

STATE WATER RESOURCES CONTROL BOARD

PUBLIC HEARING

CALIFORNIA DEPARTMENT OF FISH AND GAME'S
LOWER YUBA RIVER FISHERIES MANAGEMENT PLAN

AND A COMPLAINT BY

THE UNITED GROUP AGAINST YUBA COUNTY WATER AGENCY
AND OTHER DIVERTERS OF WATER FROM THE LOWER YUBA RIVER
IN YUBA COUNTY

TUESDAY, APRIL 4, 2000

PAUL R. BONDERSON BUILDING

SACRAMENTO, CALIFORNIA

9:00 A.M.

Reported by:

MARY R. GALLAGHER, CSR #10749

CAPITOL REPORTERS (916) 923-5447

A P P E A R A N C E S

---oOo---

HEARING OFFICER:

JOHN BROWN

BOARD MEMBER:

MARY JANE FORSTER

COUNSEL:

DANIEL N. FRINK, ESQ.

STAFF:

ALICE LOW - ENVIRONMENTAL SPECIALIST
ERNEST MONA - ENGINEER

---oOo---

CAPITOL REPORTERS (916) 923-5447

1983

REPRESENTATIVES

---oOo---

YUBA COUNTY WATER AGENCY:

BARTKIEWICS, KRONICK & SHANAHAN
1011 Twenty-Second Street
Sacramento, California 95816
BY: ALAN B. LILLY, ESQ.

BROWNS VALLEY IRRIGATION DISTRICT:

BARTKIEWICS, KRONICK & SHANAHAN
1011 Twenty-Second Street
Sacramento, California 95816
BY: RYAN BEZERRA, ESQ.

SOUTH YUBA WATER DISTRICT &
CORDUA IRRIGATION DISTRICT:

MINASIAN, SPRUANCE, BABER, MEITH, SIARRES & SEXTON
1681 Bird Street
Oroville, California 95965
BY: PAUL R. MINASIAN, ESQ.

CALIFORNIA DEPARTMENT OF WATER RESOURCES:

DAVID A. SANDINO, ESQ.
1416 Ninth Street, Room 1138-2
Sacramento, California 95814

SOUTH YUBA RIVER CITIZENS LEAGUE:

LAWRENCE D. SANDERS, ESQ.
216 Main Street
Nevada City, California 95959

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE:

ROBERT J. BAIOCCHI
P.O. Box 1790
Graegle, California 96103

---oOo---

CAPITOL REPORTERS (916) 923-5447

1984

REPRESENTATIVES

---oOo---

BROPHY WATER DISTRICT:

DANIEL F. GALLERY, ESQ.
929 J Street, Suite 505
Sacramento, California 95814

WESTERN WATER COMPANY & WESTERN AGGREGATES, INC.:

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD
400 Capitol Mall, 27th Floor
Sacramento, California 95814
BY: SCOTT A. MORRIS, ESQ.

NATIONAL MARINE FISHERIES SERVICE:

STEVEN A. EDMONDSON
777 Sonoma Avenue, Room 325
Sant Rosa, California 95404

CALIFORNIA DEPARTMENT OF FISH & GAME:

OFFICE OF THE ATTORNEY GENERAL
1301 I Street, Suite 1101
Sacramento, California 95814
BY: WILLIAM D. CUNNINGHAM, ESQ.

UNITED STATES DEPARTMENT OF THE INTERIOR:

REGIONAL SOLICITOR'S OFFICE
2800 Cottage Way, E-1712
Sacramento, California 95825
BY: EDMUND GEE, ESQ.

WALTER COOK:

WALTER COOK
42 Northwood Commons
Chico, California 95973

---oOo---

CAPITOL REPORTERS (916) 923-5447

1985

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N D E X

---oOo---

	PAGE
OPENING OF HEARING	1987
AFTERNOON SESSION	2101
END OF PROCEEDINGS	2284
CROSS-EXAMINATION OF THE DEPARTMENT OF FISH AND GAME:	
MR. GEE	1987
MR. BAIOCCHI	1998
MR. SANDERS	2009
MR. COOK	2029
MR. LILLY	2049
MR. MINASIAN	2163
MR. MORRIS	2223
BY STAFF	2228
REDIRECT EXAMINATION OF CALIFORNIA DEPARTMENT OF FISH AND GAME:	
MR. CUNNINGHAM	2248
RE-CROSS-EXAMINATION OF CALIFORNIA DEPARTMENT OF FISH AND GAME:	
MR. LILLY	2263
MR. MINASIAN	2265

---oOo---

CAPITOL REPORTERS (916) 923-5447

1986

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

TUESDAY, APRIL 4, 2000, 9:00 A.M.

SACRAMENTO, CALIFORNIA

---oOo---

H.O. BROWN: Come to order. We're ready for cross
this morning.

Mr. Gee, I believe you're up.

---oOo---

CROSS-EXAMINATION CALIFORNIA DEPARTMENT OF FISH AND GAME

BY THE U.S. DEPARTMENT OF INTERIOR,

FISH AND WILDLIFE SERVICE

BY MR. GEE

MR. GEE: Thank you, Mr. Brown. My name is Edmund
Gee. I'm an attorney with the United States Department of
Justice. I have questions for this panel today. And I'll
start with Mr. McEwan. You are a steelhead specialist; is
that correct?

MR. MCEWAN: Yes. I'm a senior fishery biologist, a
senior biologist with the Department of Fish and Game.
And currently my work assignment is steelhead specialist
with the Department.

MR. GEE: How would you as a biologist define "good
condition" as it relates to fish?

MR. MCEWAN: Well, I think the Yuba County Water
Agency's testimony, I believe it's Exhibit 19, describes
the methodology fairly well and the background behind the

CAPITOL REPORTERS (916) 923-5447

1987

1 different descriptions of "good condition."

2 I think I would agree with that, particularly
3 Professor Moyel's description of "good condition" when you
4 look at individual fish and populations and then fish
5 communities. All of those three components being healthy,
6 then, that would probably constitute a river in good
7 condition, a fish in good condition.

8 Darryl Wong's definition used in the Mono Lake
9 hearings, I think, adds a fourth element that I think is
10 important and that's habitat condition as an indicator of
11 good condition. So I think I would refer back to that
12 exhibit, Yuba County Water Agency's exhibit. And I think
13 I would agree with their definition of "good condition."

14 MR. GEE: Are steelhead in the Yuba River in good
15 condition?

16 MR. MCEWAN: I don't think there's any conclusive
17 evidence to show that.

18 MR. GEE: Is there any circumstantial evidence to
19 support whether they are or not in good condition?

20 MR. MCEWAN: I think the circumstantial evidence
21 suggests they are not in good condition. Steelhead in the
22 Central Valley, as I presented in my testimony, have been
23 declining considerably in the past several decades, the
24 past 50 years probably.

25 The well-recognized and well-documented reason

CAPITOL REPORTERS (916) 923-5447

1988

1 for that decline is related to water development,
2 particularly, the placement of dams at very low elevations
3 that have blocked much -- nearly all, anywhere between 80
4 to 90 percent of the estimates of the historical spotting
5 and rearing habitat for steelhead.

6 The other condition is late summer and early
7 fall - or the other impact - I should say, is late summer
8 and early fall high water temperatures that are a
9 detriment to steelhead rearing during those periods.
10 That's well documented that that's occurred throughout the
11 Central Valley and is a primary reason for the decline.
12 And both of those conditions appear in the Yuba River.

13 MR. GEE: So these conditions as you stated both
14 occur in the Yuba River?

15 MR. MCEWAN: Yes.

16 MR. GEE: Historically, how far upstream did
17 steelhead migrate in the Yuba River system?

18 MR. MCEWAN: It's, actually -- we have some -- in
19 the Central Valley, there's not a lot of good
20 documentation, historical documentation on the steelhead,
21 but the Yuba River is, fortunately, one of those places
22 where we do have some fairly good documentation.

23 There is documentation that on the North Fork
24 steelhead ascended all the way to the mouth of the Downie
25 River, which is near present day Downieville on the North

CAPITOL REPORTERS (916) 923-5447

1989

1 Fork, about 15 to 20 miles upstream of the confluence with
2 the main stem; and on the South Fork about 10 to 15 miles
3 upstream of the confluence.

4 So like most of the Sierra Nevada tributaries,
5 they did extend fairly high. They can ascend rivers
6 probably better than the other salmon species and,
7 therefore, can get usually higher into the drainage than
8 can chinook salmon.

9 MR. GEE: You refer to the Yuba County Water Agency
10 Exhibit Number 19. Is there any other evidence that has
11 been presented by Yuba County Water Agency that provides
12 conclusive evidence that suggests that the steelhead in
13 the Yuba River are in good condition?

14 MR. MCEWAN: I think that one thing that they did
15 present in their studies seems to show that there is not
16 just one year class, but several year classes, which is an
17 indicator, "an indicator" of good condition.

18 But I don't believe that there was enough of the
19 other indicators demonstrated to show that they are in
20 good condition. Particularly, there's no estimate of
21 adult run size in the Yuba River. And I think that is
22 absolutely critical to making a determination whether a
23 fish is or is not in good condition.

24 MR. GEE: And why is that?

25 MR. MCEWAN: Pardon me?

CAPITOL REPORTERS (916) 923-5447

1990

1 MR. GEE: And why is that?

2 MR. MCEWAN: Well, you just need to know, you know,
3 what the returning strength of the stock is, the number --
4 what your spawning escapement is that that's, you know, a
5 well-recognized indicator of whether or not you have
6 healthy stock.

7 And chinook salmon populations, there's -- in the
8 Central Valley there's quite a bit of emphasis and effort
9 and money put in to determining spawning stock strength,
10 spawning escapement for escapements, and surveys and other
11 things, redd surveys.

12 We just don't have that in the Yuba River at all
13 for steelhead. And, then, the other indicator, I think,
14 is one of production of steelhead themselves. And that
15 is: What is the -- has the number of smolts been
16 quantified, or even qualitatively assessed? The number of
17 smolts steelhead, juvenile steelhead that are heading out
18 to the ocean. And I didn't find anywhere in the testimony
19 of Yuba County Water Agency or others even an observation
20 of smolts in the Yuba River.

21 MR. GEE: Now, if juvenile rainbow trout in the Yuba
22 River are observed by fish surveys, these juveniles could
23 be of the nonanadromous resident type; isn't that true?

24 MR. MCEWAN: That's correct. Yeah.

25 MR. GEE: And can a juvenile steelhead and the

CAPITOL REPORTERS (916) 923-5447

1991

1 resident rainbow trout be differentiated?

2 MR. MCEWAN: Yes, they can, at that point in which
3 smoltification of juvenile steelhead is occurring, or has
4 occurred.

5 MR. GEE: You mentioned "smoltification" of smolts
6 twice already. Can you -- I'm not an expert on that. Can
7 you explain what that is?

8 MR. MCEWAN: Yeah. Smoltification is the process by
9 which a juvenile steelhead, or salmon becomes
10 physiologically ready for life in saltwater. There's a
11 fairly large scale of physiological change that has to
12 take place in order for that fish be able to live in
13 saltwater. Saltwater environment is entirely different
14 from freshwater environment.

15 It's a very abrupt change, a very big change.
16 And, in fact, most fish species can't do it. They're
17 either obligatory freshwater species, or obligatory rain
18 species. But this anadromous life history that's
19 developed in the few fish groups allows them to live in
20 both environments and take advantage of both.

21 But there is a very big change that has to occur
22 physiologically: The gills and kidneys and other
23 structures are changing to be able to excrete chloride
24 ions, the fish -- that's the biggest physiological change.

25 And another, the metabolism is changing as well.

CAPITOL REPORTERS (916) 923-5447

1992

1 And this is manifested in an outward appearance of the
2 fish becoming very silvery. Guanin builds up in the
3 scales, the parr marks which are the large round ovals on
4 the side of the fish become very faded or absent. The
5 scales themselves become very deciduous, they come off
6 very easily.

7 So you have an appearance of a very silvery fish,
8 usually a little more elongate than a resident rainbow
9 trout. And at that stage, that's what's known as the
10 smolt stage of steelhead. And since those-- because those
11 fish are changing to live in saltwater and they're on
12 their way to the ocean, and this is occurring I might add,
13 as the fish is moving downstream in freshwater.

14 So at that stage that is at the point where you
15 can say that this is a steelhead. It is not a resident
16 rainbow trout. It's not in the ocean yet, but it's on its
17 way to ocean both physiologically and movement wise.

18 MR. GEE: Thank you very much. My next questions go
19 to Mr. Nelson.

20 Mr. Nelson, you are a fishery biologist; is that
21 correct?

22 MR. NELSON: That's correct.

23 MR. GEE: And you testified as to the number of
24 fishes that the Department of Fish and Game has sampled at
25 the Hallwood-Cordua's diversion fish screen; is that

CAPITOL REPORTERS (916) 923-5447

1993

1 correct?

2 MR. NELSON: Yes, over the last two years.

3 MR. GEE: And the Hallwood-Cordua's fish screens are
4 located adjacent to the Daguerre Dam on the north side of
5 the river; is that correct?

6 MR. NELSON: That's correct.

7 MR. GEE: It's my understanding that there is a
8 diversion on the south side of the river adjacent to the
9 fishery dam; is that correct?

10 MR. NELSON: Yes, there is.

11 MR. GEE: And what is the name of that diversion?

12 MR. NELSON: South Yuba-Brophy.

13 MR. GEE: Are the Yuba Goldfields also on the south
14 side of the river adjacent to the Daguerre Point Dam?

15 MR. NELSON: Yes, they are.

16 MR. GEE: And are you familiar with the Yuba
17 Goldfields?

18 MR. NELSON: Fairly much. I've spent quite a bit of
19 time out there.

20 MR. GEE: Now, is water discharged from the
21 Goldfields?

22 MR. NELSON: Yes. Water is discharged from the
23 Goldfields currently at a point approximately
24 three-quarters to one mile downstream from Daguerre Point
25 Dam.

CAPITOL REPORTERS (916) 923-5447

1994

1 MR. GEE: And are salmonids, adult salmonids
2 attracted into this fish --

3 MR. NELSON: They have in the past. Over the last
4 several years we have observed, on various occasions, from
5 a few fish to several hundred fish that have been
6 attracted up through that outfall into the Goldfields,
7 adult fish, adult fall-run chinook salmon.

8 MR. GEE: Thank you. And in your opinion, as a
9 fishery biologist, is the Yuba Goldfields a desirable
10 location for the salmon?

11 MR. NELSON: No, they are not, primarily because,
12 one, there is a lack of spawning habitat for adult fish.
13 The spawning substraight is limited by the spawning
14 ripples, and the spawning substraights in the ripples are
15 limited. The ripple complex is not very large.

16 Additionally, water temperatures in the
17 Goldfields, especially in the lower ends where it
18 discharges, can be extremely high - in the high 70s -
19 while the upstream end can be in the high 50s. And it's a
20 very difficult transition for a juvenile fish to
21 outmigrate if they do survive the gravels.

22 Additionally, there's indication that food supply
23 is not adequate within the Goldfields. There is a report
24 published by U.S. Fish and Wildlife Service that evaluated
25 fishery conditions in the Goldfields. And one of their

CAPITOL REPORTERS (916) 923-5447

1995

1 findings was that food was a limiting factor for
2 juveniles.

3 And, also, the Goldfields is comprised of a
4 series of ponds. And in these ponds there are large
5 numbers of predators. And it's harder for any juveniles
6 to make it through so they can go out.

7 MR. GEE: And have there been any actions taken to
8 preclude salmonids from the Goldfields?

9 MR. NELSON: There have been several attempts. In
10 the early '80s, there was a fish barrier, which is a large
11 grate of one-inch spacings, two-inch spacings somewhere
12 were in that of magnitude, that was placed on the outfall
13 to preclude adults from entering.

14 But it proved ineffective from the standpoint
15 that it was not maintained and it was damaged by debris,
16 so adults continued to get into the Goldfields. Then,
17 during the floods of January of '97, the flows through the
18 Goldfields became so high that it actually washed out that
19 structure.

20 It remained open for several years. And
21 realizing a problem was there with adults, again,
22 returning to the Goldfields, we have worked with the
23 aggregate company to put in a temporary aggregate berm to
24 exclude adult fish for the last several years.

25 The problem with that is anytime there's high

CAPITOL REPORTERS (916) 923-5447

1996

1 water in the Goldfields, the barrier can be breached and
2 really you can't get back in until sometime in the summer
3 or late spring to replace that barrier. So we do have,
4 you know, steelhead and/or spring-run in the Goldfields.

5 And, then, this last year with funds through the
6 Anadromous Fisheries Restoration Program and the Fish and
7 Wildlife Service, we obtained funds to do preliminary
8 engineering, environmental for design of an adult barrier
9 at the Goldfields that would meet the different agencies,
10 Fish and Game, Fish and Wildlife, National Marine
11 Fisheries needs as well as hopefully meet the needs of the
12 Goldfields' owners, Western Aggregates and I think it's
13 Cal-Sierra Development. And that preliminary design has
14 not been completed at this point.

15 MR. GEE: Thank you, Mr. Nelson and Mr. McEwan for
16 your testimony and the rest of the members of the panel.

17 Mr. Brown, that's all the questions I have for
18 the panel this morning.

19 H.O. BROWN: All right. Thank you, Mr. Gee.

20 Mr. Baiocchi.

21 //

22 //

23 //

24 //

25 //

CAPITOL REPORTERS (916) 923-5447

1997

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

---oOo---

CROSS-EXAMINATION OF CALIFORNIA DEPARTMENT OF
FISH AND GAME
BY CALIFORNIA SPORTFISHING PROTECTION ALLIANCE
BY MR. BAIOCCHI

MR. BAIOCCHI: Good morning. My name is Bob Baiocchi. I'm consultant and agent for California Sportfishing Protection Alliance. My first questions and series of questions will go to Mr. Nelson.

