Is the nutrient loading from livestock or from grazing
08 activities directly adjacent to the stream or livestock
09 being in the stream channel, itself? Is that
10 detrimental to the fishery, or is that beneficial to
11 the fishery?

12 A I would say that it's -- it's a wash, that it's
13 probably neither detrimental or beneficial. We don't
14 build good fisheries because livestock are in streams,
15 and we don't also destroy fisheries just because
16 livestock are in streams. I don't think it's that much
17 of an item.

18 A BY DR. CHAPMAN: He's saying there's a trade off, I
19 think, but I suspect that to the extent that livestock
20 contribute to nutrient level, if one had a healthy
21 stream in the rivering riparian system, which this one
22 does not, if one had a healthy stream, then those
23 nutrient additions, given the low conductivity, I would
24 think would be beneficial. Again, you've got to get up
25 to 140 or so conductivity from 40, a basic 40, in order

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01 to really get the biomass boosted.

02 Q And again, from what you're saying then, in a low
03 flow scenario or a certificate flow scenario, then that
04 nutrient loading would probably be an adverse condition
05 then for whatever's existing?

06 A I don't know.

07 Q Would that go into like a eutrophication?

08 A BY DR. PLATTS: In what little bit of research I've
09 done on conductivity versus livestock grazing, I
10 couldn't see any real correlation.

11 Q Okay. I'm going to shift gears a little bit here
12 and go back to Mr. Vestal's report which you've
13 reviewed. Specifically -- and this is L.A. DWP Exhibit
14 No. 4, Page 96, 96, and the copy that I have has a
15 narrative on the right side and a figure on the left.
16 We're discussing the wild trout paragraph which is
17 about two-thirds of the way down on the right.

18 A Yes, Sir.

19 Q We were talking earlier about the presence or
20 absence of wild trout and the fact that these people
21 have fished a tremendous amount of hours and taken very
22 few wild trout. The numbers that are indicated here
23 show that over the time frame of 1947 to 1951, I
24 believe it is, 6,500 wild trout were caught, 6,573 wild
25 trout were caught, but it goes on further to state, he

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01 states, "It is remarkable that wild brown trout
02 populations are able to sustain itself in the face of
03 unusual heavy fishing pressure and continued
04 competition with large numbers of alien trout for food
05 and living space."

06 Do you believe this statement?

07 A BY DR. CHAPMAN: I don't think it's remarkable.

08 Q I think you also stated somewhere in your
09 testimony that heavy fishing pressure or overfishing
10 pressure in many of the eastern streams, it's typical
11 for streams in this area; is that correct?

12 A Yes.

13 Q And you compared the fishing success or the
14 availability of catchable fish, I'm assuming that's
15 your angling success, to other streams in the eastern
16 Sierras; is that correct?

17 A Yes.

18 Q And what was your conclusion from those? How does
19 Rush Creek compare to these other streams?

20 A I compared them not with respect to the catch rate
21 but with respect to biomass, and I concluded that the
22 biomasses at Rush Creek were fluctuating at levels
23 similar to other eastern Sierra streams.

24 Q In biomasses, is that strictly related to fin fish
25 or to biomasses of other mollusks, crustaceans,

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01 invertebrates?

02 A Fin fish.

03 Q Fin fish? Okay.

04 You related some of your fishing experience in
05 1939, '40, and '41 as catching a small number of fish,
06 as I recollect. Is that true?

07 A Yes.

08 Q Was the construction of Grant Lake in progress at
09 that time?

10 A I didn't mean to imply that I caught the small
11 fish in Rush Creek. I fish in Rush Creek, but I was
12 one of the 43 percent of anglers reported in '47-51. I
13 was in -- would have been in that group in '39-40. I
14 didn't catch a thing out of Rush Creek.

15 Q I'm not sure how to respond to that one.

16 (Laughter.)

17 MR. DODGE: Reminds me of a good joke I can tell

18 at the break.

19 HEARING OFFICER del PIERO: Reminded me of a
20 couple, too, but we won't right now.

21 (Laughter.)

22 Q BY MR. HERRERA: I wanted to discuss a little bit the
23 operations, the A, B, and C ditches in which you
24 depicted the various maximum capacities of those
25 ditches being sizeable in some cases, and you sort of

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01 indicated that those were alternately used or as
02 livestock was moved around or the needs of the pastures
03 or whatever they were irrigating, that changed.

04 Is there -- do you have any knowledge whether or
05 not those were all used at the same time, at the
06 maximum rates, were they continually used at maximum
07 rates? What sort of operations do you have knowledge
08 of with those ditches?

09 A BY DR. PLATTS: We did have flow data on the A, B,
10 and C ditches, and it's been quite a long time since
11 I've seen those. But there were -- there were
12 fluctuations in those ditches as it was demanded for
13 irrigation depending on whether storms come through or
14 whether we're in the real dry situation or early spring
15 or late spring. In other words, there were
16 fluctuations in the water released into the ditches.

17 Q So I guess what you're saying is that they weren't
18 necessarily all operated at maximum rates continuously
19 during irrigation season?

20 A That's correct.

21 A BY DR. CHAPMAN: Part of that would depend on how
22 much water was in the stream and available.

23 Q In your testimony on Page 17, in your conclusion
24 section, you indicated that, "Riparian vegetation
25 reproduction and growth is now excessive and rapid in

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01 the evaluation reach of Rush Creek." How long has the
02 grazing been restricted in this portion of the stream?

03 A BY DR. PLATTS: I believe it was released from
04 grazing in 1991, so we would be in the -- I think --
05 we'd be about in the second or third year of release.

06 Q In making the statement that the growth is
07 excessive and rapid in that stretch, would you
08 attribute that to the lack of grazing on those lands?
09 What would you attribute that rapid recovery or rapid
10 growth?

11 A I would attribute that to the rewatering of these
12 streams and a continuous dependable supply of water and
13 also the release of livestock grazing. Because the
14 year after livestock had taken off, we had a tremendous
15 increase in not only the production and biomass of
16 vegetation, but also in the number of seedlings being
17 produced.

18 Q Of the factors you just outlined, which one of
19 those would you consider to be the most significant
20 factor?

21 A The release of water.

22 MR. HERRERA: Thank you, Gentlemen. That
23 concludes my questions.

24 HEARING OFFICER del PIERO: Mr. Smith?

25 Q BY MR. SMITH: I only have one question.

01 And correct me if I'm wrong, you were speaking of
02 doctor -- Mr. Vestal's paper, and you referred to the
03 fact that the springs were about 17. And you assumed
04 that the springs in the thirties pre-diversion would be
05 about the same?

06 A BY DR. CHAPMAN: I must have misspoken. There's one
07 measurement available in which the flow of Rush Creek
08 was measured near the Narrows and the flow of Rush
09 Creek was measured below the input of springs, and that
10 was in late February of 1947, if I remember correctly.
11 So that would be a winter measurement, and it is my
12 understanding that the flows in the bottom lands were
13 higher in the summer, partly because of irrigation and
14 irrigation leakage and perhaps because the springs did
15 fluctuate to some degree. So spring flow would have
16 been greater than that in the summer.

17 Q And over this period of 1947 through '51, the
18 springs started to decline?

19 A Started to decline, that's correct, as L.A.
20 increased its diversions, I believe, in '47.

21 MR. SMITH: Okay. Thank you.

22 HEARING OFFICER del PIERO: Mr. Sat-Kowski?

23 Q BY MR. SAT-KOWSKI: Yes. I just have one area of
24 concern, and that is with Table A of your exhibit.

25 In Table A you mentioned the word -- the word

01 "year" is listed on there. Is this runoff year,
02 calendar year, or water year?

03 A BY DR. CHAPMAN: I was afraid somebody'd ask that.
04 We had thought it was calendar year, but as someone
05 cross-examining us pointed out, there may be a problem
06 with that. It may be water year.

07 A BY DR. PLATTS: I'm pretty embarrassed. I can't tell
08 you which way it is right now. I'd have to go back and
09 look at the data sheets.

10 Q Could you let us know?

11 A Sure, yes.

12 Q Also, I think Mr. Roos-Collins asked if this
13 information was available somewhere in your exhibits,
14 and I believe you stated that you do not know if it was
15 or not. If it is not in your exhibits or somebody
16 else's exhibits, could you please provide this to us --
17 provide us the daily flows?

18 A BY DR. CHAPMAN: I think Dr. Platts should tell you
19 where he got the flow records and how they were
20 gotten.

21 A BY DR. PLATTS: I obtained the daily flow records
22 from files of L.A. Department of Water and Power, and
23 these flow records are still in these files. I would
24 imagine they'd be available to anybody.

25 MR. BIRMINGHAM: Upon the request of

01 Mr. Sat-Kowski, we will make those flow records
02 available to the Department and the Board Staff.

03 HEARING OFFICER del PIERO: Fine.

04 MR. SAT-KOWSKI: Thank you.

05 HEARING OFFICER del PIERO: And, Dr. Platts,
06 you'll get back to Staff in terms of the answer to the

07 question as to the type of year?
08 DR. PLATTS: Yes, we will.
09 HEARING OFFICER del PIERO: Good. You just
10 respond direct to Mr. Sat-Kowski. He'll notify us when
11 that is done.
12 Mr. Canaday?
13 Q BY MR. CANADAY: Thank you.
14 I'll ask the question and, Dr. Platts or
15 Dr. Chapman, whenever one wants to answer the
16 question.
17 In your testimony, you described the fishery of
18 Rush Creek as poor to mediocre in 1941 or shortly
19 before 1941. How would you describe that fishery
20 today?
21 A BY DR. CHAPMAN: It's poor to fair.
22 Q Poor to fair.
23 A You're speaking now of wild fish?
24 Q Yes, Sir. We're being asked to consider several
25 important questions as it relates to fisheries. One,

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01 according to the Fish and Game Code 5937 which says,
02 "The essence is maintaining fish and good condition,"
03 and then an additional caveat to that, this was from a
04 Court's direction, was that we are to -- "The goal is
05 to maintain the conditions that benefited the fishery
06 prior to 1941."
07 MR. BIRMINGHAM: Excuse me, Mr. del Piero, but I'm
08 going to object on the grounds that the question lacks
09 foundation. I don't believe that this Board is under
10 any direction from any court with respect to
11 reestablishing conditions that benefited the fishery in
12 1941. The only direction that has been given to this
13 Board has been given to it by the Third District Court
14 of Appeal in Cal Trout II and Cal Trout I, and I don't
15 believe there's any reference in either of those
16 decisions to maintaining or restoring conditions which
17 benefited the fishery in 1941.
18 MR. DODGE: We believe that that's exactly what
19 Cal Trout II requires, Mr. del Piero. I think there is
20 foundation for the question, and I think that this
21 Board is obligated to follow Cal Trout II.
22 MR. BIRMINGHAM: The only reference in any
23 judicial document to reestablishing and maintaining
24 conditions which benefited the fishery is set forth in
25 the El Dorado County Superior Court's interim stream

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01 flow order, which is not directed at this Board.
02 MR. THOMAS: Mr. del Piero, Cal Trout agrees with
03 Mr. Dodge that reestablishment of conditions is within
04 the mandate of Cal Trout II. Nonetheless, I would
05 suggest that that is legal argument not to be resolved
06 here in the course of Mr. Canaday's question. Perhaps
07 if Mr. Canaday assumed that mandate, then the question
08 would be asked properly.
09 MR. FRINK: Mr. del Piero, I think I might be able
10 to shed a little bit of light on it.
11 HEARING OFFICER del PIERO: Actually, Gentlemen,
12 I'm doing my best to ignore all of you because I have
13 Cal Trout II here in front of me.

14 MR. FRINK: If you have the copy --
15 HEARING OFFICER del PIERO: Pardon me, Mr. Frink,
16 I'll ignore you equally.
17 (Laughter.)
18 MR. FRINK: What the Court of Appeal directed the
19 Board to do and what the Board has done is amend the
20 licenses of the City of Los Angeles to include the
21 following language. "In accordance with the
22 requirements of Fish and Game Code Section 5946, this
23 license is conditioned upon full compliance with
24 Section 5937 of the Fish and Game Code. The licensee
25 shall release sufficient water into the streams from

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01 its dams to reestablish and maintain the fisheries
02 which existed in them prior to its diversion of water."

03 So that, at this stage, is the direction we have
04 from the courts. The Superior Court in El Dorado
05 County has interpreted that a little further, but I
06 think that the language that the Court of Appeal has
07 given us does refer to the fisheries which existed
08 prior to the diversion of water by the City of Los
09 Angeles.

10 HEARING OFFICER del PIERO: The administrative
11 regulations regulating the presentation of evidence
12 before a hearing of the State Water Resources Control
13 Board encourage the presentation of information to the
14 greatest extent possible so as to afford the Board the
15 maximum opportunity to be able to evaluate factual
16 evidence in rendering a decision.

17 Additionally, the administrative regulations do
18 not demand that this Board adhere strictly to the Code
19 of Evidence in terms of admitting evidence into the
20 record.

21 I'm going to direct the witnesses to answer the
22 question, recognizing -- and if he didn't, he will,
23 recognizing that Mr. Canaday is asking you to assume
24 that standard that he outlined.

25 DR. CHAPMAN: I don't think the question was

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01 finished.

02 HEARING OFFICER del PIERO: Mr. Canaday, why don't
03 you restate your question?

04 Q BY MR. CANADAY: There has been so much argument, I
05 almost forgot what my question was.

06 Let's assume that besides the responsibility of
07 determining in a flow regime that maintains fish in
08 good condition that we also are required to consider
09 the conditions that benefited the fisheries prior to
10 1941. Based on your testimony then, the conditions
11 that we would be asked to maintain would be a condition
12 of a poor fishery, mediocre to poor fishery; is that
13 correct?

14 A BY DR. CHAPMAN: Strictly speaking, yes.

15 Q In other words, a stream -- the stream courses
16 that you have described are streams in a degraded
17 condition prior to 1941?

18 A Yes.

19 Q And if we met that particular standard for getting
20 the first, maintaining the fish in good condition, we

21 would not be in compliance with the first condition,
22 maintaining fish in good condition.
23 A Well, one can maintain fish in good condition.
24 The fish that are there now are in good condition
25 physically.

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01 Q I'm talking about the standard in 1941?
02 MR. BIRMINGHAM: I'm going to object to the
03 question, Mr. Caffrey, on the grounds that it's
04 ambiguous.
05 HEARING OFFICER del PIERO: Actually, it's
06 Mr. del Piero, but I'll overrule the objection. It's
07 not ambiguous. He indicated what he wanted you to
08 assume and that's again what he repeated.
09 DR. CHAPMAN: I think -- may I -- my
10 interpretation of what you asked me was to maintain the
11 fish in good condition. That's what you said.
12 Q BY MR. CANADAY: The assumption is we have two
13 standards; one described by Fish and Game Code 5937,
14 one that we're assuming was described by a court
15 decision that says, "We maintain the fisheries that
16 existed prior to diversions by Los Angeles."
17 Your testimony describes a fishery that is
18 mediocre to poor. So in a sense, that would be the
19 standard under which we were being held is to main --
20 is to maintain those conditions that maintained the
21 fisheries that was mediocre to poor. Is that correct?
22 A BY DR. CHAPMAN: Yes. You already have that
23 condition.
24 Q Existing today, you're saying we have that
25 condition?