Mr. Nelson, who operates and maintains and pays all costs for the Hallwood-Cordua diversion fish screen?

MR. NELSON: The Department operates it and maintains the screen.

MR. BAIOCCHI: Thank you.

MR. NELSON: And we, also, supply all personnel for operation of the stream.

MR. BAIOCCHI: Thank you. Has the Hallwood or Cordua Water District provided the Department of Fish and Game with timely notice of when the districts are going to begin diversions in the spring?

MR. NELSON: No. We have requested notice on - at least to Cordua - on occasions and we have never received that notice. Usually it's us having to drive out there and check the diversion on a daily basis, or weekly basis to determine when the water starts flowing.

CAPITOL REPORTERS (916) 923-5447

1998

1 MR. BAIOCCHI: Thank you. Have either the Hallwood
2 and/or the Cordua Water Districts assisted the Department
3 of Fish and Game in the operation of the fish screen?

4 MR. NELSON: No.

5 MR. BAIOCCHI: Thank you. What actions have the
6 Hallwood and/or Cordua Water Districts initiated to
7 initiate fish entrainment at their diversion?

8 MR. NELSON: None to date, but I would add that I
9 have made presentations to both the Hallwood and Cordua
10 Boards and also written them several letters requesting
11 their participation in working with us to develop a screen
12 that meets both DFG's and National Marine Fisheries
13 criteria in our needs as well as addresses their needs.

14 Cordua has been receptive to that and has shown
15 an interest to work with us. There are some out --
16 remaining issues that are unresolved with respect to the
17 watershed and operations and maintenance of that.

18 However, we are hopefully going to proceed with
19 the feasibility study. And within that feasibility study,
20 hopefully, that we can resolve those issues. And our
21 desired position is that the districts would own, operate,
22 and maintain the diversions.

23 With respect to Hallwood, I have never received a
24 return phone call or a response to any letter with respect
25 to participation. But, again, we hope that they will

CAPITOL REPORTERS (916) 923-5447

1999

1 participate through this feasibility study with maybe some
2 prodding from the other districts.

3 MR. BAIOCCHI: Thank you. Since the hearing of
4 1992, have threatened steelhead juvenile and/or adult
5 steelhead been entrained or lost at the Hallwood-Cordua
6 diversion?

7 MR. NELSON: Well, I'm sure, without a doubt, that
8 based upon this last year's salvage that we conducted
9 through the summer, that in the past years when we have
10 never operated during the late June, July, August,
11 September time frame that, at least, juvenile or yearling
12 steelhead were entrained through that diversion. Adult
13 steelhead -- I mean I would not find it unreasonable, but
14 I have no evidence to that extent.

15 MR. BAIOCCHI: Thank you. Since the hearing of
16 1992, have threatened spring-run chinook salmon,
17 juveniles, been entrained and lost at the Hallwood-Cordua
18 Diversion?

19 MR. NELSON: I think the answer would be the same as
20 for steelhead. We know that there are fish going down the
21 canals at times that we are not operating the screen,
22 which is most of the time, and there would have to be
23 adult -- or, excuse me, juvenile spring-run present at
24 that time.

25 MR. BAIOCCHI: Thank you. Since the hearing of

CAPITOL REPORTERS (916) 923-5447

2000

1 1992, have fall-run and late fall-run chinook salmon
2 juveniles been entrained and lost at the Hallwood-Cordua
3 Diversion?

4 MR. NELSON: That would be similar to the
5 spring-run, so, yes.

6 MR. BAIOCCHI: Thank you. It has been testified at
7 this hearing that threatened steelhead are in the Lower
8 Yuba River all year. Do threatened steelhead need food
9 producing habitat to exist?

10 MR. NELSON: Yes. Yes. All species do.

11 MR. BAIOCCHI: What aquatic species provide
12 threatened steelhead with food for threatened steelhead
13 survival? And that's a generalized question.

14 MR. NELSON: Well, I mean if you're talking about
15 adult steelhead, they are going to be preying upon eggs
16 from fall-run, or from salmon spawning. They would be
17 feeding on those. They would also be feeding on juvenile
18 fish that are present in the river.

19 MR. BAIOCCHI: And --

20 MR. NELSON: With respect to --

21 MR. BAIOCCHI: Vertebrates?

22 MR. NELSON: Well, to juveniles, they'll be feeding
23 on invertebrates, phytoplankton, zooplankton, depends on
24 the life stage. But basically, it would have an array of
25 food sources or food types available, from plankton to

CAPITOL REPORTERS (916) 923-5447

2001

1 prey fish.

2 MR. BAIOCCHI: Thank you. Do cold water
3 invertebrates species need cold water to survive so that
4 threatened steelhead can survive?

5 MR. NELSON: I would say, yes.

6 MR. BAIOCCHI: Okay. Thank you. And the same
7 question with respect to spring-run chinook salmon, who --
8 first of all, it has been testified at this hearing that
9 threatened spring-run are in the Lower Yuba River all
10 year.

11 First question: Do threatened spring-run need
12 food producing habitat to exist?

13 MR. NELSON: Well, the adults do not, because when
14 they come in they do not feed. But the juveniles would
15 need, again, the zooplankton, phytoplankton, invertebrates
16 to feed upon and those associated with cold water, yes.

17 MR. BAIOCCHI: Thank you. And do cold water
18 invertebrates species need cold water to survive so that
19 threatened spring-run juveniles can survive?

20 MR. NELSON: Would you repeat that one more time?

21 MR. BAIOCCHI: Do cold water invertebrates species
22 need cold water to survive so that threatened spring-run
23 juveniles can survive?

24 MR. NELSON: Yes. Any species adapting to cold
25 water environment needs those conditions.

CAPITOL REPORTERS (916) 923-5447

2002

1 MR. BAIOCCHI: Thank you. It was testified to by
2 Mr. Cramer, that ten percent of the fall-run chinook
3 salmon juveniles remain in the river all year round.
4 Would it be true that ten percent of the fall-run chinook
5 juveniles need the same cold water environment that
6 threatened steelhead and spring-run steelhead juveniles
7 do?

8 MR. NELSON: I believe the information on
9 temperature that steelhead are probably a little --
10 slightly more temperature tolerant than are chinook salmon
11 juveniles. And that chinook salmon juveniles may, in
12 fact -- and the recommendation is that the accepted
13 temperature is 56 degrees. And so it is a slightly cooler
14 temperature that chinook juveniles need than steelhead.

15 MR. BAIOCCHI: Thank you.

16 Mr. Odenweller, are the existing fish screens at
17 the north canal adequate to prevent any losses to
18 threatened spring-run chinook salmon and threatened
19 steelhead juveniles?

20 MR. ODENWELLER: The fish screen on the
21 Hallwood-Cordua diversion on the north side of the river
22 does not have the appropriate mesh size to protect
23 steelhead fry at the swim-up stage. It, also, has an
24 inadequate, in my view, bypass system and such which is
25 contributing to losses for all of the sizes.

CAPITOL REPORTERS (916) 923-5447

2003

1 MR. NELSON: I would also add something to that if I
2 may?

3 MR. BAIOCCHI: Sure, you may.

4 MR. NELSON: The screen opening size is larger than
5 is currently recommended by both DFG and National Marine
6 Fisheries Service. And, additionally, approximately 25
7 percent of the screen area exceeds approach velocities
8 that are currently recommended. Approach velocities are
9 .2 feet per second for steelhead; and approach velocities
10 are -- as I say, 25 percent exceed that. And, in fact,
11 are sometimes in excess of 2 feet per second.

12 MR. BAIOCCHI: Thank you. Is the existing fish
13 screen at the south canal adequate to prevent any losses
14 to threatened spring-run chinook salmon, threatened
15 steelhead, and also fall-run and late fall-run chinook
16 salmon juveniles?

17 MR. ODENWELLER: I believe Dr. Cramer in his
18 testimony expressed the view that the steelhead that were
19 caught behind the diversion probably came through the
20 gabion structure.

21 For the other runs and races, I believe that the
22 answer is less clear. And, unfortunately, we don't have a
23 very definitive set of experiments to answer the question
24 thoroughly.

25 However, I will add that the screen -- the

CAPITOL REPORTERS (916) 923-5447

2004

1 barrier that's there now - is not considered
2 state-of-the-art by either the Fish and Game, or National
3 Marine Fisheries Service. And so a qualified no to your
4 question.

5 MR. BAIOCCHI: Okay. Thank you.

6 Mr. Nelson, you have anything to add?

7 MR. NELSON: I guess only one thing is that with
8 respect to some of Mr. Cramer's testimony that the smaller
9 fish are typically not present at the time of year that a
10 diversion occurs, I think if we look at the information
11 that has been collected within the last year, it clearly
12 indicates that there are 27 to 32 millimeter fish present
13 in the river year-round.

14 MR. BAIOCCHI: Thank you. Mr. Cramer testified and
15 separated rainbow trout from steelhead trout. Do rainbow
16 trout need the same water temperature protection
17 requirements as threatened steelhead as recommended by
18 you, Mr. Nelson, in your testimony?

19 MR. NELSON: I would say, basically, they're
20 identical.

21 MR. BAIOCCHI: Yeah. Thank you. That's what I
22 needed.

23 Ms. Brown, what were the adverse affects to
24 salmon redds in the river resulting from the operation of
25 Yuba County Water Agency's project since 1992?

CAPITOL REPORTERS (916) 923-5447

2005

1 MS. BROWN: John probably is better qualified to
2 answer, "Since 1992." I'm not sure if you want to repeat
3 your question as far as adverse affects. I can tell
4 you --

5 MR. BAIOCCHI: Okay. Well, let me rephrase it.

6 MS. BROWN: John has been -- I have just worked on
7 the river in the last two years, so let John answer that.

8 MR. BAIOCCHI: Okay. Let me rephrase it. What were
9 the effects to salmon redds in the river resulting from
10 the operation of Yuba County Water Agency's project since
11 1992?

12 MR. NELSON: I can't -- I know where you're headed,
13 I think. But I guess my answer is I can't give you
14 specific information as to what has happened during all
15 the different flow changes that typically occur in
16 September and in other times of the year.

17 So I don't have any quantitative -- I don't
18 believe we have any quantitative data that says redds have
19 been exposed. You know, that would be not validated by
20 data. We have just not had the staff to go out there and
21 monitor the flow changes and flow reductions to determine
22 impacts.

23 Certainly, we have seen -- I believe it was prior
24 to the hearing -- but subsequent to the hearing there has
25 been one occasion where there was a flow change later in

CAPITOL REPORTERS (916) 923-5447

2006

1 the year, and it did result in dewatering of some redds,
2 limited numbers.

3 We did provide information of that to the Board
4 recommending that Yuba County maintain flows and not
5 reduce them further and result in further dewatering of
6 redds. But that's -- really there's little information
7 because of lack of staff.

8 MR. BAIOCCHI: Okay. Thank you. And this is for
9 anyone on the panel, probably you, Mr. Nelson. You're on
10 the project:

11 Are the fish ladders at the Daguerre Point Dam
12 dysfunctional and, please, explain?

13 MR. NELSON: They're functional at certain times of
14 the year. They're functional during the lower-flow
15 periods, typically when fall-run are present. From the
16 day that we see that, approximately two-thirds of the
17 fall-run population are present above Daguerre. That is
18 approximately the amount of habitat that is available
19 throughout the year.

20 So during the fall they are passing fish. There
21 is a problem associated with some delay in that there is a
22 lot of snaggers, snagging that takes place, illegal take
23 out there that takes place during the fall. So they are
24 hindered with delay. So that's a problem.

25 But with respect to fall-run and/or steelhead,

CAPITOL REPORTERS (916) 923-5447

2007

1 during those times when flows in the river are much
2 higher, starting sometimes in December or in the fall,
3 through the springtime, the past operational criteria by
4 the Corps required that the ladders be physically shut
5 when water elevation reached 130.

6 And that's approximately equal to -- I believe
7 it's less than 10,000 cfs. I don't want to put a figure
8 on the flow, but when it reaches elevation 130, which is
9 fairly common, they would shut the ladders. And then the
10 ladders would not be reopened until flow is receded to
11 elevation 127. And there are, in fact, times when the
12 ladder has been closed for weeks, or a month at a time.

13 Additionally, I would say that there have been
14 times that the ladder opening, or the exit at the upstream
15 end, has been closed to such an extent that there has been
16 a hindrance of fish exiting the ladder.

17 And in my testimony, fish passage over the last,
18 approximately, from the last ten years, from July 1989
19 through December '99, the north and south ladders have
20 obstructed passage to some extent, either closed or
21 insufficient ladder exit opening for a period of 766 days
22 on the north ladder; and 425 days on the south ladder.
23 And these primarily are during the time when spring-run
24 and/or steelhead would be present.

25 MR. BAIOCCHI: Thank you.

CAPITOL REPORTERS (916) 923-5447

2008

1 That concludes my cross-examination, Mr. Brown.

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

3 Mr. Sanders.

4 MR. NELSON: I'd like to make one correction. I
5 made a mistake during my testimony. I said the approach
6 velocity for steelhead through the Hallwood-Cordua screen
7 was .2. Mr. Odenweller just informed me it's .33. But
8 still, even based upon that, the screen has hot spots in
9 excess of 25 percent and is still 2-plus feet per second
10 in some areas.

11 MR. BAIOCCHI: Thank you very much.

12 ----oOo----

13 CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT
14 OF FISH AND GAME
15 BY SOUTH YUBA RIVER CITIZEN'S LEAGUE
16 BY MR. SANDERS

17 MR. SANDERS: Good morning.

18 MR. ODENWELLER: Good morning.

19 MR. SANDERS: I think to ease the burden, I was
20 going to try to address individuals, but if anybody has an
21 answer, please, let me know if I'm asking the wrong
22 person. We'll start with John Brown -- Nelson, sorry
23 about that.

24 How long have you worked on the Yuba River?

25 MR. NELSON: Since approximately 1986.

CAPITOL REPORTERS (916) 923-5447

2009

1 MR. SANDERS: And can you approximate how many days
2 you've actually spent on the -- in the field, on the Yuba
3 River?

4 MR. NELSON: Not within certainty; but, certainly,
5 months and months.

6 MR. SANDERS: Hundreds of days?

7 MR. NELSON: Over that period of time, yes, I'm
8 sure.

9 MR. SANDERS: Okay. And have you been out on the
10 field on the Yuba River in all months of the year?

11 MR. NELSON: I mean at different locations,
12 virtually, yes. Yes.

13 MR. SANDERS: Okay. And do you work on other
14 rivers, or is the Yuba your primary responsibility?

15 MR. NELSON: I work on many anadromous streams in
16 the region. I am responsible for anadromous fish
17 restoration, which is a proactive program that deals with
18 all the different rivers.

19 MR. SANDERS: Okay. And have you, actually,
20 operated the Hallwood-Cordua screen?

21 MR. NELSON: Yes, I have.

22 MR. SANDERS: When was that?

23 MR. NELSON: May of -- it was May and I believe it
24 was approximately 1994, but I'm not sure of the year, in
25 all honesty. I was out there one springtime -- actually,

CAPITOL REPORTERS (916) 923-5447

2010

1 I can tell you.

2 MR. SANDERS: That's all right, you don't have to.

3 MR. NELSON: It was, actually, May of 1995.

4 MR. SANDERS: Okay. And you operated it for the
5 entire season that year?

6 MR. NELSON: No. I operated for -- we work in
7 shifts, typically, three-day shifts. I volunteered to do
8 some shifts. We only operated the screen for eight days
9 that year.

10 MR. SANDERS: Only operated for eight days that
11 year. Okay. That, actually, leads me right into the next
12 question: When is the screen operated?

13 MR. NELSON: The screen is -- I mean, it's typically
14 operated in the springtime of the year, the beginning of
15 irrigation season through, I believe, the latest that
16 we've ever gone on a period of record is maybe into July.
17 But, typically, it's into -- the latest we go is typically
18 late May to early mid June. It varies from year to year.

19 MR. SANDERS: And why does it vary from year to
20 year?

21 MR. NELSON: We have a limited budget. Our screen
22 shop are the folks who actually operate and maintain that.
23 And we have a limited budget on which to operate. And so
24 we have to make a decision as to where we will receive the
25 most value, resource value for the budget that our screen

CAPITOL REPORTERS (916) 923-5447

2011

1 shop is providing.

2 And so under those years that typically flows are
3 very low in the river. And, obviously, relatively -- you
4 know, the diversion flows are a much greater percentage
5 and in those years are the time that, given our budget, we
6 have the best opportunity to save the largest number of
7 fish.

8 When flows are very, very high in the river less
9 fish are entrained. And it's really a conscious decision
10 not to operate the screen during those periods of time.
11 And, again, our duration of operation is sometimes often
12 dictated if we're going into May, or June, or July, is
13 based upon the actual number of fish that we are
14 salvaging. So when numbers go down and stay down for a
15 while, we terminate operation.

16 MR. SANDERS: That is numbers of spring-run smolt
17 outmigration?

18 MR. NELSON: Well, it's primarily juvenile chinook
19 salmon --

20 MR. SANDERS: Okay.

21 MR. NELSON: -- which would be composed of
22 spring-run and fall-run.

23 MR. SANDERS: Okay. Do you know if the
24 Hallwood-Cordua screen is currently diverting?

25 MR. NELSON: Actually, I believe they are, but I'm

CAPITOL REPORTERS (916) 923-5447

2012

1 not sure of that. We had -- we sent someone by there
2 yesterday to look and they indicated that there was a very
3 small amount of water going through the canal.

4 MR. SANDERS: Okay.

5 MR. NELSON: That information I just found out
6 yesterday evening.

7 MR. SANDERS: Okay. And is the screen currently
8 operating?

9 MR. NELSON: No, it is not.

10 MR. SANDERS: When is it scheduled to go up -- I
11 guess you're waiting to -- how does it work? When is it
12 scheduled to go up there this year?