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01 A Yes. We can do better. We can get it past poor
02 to mediocre as the functional characteristics of the
03 rivering riparian habitat develop and that would be a
04 subject area for Dr. Bishop.
05 Q Well, let's assume, though, that Mr. Birmingham
06 was correct, and I only have to be concerned about 5937
07 today. What do we need to do on that stream that's
08 degraded to maintain fish in good condition?
09 A To maintain fish in good condition, we don't have
10 to do anything. The fish are already in good
11 condition. The fishery, if you -- you mean -- by "fish
12 in good condition," I mean body conformation, weight in
13 relation to length.
14 Q A fishery in good condition.
15 A A fishery in good condition. And that has two
16 meanings to me, also; one is fishing, and the other is
17 the population and its characteristics.
18 Q Let's talk about the population and its
19 characteristics.
20 A The population and its characteristics, in my
21 view, is already, for wild fish, better than it was in
22 1940-41 because the habitat above the Narrows has been
23 markedly improved and because the water availability is
24 now there and is rapidly developing into a better
25 condition than it is at present.

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01 Q Understand my quandry. I'm a Staff with an agency

02 that's being asked to render a decision, and I'm
03 looking for conditions that we can apply and permit,
04 since we're modifying the permits or the licenses in
05 the city of Los Angeles, that are measurable that I
06 could determine whether the fishery is in good
07 condition and at the same time determine whether the
08 fish were in good condition.

09 What would you recommend that I consider?

10 A BY DR. PLATTS: I would recommend that you consider
11 that -- what we need in Rush and Levining are good and
12 productive streams and that requires good productive
13 habitat. Levining and Rush Creek are in the process of
14 developing good productive habitat, and they will over
15 time. The mechanisms are already in place and
16 operating. The functions are developing.

17 And I would hope that your goal and objective
18 would be to make Rush and Levining Creek streams that
19 are worthy of being pursued by fishermen, not so much
20 based on whether they're -- the fish are in good
21 condition because they're already in good condition, or
22 what benefited fishery in 1941 because I feel Rush
23 Creek has already surpassed that. I think your
24 direction should be to make Rush and Levining Creek
25 even better streams than those two dictate.

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01 Q And how -- what specific conditions would we try
02 to -- other than add water, remove sheep, what else
03 could we do?

04 A The mechanisms have already been put into place,
05 and that is the addition of water. The livestock have
06 been removed. The functioning processes developed.
07 Right now, I think the most important thing that can be
08 done is to apply the best water flow management
09 possible in Rush and Levining Creek, and that, to me,
10 is really the only alternative you have of bringing
11 those streams back. And it's the only alternative that
12 Rush and Levining need to again be a productive
13 fishery.

14 A BY DR. CHAPMAN: You don't need to jump start these
15 systems with lots of instream manipulation. That's
16 what it boils down to. If you leave the streams alone
17 and provide a flow regime based on testimony of folks
18 that are going to be talking here, including Dr. Vesta,
19 I think you'll have done your duty, so to speak.

20 A BY DR. PLATTS: I think remarkably you've already
21 done your duty, and I would hope it carries forward.

22 Q A question on the kind of fishery we have. Have
23 you read the testimony of Dr. Moorehart, reviewed his
24 testimony?

25 A BY DR. CHAPMAN: I've read it.

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01 Q In his -- on Page 72, Mr. Moorehart talks about
02 numbers of large trout versus flow, and he makes two
03 summary statements. And I'll refer you to the second
04 summary statement. It says that, "Rush Creek had, on
05 average, more than twice as many fish, twice as many of
06 those large trout than did other streams in the eastern
07 Sierra Nevada."

08 Now, if he's referring to recent studies, I'm
09 wondering how that fits into your description of Rush

10 and Levining Creek as being a poor productive stream.
11 A It fits in very well. He's saying it was
12 producing as many large trout as could reasonably be
13 expected from a natural stream at any flow regime.
14 He's talking here. I'm putting words in his mouth, but
15 I would say about eastern Sierra streams which have --
16 tend to have a conductivity that had the median under
17 100 and in which we have general hydrographs similar to
18 those of the Rush Creek-Levining area under natural
19 circumstances. I think it fits.
20 Q Then I would refer you, then, to Page 74 of this
21 testimony, which -- the example he's using is flow
22 versus number of fish greater than 200 millimeters per
23 mile, but nevertheless, there's a statement in his
24 description below that particular graph that says, "It
25 also shows that there were twice as many -- there were 0

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01 more than twice as many fish of this size in the
02 samples from Rush Creek than in samples from other
03 eastern Sierra creeks. To me that Rush Creek is at
04 least -- I won't say twice as good, but in these
05 particular samples that we've taken, that Rush Creek
06 was of a better fishery, producing fish, than the
07 typical eastern Sierra stream.

08 A One thing I think is going on here in Rush Creek
09 that is not happening in other eastern Sierra streams
10 that are similar in characteristics. One of those is
11 that the information network, it is my understanding,
12 has not reached the general angling public that Rush
13 Creek is now fishable. There's water in the stream,
14 that it is now a place where you can go and expect to
15 have a reasonable angling experience. And by
16 "reasonable," I mean similar to the other eastern
17 Sierra streams.

18 So I think that perhaps we have some effect of
19 that on the size of fish because, clearly, when you're
20 not cropping a stream as much as you might, there is
21 some addendum to the larger fish.

22 It is better than Levining Creek. It is better,
23 as I recall, than Bishop Creek, in respect of biomass,
24 for example. So I guess I would say in summary that
25 all this does is support what Dr. Platts said in saying

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01 we're already there if we want to compare it to the
02 pre-'41 condition.

03 Q But this doesn't suggest to you that besides some
04 angler mortality, we've established that -- are brown
05 trout easier to catch than rainbow trout?

06 A No.

07 Q And this graph refers to brown trout. So those
08 streams -- do you know if those streams are planted or
09 not by the Department of Fish and Game?

10 A I don't.

11 Q But on face value you would suggest that there was
12 something there besides -- besides the loss of
13 individuals from the population due to angling harvest,
14 that Rush Creek is at least as productive as these
15 streams, typical streams of the eastern Sierra?

16 A On the face of these data, the answer would be

17 yes.
18 Q What would -- would you, Dr. Platts, how would you
19 characterize the channel morphology of your particular
20 reach in 1941 versus today?
21 A BY DR. PLATTS: I would say that if you ignored or
22 eliminated the water column of flow mechanisms, that
23 the channel was better in 1941 than it is today.
24 Q What about below your reach? The channel
25 morphology in 1941 versus today?

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01 A I would say that it would be better.
02 Q In today?
03 A No. In 1941 than it is today.
04 Q In a lot of your published articles you talk about
05 the linkage of the various elements, and so, therefore,
06 it's important that we relink this riparian community
07 that has been in a sense separated from the stream
08 courses from the activity of grazing and the
09 activity -- or the loss of surface flows and channel
10 building activity of the streams; is that correct?
11 A That's correct.
12 Q Do you believe that the -- are you aware that
13 there are or there is a gravel operation in your
14 particular study reach at this time?
15 A Yes. I'm aware of that.
16 Q Do you believe that that current activity affects
17 the ability to support a good fishery below the Narrows
18 in the bottom lands?
19 A I think past activities have influenced the
20 fishery causing degradation. I don't know about future
21 practices because I don't know how they're going to
22 operate. Some of the past practices have been
23 detrimental.
24 Q Earlier you said removing the livestock grazing in
25 Levining and Rush Creek was an important step, the

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01 second most important step in your opinion.
02 A Beyond that -- adding water was first and
03 livestock was second. That is correct.
04 Q Is it your recommendation that we or that L.A.
05 remove all future grazing within those corridors?
06 A It's been my recommendation to L.A. Department of
07 Water and Power that no livestock graze any of the
08 bottom lands on either Levining or Rush Creek until
09 those lands demonstrate that they're capable of again
10 taking grazing. It is possible to graze riparian
11 systems without damage under good proper management.
12 Q That would be some time?
13 A It's going to be quite awhile before it's ready
14 for that.
15 Q Under your scenario of allowing these linkages to
16 form naturally, what kind of time frames are we talking
17 about?
18 A This again depends upon the different reaches of
19 Rush Creek because we do have different --
20 Q Let's talk about the reach you're most familiar
21 with.
22 A Yes. We're -- it's -- the reach, and I -- the
23 reach, of course, we're most familiar with is the

24 evaluation reach, the one we've really worked on. The
25 linkages are already forming. The vegetation is coming

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01 back, but it took a century to put that stream in the
02 condition that it's in, and it's not going to come
03 booming back. And it's my feeling, and I believe this
04 because I've seen it on some other streams, that with
05 the -- even with the small amount of mechanical
06 manipulation that we have already done to that stream
07 in digging artificial pools or dumping truckloads of
08 artificial gravel, we are setting back the process of
09 that stream of recuperating, that it's going to take
10 awhile for Rush Creek to come back.

11 It's already a fairly decent fishery, but it's
12 going to take some time. And it's going to take some
13 patience on everybody to allow Rush Creek to rebuild
14 itself. And it will rebuild itself because I have seen
15 those types rebuild themselves over time, but it's --
16 it's not going to be a magic, long -- you know, not
17 going to be a magic procedure that we walk out there
18 next year and everything is right back to normal. It's
19 going to take time for Rush Creek to rebuild itself,
20 but it will do that.

21 Q Would you advocate opening up some of these --
22 particularly in the bottom lands, some of the channels
23 that are in, still, pretty good shape and rewatering
24 those on a perennial basis?

25 A Yes, I would if they're very easy to reopen. I

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01 would definitely not like to see large, big, heavy
02 equipment running around in the Rush Creek bottoms
03 carrying all types of materials out trying to dump them
04 here and dump them there because that's been a lot of
05 our problem in the past. I would like to see those
06 that are easily -- but I would not like to see too many
07 because when you split the flow of Rush Creek, then you
08 start to take away the capability of the main channel
09 that you're working with. I would like to see it well
10 programmed, well patterned, and if we've got the
11 patience, Rush Creek is going to do this anyway.

12 Q So if there were six or seven channels, you would
13 like to see it prorated over time as you opened those
14 up rather than --

15 A Not all at once, no.

16 Q That's what I'm saying, rather than opening them
17 all at one time?

18 A When the stream is ready for it, and in time it
19 will do this itself. But if some of them are easily
20 done and there can be some assistance without getting
21 into the high mechanism deal, then I think we ought to
22 do it. We out to do some of that. But we've got to be
23 very careful we don't take away from the habitat
24 capability of the main part of the stream in doing

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this.ô

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01 MR. CANADAY: That's all I have.

02 CROSS-EXAMINATION BY THE BOARD

03 Q BY HEARING OFFICER del PIERO: I've got two, maybe
04 three questions.

05 Dr. Chapman, during the course of your review of
06 your formal presentation, you indicated that -- and I
07 believe this is a correct statement. I hope it is,
08 and you may want to grab your testimony so you've got
09 it handy. I believe you stated that the decline of the
10 springs had little, if anything, to do with brown trout
11 decline. Is that a fair representation?

12 A BY DR. CHAPMAN: That's correct, Sir.

13 Q Based -- how did you arrive at that conclusion?

14 A I examined the numbers of wild trout caught over
15 the five years of the Vestal study from 1947 to 1951
16 and observed no significant decline in numbers over
17 that period as the spring flow -- as the diversions
18 occurred and the springs became less in flow and as the
19 main thread flow declined in Rush Creek. Flow declined
20 markedly as the irrigation backed off and the
21 diversions increased, and the numbers of brown trout
22 caught did not decline nor did the catch per hour
23 decline for wild trout.

24 Q Okay.

25 A In other words, I just have to infer from that

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01 that the springs did not have an important effect on
02 the brown trout, wild brown trout population before
03 1941.

04 Q That's the only bit of evidence you have to reach
05 that assumption?

06 A Yes.

07 Q Okay. You indicated in -- pardon me. Were any
08 fish planted in the thirties?

09 A Yes.

10 Q Regularly?

11 A Not regularly. I would say irregularly and of
12 various species.

13 Q Brown as opposed to rainbow as opposed to golden?

14 A There were --

15 Q Were golden ever planted?

16 A Cut throat. There may have been some eastern
17 brook trout, and there were some small browns planted.

18 Q Given the degree of -- the chart's not up there
19 now, but given the degree of less than 1 cfs flows
20 during several years, and I'm -- we need to assume that
21 what I'm talking about is the area of the stream that
22 you evaluated, is it reasonable to assume that given
23 that degree of interruption in terms of flow that any
24 fish, whether they were planted or native, survived
25 those interruptions of flows?

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01 A Oh, I think it's reasonable to assume that some
02 did.

03 Q In that stretch of stream that you evaluated?

04 A Yes.

05 Q How did you reach that conclusion if there were
06 that many days of zero flow?

07 A I think there was a --

08 Q Given the high temperatures that you've testified
09 to?

10 A I said there was one temperature of 75 degrees.

11 Q That's a particularly high temperature. It's not
12 been my experience and, obviously, my experience is

13 far, far less than yours, but it's not been my
14 experience that rainbow trout do very well in 75 degree
15 temperatures. I do okay in swimming pools like that,
16 but --
17 A The lethal temperature is higher than that.
18 Q But they don't do well.
19 A They don't do well, but we've got to remember that
20 Smith and Neidham were probably not out there in the
21 evening checking the temperature. They were out there
22 in the middle of the working day. That's a
23 supposition, of course, but most fishery biologists
24 don't like to work at night, either. And I suspect
25 they were out there in the middle of the day, so they ô

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01 got a high temperature. And there were undoubtedly
02 fluctuations in that stretch of stream that would
03 permit fish to manage in spite of the fact that the
04 temperature was 75 degrees at the peak.
05 I think it would be a mistake. We do not intend
06 to say that no fish survived in that reach. I think
07 that with an unproductive stretch of stream, partly
08 because that so-called inter-tidal zone of the
09 substrate was dewatered regularly, and therefore was
10 impoverished of aquatic insects. I think that there
11 was a lot of predation-related mortality in the
12 isolated pools when the fish were confined, but I
13 wouldn't want to say that no fish survive. I don't
14 think that would be the case at all.
15 Q I just want to get this straight because given the
16 number of days of less than 1 cfs flow, given the
17 temperature to which you've testified, and given the
18 length of time that that condition predominated based
19 on the charts that you presented as evidence over five
20 or six years, it's your representation that some trout
21 survived.
22 How deep -- how deep does less than 1 cfs run in
23 the main creek channel?
24 A Some of the pools -- there's the photograph in
25 both our -- I think in our testimony I think it's No.

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01 6, that shows the stream at extremely low flow in the
02 area above Highway 395.
03 Q It looks like it's more than -- I think I know
04 which one you're talking about. It looks like it's
05 more than 1 cfs. I just -- just so you know, I know a
06 little bit about what 1 cfs looks like because I'm a
07 hearing officer on a small hearing going on down in
08 Southern California called Big Bear Creek, and that's
09 exactly -- Mr. Stubchaer and I are down there, and
10 that's why when we asked these questions a few days
11 ago, we know exactly what 1 cfs looks like because
12 we've been dealing with it for the last month.
13 A I wish I had your facility. My ability to tell
14 three-quarters of a cfs from 2 cfs is not very good.
15 Q I've had extensive opportunities to be educated by
16 several water rights attorneys as to what 1 cfs looks
17 like.
18 A But 1 cfs --
19 Q They've all described themselves as experts, so

20 I've got to believe them.
21 A 1 cfs is not uniformly in the stream spread over,
22 say, 15 feet of stream width in all parts of the
23 stream. There may be --
24 Q My question is just in the main channel.
25 A There may be isolated pools that have no flow in

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01 between pools and yet have some groundwater passing
02 through the intervening riffle and have water cool
03 enough to support fish, and where the pool is a couple
04 of feet deep and there's a little cover in it, fish can
05 make it in those places.
06 Q How long can they make it in those places if
07 you've got temperatures going 75 degrees regularly?
08 A For example, I know of streams of that type where
09 juvenile salmon last for five months at a stretch.
10 Q How about adult rainbow trout that have been
11 planted?
12 A Adult rainbow trout that are planted aren't going
13 to last very long in any case.
14 Q And how about native brown?
15 A Native brown trout are going to do better at
16 withstanding difficult conditions like this.
17 Q In a pool of two feet?
18 A Yes, Sir, if it's got cover. There's --
19 Q At a temperature of 75 degrees?
20 A Well, again, the temperature didn't stay at 75
21 degrees all the time.
22 Q Granted.
23 A And brown trout are better at coping, a little
24 better at coping with high temperature, at least the
25 literature tells us that, a little better at coping

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01 with high temperature on average than are rainbow, but
02 I just can't agree that we necessarily lost everything
03 in those years.
04 The one year when we had 365 days, which is in
05 some contention, a 365-day situation, we may have had
06 virtually a complete loss out there.
07 Q It was my sense that given -- given the evidence
08 that -- the charges you put out there -- be that as it
09 may.
10 Can you -- I'm sure this came out of historical
11 references, but can you describe for me, either of you
12 gentlemen, can you describe for me how anyone is
13 capable of applying 45 acre-feet of water per acre to
14 any piece of ground?
15 A That's the Pumice Valley.
16 Q And not going into the fish farm business.
17 A That's the Pumice Valley.
18 Q I understand the Pumice Valley, but still,
19 nonetheless, 45 -- how was that amount of water
20 possible to be delivered to an acre-foot of land in
21 those days without significantly enhanced pumping
22 capabilities?
23 A Gravity. And I defer that question to my ex-water
24 Resources Board director. Maybe he can --
25 Q Dr. Platts, you're in it now.

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01 A BY DR. PLATTS: Okay. I'm on the hot seat.
02 I don't know how accurate that figure is. We only
03 quoted somebody as stating that.
04 Q I figured that. I didn't know if it was a
05 historical reference or if you had some specific
06 evidence.
07 A The highest I've ever gone out and looked at where
08 they were putting water on was 25 acre-feet per acre.
09 HEARING OFFICER del PIERO: That's all I have.
10 Recross -- I mean redirect. I'm sorry.
11 MR. BIRMINGHAM: Would it be convenient to take a
12 recess before I start my redirect?
13 HEARING OFFICER del PIERO: I was planning on --
14 MR. BIRMINGHAM: Okay. I'll go forward.
15 HEARING OFFICER del PIERO: We'll take a break.
16 It's most convenient now. We'll be back at about 3:05.
17 (Whereupon a recess was taken.)
18 HEARING OFFICER del PIERO: Ladies and Gentlemen,
19 this hearing will again come to order. Everyone's been
20 watered or coffee or something. We're going to begin
21 again.
22 Mr. Birmingham?
23 MR. BIRMINGHAM: Thank you very much.
24 HEARING OFFICER del PIERO: Redirect, Sir.
25 MR. BIRMINGHAM: First, Mr. del Piero, this

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01 morning we were referring to a photograph which I said
02 would be reproduced and marked as L.A. DWP 1-A, and it
03 is a photograph of Rush Creek. Dr. Chapman, I believe,
04 said he thought that the photograph was taken in 1947.
05 In fact, we have checked the records of the El Dorado
06 County Superior Court, and what will be marked as L.A.
07 DWP 1-A is a photograph that was admitted into the
08 proceedings of the Mono Lake water rights coordinated
09 proceedings, No. 2284, on May 1, 1990, as Plaintiff's
10 Exhibit 3-C and from a declaration admitted into
11 evidence on the same date. This is the declaration of
12 Janice Sheldon who declared that the declarant was a
13 professional photographer asked to photograph the
14 records of -- in the County of Sonoma proceeding, City
15 of Los Angeles versus Aiken, No. 5092, and L.A. DWP
16 Exhibit 1-A is identified on a list of defendants'
17 exhibits as Exhibit G-3 -- I'm sorry, as part of a
18 group of photographs marked Exhibit G-3 taken by Leland
19 M. Ford in March 1934 on the Clover property.
20 And the photograph which will be marked L.A. DWP
21 1-A was admitted into the El Dorado County proceedings
22 on the motion of Mr. Flinn.
23 MR. FLINN: I was young and foolish in those days,
24 your Honor.
25 MR. DODGE: We'll stipulate to the admission of

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01 the photograph and to Mr. Flinn's statement about
02 himself.
03 (Laughter.)
04 HEARING OFFICER del PIERO: Thank you, Mr. Dodge.
05 MR. DODGE: So long as I get a copy.
06 HEARING OFFICER del PIERO: A copy of the
07 photograph or the admission by Mr. Flynn?

08 MR. DODGE: I'm sure the Court Reporter will
09 provide me with a copy of the admission. What I need
10 is the photograph.

11 MR. BIRMINGHAM: With the Hearing Officer's
12 permission, we will take the photo with us and have it
13 reproduced and provide a copy to everyone including
14 State Board Staff.

15 HEARING OFFICER del PIERO: That's fine and so
16 directed.

17 MR. BIRMINGHAM: Thank you very much.

18 REDIRECT EXAMINATION BY MR. BIRMINGHAM

19 Q With that foundation, Dr. Chapman, first let me
20 ask you, do you know where the Clover property was
21 located on Rush Creek?

22 A BY DR. CHAPMAN: On Lower Rush Creek.

23 Q When you say "Lower Rush Creek," what part of Rush
24 Creek are you referring to?

25 A Below the Narrows.

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01 Q I'd like to start first, if I may, on my redirect,
02 these questions are directed to either of you, with a
03 follow-up of questions that were asked by State Board
04 Staff and by the Hearing Officer.

05 Is there a distinction between a fish and a
06 fishery?

07 A Yes.

08 Q What is the distinction?

09 A A fish is a cold water vertebrate animal and the
10 condition in that -- well, you didn't ask me that.

11 A fishery can be one of two things. It can be
12 meant as referring to the quality of fishing in a
13 fishing area or the quantity of fishing in an area, or
14 it can refer to the characteristics of the stock of
15 fish in a stream or lake or the ocean.

16 Q Now, I think during your testimony, you said a
17 number of times that the fishery in Rush Creek in 1941
18 was a poor to mediocre fishery. Is that correct?

19 A Yes.

20 Q Compared to what?

21 A I think that I must admit I am probably biased by
22 my fishing and research and management experiences in
23 Idaho and Oregon and Alaska and various parts of
24 British Columbia. So relative to my experience, the
25 frequency of catching fish and the size of fish in Rush

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01 Creek in the pre-diversion period and its surrogate,
02 the '47-51 period, is pitiful indeed.

03 Q I believe you have my copy of L.A. DWP exhibit --
04 excuse me, Exhibit 4. If I may take that one moment.

05 And L.A. DWP Exhibit 4 is the 1954 report of Elden
06 Vestal which we've heard so much about today and
07 earlier in the proceedings. I'd like to ask you some
08 questions about this report.

09 It's your understanding, isn't it, that L.A. DWP
10 Exhibit 4 was a paper prepared by Elden Vestal to
11 report the results of a study conducted on Rush Creek.
12 Is that correct?

13 A On Lower Rush Creek.

14 Q And that study was conducted during the period of
15 1947 to '51?

16 A Yes.
17 Q There are many conclusions that Mr. Vestal reaches
18 in his -- or that are reported in L.A. DWP Exhibit 4;
19 is that correct?
20 A Yes.
21 Q Are those conclusions conclusions on which you
22 relied in forming your opinion that the fishery in Rush
23 Creek, Lower Rush Creek in 1941 was a poor to mediocre
24 fishery?
25 A Yes, together with his tabulated
data.Ô

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01 Q I'd like to ask you to refer to Page 101 on L.A.
02 DWP Exhibit 4, and there's a paragraph that is headed
03 Angling Intensity and Angling Success. And I'll read
04 from that, if I may. It states, "During the five
05 seasons of this census period, each mile of the test
06 stream supported an average of 10 anglers and 35
07 angling hours per day. Average catch per angler was
08 0.56 trout per hour and 2.0 trout per day. 43 percent
09 of all anglers caught nothing despite the heavy plants
10 of catchable trout. Thus, most anglers still had only
11 poor to fair fishing."
12 When Mr. Vestal says, "Most anglers still had only
13 fair to poor fishing," does that lead you to conclude
14 that had there been no planting, all anglers would have
15 had only poor to fair fishing?
16 A I can't say "all anglers" because the spectrum of
17 anglers goes from very good to very poor or naive
18 anglers, and a few anglers may have done better. But
19 all of them may not have had good fishing, but the
20 average would.
21 Q The conclusion that I just read, "Most anglers
22 still had only poor to fair fishing," was that a
23 conclusion on which you relied in basing opinions that
24 you've expressed concerning the quality of the fishery
25 in pre-diversion in Rush Creek?

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01 A Yes, along with his tabulated data.
02 Q Now, I imagine that the argument would be made,
03 but of course, during the period, flows were
04 decreasing. But on Page 102, does Mr. Vestal reach the
05 following conclusion? "Angling success as measured by
06 catch per day and catch per hour varied somewhat from
07 year to year, paren, Table 5, end paren, apparently
08 with any -- with little correlation with the size of
09 the plant, the number of anglers, or decreasing stream
10 flow"? Is that one of the conclusions that he reaches?
11 A Yes.
12 Q Now, is that part of the -- the basis of your
13 opinion that the reduction in flows had little effect
14 on the fishery?
15 A Yes.
16 Q Now, Ms. Cahill asked you this morning some
17 questions which compared the productivity of the
18 fishery in the evaluation reach with the fishery in
19 which she termed the bottom lands prior to DWP's
20 diversions. Do you recall those questions?
21 A Yes.
22 Q Now, first, specifically, what was the evaluation

23 reach?
24 A The evaluation reach to which we refer in our
25 written testimony is a section from Grant Lake to

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01 Parker Creek.
02 Q Now, isn't it correct that in preparing your
03 testimony, you actually evaluated the fishery in the
04 entire length of stream from Old Grant Lake Dam to Mono
05 Lake?
06 A Yes.
07 Q Now, in your opinion, was the fishery in that
08 portion of Rush Creek in the bottom lands below the
09 Narrows a productive fishery in 1941?
10 A No.
11 Q Why not?
12 A Because it was subsidized so heavily by inputs
13 from a hatchery outside the system. I used the word
14 "productivity" and "production" in the sense of
15 productivity within the system. So the productivity of
16 the system was very poor. The catch was better than it
17 would have been absent hatchery planting because of --
18 Q Now, in Mr. Vestal's 1954 report, L.A. DWP Exhibit
19 4, he states the conclusion, and this is on Page 97,
20 "The excellent yields obtained at Rush Creek
21 demonstrate conclusively the value of in-season spaced
22 plantings of catchable trout for maintaining reasonably
23 good angling in a small heavily-fished stream. It is
24 doubtful that satisfactory fishing can be maintained in
25 such waters or any great number of anglers by any other

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01 method."
02 Was that one of the conclusions on which you
03 relied in determining that the pre-1941 fishery was --
04 below the bottom lands was not a productive fishery?
05 A Yes.
06 Q Actually, I should say below the Narrows.
07 Then further on in the same paper, this is on Page
08 103, same paper, L.A. DWP Exhibit 4, Mr. Vestal
09 concludes, "Without such stocking, fishing would have
10 deteriorated early in the season each year." This is
11 on 103 at the top of the page under Recreational
12 Values.
13 Was that conclusion by Mr. Vestal that without
14 such stocking fishing would have deteriorated early in
15 the season each year one of his conclusions on which
16 you relied in forming the opinions that you've
17 expressed?
18 A BY DR. PLATTS: Yes.
19 Q Mr. Dodge asked you how 1947 photos relate to what
20 existed pre-diversion, and I think when he asked you
21 those questions, he was referring to two photos which
22 are reproduced in Mr. Vestal's report.
23 Mr. del Piero, may I approach?
24 HEARING OFFICER del PIERO: Sure.
25 Q BY MR. BIRMINGHAM: I just handed the Hearing Officer

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01 two photos. Are those photos reproduced in
02 Mr. Vestal's 1954 report, L.A. DWP Exhibit 4?
03 A Yes.