13 MR. NELSON: We're probably going to put it up
14 within the week. We have some -- we had to take certain
15 steps to do that. Our screen shop is busy right now. We
16 will -- we have had conversations with them to place that,
17 I would imagine, within the next week.

18 MR. SANDERS: Okay. And, now, again, I'm just
19 trying to make sure that I'm straight on this. You
20 referred to the -- this as the -- as a -- you're trapping
21 juvenile spring-run and fall-run chinook salmon. Is that
22 smolts, or is it -- is "juvenile" a wider classification?

23 MR. NELSON: Well, it's primarily -- it does include
24 steelhead, also.

25 MR. SANDERS: Okay.

CAPITOL REPORTERS (916) 923-5447

2013

1 MR. NELSON: It is primarily smolt-size fish. We're
2 not looking at them, particularly, for smolting
3 characteristics, the physical characteristics that
4 Mr. McEwan referenced. They are in that size range of
5 smolts, but it also does include very small fish. And we
6 do pick up a few that are recently emerged, you know,
7 35-millimeter fish as well as yearlings.

8 MR. SANDERS: Okay. But this is the time of year
9 when the smolts are typically outmigrating?

10 MR. NELSON: That's correct.

11 MR. SANDERS: Okay.

12 MR. NELSON: Typically operated during the primary
13 smolt outmigration period.

14 MR. SANDERS: Okay. But are there other times of
15 the year, during -- yeah, other times of the year when
16 there might be outmigration of other age classes of
17 juvenile salmonids?

18 MR. NELSON: Absolutely. During the vast majority
19 of the year -- well, they're juvenile salmonid salmon or
20 steelhead in the river virtually year-round. So the
21 majority of the time we are not operating the screen on
22 diversion.

23 And, actually, from this past fall the rotary
24 screw trap at Hallwood Boulevard, which is downstream of
25 Daguerre, we were salvaging -- or we were collecting large

CAPITOL REPORTERS (916) 923-5447

2014

1 numbers of young-of-the-year, recently emerged
2 young-of-the-year size fish. And those would be present
3 upstream and would be entrained into the diversions. And,
4 in fact, as I indicated we actually trapped in the screw
5 trap 100,000 fish in a single 24-hour period. And, again,
6 these are fry-size to recently emerged-sized fish.

7 MR. SANDERS: And is that -- what day was that, do
8 you happen to know?

9 MR. NELSON: Well, I mean, we've been operating the
10 trap since November 24th. The large numbers of fish that
11 we got were, I believe, in later January.

12 MR. SANDERS: Okay. But were -- typically, that's
13 not the diversion season, though?

14 MR. NELSON: I think you would have to ask Sam. I
15 do know that there is extensive diversion out there for a
16 long period of time. I believe I did hear testimony in
17 January they were taking some water for duck water, as I
18 heard.

19 So those fish -- I guess the point here is that,
20 you know, certainly, in the fall, late summer, fall, early
21 winter there is diversion occurring. And there are large
22 numbers of very small fish present out there. And those
23 are very susceptible to entrainment.

24 MR. SANDERS: Okay. Last year you operated the
25 screen later into the summer?

CAPITOL REPORTERS (916) 923-5447

2015

1 MR. NELSON: That's correct. We received additional
2 funding from Fish and Wildlife Service to extend salvage
3 through August of '99.

4 MR. SANDERS: And you indicated in your testimony
5 that you had suspected that steelhead were in the Yuba
6 River, but they hadn't shown up on the -- in the trapping
7 in great numbers, prior to last year?

8 MR. NELSON: Well, not that they were in the river.
9 What we suspected was that our past salvage at Hallwood
10 indicated that the number of juvenile steelhead that were
11 moving below Daguerre Point Dam and moving into the
12 Hallwood-Cordua Diversion was just beginning to increase
13 at the time of year that we, typically, ceased operation
14 of the screen, which was in late May, early to mid June.

15 And so we conducted -- that was one of the
16 reasons that we continued to salvage last year. In
17 addition, when I say, "fish," what that indicated was that
18 in June the number of juvenile steelhead entering --
19 actually, every month - May, June, July - the number of
20 steelhead increased every month, with significance
21 presence in July. And when we shut down the trap in
22 August, there were still substantial numbers of steelhead
23 entering the screen.

24 MR. SANDERS: And you operated the trap through
25 August 31st?

CAPITOL REPORTERS (916) 923-5447

2016

1 MR. NELSON: Actually, I think we went through
2 September 1st.

3 MR. SANDERS: Okay.

4 MR. NELSON: I went back and looked at the data and
5 I think we have one more day of data.

6 MR. SANDERS: Okay. Do you happen to know if that
7 September 1st. data looked similar to the August 31st?
8 I'm looking at your --

9 MR. NELSON: I would say it would be very similar to
10 the last day. I don't know. I'd have to go back and pull
11 the data sheet. And I just happened to look at that the
12 other day, but the trend, I think, would be very close to
13 that.

14 MR. SANDERS: Okay. Now -- so do you suppose -- so
15 you operated the trap on September 1st, do you suppose
16 that there were still steelhead present on September 2nd?

17 MR. NELSON: Yes.

18 MR. SANDERS: And the fish entering the canal would
19 be entrained and lost on September 2nd?

20 MR. NELSON: Anything that entered the canal,
21 juveniles, when the screen is not operating would
22 basically be lost.

23 MR. SANDERS: Okay. This is for whomever amongst
24 you: I'm looking at S-DFG-16, that shows the historical
25 range and distribution of chinook salmon, spring-run

CAPITOL REPORTERS (916) 923-5447

2017

1 chinook salmon. Who had this exhibit?

2 MS. MCKEE: I did.

3 MR. SANDERS: Could I ask you to just tell me of all
4 of these creeks -- all of these creeks have had a run of
5 spring-run chinook; is that correct, all these creeks and
6 rivers, I mean?

7 MS. MCKEE: The ones depicted on the map. Would you
8 like me to put it up here to make it easier, so we can see
9 what we're talking about?

10 MR. SANDERS: Sure. Sure.

11 MS. MCKEE: I don't have an overhead, I'm sorry, but
12 I do have a hardcopy --

13 MR. SANDERS: Well, I think everybody has got a copy
14 of the exhibit. The question I want to ask on that is:
15 Of all these watersheds that historically had runs of
16 spring-run chinook, which of them have runs now? Can you
17 tell me that?

18 MS. MCKEE: There is a small population in the upper
19 Sacramento, Middle Creek, Deer Creek, Butte Creek,
20 Antelope Creek, Big Chico Creek, some fish on Thomes
21 Creek.

22 MR. CUNNINGHAM: Yuba.

23 MS. MCKEE: The Yuba, obviously.

24 MR. SANDERS: Okay.

25 MS. MCKEE: And really -- and Cottonwood. Did I say

CAPITOL REPORTERS (916) 923-5447

2018

1 Cottonwood, and the Yuba and the Feather River, also?

2 MR. ODENWELLER: Battle Creek.

3 MR. NELSON: How about Battle Creek?

4 MS. MCKEE: And on Battle Creek. And there's a
5 couple of fish --I think, actually, we had 30 fish come
6 back to Clear Creek. We're trying to reestablish a run
7 there.

8 MR. SANDERS: 30 fish, so that's not what you would
9 call a sustainable run, is it?

10 MS. MCKEE: No. In some years -- just in the last
11 few years, we've seen anywhere from like 5 to 20 to 30,
12 but we're hoping to reestablish a run there.

13 MR. SANDERS: Okay. How about -- what about on the
14 San Joaquin River system, are they extinct on the San
15 Joaquin?

16 MS. MCKEE: Yeah, extricated.

17 MR. SANDERS: Extricated, okay. That's about all I
18 need to hear about that. Just the last series of
19 questions is about the flows being recommended -- or the
20 various flow regimes.

21 I've got the YCWA Exhibit 19 in front of me. Do
22 you all have a copy of that, or do we have to share? I
23 guess, we'll have to share.

24 MR. NELSON: I have one.

25 MR. SANDERS: Okay, good. And who amongst you is

CAPITOL REPORTERS (916) 923-5447

2019

1 most qualified to speak about flow regimes? Is that you,
2 John?

3 MR. NELSON: I just asked a question.

4 MR. SANDERS: Okay. Well, I'm looking at Page 3-5,
5 Table 1. And there's actually two tables that we're
6 interested in. One is the comparison of the flows under
7 the '65 Agreement and the Draft Decision and that's on
8 Page 3-5. And, then, also on Page 4-1 there is the YCWA
9 recommended flows. And if you could kind of just keep
10 them both handy.

11 Let's start with -- let's start with the '65
12 Agreement. These are minimum flows for the entire year;
13 is that correct?

14 MR. NELSON: Those are minimum flows, yes.

15 MR. SANDERS: Okay. Have these flows ever,
16 actually, been achieved on the river, in your experience?

17 MR. NELSON: I don't have a definitive answer
18 without having the flow schedules --

19 MR. SANDERS: Well, I mean --

20 MR. NELSON: -- with me. I have -- occasionally, I
21 have seen the 70 cfs in the summer months. But, at least,
22 on my time on the river it has been very few times, very,
23 very, very, few times that the actual '65 Agreement has
24 been implemented.

25 MR. SANDERS: Okay.

CAPITOL REPORTERS (916) 923-5447

2020

1 MR. NELSON: I believe.

2 MR. SANDERS: Okay. What about flow of a 100 cfs,
3 which is recommended by the Yuba County Water Agency's
4 experts for June 3rd through September 14th? Have you
5 ever witnessed a 100 cfs on the river during that period?
6 Again, just guess if you have --

7 MR. NELSON: And it is just, you know, my best
8 remembrance of what has occurred, at least, in my last --
9 since 1986. I'm aware of, at least, I believe one summer
10 in which flows were approximately 70 cfs as measured at
11 Marysville. But, again, I believe the occasions have been
12 rare. We'd have to go through the records --

13 MR. SANDERS: Okay.

14 MR. NELSON: -- and check.

15 MR. SANDERS: That's fine. Is it fair to say that
16 on the Yuba River there's been more than the minimum
17 amount of water in the past?

18 MR. NELSON: I think that's a fairly good
19 characterization of that.

20 MR. SANDERS: More than the minimum required by the
21 Draft Decision?

22 MR. NELSON: Certainly, there is right now. And I
23 would say a high likelihood of that with the exception of
24 the springtime in 1986 and on drought.

25 MR. SANDERS: Okay. Is this the case on other

CAPITOL REPORTERS (916) 923-5447

2021

1 rivers, do you know? I mean, are there some rivers that
2 operate at prescribed minimum flows during all or most of
3 the year?

4 MR. NELSON: The Feather River is one that comes
5 to -- especially to low-flow sections, the majority of the
6 time year-round is maintained at its minimum flow of 600
7 cfs in the low-flow section. The Mokelumne River is
8 probably many more times at the minimum flow
9 recommendations. There are probably others, but I'm not
10 aware of anyone else's.

11 MR. SANDERS: Okay.

12 MR. MCEWAN: If I can just add to that, in Southern
13 California there are I think many examples where streams
14 operate at minimum flows.

15 MR. SANDERS: Is it foreseeable then as there's more
16 and more development in the Yuba County area and the Yuba
17 County Water Agency adds more farmland, more acreage, that
18 the Yuba River may one day obtain the minimum required
19 flows all or most of the year?

20 MR. LILLY: Objection. There is no foundation that
21 these witnesses have the basic hydrological information,
22 or analysis to answer that question. Therefore, I object
23 on the grounds of lack of foundation.

24 H.O. BROWN: Mr. Sanders?

25 MR. SANDERS: Well, I'm kind of at a loss. I'm

CAPITOL REPORTERS (916) 923-5447

2022

1 asking the witnesses to speculate based on their
2 experience with other rivers in California. And there's
3 been some testimony that other river systems are operated
4 at -- in -- according to the minimum flow regime
5 prescribed by their licenses. So I'm just asking them to
6 speculate on what would happen if that were the case here.

7 H.O. BROWN: Mr. Cook?

8 MR. COOK: I think it should be recalled at this
9 point that Yuba County Water Agency, in presenting their
10 case, presented witnesses who testified at length about
11 the amount of additional demand for water after -- I don't
12 recall the words they used -- for sort of a build-out type
13 of thing. That there would be new requirements for water
14 as there was development.

15 Plus the fact that, I think they've testified,
16 that they have in the past and hope to in the future
17 transfer water out of the basin. So I believe that in
18 considering this specific question, that that should be
19 taken into consideration. Thank you.

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

21 Mr. Frink.

22 MR. FRINK: Yes, Mr. Brown, I believe Mr. Lilly
23 objected to the lack of foundation that's been established
24 for the witnesses to make an assessment of the likelihood
25 that the flows would reach the recommended minimums. And

CAPITOL REPORTERS (916) 923-5447

2023

1 I think I would agree that is the case.

2 But if Mr. Sanders simply wanted to ask the
3 witnesses their opinion of what would be the effect on
4 fishery habitat if the flows did reach the prescribed
5 minimum, I think that would be an appropriate question.

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

7 Mr. Lilly.

8 MR. LILLY: I agree with Mr. Frink's comment.
9 However, what Mr. Sanders was asking for is, he has
10 admitted himself, pure speculation. And responses to
11 those questions really would be of no use to this Board,
12 because these witnesses have not done the hydrological
13 analysis.

14 And it's just of no use, or probative value for
15 them to speculate as to whether what happened on one river
16 and a totally different hydrology would be applicable
17 here.

18 H.O. BROWN: Thank you, Mr. Lilly.

19 Perhaps, you can rephrase your question along the
20 lines of Mr. Frink's suggestion, Mr. Sanders.

21 MR. SANDERS: Well, that exactly was where I was
22 going, so I'll just go right there.

23 If the Yuba River were operated according to,
24 let's say, the minimum flows recommended by Yuba County
25 Water Agency, and let's further suppose that for all or

CAPITOL REPORTERS (916) 923-5447

2024

1 most of the year, it was these minimum flows that were
2 being achieved:

3 Now, that would be a major change from the
4 current flow regime; is that correct?

5 MR. NELSON: Yes, it would be.

6 MR. SANDERS: From the historical flow regime?

7 MR. NELSON: Yes. Now, since 1992, it's been eight
8 years already, so let's just take the last five years,
9 say, make it easier:

10 The last five years have been wet and above
11 normal years; is that correct?

12 MR. NELSON: I didn't make any testimony towards the
13 water year types. I believe that's probably true, but I
14 don't know.

15 MR. MCEWAN: Yeah. According to the Sacramento
16 Index, the last five years have been classified as wet
17 years. And, I believe, I couldn't swear to it, but I
18 believe that this year has been classified already as a
19 wet year. So that would be five, possibly six wet years
20 in a row according to the Sacramento Index.

21 MR. SANDERS: Okay. Now, let's imagine that during
22 the past five years the flows listed for wet and above
23 normal years had actually occurred. So on
24 September 1st of last year the flow would be 250 cfs at
25 the Marysville gauge.

CAPITOL REPORTERS (916) 923-5447

2025

1 MR. NELSON: Uh-huh.

2 MR. SANDERS: Now, in your opinion, would the fish
3 be in good condition -- would the fishery be maintained in
4 good condition if these minimum flows were achieved during
5 the past five years?

6 MR. NELSON: No, because in our testimony, as we
7 indicated, basically, a flow regime itself is not going to
8 maintain the fish in good condition. It's necessary to
9 also provide adequate temperatures for the various life
10 stages of the different species and races in order to
11 maintain those fish in good condition.

12 And I guess I would say if 250 cfs would maintain
13 60 degrees at Marysville the answer would be, yes. I
14 don't believe that is the case. I believe the temperature
15 is much higher. So I would say, no, it would not be
16 maintained in good condition.

17 MR. SANDERS: Okay. Now, let's take the dry year,
18 not the critical dry year, just dry year. What about five
19 years of that flow regime in a row, would you consider
20 that would maintain the fishery in good condition?

21 MR. NELSON: Again, I think it goes back to the
22 temperature standard, the requirement, also.

23 MR. SANDERS: Okay.

24 MR. NELSON: It, also --

25 MR. SANDERS: Well, let's assume that they meet the

1 temperature standard. Are those flows good enough to
2 maintain the fishery in good condition?

3 MR. NELSON: With respect to spawning flows, I don't
4 think the flows -- certainly, it is lesser habitat
5 available for spawning for spring-run and fall-run chinook
6 salmon and probably for steelhead trout, also.

7 I believe it limits the rearing area. It also --
8 because you have a smaller volume in the river -- it
9 provides less escape cover for those fish that are more
10 susceptible to predation, both in terrestrial, but
11 primarily aquatic predation.

12 MR. SANDERS: Okay. And, then, one more: What
13 about a dry year followed by a critical dry year, do you
14 think if those flows prescribed there were maintained, the
15 fishery would be in good condition?

16 MR. NELSON: In my opinion, those are probably
17 willfully inadequate.

18 MR. SANDERS: Okay. You mentioned that the dry year
19 flows -- in your last answer, that those dry year flows
20 were insufficient to maintain spawning habitat; is that
21 correct?

22 MR. NELSON: They would not provide adequate
23 spawning habitat. I also don't believe that any of the
24 flows would provide appropriate outmigration, outmigration
25 flows in the springtime --

CAPITOL REPORTERS (916) 923-5447

2027

1 MR. SANDERS: Okay.

2 MR. NELSON: -- in my opinion.

3 MR. SANDERS: Now, with regard to habitat,
4 there's -- there's -- just getting this totally straight.
5 There is less water in the river and there's less area
6 available for the fish that spawn?

7 MR. NELSON: With respect to spawning habitat, or --
8 I mean, with respect to spawning habitat that is the case.
9 There are IFIM, the way to -- usable area, determines the
10 spawning habitat that is available. That changes with
11 flow. There's a certain flow that is maximized and then
12 on either side of that, the habitat decreases.