04 Q Would you explain how those 1947 photos relate to
05 what existed pre-diversion?
06 A Without looking at the photos?
07 HEARING OFFICER del PIERO: Oh, I'm sorry, would
08 you like these?
09 Q BY MR. BIRMINGHAM: I'll ask you to look at the
10 photos that are actually reproduced in L.A. DWP Exhibit
11 4.
12 DR. PLATTS: No, you keep those.
13 DR. CHAPMAN: Those photos are going to be so poor
14 that you can't tell anything from them. You're going
15 to have to have Mr. del Piero's --
16 HEARING OFFICER del PIERO: That's what I
17 figured. I'll get them back later.
18 MR. DODGE: Which exhibits are these?
19 MR. BIRMINGHAM: They are not exhibits. They are
20 photos that were reproduced in L.A. DWP Exhibit 4.
21 HEARING OFFICER del PIERO: The reproductions in
22 Exhibit 4 are not real good. They're sort of dark.
23 MR. BIRMINGHAM: And the original photos that
24 Mr. -- excuse me, that Dr. Platts has are photos that
25 were produced in the El Dorado County proceedings by

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01 the National Audubon Society and Mono Lake committee as
02 Exhibits 48 and 49.
03 MR. HERRERA: Excuse me, Mr. Birmingham. Could
04 you refer us to which one in the Vestal report those
05 are without those photos?
06 DR. CHAPMAN: CT-5-P and CT-5-R.
07 HEARING OFFICER del PIERO: They were in my box,
08 but they were so dark that --
09 MR. HERRERA: We're not sure what you're referring
10 to.
11 MR. BIRMINGHAM: I'll take a moment and show them
12 to the Staff as well.
13 HEARING OFFICER del PIERO: Dr. Chapman, while
14 they're doing this, both of those photos are within the
15 reach that you evaluated?
16 DR. CHAPMAN: They are in the portion from the
17 Narrows to the lake in the meadow area.
18 HEARING OFFICER del PIERO: Do you recognize those
19 guys?
20 MR. HERRERA: Mr. Chapman's in this picture, did
21 you say?
22 MR. BIRMINGHAM: Dr. Chapman, they're wondering if
23 you're in this picture that shows a number of anglers
24 standing around the creek.
25 HEARING OFFICER del PIERO: They all look sort of

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01 forlorn. They didn't catch anything.
02 DR. CHAPMAN: There's a guy here with hair. It
03 can't be me.
04 HEARING OFFICER del PIERO: Oh, God. It can't be
05 me, either.
06 (Laughter.)
07 Q BY MR. BIRMINGHAM: Without referring to them
08 specifically, Dr. Platts, my question really goes to
09 this. As experts you've formed opinions based on
10 photos that were taken in 1947.

11 Can you explain to us why you would rely on those
12 photos that were taken in 1947 to help you form an
13 opinion about what existed in 1941?
14 A BY DR. PLATTS: Yes. Because these photos show the
15 form of the channel. They show the condition of the
16 vegetation. They show the vigor of the vegetation.
17 They show the modification of the channel farm and the
18 stream banks by some sources. They show the
19 shallowness of the stream in certain sections. They
20 also show some emerging vegetation, and they especially
21 show that a lot of this vegetation was having a very
22 difficult time growing.
23 Q Now, is part of your willingness to rely on those
24 1947 photos based upon your understanding of the
25 similar land use that occurred in 1941 and 1947? In

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01 other words, the fact that there were a large number of
02 sheep grazing on the stream during both periods?

03 A Yes. In looking at these photos, based on the
04 numbers of animals that we knew were in the Mono Basin
05 in over long periods of time, these photographs are
06 very, very clear on the effects of livestock grazing on
07 these certain reaches and streams.

08 Q Now, have you ever studied the effects of
09 livestock grazing on other streams?

10 A Yes, I have.

11 Q How many streams have you studied to determine the
12 effect of livestock grazing in your career?

13 A Are you saying studied and actually produced
14 publication or actually studied?

15 Q Just actually studied.

16 A Probably actually studied hundreds, but I've only
17 probably published 15, 20, 25.

18 Q Now, are the effects that are depicted in those
19 1947 -- the conditions that you attribute to grazing
20 depicted in those 1947 photos consistent with your
21 observation on other streams?

22 A This is very consistent as what happens to meadow
23 streams when they receive high numbers of animals over
24 long periods of the growing season under season long
25 continuous terms.

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01 Q We've established in the court records of the El
02 Dorado County Superior Court that L.A. DWP Exhibit 1-A
03 was taken in 1934. Does that exhibit depict any
04 conditions which you, as an expert, would attribute to
05 grazing?

06 A Yes. This is a typical response to a stream that
07 has undergone extremely heavy sheer damage by hoofing.
08 It's very plain along the sides of the stream. It also
09 shows that the stream banks have been laid back and
10 actually pushed back many feet. The condition of the
11 vegetation has been completely overgrazed, and it's
12 typical of a stream going through extremely heavy
13 grazing pressure over long periods of time.

14 Q Now, as an expert, would you rely upon that 1934
15 photo, L.A. DWP Exhibit 1-A, to reach a conclusion
16 concerning the condition of the stream in 1941?

17 A I would. The condition of this reach of that
18 stream.

19 Q Would you explain why?
20 A Because I would assume in Rush Creek that there
21 are some reaches where there would be some areas that
22 would have a very light impact by livestock. That's
23 very typical. They tend to concentrate on these
24 metals, and then if you get into tighter situations,
25 you get less pressure. So I would think you'd see some Ô

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01 areas that didn't have this type of high stress.
02 Q But for the area that is depicted, the stretch of
03 stream that's depicted in L.A. DWP Exhibit 1-A, why
04 would you rely on that 1934 photo to reach a conclusion
05 concerning what the conditions of the stream might be
06 like in 1941?
07 A Because it's a common practice in livestock
08 grazing that the amount of stress applied to a stream
09 on any given year is fairly slight, but accumulating
10 over long periods of time, it becomes very
11 outstanding. So I would look at this stream in 1930
12 and, knowing the numbers that were in the basin that
13 were grazing at this time, would assume that by 1941,
14 conditions would have even been worse.
15 Q Dr. Chapman, you were asked a question this
16 morning, I believe it was by Mr. Roos-Collins, about
17 the size and vigor of eggs of the fish in Rush Creek.
18 Do you recall that question?
19 A BY DR. CHAPMAN: Yes.
20 Q And I believe he read to you a quote from the
21 testimony of Mr. Vestal. To what did that quote
22 refer?
23 A I believe the quote referred to the size and vigor
24 of brown trout eggs collected at the trapping station
25 between Grant and Silver Lakes. In other words, the

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01 fish came up from Grant Lake for trapping and for egg
02 taking.
03 Q Now, you were also asked a question about how Mono
04 County related to other counties relative to fishing
05 success, specifically trout fishing success in the
06 thirties. Can you conclude anything about the
07 condition or quality of the fishery in Rush Creek from
08 the fact that Mono County had the -- led the state in
09 trout fishing in 1940?
10 A No.
11 Q Do you know how Mono County relates today to other
12 counties with respect to the success of trout fishing?
13 A I don't know the exact level, but I would be
14 surprised if it's still not Number One.
15 Q On what do you base that statement?
16 A The number of waters, the number of fishing waters
17 that are available in Mono County is quite striking and
18 involves not only the eastern Sierra streams in Mono
19 County but a number of lakes. It involves high lakes.
20 It involves Bridgeport, Topaz, Crowley. You've got
21 lots of streams and lots of lakes up there, and it's a
22 very popular area.
23 Q Finally, I'd like to refer to the chart about
24 which Mr. Roos-Collins asked you some questions, and
25 this is a chart from the comments of the Department of

01 Water and Power concerning peak flows. And it can be
02 found on Page 3-D-25 --
03 A 3-D-25?
04 Q 3-D, as in David, 25 of the Department of Water
05 and Power comments on the Draft Environmental Impact
06 Report for the review of the Mono Basin water rights of
07 the City of Los Angeles. I believe it's -- it's Figure
08 2, which shows a daily stream flow fluctuation on Rush
09 Creek due to irrigation diversions and reservoir
10 operations 1934 to 1941.
11 Do you recall the question that Mr. Roos-Collins
12 asked you about Figure 2 from the L.A. DWP comments on
13 the Draft EIR?
14 A Yes.
15 Q He asked you to count the number of daily
16 fluctuations that exceeded 100 cfs for the period
17 represented on the chart, and I believe you counted
18 five; is that correct?
19 A Yes.
20 Q Now, during your testimony, you said that the
21 frequency of peak flow events is better represented by
22 hourly figures as opposed to daily figures or daily
23 averages. Can you explain why?
24 A Well, that's because averaging across 24 hours
25 smooths the data. I believe hourly data would show

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01 greater fluctuations, sudden drops in stream flow, and
02 sudden increases as the irrigation diversion systems
03 were manipulated.
04 Q Can you give us an example of that kind of -- that
05 kind of an effect averaging from hourly to daily?
06 A Well, if one had 100 cfs fluctuation at noon and
07 the stream suddenly went in two hours to change flow by
08 100 cfs, averaged over 24 hours that fluctuation would
09 not appear to be 100 for the daily flow. It would be
10 much less than that.
11 Q I, too, have engaged in bait and switch, and I beg
12 the pardon of the Board.
13 Finally, I'd like to go back to the 1934 photo and
14 ask my final question about the photo. And again, this
15 is L.A. -- what will be marked as L.A. DWP 1-A. Do
16 either of you have an opinion concerning whether the
17 under story of the area depicted in that photograph,
18 L.A. DWP 1-A, would be visible in an aerial photo?
19 A Yes.
20 Q What is your opinion?
21 A You wouldn't be able to see it.
22 Q You would not be able to see it?
23 A No.
24 MR. BIRMINGHAM: What I would propose doing,
25 Mr. del Piero, again with the permission of the Board,

01 would be to reproduce the two photographs to which
02 Dr. Chapman and Dr. Platts were referring taken from
03 the Vestal report and have them marked as L.A. DWP 1-B
04 and 1-C, and I will, of course, provide copies to all
05 of the parties and the Board.
06 1-B would be the photo in which a number of

07 fishermen are standing along the banks of the stream,
08 and I believe there's actually a few fishermen in the
09 stream itself.

10 And then 1-C would be the photo in which there is
11 one fisherman standing in the stream near the top of
12 the picture.

13 HEARING OFFICER del PIERO: I'm sorry. These are
14 the ones that are already in your exhibit. Is that not
15 correct?

16 MR. BIRMINGHAM: They are, but as you quite
17 correctly point out, they are very, very difficult to
18 discern in our L.A. DWP Exhibit 4 which --

19 HEARING OFFICER del PIERO: I guess the reason I'm
20 asking you is, inasmuch as they've already been
21 introduced, I don't know that we need to label them
22 separate exhibits. If you want to provide those
23 expressly for the purposes of clarifying that
24 reproduction, you can do that. I've got no problems
25 with that.

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01 I would like, before you run off with those,
02 though, I've got a couple of questions before it's all
03 over.

04 MR. BIRMINGHAM: And I have no more questions.

05 HEARING OFFICER del PIERO: Thank you very much.
06 Mr. -- Ms. Cahill?

07 MR. DODGE: I'm sorry, Mr. Chairman. I was doing
08 something else. What happened to the two photographs?

09 HEARING OFFICER del PIERO: I've got them.
10 They're already in the record, Mr. Dodge. They were
11 part of L.A. Department of Water and Power's original
12 submittals to us. The reproductions were not very
13 good. Mr. Birmingham has indicated he will make copies
14 of them and make them available to everyone else, but
15 they're already in the record as part of their
16 presentation. I'm not going to have them marked
17 separately.

18 MR. DODGE: As what exhibits are they in?

19 MR. FRINK: They were part of L.A. DWP Exhibit 4,
20 weren't they, Mr. Birmingham?

21 MR. BIRMINGHAM: And they were also part of the
22 Cal Trout exhibit. Your copy of the Vestal report is
23 Cal Trout Exhibit 5? 5-S.

24 MR. DODGE: My question is whether I'm going to
25 get a copy of those photos where we can actually see

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01 something.

02 HEARING OFFICER del PIERO: Yes. That's what his
03 representation was. That's why I kept these at least
04 for the time being because I couldn't actually see
05 anything on the ones that I had originally.

06 MR. BIRMINGHAM: And again, these photographs are
07 photographs that were originally produced to us by the
08 Mono Lake Committee and National Audubon Society in
09 connection with the El Dorado County court proceeding,
10 so Mr. Dodge ought to have copies in the record. But
11 we'll produce them later.

12 HEARING OFFICER del PIERO: Please proceed,
13 Ms. Cahill.

14 MS. CAHILL: Thank you.
15 RE CROSS EXAMINATION BY MS. CAHILL
16 Q Dr. Chapman, can you tell me when it was that the
17 A Ditch was constructed?
18 A BY DR. CHAPMAN: I'm sorry, what?
19 Q Can you tell me when the A Ditch was constructed?
20 A I do not know the answer to that question.
21 Q And do you know when the B Ditch was constructed?
22 A BY DR. PLATTS: I do not.
23 A BY DR. CHAPMAN: No.
24 Q Have you done any research or formed any opinions
25 on the condition of your evaluation reach prior to the

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01 construction of those ditches?
02 A Can I step back just a moment? I have to tell you
03 that we do know that between 1920 and 1940 it carried a
04 lot of flow, so it had to be constructed in 1920.
05 That's the B Ditch.
06 Q Did you do anything that would lead you to know
07 what the conditions were prior to these agricultural
08 diversions?
09 A No.
10 Q In your investigation of historic conditions on
11 your evaluation reach, did you become aware of minutes
12 of the Board of Fish and Game Commissioners of the
13 State of California in 1927 ordering the Cane
14 Irrigation Company, owner of four ditches diverting
15 water from Rush Creek in the section below Grant Lake
16 and above the crossing of Rush Creek with the highway,
17 ordering Cane Irrigation Company to install fish
18 screens on those ditches to prevent fish from going
19 into the ditches and leaving the streams?
20 A No.
21 Q Do you know whether the Cane Irrigation Company
22 was the operator of the A, B, or C Ditch?
23 A BY DR. PLATTS: I do not know.
24 Q Do you know whether Los Angeles has acquired the
25 water rights of the Cane Irrigation Company?

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01 A I do not know. I would assume so, but I do not
02 know.
03 A BY DR. CHAPMAN: I think so, but I don't know so.
04 Q With regard to conditions in Rush Creek and what
05 we've been calling the bottom lands, do you know
06 whether, prior to diversion, there were approximately
07 40,000 linear feet of channel in that area?
08 A We have seen Dr. Stein's estimate of 39,000, and
09 that's the only information we have on the extent of
10 those distributive channels.
11 Q And do you know what the current amount of linear
12 foot of channel is currently?
13 A The length of those channels remains there, but
14 clearly, the water is not in them. So the channels
15 remain.
16 Q Yes. I basically -- I would like to compare those
17 channels that had water in them pre-diversion with the
18 single channel that primarily carries the water today.
19 How long is the single channel that now carries
20 water in Lower Rush Creek?
21 A We don't know the exact length -- several miles.

22 A BY DR. PLATTS: 12,000 feet or something, but I don't
23 know for sure.
24 Q Is it accurate to say that close to three miles of
25 linear foot of channel -- I guess three linear miles of ô

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01 channel in that area has been lost since 1940?
02 A Of any type of channel?
03 Q Yes.
04 A It could be. I don't know.
05 A BY DR. CHAPMAN: I think you're low.
06 Q Okay. So if we were to recover pre-diversion
07 conditions in the bottom land section of Rush Creek, we
08 would, in fact, be regaining three miles or more of
09 channels that are not there now. Is that right?
10 A Stated the way you had asked the question, yes.
11 Q Assume that we were attempting to restore the
12 multiple channels in Lower Rush Creek for fisheries,
13 Dr. Platts, would you recommend that the riparian
14 vegetation and channel stability in your evaluation
15 reach also be restored in order to protect the
16 functioning of the lower area of the stream?
17 A BY DR. PLATTS: Yes. We should allow the riparian
18 vegetation in the upper reach to also become in good
19 condition.
20 Q And you have said --
21 A Is that --
22 A BY DR. CHAPMAN: I'm going to add to the answer
23 because I think there was a misinterpretation. Would
24 you repeat the question?
25 Q Assuming that we were intending to restore the

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01 multiple channels in Lower Rush Creek, wouldn't it also
02 be -- wouldn't you also recommend that the riparian
03 vegetation and channel stability in the evaluation
04 reach be also put into good condition in order to
05 protect the lower section?
06 A I would still say yes.
07 Q Actually, I asked Dr. Platts.
08 A I'll shut up.
09 Q Dr. Platts, I think you indicated that it wouldn't
10 necessarily -- it wouldn't be necessary to eliminate
11 grazing completely forever. How many years do you
12 think it would be before livestock should be permitted
13 to graze again and would you recommend to the Board
14 that that be a permit condition?
15 A BY DR. PLATTS: I'm not sure that grazing should ever
16 be permitted in the bottoms of Rush and Levining
17 Creek. I would say that it is going to take at least
18 five to ten years before we can determine whether those
19 bottoms can accept that type of grazing and, at that
20 time, the decision should be made. I'm not -- in other
21 words, I guess what I'm saying is that until we see
22 more recovery on Rush Creek and see more response on
23 Rush Creek, we couldn't make a decision at this time as
24 to when livestock should come on back.
25 Q Thank you.

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01 And I think you said, and correct me if I have

02 misunderstood this, that the impacts on Rush Creek
03 occurred over a century, the period of a century. Is
04 that right?
05 A Yes.
06 Q But, in fact, weren't the major impacts those that
07 occurred in floods in years such as 1969 and 1986?
08 A BY DR. CHAPMAN: '86?
09 Q '83?
10 A Well, I'm going to step in and answer that -- it's
11 true. There was a large flood in 1983, and I think if
12 you pursue that line of questioning with Dr. Vesta, he
13 will tell you that that flood also created good
14 circumstances for a seed bed and for a catch of seed
15 and started a lot of the development of riparian
16 vegetation.
17 Q But there was also enormous incision, was there
18 not, as a result of that, of the flood in the 1960s?
19 A BY DR. PLATTS: Enormous?
20 A BY DR. CHAPMAN: Large. I wouldn't say enormous.
21 Q To get back to the size of the Rush Creek fishery,
22 given 1941 conditions, are you aware of any stream in
23 the eastern Sierra other than Owens River, Walker
24 River, and Bishop Creek that was larger than Rush Creek
25 was at that time?

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01 A I can't tell you.
02 Q In fact, based on its flow width, depth, wasn't
03 Rush Creek one of the larger streams in the eastern
04 Sierra?
05 MR. BIRMINGHAM: I'm going to object on the
06 grounds that it's ambiguous. Perhaps if Ms. Cahill
07 could tell us what she means by larger streams. Was
08 she referring to the fishery or the stream?
09 MS. CAHILL: I'm referring to the stream, the size
10 of the river itself.
11 HEARING OFFICER del PIERO: Was my
12 understanding --
13 DR. CHAPMAN: You look at the Owens and the
14 Walker.
15 HEARING OFFICER del PIERO: Ms. Cahill? Excuse
16 me, Dr. Chapman, hold on.
17 Why don't you be a little more specific in terms
18 of the question? You want, what, largest 25 percent of
19 the streams in the eastern Sierra? Largest 50
20 percent? If you can put a little parameter in here
21 then I've got no problems with you asking the
22 question.
23 Q BY MS. CAHILL: Okay. Would you say that Rush Creek
24 ranked in the largest 25 percent of streams in the
25 eastern Sierra?

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01 A BY DR. CHAPMAN: Yeah, I guess we could.
02 Q Mr. Vestal, in one place, discusses Rush Creek in
03 1947 to 1951 as a small stream. Is it possible that
04 the fishing experience that you have characterized as
05 mediocre was the result of the fact that the stream had
06 already declined in width and depth making it harder to
07 fish?

08 A Well, the stream was already trashed by
09 livestock. It's been trashed over 100 years, and that
10 changes the average depth and changes the width,
11 certainly. All the streams in the eastern Sierra are
12 small streams.
13 Q Then one last question. I don't believe this will
14 be bait and switch, and this is technical. Assume that
15 the mean estimated pounds of brown trout per service
16 area from the Dynestat reports, I believe you're
17 familiar with the Dynestat reports that are referenced
18 in Mr. Moorehart's testimony?
19 A BY DR. PLATTS: I'm not.
20 A BY DR. CHAPMAN: I'm not.
21 Q Well, let us assume that the mean estimated pounds
22 of brown trout as reported in some Fish and Game
23 reports for streams in the Owen River drainage
24 including very productive waters such as Hot Creek, the
25 Owens River, and Bishop Canal, was between 107 pounds

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01 per acre and 135 pounds per acre. Also assume that a
02 sampled section of the middle fork of Bishop Creek
03 sampled in 1985 contained a standing crop of brown
04 trout of 180 pounds per acre.
05 If the conductivity of this reach on Bishop Creek
06 was 30 micromols per cubic centimeter at this site,
07 would you agree that in the eastern Sierra area, it is
08 possible that conductivities less than 40 micromols per
09 cubic centimeter can result in above-average standing
10 crops of brown trout?
11 A Above average?
12 Q Yes. Given that the average was 107 pounds per
13 acre and 135 pounds per acre.
14 A Yes.
15 A BY DR. PLATT: Possible.
16 HEARING OFFICER del PIERO: The last time I had a
17 question like that asked of me I was in high school and
18 it was a mathematics class.
19 (Laughter.)
20 MS. CAHILL: I could barely ask it, let alone
21 answer it.
22 RE CROSS EXAMINATION BY MR. DODGE
23 Q Before I get into my questions, let me go back to
24 about five questions ago from Ms. Cahill. She
25 indicated that Mr. Vestal characterized Rush Creek as a

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01 small stream in 1947 to '51, and she asked whether the
02 poor fishery scene then might be a result of the stream
03 having become very small.
04 Could I have an answer to that question, please?
05 A BY DR. CHAPMAN: I don't think so. The answer is no.
06 Q Why not?
07 A I think the change inflow has relatively little
08 impact on the abundance of fish.
09 Q Why is that, Sir?
10 A I refer you to Dr. Moorehart's report, and I also
11 refer you to the failure of Rush Creek fishery to
12 decline in response to rather dramatic decreases in
13 stream flow.

14 Q Well, that's the question, whether Rush Creek did
15 decline in response to dramatic decreases in stream
16 flow?
17 A The Rush Creek fishery did not decline in response
18 to dramatic decreases in stream flow.
19 Q Well, that's what I'm trying to focus in on --
20 A I'm sorry. I'm not understanding.
21 Q Rush Creek below the Narrows. There was a
22 dramatic decrease in stream flow, wasn't there?
23 A Yes.
24 Q Comparing pre-diversion with the 1947 to 1951
25 period?

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01 A No. Comparing 1947 to 1951, there was a dramatic
02 decrease in stream flow.
03 Q Your testimony is that from 1947 to pre-1940 there
04 was not a dramatic decrease?
05 A There was a relatively small decrease in stream
06 flow in Lower Rush Creek in response to L.A.'s
07 diversions. L.A. did not use all its rights, as I
08 understand, and take all its water until about 1947.
09 Q What is the basis for your opinion that there was
10 not a substantial difference between 1947 and 1940 in
11 terms of stream flow?
12 A I have seen a graph of the diversion in the period
13 from 1940 to 1950 and onward and learned from that
14 graph that the diversions really got going in the dry
15 period post-1947, and I have discussed that with the
16 personnel of the L.A. Department of Water and Power.
17 Q You don't have any measurements, do you?
18 A No.
19 Q Let me go back to a different subject. Do you
20 recall that we were talking about conductivity, and I
21 asked you about the effect of the springs on
22 conductivity? And you mentioned that the springs might
23 have a higher conductivity, but they'd be mixed with
24 Indian Ditch water? Do you recall that?
25 A Yes.

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01 Q And do you also recall that Mr. Herrera asked you
02 questions along the same lines?
03 A Yes.
04 Q Isn't it a fact, Sir, that Indian Ditch takes off
05 below the springs? It doesn't contribute to Rush Creek
06 above the springs?
07 A Indian Ditch takes off just below the Narrows, as
08 I remember.
09 Q It's below the historic springs, isn't it?
10 A No. It's below the Narrows. That doesn't mean
11 it's below the springs.
12 Q Let's take a look at Dr. Stein's report which is
13 Cal Trout Exhibit 13, I think, and I'll ask you to look
14 at the third page of that. Would you agree that Indian
15 Ditch takes off below the historic springs?
16 A No. I would agree it takes off below the Narrows,
17 and it proceeds around the hillside below which a lot
18 of springs issue forth on both sides of the stream.
19 Q And if you were wrong about that, you'd agree with
20 me that Indian Ditch water would not affect the
21 conductivity below the springs, wouldn't you?

22 A Am I missing something?
23 HEARING OFFICER del PIERO: He's asking you to
24 assume that you're incorrect.
25 DR. CHAPMAN: That I'm incorrect?ô

01 HEARING OFFICER del PIERO: Yes.
02 DR. CHAPMAN: Then I have to conclude that the
03 springs would run some water into the Indian Ditch.
04 Yes.
05 Q BY MR. DODGE: And then -- and Indian Ditch would not
06 affect the conductivity of the water below the springs,
07 isn't that right?
08 A BY DR. CHAPMAN: With your incorrect assumption, I
09 have to say that the Indian Creek Ditch then would have
10 the same water quality as at least some of the springs
11 that fed into it.
12 Q So it would have the same water quality as the
13 water going downstream from the springs in Rush Creek,
14 correct?
15 A If your incorrect assumption is correct, correct.
16 Q Right.
17 Now, Mr. Frink asked you some questions about, you
18 know, one of the basic questions here, whether the '54
19 Vestal article is representative of pre-1940
20 conditions, and you testified that you were relying on
21 Mr. Vestal and what he said in that article. And you
22 testified that you were also relying on an opinion by
23 Carl Messick; is that right?
24 A Yes.
25 Q Now, Carl Messick wasn't there back in the 1940

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01 period, was he?
02 A No.
03 Q He's just another biologist like you looking at it
04 after the fact; isn't that right?
05 A I'm not sure I like "just another biologist."
06 Mr. Messick is a good biologist. I have no reason to
07 say "just another biologist." He was another biologist
08 like me looking back in time, yes.
09 Q So he has an opinion you think that's consistent
10 with yours?
11 A In his letter of 1989, that appears to be true.
12 Q Are you relying on his opinion, or are you just
13 noting that it's consistent with yours?
14 A Only in an ancillary way.
15 Q Dr. Platts, you were asked a question by
16 Mr. Canaday, I believe, about morphology of the creeks,
17 and he asked you first about the test reach and then he
18 asked you about the Narrows. And I believe you
19 testified that below the Narrows, Rush Creek had a
20 better morphology pre-diversion.
21 Do you recall that?
22 MR. BIRMINGHAM: Excuse me. I'm going to
23 interpose an objection on the grounds Mr. Dodge's
24 question is not ambiguous, but it confuses the record.
25 We have, I believe, used the term "test reach" to refer

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01 to that portion of the stream that was studied by
02 Mr. Vestal from 1947 to '51, and we have used the term
03 "evaluation reach" to refer to that portion of the

04 stream above the Narrows from Grant Lake down to the
05 confluence of Parker Creek.
06 HEARING OFFICER del PIERO: Mr. Dodge, you want to
07 ask your question again so -- no. Rather than that,
08 Ms. Anglin, would you read back the question Mr. Dodge
09 just asked?
10 (Whereupon the record was read as requested.)
11 HEARING OFFICER del PIERO: Mr. Dodge's question
12 deals with the test reach. Mr. Birmingham, you
13 indicated that your references to the test reach have
14 been that area below the Narrows. Is that correct?
15 MR. BIRMINGHAM: That's correct.
16 HEARING OFFICER del PIERO: Then the objection's
17 overruled.
18 Dr. Platts, excuse me, answer the question.
19 MR. DODGE: Mr. Chairman, I think that in all
20 candor, you and Mr. Birmingham are talking at cross
21 purposes now. I think we ought to be very clear on
22 this. I'd like to rephrase my question.
23 HEARING OFFICER del PIERO: Fine.
24 Q BY MR. DODGE: I'm interested in the morphology of
25 the creek below the Narrows. All right. And I believe

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01 you testified that pre-diversion, it was better than it
02 is now. Do you recall that?
03 A BY DR. PLATTS: I recall that.
04 Q Tell me why.
05 A Why it was better?
06 Q Yes, Sir.
07 A Because it had better form during that period.
08 Q Better form for fish habitat?
09 A Yes.
10 Q It had slower water?
11 A No. I'm talking about the form of the channel
12 itself, not the water that was in it.
13 Q Tell me about the form of the channel.
14 A The form of the channel prior to 1941 had a form
15 that was more conducive to handling water, better for
16 fisheries than it did -- than it does today.
17 Q Why was that, Sir?
18 A Because the channel form changes.
19 Q No. I mean, what aspects were there pre-'40 that
20 were better for the fishery that are not there today?
21 A The channel width was narrower. The channel was
22 higher in the valley plane, and the channel was capable
23 at that time of moving waters out of this channel.
24 Q Did the multiple channels below the Narrows help
25 the fishery, in your judgment?

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01 A In my judgment, I'm still -- that's a question I
02 cannot answer because I do not know if the multiple
03 channels actually enhanced the fishery or not.
04 Q Just to sum it up, is it your judgment that
05 pre-1940, Rush Creek below the Narrows had better trout
06 habitat than it does today?
07 A It has better -- what I told Mr. Canaday is it had

08 a better channel form than it has today.
09 Q And I think you testified a few minutes later in
10 response to a different question from Mr. Canaday that
11 given enough time, and I don't think you told us how
12 much, that some of the historic channels below the
13 Narrows might rewater themselves naturally.
14 A I didn't state historic. I said some -- I said
15 some of the channels would rewater naturally.
16 Q But not necessarily historic channels?
17 A It could be historic. It could be other
18 channels. It depends how the vegetation influences
19 over time.
20 Q But isn't it a fact, Sir, that so long as Mono
21 Lake stays anywhere near as low as it is now, that the
22 historic channels will not rewater naturally?
23 A It very well could be that some of them really
24 are, yes. You are correct.
25 Q It could be that all of them will not.