13 With respect to other flows, you know, depending
14 upon what methodology you're using, some of it indicates
15 that low flows are better. That's strictly from the
16 usable area that they're using with respect to velocities
17 and so on and so forth, depths.

18 But, also, you have to consider escape cover,
19 food production, which is directly linked to the amount
20 of, basically, surface area, what surface area you have.
21 Certainly, there's a lot of factors that you would have to
22 consider when determining what is the appropriate flow.

23 MR. SANDERS: Okay. And the Lower Yuba, are you
24 aware that the Lower Yuba has been designated as critical
25 habitat for salmon and steelhead?

1 MR. NELSON: With respect to the federal listings,
2 you mean?

3 MR. SANDERS: Yes.

4 MR. NELSON: Yeah, it's been designated as critical
5 habitat up to Englebright Dam for steelhead.

6 MS. MCKEE: It's also been designated as critical
7 habitat for spring-run.

8 MR. SANDERS: Okay. I think I've had enough. Thank
9 you very much.

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

11 Mr. Cook

12 MR. COOK: Thank you.

13 H.O. BROWN: Let the record show, we've been joined
14 by Board Member Forster.

15 Thank you, Ms. Forster.

16 ----oOo----

17 CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT
18 OF FISH AND GAME
19 BY MR. COOK

20 MR. COOK: Good morning. My name is Walter Cook.
21 I'm appearing as an independent individual interested
22 party in these proceedings.

23 With respect to questions that I ask, like the
24 others have done, if any member of the panel feels that
25 they have anything they'd like to add, please, feel free

1 to do so. I'd like to start with Mr. Nelson, relating to
2 the water that flows into and out of the Goldfields.

3 I think, Mr. Nelson, you testified earlier
4 that -- I may not have the exact words -- but that you
5 felt that the water returning from the Goldfields into the
6 Yuba River was extremely warm water.

7 Is that characterized about right?

8 MR. NELSON: At certain times of the year it can be
9 exceedingly warmer and is primarily in the later spring
10 and, obviously, summer months and early fall.

11 MR. COOK: The water you're referring to flows into
12 the river from a defined canal; does it not?

13 MR. NELSON: Yes, it does.

14 MR. COOK: And tracing that canal upstream, it's
15 origination is at the south bank of the south canal. When
16 I say, "south canal," that's the -- I always forget the
17 name of it -- but in any event I think you know what I
18 mean by the "south canal."

19 MR. NELSON: Actually, yes, it is connected. And
20 there are, actually, outfalls from the South Yuba-Brophy
21 Canal into the Goldfields' return channel. And it does
22 return water that way. There's also water that is
23 upstream of the canal, basically, to the east that is
24 flowing in that direction, also.

25 But the South Yuba-Brophy Canal does have a spill

CAPITOL REPORTERS (916) 923-5447

2030

1 facility into the Goldfields. And it also has a facility
2 that during higher flows the canal is breached, the plug
3 is breached and the entire flow entering the canal, be it
4 from the diversion point or from waters flowing into the
5 canal from the east, will be diverted into the lower
6 holding, yes.

7 MR. COOK: Now, I believe the one that you're
8 talking about that breached on occasion is referred to, in
9 some cases, as the blowout canal; is that correct?

10 MR. NELSON: The plug. The plug, yes.

11 MR. COOK: All right. There are two places where
12 water enters, then. The other place, would that be
13 referred to as the flashboard entry, or the Flashboard
14 Dam?

15 MR. NELSON: There is a flashboard structure there
16 that can be used to determine the amount of water that's
17 going out of the canal or being retained in the canal,
18 yes.

19 MR. COOK: And by adding flashboards you can
20 increase the elevation of the south canal; is that right?

21 MR. NELSON: I would -- yes.

22 MR. COOK: And by subtracting the boards, you can
23 decrease the elevation of the canal?

24 MR. NELSON: Yes.

25 MR. COOK: And do you know that the main purpose of

CAPITOL REPORTERS (916) 923-5447

2031

1 that is to provide appropriate water elevations in the
2 south canal for the dredger operations in the Goldfields?

3 MR. NELSON: I do not know that, no.

4 MR. COOK: I see. Do you have any knowledge why the
5 canal elevation would be either raised or lowered?

6 MR. NELSON: I assumed it had something to do with
7 water delivery demand to the south in the canal. And that
8 they were only able -- depending upon what the demand
9 was -- they would adjust the boards accordingly. That was
10 kind of my understanding of that.

11 MR. COOK: Now, when this water returns to the
12 river, where is that entry point in relation to the
13 Marysville gauge?

14 MR. NELSON: The primary entry point was
15 approximately three-quarters of a mile downstream from
16 Daguerre Point Dam. I believe that's about six or seven
17 miles upstream from the gauge.

18 MR. COOK: And, therefore, that extremely warm water
19 would be added to the river before it reaches the
20 Marysville gauge; is that correct?

21 MR. NELSON: That's correct. And I'd like to back
22 up. There's also, potentially, another entry point. A
23 limited extent of water returning from the Goldfields down
24 by Marysville Boulevard, which is to the -- basically, the
25 westerly edge of the Goldfields -- Hallwood Boulevard.

CAPITOL REPORTERS (916) 923-5447

2032

1 I'm sorry if I said something else. It's approximately
2 six miles downstream from Daguerre Point Dam. That is a
3 limited return flow though.

4 MR. COOK: In any event, these return flows,
5 whatever they might be, enter the river above the
6 Marysville gauge?

7 MR. NELSON: Absolutely.

8 MR. COOK: And would they have an impact on the
9 temperature at the Marysville gauge?

10 MR. NELSON: They can especially during lower flow
11 periods in the river, there's less buffering capacity by
12 the amount of water in the river, cold water available.
13 So it could have an effect, yes.

14 MR. COOK: In fact, it would be adding warmer water
15 to the river itself; would it not?

16 MR. NELSON: Very much warmer yes.

17 MR. COOK: When you say, "Very much warmer," it's
18 warmer than the water flowing down the river at that entry
19 point?

20 MR. NELSON: Probably at times by an excess of 20 to
21 30 degrees Fahrenheit.

22 MR. COOK: Would that increase in temperature, in
23 your judgment, have an impact on steelhead or salmon,
24 either adults or juvenile?

25 MR. NELSON: Well, certainly, during times of the

CAPITOL REPORTERS (916) 923-5447

2033

1 year when river temperatures are at their upper
2 recommended limits, any increase above that would not be
3 recommended.

4 MR. COOK: Have you observed water flowing out of
5 this entry point that we discussed previously, that was in
6 a state of turbidity?

7 MR. NELSON: I have not. I've had reports of that,
8 but I have not observed it, no.

9 MR. COOK: Have you had any of your staff reporting
10 that to you?

11 MR. NELSON: I've had reports from guides, anglers,
12 other private parties of that, but not specifically
13 Department employees I can recall.

14 MR. COOK: Back in the '92 hearings, and I don't
15 recall the specific exhibit number, I believe that I
16 presented a photograph showing water entering at that
17 point. Do you remember that by any chance?

18 MR. NELSON: I've seen so many photographs of the
19 Goldfields and the returns that --

20 MR. COOK: That's okay.

21 MR. NELSON: Not necessarily, in particular, I do
22 not.

23 MR. COOK: That's all right. Now, if -- or
24 depending upon the amount of flow in the stream, in the
25 river stream itself, what impact would that have on the

CAPITOL REPORTERS (916) 923-5447

2034

1 increase in temperature at the Marysville gauge from the
2 entry of water from the Goldfields?

3 MR. NELSON: Obviously, as flows are low and the
4 Goldfields discharge becomes a relatively higher
5 percentage of the river, it has a greater ability to
6 increase the instream temperature.

7 I guess I would add, as I've never seen the
8 converse. I have not seen the Goldfields colder in the
9 river, so I haven't seen the reverse appear.

10 MR. COOK: Would you say, then, that an increase in
11 water over Daguerre Point Dam or through its fish ways,
12 would have an ability to reduce the temperature at the
13 Marysville gauge?

14 MR. NELSON: Sure. I believe the information
15 indicates that the greater flow you put down at a given
16 temperature is going to provide a cooler temperature at
17 Marysville relative to the amount of flow and the time of
18 year.

19 MR. COOK: Is there any method at the present time
20 to measure flows at the Daguerre Point Dam?

21 MR. NELSON: No, there is none.

22 MR. COOK: And the measurement of flows used for the
23 Daguerre Point Dam are at the Marysville gauge; are they
24 not?

25 MR. NELSON: The flows used to determine -- or the

CAPITOL REPORTERS (916) 923-5447

2035

1 gauge used to determine the flow in the Lower Yuba River
2 is the Marysville gauge. And that is a composite of water
3 coming over Daguerre and then, also, the water returning
4 from the Goldfields.

5 MR. COOK: Let me ask a hypothetical, then. If the
6 water -- if there was no water returning to the Yuba River
7 from the Yuba Goldfields, would the temperature at the
8 Marysville gauge be lower?

9 MR. NELSON: Again, it's depending upon the time of
10 year and the flows. Given the worse case scenario, low
11 flow in the summertime on a hot day, that could be the
12 case, yes.

13 MR. COOK: I have a generalized question for anyone
14 who feels they have the appropriate answer.

15 I wanted to ask about fluctuating flows in the
16 river and their ramping rates in relation to the impact of
17 this fluctuation on steelhead and salmon. And any of you
18 who feel you would like to answer that, I would appreciate
19 it.

20 MS. BROWN: I can start. Did you want to ask a
21 specific --

22 MR. COOK: Well, I would just like to know how
23 ramping rates impact the anadromous fish.

24 MS. BROWN: Okay. Well, I had quite a bit of
25 experience and time on the river last summer during some

1 ramping times. And they -- I can say they have quite a
2 bit of effect on both juvenile steelhead, salmon, and on
3 the redds.

4 I'll start with redds. I think four or five
5 percent, it could be more, while the redds are built in
6 one foot or less of water. And if you, say, have flows of
7 12-, 1300 cfs when they're spawning and then you reduce
8 the flows after, you know, a percentage of the redds have
9 been formed, they can -- the water surface, obviously,
10 reduces over the redds along the sides first.

11 And they can be -- I didn't see any redds
12 dewatered in the upper sections, but I did see the flow
13 over the redd go from maybe eight inches to two inches
14 from a reduction inflow.

15 And, obviously, redds could be dewatered if they
16 were reduced any more in a ramping. So, actually, gradual
17 or ramping as just a reduction of flows would have a
18 permanent effect. How fast it occurs, doesn't make any
19 difference on a redd if it's just the flows reduced.

20 The ramping has an effect on juveniles as far as
21 being stranded. If you reduce the flow from 1200 cfs,
22 say, overnight to 5-, 600 cfs, it creates stranded pools
23 all along the edges. The side channels become pools where
24 juveniles could be stranded. I observed this.

25 I attempted to seine and rescue quite a few of

CAPITOL REPORTERS (916) 923-5447

2037

1 the salmonids, they were both salmon and steelhead in some
2 the pools. We didn't have the staff or the time to nearly
3 get to all of them. We did as many as we could find and
4 seining in those types of situations is very difficult.

5 In addition, I've observed on other creeks, Stony
6 Creek, this situation has occurred. And if you don't get
7 out there within a day, two days right after this occurs,
8 the birds have eaten probably half of fish, or more, or
9 all of the fish. So that's an impact.

10 And, obviously, some of the pools -- I was out
11 there with Jones and Stokes' staff. And they believe that
12 the fish were okay in some of the pools, because of the
13 underground flow coming in of a little bit cooler water
14 than was in the pool, which helps to some degree, but it
15 doesn't make any difference at all.

16 Even if there's cover, the birds and the
17 predators seem to get the fish. Because also predator
18 fish are stranded fish in the pools, the juveniles. So
19 the predation is a major issue.

20 And, then, it does seem that a lot of the pools,
21 could be 50 percent -- I didn't -- I didn't do any count
22 of which pools were -- I couldn't even count all the
23 pools. There were just too many. I went out there
24 numerous times. And some of the pools, the water was 75
25 degrees, you know, much, much too warm.

1 And some of the pools did have a little bit
2 cooler water, but we couldn't seine or rescue -- it's
3 impossible to seine or rescue all of the fish out of those
4 pools, for, one, in the time length and the other is
5 seining is not that efficient to catch all the fish.

6 MR. COOK: Is there an impact on the redds when
7 they're not dewatered but when the flow over the redd is
8 reduced substantially, leaving a relatively small amount
9 of water over the redd?

10 MS. BROWN: The eggs in a redd require a certain
11 amount of dissolved oxygen in the water. And if you
12 reduce the flow or increase the temperature, that will
13 reduce the amount of oxygen in the water and that could
14 affect the eggs. And elevated temperature, also, is very
15 critical.

16 MR. COOK: Then --

17 MR. MCEWAN: I can add a little bit to that, if you
18 would like.

19 MR. COOK: Yes.

20 MR. MCEWAN: I think what Julie said about dissolved
21 oxygen and temperatures is probably the most critical, but
22 it can also have an impact on not enough flow to remove
23 waste from the eggs, or alevins. And, also, if the eggs
24 aren't outright desiccated, which can occur when you have
25 a very sudden mortality, you can also increase the stress

CAPITOL REPORTERS (916) 923-5447

2039

1 on the fish and eggs through these other means that
2 operate, you know, in a slower fashion.

3 Also, I'd like to point out that saprolegnia is a
4 fungus that is a pretty notable detriment to salmonid eggs
5 that can occur with higher temperatures and lower flows to
6 the redd and other egg predators as well.

7 MR. COOK: Assuming that juvenile fish who are
8 stranded in ponds from ramping survive predation and all
9 the other things, and then the water is ramped up again
10 and then they're free to go back to the river, would they
11 have been affected by any increase in temperature in these
12 ponds prior to that time?

13 MS. BROWN: I'll let Dennis go to that one, too, but
14 definitely they could have been severely stressed from
15 increase in temperature.

16 MR. MCEWAN: Could you repeat the question?

17 MR. COOK: Well, let's forget about going back into
18 the water. Let's just talk about the ponds themselves.

19 The ponds themselves, except for possible under
20 flow into the pond, would ordinarily increase in
21 temperature, would it not?

22 MR. MCEWAN: Are you just talking about just ponding
23 of water, in general terms?

24 MR. COOK: Ponding of water, say, along the Yuba
25 River --

CAPITOL REPORTERS (916) 923-5447

2040

1 MR. MCEWAN: Well, say, in general terms, I'm not
2 that familiar with the Yuba River. But in general terms,
3 slowing of the water and a lessening the depth of the
4 water, yeah, would increase the amount of solar radiation
5 which would cause the water to heat up faster, water
6 leaving through a deeper -- a deeper or faster rate, yeah.

7 MR. COOK: There was some question, I think,
8 Mr. McEwan, you talked about it, I believe it was you,
9 about the upper reaches of steelhead migration
10 historically that they went as far as Downieville and the
11 North Fork. Was that your testimony?

12 MR. MCEWAN: Yes.

13 MR. COOK: Do you know about the salmon, the extent
14 of migration on a historic basis?

15 MR. MCEWAN: No, I don't, but --

16 MS. MCKEE: In my written testimony, we provide a
17 map that's in the spring-run status review that shows the
18 upper limit of historic migration. And there is also a
19 narrative that describes the upper limit of historic
20 records for all of the main river systems, including the
21 Yuba and the Feather.

22 MR. COOK: I think -- I think, Ms. McKee, that you
23 also testified about streams that -- I believe -- I hope
24 I'm not wrong, but I think it was you that testified, that
25 there are spring-run salmon continuing in a number of

CAPITOL REPORTERS (916) 923-5447

2041

1 different streams that you have specifically identified in
2 your testimony.

3 Do you recall that, here this morning?

4 MS. MCKEE: Yes. You mean the list of where the
5 present distribution of spring-run in the Sacramento River
6 system?

7 MR. COOK: Yes.

8 MS. MCKEE: Uh-huh.

9 MR. COOK: And what I'd like to ask, then, is:
10 Based on historic records of the spring-run salmon
11 distribution and current information, what is the extent
12 in volume, or the number of the salmon today as compared
13 to this historic distribution, in general terms?

14 MS. MCKEE: Actually, I have an overhead that makes
15 it a little easier to show that.

16 MR. COOK: All right.

17 MS. MCKEE: Let's start with this one first.

18 MR. COOK: Would you describe the meaning of that
19 particular overhead, please.

20 MS. MCKEE: The overhead that we're referring to is
21 Exhibit S-DFG-17. And this is the estimated total
22 spring-run chinook salmon population in California Central
23 Valley beginning back in the 1870s and progressing to
24 date.

25 The estimates of spring-run abundance back in the

CAPITOL REPORTERS (916) 923-5447

2042

1 1870s and prior to 1900 ranged all the way up to greater
2 than 550,000 spring-run adults. Because it's very
3 difficult to see on that axis, the proper population
4 today, as you can see from 1970 through 1997 -- and this
5 is S-DFG Exhibit Number 19, the population numbers have
6 ranged anywhere from less than a grand total of 5,000 fish
7 to a couple years ago we had more than 20,000 fish within
8 the creek, which was -- we were very, very excited about
9 it.

10 Although, the population in the other remaining
11 remnant populations do not rebound quite so -- quite so --
12 in such great numbers. And I, actually, have a table that
13 just shows you the actual numbers of -- I have it upside
14 down. Now, you're doing what I do.