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01 A I would not say all, but I will say that there are
02 some that will not rewater.
03 Q Now, last line of questions for you, Dr. Chapman,
04 and I will confess to some confusion here. I'm going
05 to try to clear it up. Let me start with a
06 proposition.
07 Let's put Carl Messick's opinion, whatever that
08 may be, aside. All right? Would it be a fair
09 statement that if 1947 to '51 conditions below the
10 Narrows were, in fact, substantially different than
11 pre-1940 conditions below the Narrows, that you really
12 don't have the basis for an opinion on the fishery
13 below the Narrows pre-diversions.
14 A BY DR. CHAPMAN: Yes, that's true.
15 Q You're really relying on what Mr. Vestal told you,
16 aren't you, in his article, I mean?
17 A And in his deposition.
18 Q And in his deposition. But when Mr. Frink asked
19 you about whether Mr. Vestal made any statement in his
20 deposition that 1940 was similar to 1947, you said he
21 had made no such statement; isn't that right?
22 A I guess that's correct.
23 Q Now, let me be -- try to be as precise as I can on
24 this. Pre-1940, is it your opinion that the springs
25 below the Narrows contributed to the fishery or did

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01 they not?
02 A I don't think they did.
03 Q And the basis for that, Sir, is?
04 A As I've said before, my basis is the fact that as
05 the spring declined, the fishery did not from 1947 to
06 1951.
07 Q And the basis for the proposition that the fishery
08 did not decline from 1947 to 1951, again, is
09 Mr. Vestal; is that right?
10 A Is Mr. Vestal's report, Mr. Vestal's deposition,
11 and the exhibits attached to his testimony.
12 Q Do you recall being asked whether you accept
13 Mr. Vestal's statement that Rush Creek, before 1940,
14 was a fisherman's paradise?

15 A I don't remember the question. You can refresh
16 me, if you will, and I'll respond.
17 Q Do you accept Mr. Vestal's statement that pre-1940
18 Rush Creek was a fisherman's paradise?
19 A Could I look at the statement in context, please?
20 I'd like to know where it was and what was said.
21 HEARING OFFICER del PIERO: Actually, Dr. Chapman,
22 I think it was in response to a question earlier
23 today.
24 DR. CHAPMAN: Was the context read, and did I get
25 a chance to look at the document?

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01 HEARING OFFICER del PIERO: I don't know if it was
02 Mr. Roos-Collins who asked the question, was it?
03 MR. ROOS-COLLINS: Yes, I asked the question.
04 DR. CHAPMAN: I don't remember how I responded.
05 I'd have to see the document and the context --
06 HEARING OFFICER del PIERO: I know how you
07 responded. You said you did not agree.
08 Q BY MR. DODGE: Do you now agree?
09 A BY DR. CHAPMAN: There was a reason that I didn't
10 agree, and it was probably associated, Mr. Dodge, with
11 the reference and its context. No, I haven't changed
12 my mind, if that's any help.
13 Q But there are a lot of other statements by
14 Mr. Vestal that you do accept; is that right?
15 A Yes.
16 Q A lot of anecdotal statements?
17 A Some.
18 Q Do you accept those?
19 A Some.
20 Q And your testimony is full of areas where you
21 accept Mr. Vestal's statements; isn't that correct?
22 A That is true. There are a lot of statements that
23 we accept.
24 Q Let me ask you, is there a single statement in his
25 testimony anywhere, a point where you disagree with

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01 Mr. Vestal?
02 A No. We only put in the portions that we felt were
03 reasonably substantiated and that we agreed with. We
04 did not put in some of the hearsay evidence that he has
05 in some of his depositions, for example, about large
06 fish that are unsubstantiated.
07 Q So you were selective in accepting what Mr. Vestal
08 said; is that right?
09 A Surely.
10 Q And that was based on whether it was substantiated
11 and whether you agreed with it; is that correct?
12 A It was based on whether it was substantiated
13 either by Mr. Vestal's published information or by
14 notes of Mr. Vestal that supported his position or by
15 ancillary information from other sources.
16 Q Isn't it a fact, Sir, that there are a lot of
17 statements by Mr. Vestal that you accepted that were
18 unsubstantiated that are just his observation?
19 A Could you give me an example?
20 Q 4,000 sheep roiling a creek?
21 A Yes, we accepted that one.
22 Q Unsubstantiated?

23 A He was there and saw it. The problem here,
24 Mr. Dodge, is I can't accept a statement, for example,
25 where Mr. Vestal records hearsay evidence from
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01 Mr. Dumbrowski about what a fish was that neither one
02 of them saw in the outlet of Rush Creek where it goes
03 into the delta and into the lake. That's the kind of
04 thing that we felt was inappropriate.
05 Q Well, but he did see the Rush Creek pre-diversion,
06 didn't he?
07 A He saw the Rush Creek pre-diversion just as I did.
08 Q And he gave an opinion as to whether it was a
09 fisherman's paradise or not, correct?
10 A He did.
11 Q And you elected not to accept that?
12 A That is correct.
13 Q And he also gave an opinion as to what the sheep
14 were doing and you chose to accept that.
15 A We did.
16 Q I see there's a statement on Page 13 by a
17 Mr. Phillips, an employee of DWP. I see you chose to
18 accept that; is that correct?
19 A Yes. We accepted that.
20 Q Unsubstantiated?
21 A We said what he said.
22 MR. DODGE: Thank you, Sir. I believe that's all
23 I have.
24 HEARING OFFICER del PIERO: Mr. Dodge,
25 MR. FRINK: Mr. del Piero, I have just a very

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01 minor clarification. I believe Mr. Dodge asked
02 Mr. Chapman about a question I asked regarding
03 Mr. Vestal's deposition. Actually, I haven't read
04 Mr. Vestal's deposition. I referred to any information
05 from the writing or reports of Mr. Vestal. I just
06 wanted to make that clear.
07 MR. DODGE: May I have a second?
08 HEARING OFFICER del PIERO: Certainly, Mr. Dodge.
09 Do you have any further questions?
10 MR. DODGE: Oh, I'm sorry. No, I don't.
11 HEARING OFFICER del PIERO: Mr. Roos-Collins?
12 MR. ROOS-COLLINS: I do have questions.
13 RE-CROSS EXAMINATION BY MR. ROOS-COLLINS
14 Q Good afternoon. I have some questions for you
15 regarding your prior testimony. Let's begin at the
16 beginning with the definition that you used of the word
17 "fishery."
18 In your written testimony you used the word
19 "fishery" to describe caught fish. Is that your
20 testimony?
21 A BY DR. CHAPMAN: In the first paragraph of our
22 testimony, that is true.
23 Q In the remainder of your testimony, do you use the
24 word "fishery" to refer to caught fish or to the
25 biological resource?

01 A I think in most cases, we referred to the fishery
02 in respect to the catching.
03 Q Are you familiar with Fish and Game Code Section
04 45?
05 A Nope.
06 Q Are you familiar with any definition of fish in
07 the Fish and Game Code of the State of California?
08 A No.
09 Q In response to questions by Mr. del Piero, as I
10 recall, you explained the basis for your inference that
11 the 1947 to 1951 fishery was comparable to the pre-1941
12 fishery. I heard two bases. First, Dr. Messick's
13 letter and, Secondly, a May 1st, 1940, note by
14 Mr. Vestal. Was that your testimony?
15 A There were three -- three points, I believe. The
16 '47-51 study, the letter from Messick to Wharton, and a
17 note in Mr. Vestal's submissions.
18 Q Let's deal with the third basis, that is a May
19 1st, 1940, note.
20 A Yes.
21 Q By Mr. Vestal?
22 A Yes.
23 Q Is that contained in Cal Trout Exhibit 5-B in this
24 proceeding?
25 A I don't know the exhibit number. It's attached to

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01 Mr. Vestal's testimony right after his --
02 Q Let me read you a note dated May 1st, 1940, found
03 in that Cal Trout exhibit and ask if that is the third
04 basis you described.
05 A Yes.
06 Q "Until early afternoon checked available catches
07 from Rush Creek and Grant Lake. Lower Rush Creek below
08 Grant Lake Dam turned out some very good trout,
09 parenthetical, LL and RT up to eight inches long, and
10 Grant Lake was fair until strong winds appeared at
11 11:50 a.m."
12 Is that the note to which you're referring?
13 A Yes.
14 Q You're saying on the basis of one day, May 1st,
15 1940, you believe that 1947 to 1951 conditions are
16 comparable to pre-1941 conditions?
17 A I used his note in this regard to point out that
18 Mr. Vestal considered very good trout up to eight
19 inches long.
20 Q I see. Let's turn to the 1954 article which has
21 been discussed today, Cal Trout Exhibit 5-S. Beginning
22 on Page 91 and continuing on Page 92, Mr. Vestal wrote,
23 "Without water --" excuse me. Before I read that
24 sentence, you would agree that the paragraph to which
25 I'm referring discusses the effects of the construction

01 and operation of L.A. DWP's water supply system?
02 A Yes.
03 Q On Page 91 continuing on to Page 92, Mr. Vestal
04 wrote, "Without water to replenish water tables in the
05 valley floor, these springs have declined steadily, the
06 minimum flow in the test screen has fallen from 24 cfs

07 in 1947 to 12 cfs in 1948, 13 cfs in 1949, and 2 cfs in
08 1950 and 1951."

09 Do you see that passage?

10 A Yes, it's in our testimony as well.

11 Q Is it your understanding, then, of this article
12 that Mr. Vestal believed the operation of L.A.'s water
13 supply system reduced the flow from the springs into
14 Rush Creek below Highway 395?

15 A Yes.

16 Q Continuing on Page 92, the second full paragraph,
17 Mr. Vestal wrote, "Lower Rush Creek formerly averaged
18 about 20 feet in width during the trout season with a
19 depth of some seven inches on the riffles and four or
20 five feet in the long delta pools. By 1951, however,
21 these dimensions had been reduced by more than
22 two-thirds."

23 A Yes.

24 Q Do you see that paragraph?

25 A I see it.

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01 Q This morning we discussed Mr. Vestal's testimony
02 on March 1st, 1990, Pages 255 through 256 of the
03 Reporter's transcript where he said, among other
04 things, that, "The vital thread was going down,
05 shrinking down, down over the period of the test
06 described in the 1954 article."

07 A Yes.

08 Q Do you recall those questions?

09 Is it your opinion that Mr. Vestal agrees with you
10 that the 1947 to 1951 conditions are comparable to the
11 pre-1941 conditions for the fishery?

12 A He will agree with the statement I made that the
13 first two years, particularly, would be representative
14 of the fish population that was there before the
15 springs began to decline in quantity. I've already
16 said that earlier today in my testimony.

17 Q Have you talked with Mr. Vestal?

18 A I have not.

19 Q Let's turn now to the stocking of Rush Creek. On
20 his redirect examination, Mr. Birmingham asked you
21 several questions about the 1954 article where
22 Mr. Vestal wrote that stocking was necessary to
23 maintain the fishery during the test period. Do you
24 recall those questions?

25 A Yes. Ô

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01 Q Now, are you drawing an inference from those
02 statements in the 1954 article that the biological
03 fishery was in poor condition and had to be sustained
04 by stocking?

05 A I'm drawing the inference that the productivity of
06 Rush Creek was quite insufficient to support the
07 angling intensity extent at the time.

08 Q Do you have Mr. Vestal's March 1st, 1990,
09 deposition transcript in front of you?

10 A Yes.

11 Q Let me ask that you turn to Page 256 beginning --

12 A 256?
13 Q 256 beginning at Line 5 and continuing through
14 Line 13 where he stated, "We were creating -- we were
15 creating a kind of -- by continuing management, we were
16 creating a kind of fish market whereby we were planting
17 a stream and a very small percentage of the fishermen
18 were getting the lion's share of the catch. Those that
19 had repeated fishing in the stream knew where to go,
20 knew how to catch the fish, and they were catching them
21 out right away."
22 Is it your understanding of that paragraph that
23 Mr. Vestal thought stocking was necessary because Rush
24 Creek had become well-known as a place to catch fish
25 and was overfished?

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01 A That statement -- that statement refers to the
02 ability to catch catchables out of the stream quickly.
03 Not -- it doesn't go to the question of overfishing, in
04 my opinion.
05 Q Let me ask you now about egg collecting in Rush
06 Creek before 1941. Mr. Birmingham, on his redirect
07 examination, asked you a question about the location of
08 the egg collecting station that existed before 1941.
09 Do you recall that question?

10 A Yes.

11 Q Do you have Mr. Vestal's written testimony in
12 front of you?

13 A Yes.

14 Q Let me ask you to turn to Page 9, Paragraph 22,
15 which reads, "Prior to the City of Los Angeles's
16 expansion of Grant Lake Dam in the early 1940s, the
17 Upper and Lower Rush Creek were part of a comprehensive
18 fish production system. I am certain that the cut
19 throat which populated Lower Rush Creek in large
20 numbers after being planted in the 1880s were able to
21 migrate beyond Grant Lake. Cut throat spawned in the
22 lower portion of Rush Creek totally colonized the
23 system and migrated throughout."

24 Is it your understanding of that testimony that
25 Mr. Vestal believes that the egg collecting station in

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01 Upper Rush Creek was partly dependent on the fishery in
02 Lower Rush Creek?

03 A No.

04 Q What is your understanding of that paragraph?

05 A My understanding is that cut throat that were
06 planted in Rush Creek would migrate past Grant Lake
07 downstream and that cut throat spawned in the lower
08 portion of Rush Creek, colonized the system and
09 migrated throughout. I don't know that fish could
10 access the upper end of Grant Lake, for example, from
11 Lower Rush Creek. I can't tell that from this
12 testimony. Certainly, after the dam was constructed
13 there would be no possibility of passage.

14 Q After the dam was reconstructed by the City of Los
15 Angeles?

16 A After it was turned into a storage lake. It was
17 originally a natural lake, as I understand it. It was
18 turned into a storage lake. The minute it was turned
19 into a storage lake for irrigation and storage, the

20 access, if there ever existed any, from downstream
21 upstream would have disappeared.
22 Q What's the basis for that opinion?
23 A I'm pointing out the -- two things. The first is
24 that the manipulations in flow in the evaluation reach
25 from Parker Creek up to Grant Lake would have made the Ô

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01 stream impassable in that section for many periods of
02 time, and irrigation diversions that -- or irrigation
03 storage structures that are added to lakes usually
04 constitute a barrier to upstream migration.
05 Q You don't have evidence from Rush Creek, itself,
06 that Grant Dam served as barrier, an absolute barrier
07 prior to L.A.'s reconstruction of the dam around 19 --
08 A I have no such evidence.
09 Q Thank you. Let us turn to irrigation diversions,
10 again focusing on Table A from your written testimony.
11 Who prepared Table A?
12 A Dr. Platts.
13 Q Dr. Platts, did you review the gauge records in
14 order to prepare Table A?
15 A BY DR. PLATTS: Yes, I did.
16 Q Mr. Birmingham asked you about Figure 2 in L.A.
17 DWP's Draft EIR comments. You'll recall that Figure 2
18 shows daily fluctuation in the flow in Rush Creek.
19 A Yes.
20 Q You testified that an hourly fluctuation analysis
21 would be more relevant to determining the condition of
22 the fishery. Is that correct?
23 A More relevant in determining the number of times
24 in which the flow changed by 100 cfs or more.
25 Q But you have no hourly flow data?

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01 A No. We could not find any.
02 Q Let's talk now about the loss in fishery habitat
03 between 1941 and the present. For purposes of this
04 line of questions, I'm going to rely on Cal Trout
05 Exhibit 15, which is the Trihey and Associates report
06 summary comparison with pre-'41 and post-'41 conditions
07 dated September of 1993.
08 Do you have that report in front of you?
09 A No.
10 Q Excuse me for one moment.
11 Dr. Chapman and Platts, I bring you that exhibit.
12 Unfortunately, since I'm using someone else's copy, I
13 don't know what page I was on. Could you tell me?
14 A 3-1.
15 Q Turning to Page 3-1, the report describes
16 geomorphic changes that have occurred and have direct
17 consequences to the fishery of Rush Creek between 1941
18 and the present. I will read each change described in
19 this report and ask if you agree or disagree with the
20 conclusion.
21 First, "Gravels of suitable spawning size were
22 once more abundant in Rush Creek, particularly below
23 the Narrows. Most of these gravels were mobilized and
24 transported in the 1960s flood waters to Mono Lake and
25 are now stranded and dry channels inaccessible to fish.

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01 As a consequence, most remaining gravels are too course
02 and the few suitably sized gravels are cemented -- "
03 A BY DR. CHAPMAN: You're reading from a different
04 report. This uses the word "flush." You used the word
05 "mobilized." There's something different about these
06 reports.
07 Q My apologies. The copy that I obtained from my
08 colleague is the draft and not the final.
09 A Probably got it from Mr. Dodge.
10 MR. DODGE: Who said that? Want to go double or
11 nothing on where Indian Ditch is?
12 (Laughter.)
13 HEARING OFFICER del PIERO: Come on, Guys, it's
14 4:30, and I've been here a long time.
15 Mr. Roos-Collins, continue, please.
16 Q BY MR. ROOS-COLLINS: Let's take a different
17 approach. Pages 3-1 through 3-2 of this exhibit set
18 forth a number of paragraphs, bulleted paragraphs. I'd
19 like you to read each bulleted paragraph, and after you
20 read it, tell me if you agree or disagree.
21 A BY DR. CHAPMAN: First paragraph, "Gravels of a size
22 suitable for spawning, that is .5 to 1.5 inches in
23 diameter, were once abundant in Rush Creek particularly
24 below the Narrows. Most of these spawning gravels were
25 flushed from the stream or stranded in now abandoned

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01 channels during the monumental floods of the late
02 1960s. Most remaining channel bottom sediments are
03 either too course or are cemented leaving little
04 spawning habitat."
05 I don't agree with that.
06 "Channels have been widened by as much as 300
07 percent. This has greatly reduced the availability of
08 deep water habitat for fish and has increased the
09 fluctuations in water temperature."
10 I certainly don't agree with the first portion of
11 that paragraph that talks about that availability of
12 deep water habitat for Mr. Vestal says there was very
13 little of that in 1947 in his report.
14 "Straightening an abandonment of channels
15 particularly in the Rush Creek bottom lands has reduced
16 the length of stream available to trout by over 15,000
17 feet."
18 I can't agree with that in total. Certainly, the
19 length of depth of distributional channels has changed
20 in the bottom lands, but the degree to which those
21 lengths were used by trout is in question. Certainly,
22 didn't have the effect on the change in fishing as the
23 springs declined.
24 "Channel straightening in combination with
25 incision has increased the stream gradient and as a

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01 consequence the stream velocity."
02 HEARING OFFICER del PIERO: Mr. Roos-Collins, you
03 have one minute.
04 DR. CHAPMAN: I'd agree with that.

05 "This and the shortage of high-flow refuge habitat
06 has likely caused a reduction in net growth of fish."
07 We don't know that. I don't think the author of
08 this knows, either.
09 "In reach four, channel incision widening together
10 with the abandonment of many channels and the loss of
11 springs has caused a lowering of the water table and a
12 consequent loss of wetland and riparian vegetation."
13 I'd agree with that.
14 "This has reduced shading, increased water
15 temperature fluctuations, eliminated much instream
16 woody cover, diminished the resistance of channel banks
17 to erosion, and altered the pattern of nutrient cycle."
18 DR. PLATTS: Some of it yes, and some parts we
19 don't know.
20 DR. CHAPMAN: I think the portions down to here
21 I'd agree with. I don't know that it's altering the
22 pattern of nutrient cycle.
23 MR. BIRMINGHAM: Excuse me. For purposes of the
24 record, could Dr. Chapman tell us when he says, "Down
25 to here," what he's referring to?

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01 DR. CHAPMAN: Would I what?
02 HEARING OFFICER del PIERO: He's your witness,
03 Mr. Birmingham. I assumed you knew.
04 MR. BIRMINGHAM: Dr. Chapman, when you point to a
05 place --
06 HEARING OFFICER del PIERO: I'm sorry,
07 Mr. Birmingham.
08 Dr. Chapman, when you indicated you agreed to a
09 certain point on that page, if you'd be kind enough to
10 indicate for the record.
11 DR. CHAPMAN: I certainly apologize.
12 HEARING OFFICER del PIERO: Mr. Birmingham and I
13 were wondering the same thing right about then.
14 DR. CHAPMAN: I think that was in reference in the
15 second paragraph on Page 3-2, Dr. Platts and I agreed
16 with the statements down to the word "erosion" in the
17 sixth line and disagreed, we don't know the answer to
18 the last portion of the paragraph.
19 HEARING OFFICER del PIERO: Thank you, Sir.
20 DR. CHAPMAN: The next paragraph. "Many Rush
21 Creek channels have been clogged with cobbles from
22 corry spoils that stood along the west bank of the
23 stream near the Rusher," Rush-Walker did they mean?
24 "Rush Creek-Parker Creek confluence."
25 True.

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01 "The combination of channel widening, steepening,
02 straightening, and incision now prevents the stream
03 from overflowing into its broad former flood plane."
04 DR. PLATTS: I'd say part of the flood plane, yes.
05 There is some flood planes.
06 DR. CHAPMAN: "This delinking of the stream with
07 another flood plane restricts the growth of flood
08 dependent vegetation to a narrow band immediately
09 adjacent to the active channel. The now abandoned
10 flood plane is no longer subjected to sediment

11 deposition and seasonal watering restricting the
12 establishment of maintenance of riparian vegetation and
13 wetlands."

14 We can't agree with all of that because portions
15 of the flood plane are building banks. They are
16 getting sediment deposition and seasonal watering, and
17 they are establishing and maintaining riparian
18 vegetation and wetlands.

19 Final paragraph, "As a consequence of Rush Creek's
20 inability to overtop the banks of its widened and
21 deepened channel during times of high discharge, the
22 stream now attains higher flood velocity inducing bank
23 erosion and stressing fish."

24 I think we can go along with the part up to
25 "inducing bank erosion," but nobody knows about

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01 stressing fish as a result of high water. That's
02 nonsense.

03 MR. ROOS-COLLINS: Mr. del Piero, I request five
04 additional minutes. I have two further questions.
05 First, oh --

06 HEARING OFFICER del PIERO: Go ahead,
07 Mr. Roos-Collins.

08 Q BY MR. ROOS-COLLINS: First, are the grounds for your
09 disagreement with the paragraphs you just read stated
10 in your written testimony?

11 A BY DR. CHAPMAN: In general terms, yes, and they're
12 also stated in our presentation today and in
13 cross-examination today.

14 Q Thank you.

15 Second question, assume that the mandate of this
16 Board is to reestablish and maintain the fishery which
17 existed before 1941. Dr. Platts, you've previously
18 testified that the Board could more or less consider
19 its duty done if the fishery today is equal to or
20 superior to the pre-1941 fishery.

21 A BY DR. PLATTS: I don't think I did testify to that.

22 Q Then let me strike that and just ask you to assume
23 that the purpose of this proceeding is to reestablish,
24 maintain the fishery which existed before 1941. Do you
25 have a recommendation as to the flow regime necessary

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01 to maintain the pre-1941 fishery today?

02 A I do not. We have not looked at flow regimes at
03 this time.

04 MR. ROOS-COLLINS: Thank you. No further
05 questions.

06 HEARING OFFICER del PIERO: Thank you very much.
07 Ms. Scoonover?

08 MS. SCOONOVER: I have no questions,
09 Mr. del Piero.

10 HEARING OFFICER del PIERO: Thank you.
11 Mr. Haselton?

12 RE-CROSS EXAMINATION BY MR. HASELTON

13 Q Dr. Chapman, when you started this morning, it
14 probably seemed like about pre-diversion time.

15 Could you -- you went through the process to
16 establish your opinions and testimonies, and you
17 described statements, anecdotal statements. I'm trying
18 to sift through what you consider were substantiated,

19 and I don't mean to put words in your mouth. So please
20 correct me if I'm wrong, but that you felt were
21 scientifically sound to try and determine what the
22 conditions actually were before 1940. Is that true?
23 A Yes.
24 Q You know, one of the -- and I don't mean to sound
25 like a marketing director for the Arcularius Ranch, it Ô

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01 doesn't really need one. One of the special
02 experiences at the ranch is that John and his father
03 has maintained albums, photo albums since the early
04 twenties, and in these photo albums there's the
05 invariable pictures of people holding up stringers of
06 fish, fairly traditional pictures. And my question is
07 as part of this proceeding have any of these parties
08 here provided you with photographs of any fish?

09 A BY DR. CHAPMAN: No.

10 MR. HASELTON: Thanks.

11 HEARING OFFICER del PIERO: Thank you very much.
12 Anyone else wishing to ask questions? Mr. Frink?

13 MR. FRINK: No, but Mr. Canaday.

14 HEARING OFFICER del PIERO: Mr. Herrera,
15 Mr. Canaday?

16 RE-CROSS EXAMINATION BY THE STAFF

17 Q BY MR. CANADAY: Can you describe the period of time
18 for me again that you're using to describe the fishery
19 that existed pre-project?

20 A BY DR. PLATTS: In the evaluation reach? We used the
21 decade prior, 1930 to 1940, '41.

22 Q And that decade had wet years. I recall you
23 testifying that it had wet years. It had dry years.

24 A And normal years.

25 Q And normal years.

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01 A Yes, you're correct.

02 Q To characterize a western trout fishery, and
03 that's what we're talking about is a western trout
04 fishery, we need to know the recent -- if we're -- and
05 by "fishery," I'm talking about the population. We
06 would need to know the recent history of the stream and
07 the longer term history of the stream that led to this
08 complex of rivering conditions that supports this
09 fishery.

10 By the "rivering conditions," I'm talking about
11 riparian vegetation, channel morphology which we've
12 talked about, and flow regime. Is that correct?

13 A That's correct.

14 A BY DR. CHAPMAN: Well, I won't quite agree with
15 that. To characterize a fishery, one need not have all
16 that historical information. I've been using fishery
17 here in the sense of the catching.

18 Q If one was going to try to characterize a fishery,
19 a population, wouldn't it be beneficial to understand
20 or have that history?

21 A It would depend on the objective of the
22 characterization. If it's simply to characterize

23 what's there in this instance, this year, you don't
24 need the history. You can talk about catch rate, fish
25 size, fish density, fish biomass, and describe the

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01 fishery and characterize it without having any history.

02 If the objective is to determine what has happened
03 to the fishery over time, what might happen to it in
04 the future, what the ecology of the animals has been
05 affected by, then one would want more information than
06 the kinds of things I talked about.

07 Q And so what you're suggesting then is a fishery, a
08 population very dynamic and responsive to the changes
09 in the rivering concept, correct?

10 A They are responsive usually with time lag.

11 Q How long would that time lag be, in your
12 estimation?

13 A Well, based on our experience, I would say that
14 that time lag could be a period of several years.
15 We're not going to see an instantaneous change in the
16 fish population as a result of a change in flow, for
17 example.

18 Q So you don't believe we should -- if we were going
19 to characterize a fishery that existed prior to 1941,
20 that seems to be what everybody's talking about today,
21 or shooting for to characterize a fishery that existed
22 then, that we shouldn't use a longer period of time
23 than the period from '30 to '39 to try to characterize
24 what kind of fishery that stream would support?

25 A Well, we thought that a 10-year period was

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01 sufficient to pretty well characterize the habitat
02 conditions and to infer from those habitat conditions
03 what the fish populations must have faced. I would
04 think a 10-year span or 11-year span would be
05 sufficient to do that in the 1941 period.

06 If we went much further back from that, it
07 probably wouldn't be very meaningful to talk about 1919
08 or 1920 or '25.

09 Q Why wouldn't it be meaningful?

10 A Well, because back in that -- brown trout weren't
11 even introduced in Rush Creek until 1919, so we had
12 other species present, the eastern brook trout and cut
13 throat and perhaps some rainbow. I know some steelhead
14 were planted there, some stickleback inadvertently. I
15 think one would want to have a period of time
16 sufficient for those brown trout to establish
17 themselves, and I gather from reading the broad
18 information that's available that that happened before
19 1940 and probably happened in the twenties.

20 There was an egg taking station placed in Rush
21 Creek to capture brown trout for eggs in -- above Grant
22 Lake in, I believe, the period of the thirties, late
23 thirties, and to me that indicates the brown trout were
24 well established in Rush Creek by then.

25 Q So would you suggest a monitoring program ten

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01 years or less to establish the fisheries?

02 A To establish --

03 Q To establish the fisheries trends? If you were

04 going to try to monitor the population to establish
05 whether that population is recovering or meeting some
06 sort of criteria?

07 A I think one or two years is not sufficient. One
08 has to go for a longer span of time than that. We've
09 got to look at a generation or two, minimum.

10 Q And how long would that be?

11 A Well --

12 Q In Rush Creek. What would be the generation --
13 generation time for -- at each class of fish?

14 A Well, I think most of the fish in Lower Rush Creek
15 were about -- probably average age was a couple of
16 years given the sizes of the fish involved. So that
17 means that you could expect a newly recruited group of
18 two-year-olds to appear every -- you're going to see
19 one coming every year.