15 H.O. BROWN: Does that have an exhibit, Mr. Frink,
16 both those slides?

17 MR. FRINK: The ones that were shown, previously,
18 were S-DFG-17 and 19.

19 MS. MCKEE: That's correct.

20 MR. FRINK: And what's the number of this exhibit?

21 MS. MCKEE: It is part of my main testimony --

22 MR. CUNNINGHAM: This is S-DFG-13.

23 MS. MCKEE: DFG-13. So as you can see, in 1999,
24 this year, we had approximately 40 fish return to Antelope
25 Creek; 560 to Mill Creek; we have 1500 to Daguerre Creek;

CAPITOL REPORTERS (916) 923-5447

2043

1 Deer Creek still had the greatest number, up to 3,600
2 salmonid adults; 15 to 20 fish to Clear Creek; 35 to Big
3 Chico Creek.

4 MEMBER FORSTER: Could I ask a question about her
5 slides. Do you mind if I interrupt you?

6 MR. COOK: It doesn't bother me at all.

7 MEMBER FORSTER: Why in '98 were the numbers so
8 good?

9 MS. MCKEE: On Butte Creek it appears that we have
10 one out of three strong cohorts. And you can see that
11 three years prior, we had 7500 fish. And so it would show
12 that there was some significant growth rate in that one
13 cohort. We're also very pleased to see that in 1999 we
14 have improvement in another cohort, up to almost 3700
15 fish.

16 There is still another fairly weak cohort, which
17 was 1997, that was 635 fish. As far as all the complex
18 reasons why we have one strong or two strong cohorts and
19 one weak cohort, these fish just came through a very
20 prolonged drought. And it's quite a complicated set of
21 conditions these fish have experienced.

22 If we knew exactly how to -- exactly all of
23 reasons and why one of the cohorts is better than the
24 other, we could apply it to try to recover the other
25 cohorts. We really don't have the answer.

CAPITOL REPORTERS (916) 923-5447

2044

1 MEMBER FORSTER: Can you just tell me what you mean
2 by "cohort"?

3 MS. MCKEE: Cohort, I'm sorry. The fish that spawn
4 in a given year, that production we would call it a
5 cohort. And then they come back three years later as
6 adults. So if you had a 1,000 adults spawn in 1997 and,
7 then, in the year 2000 you have a 1,000 adults come back,
8 then you have a cohort replacement rate of one.

9 You have equal for equal, the same number going
10 out, the same number coming back, population growth rate.
11 If there's none, there's no population decline and that's
12 the cohort.

13 And since chinook salmon, you can have
14 three-year-olds, four-year-olds; for spring-run we don't
15 believe we really have any five-year-old fish. We
16 typically assume that most of the population of adults is
17 made up of three-year-old fish and then some immature
18 jacks.

19 C.O. BROWN: Thank you, Mr. Cook.

20 MR. COOK: I just have a couple more. I would just
21 like to ask the panel, whoever feels best to answer the
22 question, I'd like to explore just briefly the impact of
23 increase -- of an increase in riparian vegetation on the
24 juvenile and adults salmon and steelhead.

25 MR. NELSON: Your question is?

CAPITOL REPORTERS (916) 923-5447

2045

1 MR. COOK: The question is: What would be the
2 impact of increased riparian vegetation on adult and
3 juvenile steelhead and salmon?

4 MR. NELSON: There are various benefits. You know,
5 it's relative to the maturity of the riparian. But
6 matured riparian provides aquatic habitat, which is a
7 desirable habitat for adults and juvenile which is cool
8 water, they seek out those areas.

9 It also provides food sources from insect drop
10 from a canopy. It also provides recruitment of woody
11 debris into the river, which can provide nutrients,
12 increase in aquatic vertebrate, plankton production.

13 It also provides a very good refugia for juvenile
14 fish to utilize as escape cover. They very much associate
15 in the Yuba River with this type of habitat. Anyplace you
16 have woody debris, it is heavily used by juvenile fish.
17 So there's a variety of benefits for riparian.

18 MS. MCKEE: I'd like to add: It also improves the
19 temperature micro habitat climate along the river, and in
20 fact along the reaches of the main stem of the Sacramento
21 to help ameliorate some of the temperature conditions.

22 It's, also, recently been clarified that
23 riparian -- the riparian zone is also included in critical
24 habitat designation for anadromous fish, for chinook
25 salmon, and for spring-run along the Yuba, because it is

CAPITOL REPORTERS (916) 923-5447

2046

1 so important. It's not just the stream, channel body
2 itself.

3 MR. COOK: One additional question: Do any of you
4 know the impacts on temperature of water passing through
5 the hydro turbines for electric generation?

6 MS. MCKEE: Could you repeat that?

7 MR. NELSON: I'm not sure what you're --

8 MR. COOK: Well, let's take a specific: The Colgate
9 Powerhouse takes water from Bullards Bar Reservoir and
10 returns it to the river after it has gone through the
11 turbines. And I'm wondering if any of you have calculated
12 the temperature impact of the water going through that
13 generation and back into the river. Is it up, or down, or
14 does it stay the same?

15 MR. NELSON: I have no data on that. I mean, I can
16 offer opinion, but, you know, based upon just experience
17 elsewhere, in general.

18 MR. COOK: What is that opinion, then?

19 MR. NELSON: There's --

20 MR. LILLY: Excuse me. I'm going to object on the
21 grounds of lack of foundation. I mean he said he has no
22 data. And this is really speculation rather than opinion
23 at this point.

24 C.O. BROWN: Thank you, Mr. Lilly.

25 Mr. Cook.

CAPITOL REPORTERS (916) 923-5447

2047

1 MR. COOK: Well, he said that he could base an
2 opinion upon his experience elsewhere and I believe that
3 that should be a proper foundation.

4 C.O. BROWN: I'll overrule.

5 MR. NELSON: Basically, in these types of operations
6 where you have a pinstock and downstream powerhouse
7 several miles from the intake source, while there may be
8 some general increase in temperature, it's relatively very
9 low increase in temperature as compared to what is
10 typically the result of temperature from release from the
11 dam to the river to that point where the powerhouse
12 location is. Typically, it's cooler than you would expect
13 in the river. That's relatively to the point of intake of
14 the powerhouse, also.

15 MR. COOK: Well, let me just briefly, then, go into
16 the water below Bullards Bar Reservoir. Based on the
17 flows that pass at the present time, which I believe were
18 a little above five cubic feet per second, if the water
19 passing through the turbines was flowing through the
20 riverbed, would that have an impact on the temperature of
21 the water for the seven miles between the Bullards Bar Dam
22 and the Colgate Powerhouse?

23 MR. NELSON: Would it have an impact? Well, below
24 New Bullards Bar you indicated the flow is five cfs. And
25 at various times in the river, that five cfs does not make

CAPITOL REPORTERS (916) 923-5447

2048

1 it to Englebright. I mean, that water is quite warm
2 during the spring -- late spring, summer months, early
3 fall. A low level discharge from New Bullards Bar would
4 provide for cooler temperatures in that reach of the
5 river.

6 But, certainly, there could be some warming
7 between there and Englebright. And the water actually
8 entering Englebright may not be as cool as is -- that is
9 staying in the river in Englebright as is the water coming
10 through the powerhouse.

11 MR. COOK: Thank you.

12 Thank you, Mr. Brown. That's all I have.

13 C.O. BROWN: Thank you. Mr. Cook.

14 We'll take our morning break, 12-minute break.
15 And, Mr. Lilly, you're up when we get back.

16 (Recess taken from 10:38 a.m. to 10:52 a.m.)

17 C.O. BROWN: Okay. We're back on the record.

18 Mr. Lilly.

19 ----oOo---

20 CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT OF
21 FISH AND GAME

22 BY YUBA COUNTY WATER AGENCY

23 BY MR. LILLY

24 MR. LILLY: Good morning, ladies and gentlemen. As
25 you know from prior proceedings, I'm Alan Lilly

CAPITOL REPORTERS (916) 923-5447

2049

1 representing the Yuba County Water Agency. And I do have
2 questions today. I'll start with Mr. McEwan. I have some
3 steelhead questions for you.

4 Do you have your testimony, Exhibit S-DFG-27?

5 MR. MCEWAN: Yes, I do.

6 MR. LILLY: Okay. Please, look at the first page of
7 that and the second paragraph, which is about the middle
8 of the page where it starts out, "An accurate estimate."

9 About the fourth sentence down it says,

10 (Reading):

11 "Steelhead counts at the RBDD have declined
12 from an average count of 11,187 adults for
13 the ten-year period begins in 1967 to 2,002
14 adults annually in the 1990's."

15 Do you see that?

16 MR. MCEWAN: Yes.

17 MR. LILLY: And the "RBDD," refers to the Red Bluff
18 Diversion Dam?

19 MR. MCEWAN: Yes.

20 MR. LILLY: And that's on the Sacramento River?

21 MR. MCEWAN: Yes. That's correct.

22 MR. LILLY: Has any action, or did any action of the
23 Yuba County Water Agency in any way contribute to that
24 decline in the steelhead numbers measured at the Red Bluff
25 Diversion Dam?

CAPITOL REPORTERS (916) 923-5447

2050

1 MR. MCEWAN: Well, probably not directly. However,
2 one of the things that I believe is happening in the
3 Central Valley to the steelhead is that as populations
4 decrease in certain areas, that leads to less strain and
5 less resiliency of the larger Central Valley population,
6 as a whole, so it is possible.

7 I could not say conclusively, but it's possible
8 that as smaller populations, say, in the Yuba River and
9 the American River and others that are in the southern
10 part of the Sacramento Valley, as those decrease in
11 numbers it decreases the amount of migrants that they
12 would put in the more northern reaches, so that it's
13 possible.

14 MR. LILLY: But hard to quantify, it that fair to
15 say?

16 MR. MCEWAN: Yes, definitely. You would have to
17 have -- well, I'll just leave it at that.

18 MR. LILLY: Okay. Let's go on to the Yuba River,
19 then. If you can look at Page 2 of your testimony, it's
20 S-DFG-27. Down at the bottom, the last paragraph is
21 entitled, "Reasons for the Decline of Central Valley
22 Steelhead." Do you see that?

23 MR. MCEWAN: Uh-huh.

24 MR. LILLY: And I believe you state in that
25 paragraph that the single greatest stresser affecting

CAPITOL REPORTERS (916) 923-5447

2051

1 Central Valley steelhead is a substantial loss of habitat
2 due to the construction of impassable dams; is that
3 correct?

4 MR. MCEWAN: Yes.

5 MR. LILLY: Which dam on the Yuba River blocks the
6 steelheads' access to their historical habitat?

7 MR. MCEWAN: Well, I believe there would be several,
8 but probably the lowest most one -- the lowest most one is
9 Englebright Dam.

10 MR. LILLY: Okay. Well, if it blocks --

11 MR. MCEWAN: Yes.

12 MR. LILLY: -- and then the fish never get to --

13 MR. MCEWAN: Yeah. That's correct.

14 MR. LILLY: Okay. Who constructed Englebright Dam?

15 MR. MCEWAN: I believe it was the Army Corps of
16 Engineers.

17 MR. LILLY: And who owns Englebright Dam now?

18 MR. MCEWAN: The Army Corps of Engineers.

19 MR. LILLY: Now, let's go forward to Exhibit
20 S-DFG-29, which is a report entitled, "Steelhead
21 Restoration and Management Plan for California."

22 Do you have that?

23 MR. MCEWAN: Yes, I do.

24 MR. LILLY: Okay. And were you the principal author
25 of this report?

CAPITOL REPORTERS (916) 923-5447

2052

1 MR. MCEWAN: Yes, I was.

2 MR. LILLY: And I would ask you to look at Page 5 of
3 that report and, particularly, the fourth paragraph down
4 which says,

5 (Reading):

6 "The Yuba River supports the largest naturally
7 reproducing population of steelhead in the
8 Central Valley."

9 You wrote that statement. I assume you agree
10 with that statement?

11 MR. MCEWAN: I think at the time I was -- that I
12 wrote it, yes. I would have to say that.

13 MR. LILLY: And do you have an opinion as to why the
14 Yuba River supports the largest naturally producing
15 population of steelhead in the Central Valley?

16 MR. MCEWAN: Well, can I qualify that statement?

17 MR. LILLY: If you have to.

18 MR. MCEWAN: Yeah. "Largest" in this sense is
19 relative. And in no means am I saying that steelhead
20 population in the Yuba River is healthy. This is relative
21 to all the other populations in the Central Valley, which
22 as I have put in my testimony, is on a fairly -- has
23 declined significantly.

24 MR. LILLY: All right. Then, I'll restate my
25 question in light of that explanation from you.

CAPITOL REPORTERS (916) 923-5447

2053

1 Why -- or do you have an opinion as to why in
2 relative terms the Yuba River steelhead population is
3 better than those in all of the other rivers in the
4 Central Valley?

5 MR. MCEWAN: No, I don't believe that I do.

6 MR. LILLY: Okay. Well --

7 MR. MCEWAN: Let me --

8 MR. LILLY: Excuse me.

9 MR. MCEWAN: -- when this report was being written,
10 we were, actually, coming out of a drought. We'd had one
11 or two years of fairly wet weather. That may have
12 something to do with it.

13 MR. LILLY: Do you know whether or not that would
14 have specific effects on the Yuba River populations versus
15 those in other rivers?

16 MR. MCEWAN: No.

17 MR. LILLY: Okay. Let's go forward to Page 47 of
18 your report, S-DFG-29.

19 MR. MCEWAN: Which page, again, I'm sorry?

20 MR. LILLY: 47. And in particular, in the third
21 full paragraph which is kind of below the center of the
22 page, it says -- I'm counting here, one, two, three. It
23 looks like the fourth sentence. It says,
24 (Reading):

25 "The Yuba River still has a natural production

CAPITOL REPORTERS (916) 923-5447

2054

1 and is managed by DFG as a naturally sustained
2 population," cited DFG, 1991, A. "The run size
3 in the Yuba River in 1984 was estimated to be
4 about 2,000 steelhead." Citing DFG, 1984.
5 "Current status of this population is unknown
6 although it appears to be stable and continues
7 to support a steelhead fishery. The Yuba River
8 is, essentially, the only wild steelhead
9 fishery remaining in the Central Valley."

10 Do you see those sentences?

11 MR. MCEWAN: Uh-huh. Yes.

12 MR. LILLY: What does the term "fishery" mean in
13 this paragraph?

14 MR. MCEWAN: The term "fishery" means -- the
15 definition of a fishery is, essentially, a place where you
16 can fish, in the simple terms. It's comprised of three
17 components:

18 The fish itself, the fish stock that's being
19 fished for. Secondly, the people fishing for it. And,
20 third, is habitat. So "fishery" applies not just
21 populations, but also the fact that it's a fishery, people
22 fish for them.

23 MR. LILLY: And, obviously, for there to be a
24 fishery there has to be sufficient production of the fish
25 so there are fish that the people could fish for; is that

CAPITOL REPORTERS (916) 923-5447

2055

1 correct?

2 MR. MCEWAN: Yeah. That would be probably correct.
3 However, we do have many instances throughout the world of
4 stocks being overfished.

5 MR. LILLY: Okay. And let's get to that. What is
6 the current legal regulation -- what are the regulations
7 regarding the fishing for steelhead trout in the Yuba
8 River?

9 MR. MCEWAN: John, you --

10 MR. LILLY: If Mr. Nelson --

11 MR. NELSON: I believe that the current regulations
12 are catch and release, artificial lure, barbless hooks
13 only. I would have to look up specifically, but I do
14 believe that that is the current regulation.

15 MR. LILLY: And I'll go back to you, Mr. McEwan, in
16 your experience with steelhead trout, can the catching and
17 releasing of adult steelhead trout by fishermen cause any
18 harm to those fish?

19 MR. MCEWAN: Yeah, there can be a relative -- there
20 can be an impact depending on other factors, particularly,
21 water temperature. If water temperature is high, there
22 could be a greater impact due to hooking and releasing of
23 the fish --

24 MR. LILLY: Does it also --

25 MR. MCEWAN: -- to mortality.

CAPITOL REPORTERS (916) 923-5447

2056

1 MR. LILLY: Excuse me. Does it also depend on how
2 good the fisherman is in getting the hook back out?

3 MR. MCEWAN: Yes, it does.

4 MR. LILLY: Okay. And it, actually, is possible
5 then that there cannot just be stress, but even some
6 mortality to the adult steelhead?

7 MR. MCEWAN: Yes.

8 MR. LILLY: Now, I'm going to go back -- I'm trying
9 to kind of rush through this quickly, because we have
10 limited time and a lot of area to cover. But I'm want to
11 get back to your testimony, which was Exhibit S-DFG-27 and
12 to the third page of that. You have that?

13 MR. MCEWAN: Uh-huh.

14 MR. LILLY: Okay. I think you're referring to the
15 proposed temperature requirement of 65 degrees Fahrenheit
16 from July 1 to September 30th in the Draft Decision. And
17 you state, in the -- it looks like your second sentence,
18 (Reading):

19 "This could impact rearing juvenile steelhead
20 given that this is above the preferred upper
21 limit for steelhead rearing."

22 And, then, you cite three reports; is that
23 correct?

24 MR. MCEWAN: Yes.

25 MR. LILLY: And it looks like those three reports

CAPITOL REPORTERS (916) 923-5447

2057

1 are -- let me first ask you:

2 Is your conclusion that 65 degrees Fahrenheit is
3 above the preferred upper limit for steelhead rearing
4 based on those three cited reports?

5 MR. MCEWAN: Yes, but I would not restrict it to
6 those three cited reports, there are others.

7 MR. LILLY: Are there other published reports that
8 you relied on to reach this conclusion?

9 MR. NELSON: DFG --

10 MR. MCEWAN: I'm sorry. Were you talking about
11 physiological type studies, or -- there were others.
12 DFG-91 was --

13 MR. LILLY: That's the Fish and Game, Lower Yuba
14 River Fishery Management Plan?

15 MR. MCEWAN: Yes.

16 MR. LILLY: Are there others that you recall?

17 MR. MCEWAN: I would have to look, but those are
18 probably the principal ones.

19 MR. LILLY: Okay. And then the last sentence of
20 that paragraph states,

21 (Reading):

22 "Water temperatures necessary to protect
23 spring-run chinook salmon adults and
24 juveniles," parentheses, 56 degrees to 60
25 degrees, "should adequately protect juvenile

CAPITOL REPORTERS (916) 923-5447

2058

1 steelhead."