20 Some of the population of Lower Rush Creek may
21 have been recruited from Grant Lake, in fact, and --
22 but if we assume that all the fish were produced in
23 Lower Rush Creek, then I would say watching the -- for
24 example, in Vestal's material, the catch of those fish
25 over a five-year span reflects those fish as they

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01 appear over five successive years in the Age Two group
02 because that had to be the major portion of the wild
03 fish stock.

04 Q So the wild fish were reaching eight inches, 200
05 millimeters in about two years?

06 A Yeah.

07 MR. CANADAY: That's all I have.

08 HEARING OFFICER del PIERO: Mr. Herrera?

09 Q BY MR. HERRERA: I've just got one follow up on
10 that.

11 I was trying to follow, again, Mr. Canaday's
12 question in asking you how long would you monitor a
13 situation -- and what I'm getting at is let's say we
14 want to go check on the condition of the fishery from
15 this point forward, let's say for the next whatever
16 number of years, to determine its condition, and I hear
17 you've got a two-year turnover in fish to some degree.

18 How long would you continue that to determine --
19 to feel comfortable that you knew the condition of that
20 fishery?

21 A BY DR. CHAPMAN: We've testified in proceedings about
22 monitoring that one ought to continue to watch the
23 developments as the riparian system improves and the
24 habitat improves for, say, a 20-year span. But you
25 don't to have look at it every
year.ô

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01 MR. HERRERA: Thank you that was my question.

02 HEARING OFFICER del PIERO: Any other Staff
03 questions?

04 I've got a couple of questions and then hopefully
05 we'll be done.

06 RECROSS EXAMINATION BY THE BOARD

07 Q BY HEARING OFFICER del PIERO: Mr. Dodge, I apologize

08 I didn't get you out of here by 4:30. I've got a
09 three-hour drive.
10 Take a look at that. Dr. Platts, you indicated,
11 pursuant to some questioning by Mr. Birmingham, that
12 that picture represents indicia of a stream that has
13 been adversely impacted by grazing. Is that correct?
14 A BY DR. PLATTS: That is correct.
15 Q Can you -- in the center to the right side of the
16 picture is a clump of vegetation; is that true?
17 A That is true.
18 Q And can you identify what that is?
19 A Without the leaves, no, but I would assume it's
20 willow.
21 Q Okay. Does it appear that that clump has been
22 impacted by grazing animals?
23 A Yes. It appears it's a fairly young stand. It
24 also appears that the young willow trying to come in
25 within that stand and bordering that stand are being

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01 held back.
02 Q Is it your experience when grazing animals are
03 short on forage or are inclined to eat vegetation like
04 willows that, whether it be sheep or cattle, there's
05 some indication of trampling taking place?
06 A Yes. Not only trampling, but also there is a lot
07 of breakage of the actual willows themselves.
08 Q Does it appear that there's any there?
09 A Yeah. I see in the background where there's been
10 a lot of breakage.
11 Q In that one clump that I was pointing to?
12 A It's a young clump.
13 Q How old do you anticipate that clump to be?
14 A I'd have a hard time estimating. I would assume
15 that clump is less than five to ten years old.
16 Q Okay. Let's take a look at the stream bank.
17 A Yes.
18 Q Now, before you even start looking at it, you're
19 welcome to look at it intently because that's what I've
20 been doing up here. Tell me those things you look for
21 to show the impact of animals on the stream bank.
22 A First, I look to see how well the water column is
23 synchronizing with the stream banks and how well the
24 stream bank can control the flow. Then I look at the
25 stream bank form as to see whether it's undercut or

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01 whether it's rounded. I also look at the stream bank
02 to see if it's in its place it should be.
03 Q Okay. Dr. Platts, let me ask you a question. Is
04 the majority, if not all but the one section of that
05 stream bank where the stream turns, undercut?
06 A There's a little bit of undercut on the left side
07 looking -- of the photo.
08 Q And on the right side, also?
09 A If you look very closely.
10 Q If you look very closely. I know the quality of
11 the picture's not very good. I didn't mean to be rude,
12 but I was looking very closely at it to see whether or
13 not it's undercut. It appears that it is undercut. In
14 fact, it appears to me that almost the entirety of that
15 stream with the exception of where this creek turns is

16 undercut. Isn't that true?
17 A It is not true.
18 Q What portion of it is not undercut, in your
19 opinion?
20 A I would, you know, speaking of a natural undercut,
21 a significant --
22 Q Let's assume no one was out there providing
23 artificial undercuts, so whatever natural undercut is
24 there one would assume is natural.
25 A I would say in this photo that the banks you're ô

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01 referring to now, there's only a small percentage of it
02 that's undercut.
03 Q Only a small percentage?
04 A Yes. The waters are very shallow when it meets
05 these banks, and the banks are kind of sitting off.
06 Therefore, the undercut is not over the water columns.
07 Q Oh, okay. And the banks are not -- are rounded?
08 A Yes. The banks are rounded.
09 Q Is that indicative of watering taking place by
10 animals?
11 A Yes. That's indicative of the animals constantly
12 moving in and constantly moving off, and sometimes it's
13 indicative of actual heavy grazing right on the banks.
14 Q Is it also normally indicative of heavy grazing
15 for there to be a significant amount of vegetation on
16 the rounded bank?
17 A At times, yes. Depends on the time of the
18 grazing.
19 Q Would one normally assume that if grazing were
20 taking place it would take place in the spring of the
21 year?
22 A No. Not necessarily.
23 Q How, in terms of range management practices, did
24 grazing take place along that water course?
25 A I think mainly --

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01 Q Because normally, it's my understanding that by
02 June everything pretty much dries up, and so the value
03 in terms of nutrition for grazing animals would be
04 lost.
05 A Yes. But they did graze season-long continuous,
06 and they also had winter grazing. So at times there
07 were winter grazing during the complete year, and at
08 other times they were concentrating the grazing during
09 the season-long period.
10 Q I understand that, but I'm asking you about that
11 picture.
12 A I would assume here that these metals were grazed
13 off and on during the year whenever the sheep herders
14 brought them down to water or whenever they brought
15 them down because forage was light in the uplands.
16 Q When did forage get light in the uplands?
17 A Forage gets light in the uplands during the late
18 part of the summer when a lot of the vegetation starts
19 drying up.
20 Q Is it normal to assume that they would not be
21 there in the early spring since there was mostly snow
22 in the uplands?

23 A I would assume that they were not there in the
24 early spring.

25 Q Would it be normal to assume that most grazing
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01 took place in the lower areas in the springtime?

02 A Yes. I would assume that at this time of the
03 year, most of the grazing was being done actually out
04 of the basin.

05 Q Would you turn that picture over and read the date
06 on it, please?

07 A It says, "May 2nd, 1948." I would assume that
08 that's a little bit early for a lot of grazing to have
09 taken place in the basin.

10 Q How early?

11 A I don't -- how early does grazing come in?

12 Q No. How "a little early" is, in your estimation,
13 for that year?

14 A I would think in May that these stream banks
15 haven't been too long without snow cover, and plant --

16 Q Do you normally see that amount of vegetation?

17 A Yes. There's some pretty fair vegetation here in
18 places.

19 Q Too long after the snow's melted?

20 A A lot -- some of this is residual vegetation. I
21 noticed the willow hasn't even started to leaf yet, but
22 it appears that there are some grass species starting
23 to show above the residual vegetation.

24 Q Given the magnitude of the vegetation there, then,
25 let me ask you how can you tell if that particular area

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01 of the creek has been over grazed?

02 A Mainly because of the form of the bank, and it
03 looks like its over widened. And I can see the banks
04 on the left side going down or actually have some
05 erosion going on. The willow has been set back. A lot
06 of mechanical damage on the older willow. It just has
07 all the indications of a heavily-grazed stream.

08 Q Thank you.

09 Dr. Chapman, one question. Normally, in the
10 eastern Sierra streams where you have multiple
11 channels, does that normally enhance trout habitat,
12 assuming that they're watered?

13 A BY DR. CHAPMAN: Not necessarily, Mr. del Piero.

14 Q Okay. Tell me what it necessarily implies.

15 A Well, multiple channels have a downside, and that
16 is that the main thread of the channel or a single
17 channel, then, no longer has the water volume to
18 support maintenance flows for bank buildings.

19 Q You're assuming things I have not asked you.

20 A Very well.

21 Q I'm asking given a normal eastern Sierra stream
22 with normal water flows running through it, if that
23 exists and I doubt it does, but we'll use that because
24 everyone else has been asking you that, giving you that
25 example on both sides, is it reasonable to assume if

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01 you have multiple channels that are watered that that
02 would expand the potential habitat for trout?
03 A It would -- you answer it.
04 A BY DR. PLATTS: When the boss speaks, I react.
05 If you're saying normal streams along the eastern
06 Sierra if they have multiple channels, usually you have
07 less fish population.
08 Q That's not what I'm asking.
09 A What are you asking?
10 Q I'm asking about trout habitat.
11 A Yes, trout habitat.
12 Q Not population.
13 A Do you have more trout habitat?
14 Q Yes.
15 A BY DR. CHAPMAN: You may have more habitat.
16 Q That's all I asked. Thank you.
17 A For portions --
18 HEARING OFFICER del PIERO: That's all I asked.
19 I've come -- one thing I've come to the conclusion on
20 during the course is that no one here is going to be
21 able to give me any definitive information as to the
22 static population of fish in Rush Creek given the
23 numbers taken out and put back in over the last 30 or
24 40 years. So that's a decision this Board's going to
25 have to arrive at on its own.

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01 I have no further questions. I'd like to thank
02 you, Gentlemen, very much for your time today.
03 Ladies and Gentlemen, the next continuance of this
04 hearing is until the 8th of November; is that correct?
05 MR. CANADAY: Monday the 8th of November.
06 HEARING OFFICER del PIERO: Nine o'clock.
07 MR. CANADAY: Nine o'clock.
08 HEARING OFFICER del PIERO: This room?
09 MR. CANADAY: Yes, Sir.
10 HEARING OFFICER del PIERO: Questions before we
11 depart?
12 You're welcome to give these back to
13 Mr. Birmingham.
14 MR. BIRMINGHAM: Mr. del Piero, a procedural
15 question. Would you prefer that I postpone my motion
16 to admit the testimony and exhibits until after the
17 presentation of our entire case in chief?
18 HEARING OFFICER del PIERO: Normally, I would --
19 I'd ask that that be done, but I think -- I think what
20 I'm going to do in terms of these gentlemen and their
21 exhibits, why don't you offer them today? I'll direct
22 that they be admitted today and then -- and the only
23 reason I'm doing that is because there's such a break
24 in time between now and the next hearing date.
25 If you want to offer their exhibits today, I'll accept

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01 them unless I hear objections from any of the parties.
02 Am I going to hear any? No? If you want to make that
03 offer for their exhibits today, we'll do that.
04 MR. BIRMINGHAM: I would make the motion to admit
05 L.A. DWP Exhibits 1 through 8 including L.A. DWP
06 Exhibits 1-A into the record.

07 HEARING OFFICER del PIERO: 1-A is which one?
08 MR. BIRMINGHAM: It's the 1930 --
09 HEARING OFFICER del PIERO: That's the picture?
10 MR. BIRMINGHAM: Yes.
11 HEARING OFFICER del PIERO: And the rest of them
12 are the ones that were already introduced?
13 MR. BIRMINGHAM: Yes, that's correct.
14 HEARING OFFICER del PIERO: Okay. Any
15 objections? So ordered.
16 (L.A. DWP Exhibits Nos. 1
17 through 8 and 1-A were
18 admitted into evidence.)
19 HEARING OFFICER del PIERO: Mr. Dodge?
20 MR. DODGE: May I just request that we get decent
21 copies of those pictures before they're put in front of
22 another witness?
23 HEARING OFFICER del PIERO: Yeah.
24 Mr. Birmingham? How long do you think it's going
25 to take you to prepare copies for all the parties?

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01 MR. BIRMINGHAM: Ms. McKeever, how long?
02 MS. MCKEEVER: Next week.
03 MR. BIRMINGHAM: We will provide them to the
04 parties at the Vestal deposition because, in fact, they
05 may be -- they may be a subject of questions at that
06 deposition.
07 HEARING OFFICER del PIERO: That's fine.
08 Is that acceptable, Mr. Dodge?
09 MR. DODGE: That would be fine, your Honor.
10 HEARING OFFICER del PIERO: Okay.
11 Ms. Scoonover, any questions?
12 MS. SCOONOVER: No, Mr. del Piero.
13 HEARING OFFICER del PIERO: Mr. Roos-Collins, any
14 questions?
15 MR. ROOS-COLLINS: No questions.
16 HEARING OFFICER del PIERO: Ms. Cahill, any
17 questions?
18 MS. CAHILL: No.
19 HEARING OFFICER del PIERO: Mr. Haselton?
20 MR. HASELTON: No, Sir.
21 HEARING OFFICER del PIERO: Ladies and Gentlemen,
22 I think that -- I'm sorry, Mr. Canaday? I didn't see
23 that finger waving in the air.
24 MR. CANADAY: Please pick up your garbage. We
25 have to restore this room back for a board meeting on

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01 Monday, so --
02 HEARING OFFICER del PIERO: They don't count.
03 MR. BIRMINGHAM: Can we leave our exhibits here.
04 HEARING OFFICER del PIERO: Sure. We'll actually
05 secure the exhibits in the locked room, but be aware
06 that if you need them, it's going to -- you're going to
07 have to notify us in advance to get in at them because
08 not everybody's got a key.
09 MR. BIRMINGHAM: Thank you.
10 HEARING OFFICER del PIERO: Ladies and Gentlemen,
11 this hearing will be continued until the 8th of
12 November.
13 (Whereupon the proceedings were adjourned
14 at 4:57 p.m.)

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REPORTER'S CERTIFICATE

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03 STATE OF CALIFORNIA)

03) ss.

04 COUNTY OF SACRAMENTO)

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05 I, KELSEY DAVENPORT ANGLIN, certify that I was the
06 official court reporter for the proceedings named
07 herein; and that as such reporter, I reported, in
08 verbatim shorthand writing, those proceedings, that I
09 thereafter caused my shorthand writing to be reduced to
10 typewriting, and the pages numbered 1 through 233
11 herein constitute a complete, true and correct record
12 of the proceedings:

13

14 PRESIDING OFFICER: Marc del Piero

15 JURISDICTION: State Water Resources Control Board

16 CAUSE: Mono Lake

17 DATE OF PROCEEDINGS: October 29, 1993

18

19 IN WITNESS WHEREOF, I have subscribed this
20 certificate at Sacramento, California, on this 2nd day
21 of November 1993.

22

23

23

Kelsey Davenport Anglin, RPR
CM, CSR No. 8553

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