2 And I'm going to break -- there are really two
3 statements in this sentence. And I'm going to ask you
4 about each of them. First of all, what was the statement
5 that 56 to 60 degree temperatures are necessary to protect
6 spring-run chinook salmon based on?

7 MR. MCEWAN: That was based on, I believe, the
8 spring-run status review, the Yuba River Plan, other
9 documents that I'd seen on the physiological requirements
10 and temperature requirements of spring-run chinook.

11 And I should add, also, that this is not a range
12 of 56 to 60 degrees, that is -- what I was trying to get
13 at here is what we are proposing in our temperature
14 requirements and that's 56 degrees at Englebright and 60
15 degrees at Marysville. So that's not meant to be a range.

16 MR. LILLY: Okay. It's meant to your actual -- the
17 Department's proposal?

18 MR. MCEWAN: Yes. Yeah.

19 MR. LILLY: Okay. And I understand you relied on
20 these documents. Assume since you're the steelhead expert
21 for this panel, is it appropriate for me to ask Ms. McKee
22 the specific questions regarding spring-run chinook
23 salmons and temperatures?

24 MR. NELSON: Or any one of us.

25 MS. MCKEE: Any one of us.

CAPITOL REPORTERS (916) 923-5447

2059

1 MR. LILLY: Okay. I assume, Mr. McEwan, your
2 expertise is steelhead, and other members of the panel
3 have more expertise on spring-run?

4 MR. MCEWAN: Yes. That's correct.

5 MR. LILLY: Okay. Well, let me ask the second
6 half -- the question regarding the second half of the
7 sentence which says,

8 (Reading):

9 "Should adequately protect juvenile steelhead."

10 That, I assume, is your conclusion; is that
11 correct?

12 MR. MCEWAN: Yes.

13 MR. LILLY: And what are the -- are there any
14 published reports that you relied on to develop this
15 conclusion, because there is nothing cited here?

16 MR. MCEWAN: Yeah. I think Yuba County Water
17 Agency's Exhibit 19 has a table showing preferred water
18 temperatures - I forget which table it is - and showing
19 the different papers that they cited to make up the
20 temperatures in their table. And I don't think I would
21 disagree with any of those except for the Cech and Myrick
22 study.

23 MR. LILLY: Okay. So, basically, those are the
24 sources that you relied on to develop this conclusion?

25 MR. MCEWAN: Yeah, that and others.

CAPITOL REPORTERS (916) 923-5447

2060

1 MR. LILLY: Are there any other -- any other
2 published reports that you can tell us today that you
3 relied on?

4 MR. MCEWAN: I would have to go back and look. I
5 can't think of any off the top of my head other than DFG
6 1991.

7 MR. LILLY: The plan?

8 MR. MCEWAN: Yeah, I think so.

9 MR. LILLY: All right. Now, I think you mentioned
10 yesterday -- and if it was someone else, please correct
11 me, because there were a lot of people and a lot of
12 questions yesterday -- but I think it was you who
13 mentioned that the National -- that there's a National
14 Marine Fisheries Service 4D Rule for Central Valley
15 steelhead; is that correct?

16 MR. MCEWAN: Yes, that's correct.

17 MR. LILLY: And is that rule final yet, or is it
18 still in proposed --

19 MR. MCEWAN: It's a proposed rule.

20 MR. LILLY: Okay. And does that proposed rule,
21 assuming it's adopted in its present form, will it
22 authorize fishing for adult steelhead trout?

23 MR. MCEWAN: That depends upon certain requirements
24 of the Department of Fish and Game.

25 MR. LILLY: Okay. It, at least, leaves open the

CAPITOL REPORTERS (916) 923-5447

2061

1 possibility for legal fishing of steelhead trout in the
2 ocean; is that right?

3 MR. MCEWAN: Yes. But as I mentioned, it depends on
4 the requirements of Fish and Game. And those requirements
5 are that we take certain actions and produce certain data
6 and information to show to the National Marine Fisheries
7 Service that fishing is not a detriment to the population
8 or its recovery.

9 MR. LILLY: Okay. And at this point, can you make
10 any prediction on what requirements Fish and Game will
11 impose? Have you started that work, or --

12 MR. MCEWAN: Well, in reviewing the proposed rule,
13 and, again, it is a proposed rule so it may be different
14 in its final stage, that we have to produce plans and
15 collect data on population information and other sorts of
16 information, as I said, to assure them that our fishing
17 programs for catch and release steelhead and other fish
18 species where steelhead might be incidentally taken, we
19 have to assure them that that's not going to be a
20 detriment on steelhead protection or recovery.

21 MR. LILLY: And who will regulate ocean fishing of
22 steelhead after the 4-D Rule is struck? Is that the Fish
23 and Game Department or Commission, or is that specific --

24 MR. MCEWAN: I'm not sure who would regulate that.
25 I believe it would be Commission. And that would be in

CAPITOL REPORTERS (916) 923-5447

2062

1 the case that there is an ocean fishery for steelhead, and
2 to my knowledge, there is not a recreational, or
3 commercial fishery, ocean fishery for steelhead.

4 MR. LILLY: Okay. So right now -- I realize you're
5 having to predict in the future, which is difficult; but
6 right now you're predicting only catch and release in the
7 river -- in rivers, I should say?

8 MR. MCEWAN: Yes, that seems to be one of the
9 guiding tenets of any sort of fishing program that would
10 be allowed in threatened evolutionarily significant units
11 is that it would be catch and release for listed
12 steelhead.

13 MR. LILLY: Okay.

14 MR. MCEWAN: Now.

15 MR. LILLY: Thank you. Mr. McEwan.

16 I'm going to go over now to Ms. Brown and
17 Mr. Nelson, and some of my questions I'm going to have to
18 ask both of you, because you did have joint testimony and
19 I'm not sure who's responsible for which parts of it, so
20 please bear with me.

21 I'll start with you, Ms. Brown. What years have
22 you done, or did you do, professional fieldwork on the
23 Yuba River?

24 MS. BROWN: '98 and '99.

25 MR. LILLY: Okay. And, then, Mr. Nelson, if you

CAPITOL REPORTERS (916) 923-5447

2063

1 want to get a second microphone, I'm going to be asking
2 you both questions for a few minute.

3 MR. NELSON: We'll be fine.

4 MR. LILLY: Okay. Don't hit heads over the
5 microphone.

6 Mr. Nelson, what years have you done professional
7 fieldwork on the Yuba River?

8 MR. NELSON: Since 1986.

9 MR. LILLY: Okay. And that's, basically, every year
10 since '86?

11 MR. NELSON: Yeah, of some sort.

12 MR. LILLY: Now, Ms. Brown, for you, which sections
13 of the Yuba River have you done your professional
14 fieldwork?

15 MS. BROWN: From the -- what's the name of that pool
16 right below -- from, basically, below the Englebright Dam
17 as close as I could get up to it down to Marysville.

18 MR. LILLY: Okay. And have you collected any data
19 in connection with your work?

20 MS. BROWN: Yes, I have, some data on redds and
21 juvenile outmigrant.

22 MR. LILLY: Okay. And could you be a little more
23 specific when you say, "Data on redds." What kind of data
24 do you mean? I know you submitted some parts as an
25 exhibit to the hearing. I'm just wondering if there's

CAPITOL REPORTERS (916) 923-5447

2064

1 anything beyond that on redds.

2 MS. BROWN: No, not on redds. Just that one redds
3 survey we did last September 15th, or --

4 MR. LILLY: Excuse me. And that's the one that the
5 results of are listed in Exhibit S-DFG-8?

6 MS. BROWN: That's correct.

7 MR. NELSON: I would --

8 MR. LILLY: Okay. Excuse me. Go ahead.

9 MR. NELSON: I would, also, add just for your
10 information, so we're clear, we also did redd surveys in
11 1988. To a limited extent, Julie was involved --

12 MR. LILLY: 1988?

13 MR. NELSON: I'm sorry, '98.

14 MR. LILLY: Let's make it clear and those were
15 similar to those that you did in 1999?

16 MS. BROWN: It was the same type of survey. It
17 wasn't as extensive. We just -- I went out two times with
18 another employee to find the first redds we could find at
19 that certain time of year. And then other employees went
20 out at a different time. It wasn't as organized as this
21 one here.

22 MR. LILLY: Okay. And did you compile any data
23 regarding the depths or velocities around those redds in
24 1998?

25 MS. BROWN: No, I did not.

CAPITOL REPORTERS (916) 923-5447

2065

1 MR. LILLY: Okay. So -- but in 1999, your results
2 are summarized in this Exhibit 8?

3 MS. BROWN: Yes, they are.

4 MR. LILLY: Okay. And I think you also mentioned
5 juvenile outmigrating; is that correct?

6 MS. BROWN: That's correct. I installed a rotary
7 screw trap at the Hallwood Road, on the south side of the
8 river last November. And I supervised a crew to be
9 checking that.

10 MR. LILLY: Okay. And I think -- I'll see if I can
11 find it. I believe you did also submit data which --
12 please, correct me if I'm wrong -- but I believe S-DFG-6
13 has that data?

14 MS. BROWN: That's correct. I also supervised the
15 crew that did the -- ran the fish screen at
16 Hallwood-Cordua and did the salvage.

17 MR. LILLY: Okay. And that -- I'm just trying to
18 get this all organized. That is exhibit S-DFG Exhibit 5;
19 is that correct?

20 MS. BROWN: That's correct.

21 MR. LILLY: Okay. Now, do these three exhibits then
22 encompass all the data that you have collected in
23 connection with your work on the Yuba River?

24 MS. BROWN: There's one more and I haven't really
25 done like a lot of -- like made a report or submitted a

CAPITOL REPORTERS (916) 923-5447

2066

1 lot of data, but we did kind of a pilot study looking at
2 fish coming up the fish ladder on the dam just to get an
3 idea of what was coming up, and if it was a possibility of
4 being able to do a study program --

5 MR. LILLY: Okay.

6 MS. BROWN: -- for spring-run.

7 MR. LILLY: Okay.

8 MR. NELSON: I would also add that in conjunction
9 with your folks, Ms. Stephanie Thise of Jones and Stokes,
10 there was a preliminary evaluation of a flow reduction
11 event that occurred in 1999. And there was some
12 evaluation of the fishery at that time and Ms. Brown did
13 speak to that earlier.

14 MR. LILLY: Okay. But you don't have any
15 specific --

16 MS. BROWN: I've done a lot of, you know, going out
17 there, say, for two or three different days with Jones and
18 Stokes to look at affects of flow reductions and ramping.
19 I haven't submitted any specific data or reports to that
20 effect.

21 MR. LILLY: Okay. Did you collect any quantitative
22 data in connection with those efforts other than what
23 you've submitted for this hearing?

24 MS. BROWN: Not really, no.

25 MR. LILLY: Okay. Now, Mr. Nelson, while we're on

CAPITOL REPORTERS (916) 923-5447

2067

1 the subject -- I'm going to go back -- since you,
2 obviously, cover a longer time period.

3 During your years on the rivers from 1986 through
4 the present, have you collected any quantitative data on
5 the Lower Yuba River?

6 MR. NELSON: Yes.

7 MR. LILLY: Okay. And what types of data have you
8 collected?

9 MR. NELSON: Adult -- or juvenile salvage, to a
10 certain extent adult passage, adult presence in the Yuba
11 Goldfields. When you say, "What data," I'm -- let's put
12 it this way. There are so many experiences based upon the
13 information that I have, either in written form or my
14 personal experiences.

15 Relative observations of juvenile fish, spawning,
16 timing, distribution, escapement estimates, some water
17 temperature data. And I'm sure there's much more, but,
18 you know, trying to recall all of it is difficult. I
19 would have to go through the files.

20 MS. BROWN: If I might -- John is just ringing
21 bells. We have put out thermographs also, but I've never
22 really done a lot with the data; or we just attempted to
23 put a couple thermographs in at various times at the
24 screen, for instance, but I've never really done anything
25 with the data we have yet.

CAPITOL REPORTERS (916) 923-5447

2068

1 MR. LILLY: Okay. Let me go back, then, Mr. Nelson.
2 You said, "Juvenile salvage," I assume that's at the
3 Hallwood-Cordua fish screen; is that correct?

4 MR. NELSON: That's correct.

5 MR. LILLY: Okay. And when you say, "adult
6 passage," what types of data are you referring to for
7 that?

8 MR. NELSON: Basically, compiling information on the
9 ladder operation at Daguerre Point Dam. We've done some
10 preliminary observations of fish passage from the
11 standpoint of the -- upstream migration, I should say, of
12 adults at Daguerre Point Dam primarily looking for
13 spring-run chinook salmon, that type of information,
14 observations.

15 MR. LILLY: Okay. When you say, "observations,"
16 things like counting the fish?

17 MR. NELSON: Counting fish, presence, absence, yes.

18 MR. LILLY: Okay. And have you submitted any of
19 that data for this hearing?

20 MR. NELSON: Yes.

21 MR. LILLY: Okay. What exhibits contain that data?

22 MR. NELSON: I believe it's the one with reference
23 to the Daguerre Point Dam operation of the fish ladders in
24 passage. I believe that's our last exhibit, S-DFG-12
25 and -- 11 and 12, I believe it is.

CAPITOL REPORTERS (916) 923-5447

2069

1 MR. LILLY: Oh, okay. Good. Thank you. It's just
2 hard to keep track. And, then, you said you had
3 observations regarding spawning, timing, and distribution;
4 is that correct?

5 MR. NELSON: Yes.

6 MR. LILLY: Okay. And have you assembled any
7 quantitative data, or any field notes regarding what you
8 observed for spawning, timing, and distribution?

9 MR. NELSON: Yes.

10 MR. LILLY: Okay. And what types of data have you
11 assembled regarding that?

12 MR. NELSON: I believe it's part of the exhibit that
13 Ms. Brown referenced.

14 MR. LILLY: Which exhibit is that?

15 MR. NELSON: Probably S-DFG Exhibit 8.. I can't
16 remember if there's an attachment to that or not.

17 MR. LILLY: Oh, okay. The table of what's entitled,
18 "Table 3" at the top?

19 MR. NELSON: I have just as hard a time finding
20 these as you do, so bear with me.

21 MR. LILLY: Take a minute.

22 MR. NELSON: Yes. And, then, there's also
23 attachments to S-DFG -- hold on, S-DFG Exhibit 9.

24 MR. LILLY: Okay. Now, I think you mentioned
25 escapement. And I always get confused, because I think

CAPITOL REPORTERS (916) 923-5447

2070

1 some people use escapement one way and others use it
2 another. What do you mean by "escapement"?

3 MR. NELSON: Fish in the population, the adult fish
4 returning.

5 MR. LILLY: So it's the escapement from the ocean to
6 the river of adult fish?

7 MR. MCEWAN: Ultimate survival, yes.

8 MR. LILLY: Okay. And what types of escapement data
9 have you personally collected?

10 MR. NELSON: Mark and recapture surveys for several
11 years.

12 MR. LILLY: What years?

13 MR. NELSON: I couldn't tell you exactly. I would
14 say probably a period of three or four years during the
15 1990's.

16 MR. LILLY: What do you mean by, "Mark and recapture
17 surveys"?

18 MR. NELSON: Mark and recapture is a method that we
19 use to estimate a portion of salmon, because it has to be
20 a fish -- a carcass that you can recover, in which you
21 physically go out and retrieve a fish; you mark it in some
22 method for that week, or that time per. And what we use
23 is a green with a certain colored tape tied onto it and
24 that is attached to the carcass; the carcass is returned
25 to the flowing water.

CAPITOL REPORTERS (916) 923-5447

2071

1 And, then, on your subsequent weekly visits --
2 and these are done on a weekly basis, one time a week for
3 any stretch of river -- based on the number of tagged fish
4 that you recover versus the number of untagged fish you
5 see that aren't fresh, you can do a statistical estimate.
6 This is typically what Jones and Stokes has been doing and
7 we have assisted them in their evaluations.

8 MR. LILLY: Okay. So, basically, you're working
9 with them on those surveys in the 1990's?

10 MR. NELSON: Yes.

11 MR. LILLY: Okay. Any other types of work that --
12 fieldwork that you've done where you have, actually,
13 collected any data besides what you have mentioned so far?

14 MR. NELSON: I'm sure there's others, but I just
15 don't recall offhand. I know that we have some data from
16 the Goldfields, both the presence of adults along with
17 some water temperature data there. I don't recall all of
18 them at this time.

19 MR. LILLY: Okay. There's nothing else that you
20 recall at this time?

21 MR. NELSON: No.

22 MR. LILLY: Okay. Now, you mentioned water
23 temperatures. So where have you collected water
24 temperature data?

25 MR. NELSON: At some of the Goldfields, as Julie has

CAPITOL REPORTERS (916) 923-5447

2072

1 indicated, there have been thermographs placed on the
2 Hallwood-Cordua diversion. I believe -- and at Daguerre
3 Point Dam, I believe that's it.

4 MR. LILLY: Now, have you ever attempted to make
5 any -- either one of you -- has either one of you ever
6 attempted to make any estimate of the population of the
7 fall-run chinook salmon juveniles in the Yuba River?

8 MR. NELSON: No.

9 MS. BROWN: I have not, no.

10 MR. LILLY: Okay. And have you ever, either one of
11 you, ever attempted to make estimate of the population of
12 spring-run adults in the Yuba River?

13 MS. BROWN: No.

14 MR. NELSON: We have some indication, relative
15 numbers, but not absolute abundance.

16 MR. LILLY: Okay. By "relative numbers," what do
17 you mean?

18 MR. NELSON: Well, we have observations of spawning
19 that has occurred at a given time of year, early
20 September, you know, indicating a presence and a
21 likelihood of a relative number of fish. You know, not
22 millions, not a definitive number, but several.

23 MR. LILLY: Okay. And when you're out doing the
24 field observations of spring-run adults, can you
25 distinguish a spring-run from a fall-run adult?

CAPITOL REPORTERS (916) 923-5447

2073

1 MR. NELSON: Yes.

2 MR. LILLY: And how can you do that?

3 MR. NELSON: If it's coming up in March, it's
4 probably a spring-run adult.

5 MR. LILLY: Okay. And if you see one spawning in
6 late September, is there any way you can distinguish
7 whether it's spring-run or fall-run?

8 MR. NELSON: Not definitively, no.

9 MR. LILLY: Have you ever attempted to make any
10 estimate of the population of steelhead adults in the Yuba
11 River?

12 MR. NELSON: No.

13 MR. LILLY: And have you ever attempted to make any
14 estimate of the population of steelhead juveniles in the
15 Yuba River?

16 MR. NELSON: No.

17 MR. LILLY: Ms. Brown, same answers for you?

18 MS. BROWN: That's correct, I have not.

19 MR. LILLY: Okay. Now, I'm not sure which one to
20 start with. I'll start with you, Ms. Brown.

21 Have you done snorkeling surveys in the Lower
22 Yuba River?

23 MS. BROWN: No, I have not.

24 MR. LILLY: All right.

25 MS. BROWN: Wait a minute, I'm sorry.

CAPITOL REPORTERS (916) 923-5447

2074

1 MR. LILLY: Excuse me.

2 MS. BROWN: I take that back. I haven't done
3 snorkeling surveys. I have snorkeled, looking at the
4 instance last summer when Yuba County Water Agency
5 wanted - because of a rewind problem on one of their power
6 plants - they wanted to reduce the flows quite
7 drastically.

8 So we went and snorkeled, looking at any
9 stranding that could occur, or had already occurred. So I
10 snorkeled some pools with Mr. Bill Mitchell from Jones and
11 Stokes to get an idea how many salmonids were in these
12 pools and if they were indeed salmonids steelhead or
13 chinook.

14 MR. LILLY: Okay. Is that the only time you've done
15 snorkeling work on the Yuba River?

16 MS. BROWN: That's correct.

17 MR. LILLY: And, Mr. Nelson, how about you, have you
18 done snorkeling on the Yuba River?

19 MR. NELSON: I guess I would ask you to define, what
20 do you mean by "snorkeling"?

21 MR. LILLY: Where --

22 MR. NELSON: Where I have my face in the water with
23 a mask on and a snorkel, yes.

24 MR. LILLY: Okay. And I assume you mean in the Yuba
25 River, then; is that correct?

CAPITOL REPORTERS (916) 923-5447

2075

1 MR. NELSON: Yes.

2 MR. LILLY: Okay. I just want to make sure we're
3 clear. How many times have you done that kind of snorkel
4 work on the Yuba River?

5 MR. NELSON: Numerous.

6 MR. LILLY: Okay. And what were your objectives
7 when you did that snorkeling work?

8 MR. NELSON: Basically, professional gain, just
9 observations for my own personal knowledge.

10 MR. LILLY: Okay. Did you follow any particular
11 protocol while you were doing those surveys?

12 MR. NELSON: No.

13 MR. LILLY: And did you do --

14 MR. NELSON: I wasn't doing surveys.

15 MR. LILLY: Excuse me.

16 MR. NELSON: I was doing snorkeling.

17 MR. LILLY: Okay. Well, then let me follow: Did
18 you collect any data in connection --

19 MR. NELSON: No.

20 MR. LILLY: -- with that snorkel work?

21 MR. NELSON: No.

22 MR. LILLY: You will really help the Reporter a lot
23 if you'll wait until I finish my question before you
24 answer and I will try to do the same. Otherwise, she'll
25 yell at both of us, with reason.

CAPITOL REPORTERS (916) 923-5447

2076

1 Now, I believe -- excuse me, did either one of
2 you either analyze the relationships between river flows
3 and water temperatures at different locations in the
4 river?

5 MR. NELSON: We have not done any modeling, no.

6 MR. LILLY: Okay. Or any observations?

7 MR. NELSON: I mean I have looked at flow records
8 and temperatures. I haven't provided a definitive
9 opinion, no.

10 MR. LILLY: Okay. So you haven't done any
11 quantitative analysis of those relationships?

12 MR. NELSON: No.

13 MR. LILLY: And same with you, Ms. Brown?

14 MS. BROWN: That's correct.

15 MR. LILLY: Okay. Have either of you done any
16 analysis of the relationships between water temperatures
17 and the actual utilization of different anadromous fish of
18 different habitats in the Yuba River?

19 MR. NELSON: No.

20 MR. LILLY: Same for you, Ms. Brown?

21 MS. BROWN: Yes.

22 MR. LILLY: Now, I believe, Mr. Nelson, you
23 testified that the Department of Fish and Game
24 historically only operates the Hallwood-Cordua fish trap
25 from April through either late May or sometime in early

CAPITOL REPORTERS (916) 923-5447

2077

1 June; is that correct?

2 MR. NELSON: That's, typically, the latest that we
3 operated it.

4 MR. LILLY: And, yet, your testimony is that there
5 are still fish going down the Hallwood-Cordua canal after
6 you stopped the operations of the trap?

7 MR. NELSON: Yes.

8 MR. LILLY: Okay. And why is it that Fish and Game
9 stopped the operation even though there were still fish
10 going down the canal?

11 MR. NELSON: Well, there's several reasons. One is,
12 obviously, a financial reason. It's quite expensive to
13 pay staff to be out there 24 hours a day and to operate
14 and maintain that. In addition to salaries, it costs
15 travel and per diem.

16 Also, we have -- as I indicated, we made the
17 decision based upon where we can best utilize our
18 personnel for the best resource gain in the region. That
19 when numbers of fish, smolt typically, were decreasing or
20 decreased a significant amount, at that time we would
21 cease operation.

22 MR. LILLY: Okay. So it was a combination of trying
23 to operate during the peak period of the salmon juvenile
24 outmigration and also just funding priorities?

25 MR. NELSON: Well, during the -- primarily, the

CAPITOL REPORTERS (916) 923-5447

2078

1 smolt, or smolt-size fish outmigration, yes.

2 MR. LILLY: Okay. So the fry would have outmigrated
3 earlier in the year?

4 MR. NELSON: The fry -- those that are outmigrating
5 as fry would typically have outmigrated earlier with
6 respect to chinook salmon.

7 MR. LILLY: Does the Department of Fish and Game
8 have any plans for longer periods of operation of this
9 trap during the summer of 2000 and subsequent years?

10 MR. NELSON: I can only answer for this coming year,
11 which I am involved with, and it will be operated on an
12 extended period of time.

13 MR. LILLY: Through approximately when?

14 MR. NELSON: Approximately, through the end of
15 August.

16 MR. LILLY: Okay. Now, I think, Mr. Nelson, in
17 response to cross-examination questions you said that
18 there was one occasion of redd dewatering -- and, please,
19 correct me if I get it wrong, I was trying to write
20 fast -- that may have impacted up to five percent of the
21 redds; is that correct?

22 MR. NELSON: No, I did not base a percentage on it.
23 I did indicate that since the 1992 hearing there is one
24 instance where there was a flow reduction and some
25 dewatering and we had provided that information to the

CAPITOL REPORTERS (916) 923-5447

2079

1 Board.

2 MR. LILLY: Okay. And do you remember,
3 specifically, what year that was that that occurred?

4 MR. NELSON: I don't. I believe it was -- I don't.
5 I don't.

6 MR. LILLY: Okay. But you're pretty sure it was
7 after the 1992 hearing?

8 MR. NELSON: Yes.

9 MR. LILLY: Now, there were some cross-examination
10 questions regarding the relationship of flows and cover
11 for juvenile salmonids. And I just wanted to ask you,
12 Mr. Nelson, have you ever evaluated through field
13 investigations the amounts of cover at different locations
14 in the Lower Yuba River at different river flows?

15 MR. NELSON: I have. I don't believe the cover is
16 the term I used. I believe that you're probably using it
17 in the context of area availability. If that's wrong,
18 please, let me know now.

19 MR. LILLY: Well, let's just start over, because
20 it's your terms that matter, not mine.

21 What are the relevant factors that need to be
22 considered regarding juvenile habitat at different river
23 flows?

24 MR. NELSON: Say that one more time, please?

25 MR. LILLY: Fair enough. What are the elements of

CAPITOL REPORTERS (916) 923-5447

2080

1 juvenile salmonid habitat that can change with changes in
2 river flows on the Yuba River?

3 MR. NELSON: Well, the usable areas of the flows,
4 the velocities, the depths, temperatures can change. You
5 know, dissolved oxygen can potentially change.

6 MR. LILLY: Okay. And I assume several of those
7 factors are quantified in the IFIM analysis; in
8 particular, the way the usable area occurs that shows
9 usable area versus river discharge; is that correct?

10 MR. NELSON: Yes.

11 MR. LILLY: And are there factors relevant to
12 juvenile habitat that are not evaluated in the IFIM
13 PHABSIM curve?

14 MR. NELSON: Yes.

15 MR. LILLY: And what are those factors?

16 MR. NELSON: Things like food production,
17 temperatures, dissolved oxygen.

18 MR. LILLY: Anything else that comes to mind?

19 MR. NELSON: Nothing, but I'm sure there is
20 something else.

21 MR. LILLY: Okay. Regarding food production, have
22 you ever done any evaluation or investigation of the
23 relationship between food production and different flows
24 in the Lower Yuba River?

25 MR. NELSON: That was not part of my testimony, no.

CAPITOL REPORTERS (916) 923-5447

2081

1 MR. LILLY: Okay. So you have never done anything
2 like that?

3 MR. NELSON: No.

4 MR. LILLY: Okay. And, Ms. Brown, have you ever
5 done any evaluation of the relationship between food
6 production and river flows in the Yuba River?

7 MS. BROWN: No, I haven't.

8 MR. LILLY: Now, if we can go to your testimony,
9 which I believe is Exhibit S-DFG-1, and in the second
10 paragraph, which is about the middle of page, it
11 references the term -- let me read it, it's probably
12 easiest. It says,

13 (Reading):

14 "However, with the continued decline in listing
15 of spring-run chinook salmon," parentheses,
16 State and Federally listed, threatened and
17 steelhead trout, Federally listed threatened,
18 closed parentheses, "populations since 1992,
19 there are several areas that need additional
20 consideration."

21 Do you see that sentence?

22 MR. NELSON: Yes.

23 MR. LILLY: And either one of you, whichever one of
24 you is more qualified, what do you mean by the term,
25 "continued decline"?

CAPITOL REPORTERS (916) 923-5447

2082

1 MR. NELSON: Well, in 1992 neither species was
2 listed. And they have subsequently have been listed,
3 because the populations are declining, or had declined.

4 MR. LILLY: Okay. When you refer to the
5 "populations," are you referring to the total populations
6 in the Central Valley?

7 MR. NELSON: Basically, the larger population in the
8 Central Valley, yes, of which the Yuba River is a
9 component.

10 MR. LILLY: So the continued decline is basically of
11 the total population in the Central Valley of these two
12 species?

13 MR. NELSON: Yes.

14 MR. LILLY: Okay. Do you have any evidence that the
15 populations of the spring-run salmon in the Yuba River
16 have declined since 1992?

17 MR. NELSON: We don't have a good base to say that
18 it has or it hasn't. Until recently there were no surveys
19 conducted for, or to enumerate adult spring-run chinook
20 salmon. So we don't have a base.

21 What we have is general information, observations
22 by past Department employees that put a relative number on
23 it, but there's no quantifiable number.

24 MR. LILLY: Okay. So there's also no quantification
25 as to whether or not the population of spring-run salmon

CAPITOL REPORTERS (916) 923-5447

2083

1 in the Yuba River has declined since 1992?

2 MR. NELSON: That's correct.

3 MR. LILLY: Okay. And do you have any evidence that
4 the populations of steelhead trout in the Yuba River have
5 declined since 1992?

6 MR. NELSON: No. My answer would be the same, is
7 that we have no information on adult escapement, or adult
8 population estimates for steelhead in the Yuba River.

9 MR. LILLY: Okay. I'm going to go forward now and
10 talk about some other relevant constituents in the river.
11 Do you have any evidence that dissolved oxygen levels are
12 limiting the production of either chinook salmon or
13 steelhead in the Lower Yuba River?

14 MR. NELSON: No, it's not part of my testimony.

15 MR. LILLY: And same with you, Ms. Brown, do you
16 have any evidence concerning dissolved oxygen?

17 MS. BROWN: No, I don't.

18 MR. LILLY: Okay. Do you have any evidence that
19 diseases are limiting the populations of chinook salmon or
20 steelhead in the Lower Yuba River?

21 MR. NELSON: I have no information one way or the
22 other.

23 MR. LILLY: And, Ms. Brown?

24 MS. BROWN: I don't have any.

25 MR. LILLY: Okay. Try to answer one at a time.

CAPITOL REPORTERS (916) 923-5447

2084

1 Thank you.

2 Do you have any evidence that food availability
3 is limiting juvenile salmonid growth in the Lower Yuba
4 River?

5 MR. NELSON: I have no information. I've seen no
6 studies that would indicate that one way or the other.

7 MR. LILLY: Ms. Brown, same for you?

8 MS. BROWN: I know of no studies of that kind on the
9 Yuba.

10 MR. LILLY: And are you familiar with Mr. Mitchell's
11 work, which has documented that juvenile salmonid
12 condition factors generally are above 1.0 in the Lower
13 Yuba River?

14 MR. NELSON: Generally.

15 MR. LILLY: And do you -- excuse me. Do you agree
16 with Mr. Mitchell that condition factors above 1.0 are
17 good indicators that juvenile salmonids' food availability
18 is not limiting in the Lower Yuba River?

19 MR. NELSON: I'm not absolutely convinced that a
20 condition factor is, in itself, indicative of food
21 availability of fish. And when we say -- when we're
22 talking about condition factors, we're talking about very
23 small fish.

24 And when that fish has recently eaten, engorged
25 itself, it may have a high condition factor. But I am not

CAPITOL REPORTERS (916) 923-5447

2085

1 sure that's the only thing that's going to indicate that
2 that fish is in good condition.

3 MR. LILLY: Do you agree that if all other factors
4 are equal, juvenile salmonids that grow rapidly and
5 emigrate from the Lower Yuba River during May as large
6 juveniles will have a better chance of survival to
7 adulthood than fish that grow more slowly and stay in the
8 Lower Yuba River longer and then emigrate in June?

9 MR. NELSON: No, I'm not convinced of that one way
10 or the other. I don't think that -- and I'm not
11 necessarily sure that that is the case. I don't think
12 there's definitive information there that's indicating
13 what the outmigration timing is of the fish in the Yuba
14 River.

15 That is information that has been lacking, that
16 has been collected by no one. And that is one reason that
17 the screw trapping is underway at Hallwood-Cordua and will
18 probably continue for another year, at least.

19 MR. LILLY: Okay. And I'm not asking you about the
20 actual timing of migration, I'm just asking you
21 hypothetically:

22 Do you believe that if you have fish of the same
23 size, will the ones that emigrate out of Lower Yuba River
24 in May have a better or worse chance of survival than the
25 fish of the same size that emigrate in June?

CAPITOL REPORTERS (916) 923-5447

2086

1 MR. NELSON: I guess I still cannot agree to that
2 answer, in that we see in many examples there are: The
3 primary components of outmigration is fry and is not
4 smolt-size fish, which would occur -- smolt-size fish
5 would occur in May, in the springtime.

6 MR. LILLY: And --

7 MR. NELSON: And what we see is that other
8 conditions, other places it may be a fact here but we
9 don't know that, that a majority of fish is outmigrating
10 as fry and it's probably the major component of that
11 population.

12 MR. LILLY: And when is the timing, when do the fry
13 actually outmigrate?

14 MR. ODENWELLER: Deborah had something she wanted to
15 add.

16 MR. LILLY: That's fine. I had questions for you
17 later, but go ahead if you want to now.

18 MS. MCKEE: I think what's really important to
19 understand is that the physiological readiness of fish to
20 emigrate and relying simply on measurements of the length
21 of a fish and a condition factor that can be so easily
22 altered by just having a fish have a meal is really an
23 oversimplification, which doesn't really represent the
24 physiological readiness of when the different runs and the
25 different races leave the Yuba River.

CAPITOL REPORTERS (916) 923-5447

2087

1 MR. LILLY: Okay. Well -- and I'm sorry, I didn't
2 mean to imply to the contrary. But let me go back to you,
3 Mr. Nelson.

4 When you mentioned about the fry outmigrating,
5 the salmon fry outmigrating, what are the months when that
6 would normally occur in the Yuba River?

7 MR. NELSON: It would occur at any time slightly
8 after emergence.

9 MR. LILLY: Correct. For those of us who don't know
10 the river as well you --

11 MR. NELSON: It could begin in October.

12 MR. LILLY: When --

13 MR. NELSON: It could begin sometime in September,
14 but sometime early, let's say.

15 MR. LILLY: And when is the peak, then, of the fry
16 outmigration?

17 MR. NELSON: We don't have that information. That's
18 why I was indicating that in a rotary screw trapping at
19 Hallwood Boulevard, this was the first year this was set
20 up.

21 MR. LILLY: Okay. Is it fair to say that the fry
22 usually outmigrate earlier than the smolts?

23 MR. NELSON: Yes.

24 MR. LILLY: Okay.

25 MR. NELSON: Well -- of a fish that was hatched at

CAPITOL REPORTERS (916) 923-5447

2088

1 the same time, that is true. I mean there are fry that
2 are probably outmigrating the same time smolts are, but it
3 was not hatched, obviously, at the same time.

4 MR. LILLY: Okay. Fair enough. Well, my question
5 is: Is it fair to say that the peak of fry migration in
6 the Yuba River is earlier than the peak of the smolt
7 outmigration?

8 MR. NELSON: We have no data to support that.

9 MR. LILLY: Okay. So you don't have any opinion one
10 way or the other?

11 MR. NELSON: I do have an opinion.

12 MR. LILLY: Okay. What's your opinion?

13 MR. NELSON: That that is probably the case that
14 fry, obviously based upon best correctional judgment and
15 just general fishery knowledge that that is probably the
16 case.

17 MR. LILLY: That they would outmigrate earlier than
18 the smolts?

19 MR. NELSON: Yes.

20 MR. LILLY: Okay. So can you say whether that would
21 be in February or March, or can you be --

22 MR. NELSON: I cannot definitively tell you when
23 that would be, no.

24 MR. LILLY: Okay. How long does it take for a smolt
25 to migrate from Daguerre Point Dam to San Francisco Bay?

1 MR. NELSON: I have no information, specifically.

2 MR. LILLY: Do you have any opinion?

3 MR. NELSON: We've seen travel as much as probably
4 25 miles in less than seven days.

5 MR. LILLY: Okay. So do you know how many miles it
6 is that a fish swims from Daguerre Point Dam to San
7 Francisco Bay?

8 MR. NELSON: No. But if you tell me, I can convert
9 that.

10 MR. LILLY: So we just have to convert the number of
11 miles, then, at this rough estimate of 25 miles per seven
12 days?

13 MR. ODENWELLER: If I may?

14 MR. LILLY: Go ahead, Mr. Odenweller.

15 MR. ODENWELLER: There are some studies done on the
16 Sacramento River that suggest by using tagged released
17 groups and recoveries done on the Delta, that the movement
18 is approximately the same as the rate of the water but
19 with a tremendous amount of spread. And -- but it depends
20 on the mileage at that point. And I'm not sure what the
21 distance is.

22 MR. LILLY: Okay. Do you know what the rate of flow
23 of the water is as far as miles per day is either?

24 MR. ODENWELLER: No, I don't at this point.

25 MS. MCKEE: It's also volitional, because we also,

CAPITOL REPORTERS (916) 923-5447

2090

1 with those same tag studies, have gotten fish taking three
2 to four months moving down the stream. So you can see
3 fish from the same release group moving downstream within
4 a few days, and fish four months later that have chosen to
5 reside somewhere in the Sacramento River system and
6 utilized that habitat to rear.

7 MR. LILLY: Okay. Yeah, good luck, John, but I have
8 a few more questions for you, Mr. Nelson. Just the other
9 microphone, that's fine.

10 I just want to make sure I'm clear on this
11 question, because I think it was misunderstood before. I
12 understand that there are many different factors that
13 cause smolts, smolt chinook salmon to migrate out at
14 different times.

15 And I'm just going to ask you, hypothetically, if
16 you had two smolts with the exact same physiological
17 conditions and one, for whatever reason, started
18 emigrating from the Yuba River downstream in May and the
19 other one started emigrating from the Yuba River
20 downstream in June, do you have an opinion as to whether
21 or not there would be any difference in their
22 probabilities of survival to the Pacific Ocean?

23 MR. NELSON: No, I don't.

24 MR. LILLY: Okay. Do you believe that water
25 temperatures in the Feather River would affect these

CAPITOL REPORTERS (916) 923-5447

2091

1 hypothetical juvenile -- or smolt salmon's probability of
2 success in this migration?

3 MR. NELSON: Repeat that one more time.

4 MR. LILLY: Yeah, I'm sorry. That was a little more
5 complicated. Do you believe that the difference, if any,
6 in water temperatures in the Feather River between May and
7 June would affect the probability of survival of these
8 smolts that migrated in May and in June?

9 MR. NELSON: It may or it may not. I don't have an
10 opinion.

11 MR. LILLY: Okay. So you do not have an opinion as
12 to whether or not warmer temperatures in the Feather River
13 in June would affect the probability of a smolt survival
14 versus cooler temperatures in May?

15 MR. NELSON: Well, that's relative. You're using
16 relative terms here without absolutes.

17 MR. LILLY: That's correct.

18 MR. NELSON: So, no, no.

19 MR. LILLY: No opinion?

20 MR. NELSON: I mean I don't think it would make a --
21 it may not make a difference.

22 MR. LILLY: So even if the water were warmer in
23 June, it would not affect the probability of survival to
24 the outmigrating smolt?

25 MR. NELSON: No, because it's relative to what the

CAPITOL REPORTERS (916) 923-5447

2092

1 temperatures are.

2 MR. LILLY: Okay. And what about in the Lower
3 Sacramento River, the Delta, would you give the same
4 answer that even if the temperatures were warmer in June
5 that would not affect the relative likelihood of survival
6 of the smolt emigrating in June versus one emigrating in
7 May?

8 MR. NELSON: Since we're talking hypothetical and,
9 as I would envision a hypothetical, it may or may not.
10 You can't make that determination.

11 MR. LILLY: So you're saying that you cannot make a
12 determination if higher temperatures will affect the
13 probability of survival of the smolt?

14 MR. NELSON: No. Again, it is relative. It's
15 relative, those numbers are all relative.

16 MR. LILLY: What do you mean by "relative"?

17 MR. NELSON: What's warm?

18 MR. LILLY: Okay. Let's use specific terms. What
19 if the temperature of the outmigrating smolts in May were
20 60 degrees versus 65 degrees, would that affect the
21 probability of survival of that smolt emigrating to the
22 Pacific Ocean from the Yuba River?

23 MR. NELSON: 60 to 65, where?

24 MR. LILLY: In the Feather, in the Sacramento River
25 in the Delta.

CAPITOL REPORTERS (916) 923-5447

2093

1 MR. NELSON: If it was 65 in the Delta, or 60 in the
2 Delta?

3 MR. LILLY: Yes.

4 MR. NELSON: It may have some effect on survival.

5 MR. LILLY: Which one would have a higher survival
6 rate, 60 degree or the 65 degree example?

7 MR. NELSON: I mean, obviously, the higher the
8 temperature you go, the higher the temperature is. When
9 you start reaching those temperatures that adversely
10 affect salmonids, it's going to have a more detrimental
11 effect. You know, the assumption is that fish varies to
12 go out and it's not going to maintain as a yearling.

13 MR. LILLY: That's right, for my hypothetical. So
14 you're saying there might be some effect, or there might
15 not?

16 MR. NELSON: There could be some effect.

17 MR. LILLY: And what if the difference were between
18 65 degrees and 70 degrees, would that have an effect on
19 outmigrating smolts from the Yuba River to the Pacific
20 Ocean?

21 MR. NELSON: You're certainly getting in the range
22 that is not desirable, period.

23 MR. LILLY: Okay. So assuming that you mean the 70
24 degrees is not desirable for the outmigrating smolts?

25 MR. NELSON: Right.

CAPITOL REPORTERS (916) 923-5447

2094

1 MR. ODENWELLER: Mr. Lilly?

2 MR. LILLY: Go ahead, Mr. Odenweller, if you have
3 something to add to that.

4 MR. ODENWELLER: At least for me, the complication
5 is that we're - and maybe I need to explain - you're
6 assuming that all other the factors are the same between
7 the two scenarios and the only variable that is changing
8 is water temperature; is that correct?

9 MR. LILLY: That's correct.

10 MR. ODENWELLER: Okay.

11 MR. LILLY: I'm going to go forward and ask you, Ms.
12 Brown, some questions about the rotary screw trap, which I
13 believe you said you supervised the installation and the
14 operation of; is that correct?

15 MS. BROWN: That's correct.

16 MR. LILLY: First of all, who actually collects the
17 fish from this trap?

18 MS. BROWN: Who actually samples it everyday?

19 MR. LILLY: Yes.

20 MS. BROWN: We have Fish and Game employees that do
21 that every morning.

22 MR. LILLY: And are they working under your
23 supervision?

24 MS. BROWN: Yes, they are.

25 MR. LILLY: What formal training do these DFG

CAPITOL REPORTERS (916) 923-5447

2095

1 personnel who collect the fish have?

2 MS. BROWN: The particular ones that have been doing
3 it have been working for Fish and Game for approximately
4 two years. They were trained out of the Glenn-Colusa fish
5 screen trap. And they've been sampling that for quite
6 some time. They received training in fish identification.

7 One of them, I think -- sometimes -- we have a
8 crew up to five scientific aides, several of them have
9 degrees in biology, some of them are in-progress of
10 getting a degree in biology. And they have had training
11 on fish identification, how to sample the trap, that type
12 of stuff.

13 MR. LILLY: Okay. And, please, describe what the
14 Department's methodology is for the installation and
15 operation of this trap.

16 MS. BROWN: For the install -- methodology for the
17 installation --

18 MR. LILLY: Let me split it up. I realize this
19 thing was probably heavy and difficult to install, but how
20 did you decide where to put it in the river?

21 MS. BROWN: Okay. Some of the criteria are where to
22 put it, there has to be up to a certain velocity for the
23 drum to turn at so many rpm's. You need the channel deep
24 enough for the drum. It's an eight-foot drum, so
25 approximately a little over four feet, or four feet of

CAPITOL REPORTERS (916) 923-5447

2096

1 that is underneath water and you need some room between
2 that and the bottom of the river. You also need an access
3 point. You need landowner permission. This is all of
4 which we obtained.

5 MR. LILLY: Okay.

6 MS. BROWN: You need a place where you can
7 physically get the trap in the water, where you want it
8 sampled. And a big criteria is an anchoring method and a
9 way to anchor the trap, which is usually by large cables
10 and ropes and earth anchors put in. That type of
11 situation is very critical and very -- the hardest part of
12 probably running a screw trap. I'm trying to think of
13 what else.

14 MR. LILLY: And has the trap been successfully
15 operated since you installed it in November?

16 MS. BROWN: Yes, this has been very, very
17 successful. I had a lot of concerns. I don't believe
18 there's ever been a screw trap put in the Yuba River
19 before, because of a lot of the constraints. And I've
20 been very pleased the way this one was put in.

21 We got a very cooperative landowner, who is very
22 nice and let us drive right on their property. We could
23 drive right where to where the screw trap is. We anchored
24 it with cables and it worked very successfully to get it
25 out in the current where the drum was rotating at least

CAPITOL REPORTERS (916) 923-5447

2097

1 three rpm's per minute. And we had very good success with
2 that.

3 The first day there was a little bit of
4 difficulty getting it in. We assembled the trap basically
5 in the water. You take it apart piece by piece, carry it
6 down the bank, put it in the water, and put it together.

7 From that point on, the first day we had it in, I
8 have a two -- like I say, I have about up to five or six
9 people who are able to go sample the trap. I have two to
10 four that do it on the regular basis, the primary crew.
11 They alternate days. And they check the trap at between
12 7:00 and 9:00 every morning. They enumerate the fish,
13 they identify the fish. When there's up to thousands of
14 fish in there, they sub-sample the fish.

15 H.O. BROWN: Mr. Lilly, Board Member Forster has a
16 question.

17 MR. LILLY: Well, I think she has priority, so I
18 will defer to her.

19 MEMBER FORSTER: I just wanted to understand a
20 little bit more about this screw trap. I was wondering if
21 in the exhibits you had a picture of it. I can't
22 visualize what it looks like.

23 MS. MCKEE: A giant cone.

24 MR. ODENWELLER: If I may, it's a barge,
25 essentially - two pontoons - what looks like a cement

CAPITOL REPORTERS (916) 923-5447

2098

1 mixer drum sitting in the center of it, the open end, the
2 wide end of the cone facing upstream. And it rotates, by
3 veins and a series of steps, that lift the fish up and
4 drop them into a holding container at the back end of it.

5 MEMBER FORSTER: And it goes across the whole --

6 MR. ODENWELLER: No, it samples a section of the
7 river. It's about eight foot in diameter of an opening
8 and approximately half of that is underwater.

9 MEMBER FORSTER: Do you have other places?

10 MR. ODENWELLER: Yes. We've used them for about 10
11 or 15 years. They replaced the large Fyke net which was
12 used previously, which was a lot harder to maintain and
13 operate, but they originated in Oregon and migrated down
14 here about 15 years ago.

15 MR. MCEWAN: If you have a chance to go across the
16 Watt Avenue Bridge, over the American River, and look
17 downstream, look to the west, you will see two of them a
18 couple hundred yards downstream of the bridge. They've
19 been there for about five or six years now.

20 MR. LILLY: Maybe you should ask him to bring one in
21 here.

22 H.O. BROWN: When you count your fish, do you
23 extrapolate from the results of what you get in your
24 traps, or how do you that?

25 MR. NELSON: No. It is not a calibrated trap in

CAPITOL REPORTERS (916) 923-5447

2099

1 that the number of fish that are encountered in a trap in
2 a 24-hour period can be quantified to an absolute number
3 that's in the river.

4 And the reason we're not doing that is, one,
5 we're dealing with wild fish. So you have to physically
6 mark fish somehow and release them upstream and determine
7 the percentage of fish that you catch with that release.
8 You have to do day and night paired releases. You have to
9 do it under different times of the year, because you're
10 sampling for different sizes of fish.

11 And then on flow changes, you have to sample
12 under different flow changes in order to calibrate your
13 traps. So it's a difficult task, and then to try to do it
14 where we have wild fish, it's a little even more onerous.

15 C.O. BROWN: Mr. Lilly, we've interrupted you and
16 thank you. Maybe this is a good time to take a break.

17 MR. LILLY: That's fine with me.

18 C.O. BROWN: Okay. We'll met back here at one 1:00
19 o'clock.

20 (Luncheon recess.)

21 ---oOo---

22

23

24

25

CAPITOL REPORTERS (916) 923-5447

2100

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

TUESDAY, APRIL 4, 2000, 1:00 P.M.

SACRAMENTO, CALIFORNIA

---oOo---

H.O. BROWN: Let's come back to order.

Okay, Mr. Lilly.

MR. LILLY: Okay. Ms. Brown, I've got a few more questions for you regarding the rotary screw trap, now that we have a good description of what the thing looks like and how it works. Could you, please, refer to your joint testimony, S-DFG-1?

MS. BROWN: I've got that.

MR. LILLY: Okay. And, particularly, the second page. If the -- there's a heading called, "Entrainment," and then the third paragraph down starts out, "The Department." And in the first -- or the second sentence, it says,

(Reading):

"On November 4, 1999, a rotary screw trap was installed in the Lower Yuba River near Hallwood Boulevard and a sampling of less than three percent," parentheses, approximately 33 cfs of the river.

Could you, please, just elaborate what it means when it says it's sampling was less than three percent of the river?

CAPITOL REPORTERS (916) 923-5447

2101

1 MS. BROWN: We just take approximately what the --
2 the diameter of the drum is eight foot. So the amount of
3 cfs that would be going through the trap. And, then, we
4 calculate that by what at the time the flow in the river
5 is. Say, if it's like a 1,000 cfs and it was sampling --
6 I can't remember exactly at that specific time, but at
7 that time we calculated that it was about three percent
8 that passes through the drum.

9 MR. LILLY: Okay. So, approximately, three percent
10 of the flow is passing through the trap?

11 MS. BROWN: Right.

12 MR. LILLY: Now, can you make any estimate as to
13 what percentage of the fish, of the juvenile salmonids in
14 the river are passing through the trap?

15 MS. BROWN: Not really, no. Not -- if I calibrated
16 the trap, I could do that. As John Nelson previously
17 stated, you have to calibrate the trap in order to do that
18 and we have not done that at this time.

19 MR. LILLY: Do you have plans to do that in the
20 future, the calibration?

21 MS. BROWN: I don't, personally.

22 MR. LILLY: Mr. Nelson, do you or does anyone at DFG
23 plan to calibrate that rotary screw trap in the future?

24 MR. NELSON: Julie doesn't, because she doesn't work
25 there anymore.

CAPITOL REPORTERS (916) 923-5447

2102

1 MR. LILLY: Okay.

2 MR. NELSON: We may look into doing that next year.
3 The problem is is that this is a wild fishery and we need
4 to mark wild fish to calibrate the trap. And, also, it
5 takes large numbers of fish throughout the year to
6 calibrate the trap. It's a very difficult thing to do.

7 MR. LILLY: All right. So is it fair to say that
8 unless you calibrate the trap you really cannot use the
9 trap data to make estimates of the number of juvenile
10 salmonids in the river?

11 MR. NELSON: You cannot make an estimate of the
12 absolute number of fish that are passing by there, that's
13 correct.

14 MR. LILLY: Okay. Can you make any kind of estimate
15 of the numbers of fish in the river from the trap data?

16 MR. NELSON: You can make relative abundance
17 estimates, but not definitive numbers.

18 MR. LILLY: Okay. Now, if you can go to the third
19 sentence, the third sentence of that same paragraph on
20 Page 2, where it says,

21 (Reading):

22 "Juvenile chinook salmon," parentheses 33
23 millimeters to 39 millimeters, "including
24 spring-run were immediately captured."

25 Do you see that sentence?

CAPITOL REPORTERS (916) 923-5447

2103

1 MR. NELSON: Actually, it says 30 millimeters.

2 MR. LILLY: I'm sorry. My vision is getting worse
3 as I get older. Thank you. Can you distinguish between a
4 juvenile spring-run chinook salmon and a juvenile fall-run
5 chinook salmon?

6 MR. NELSON: That statement is based upon a
7 comparative sampling time, size of fish present by that
8 sampling time as compared to what was being trapped on
9 that date in Butte Creek, where we know that they were
10 definitively spring-run.

11 MR. LILLY: Well, so could you just elaborate, how
12 do you know that you were catching spring-run on the Yuba
13 River just based on what you saw in Butte Creek?

14 MR. NELSON: Basically, the same as a -- length
15 frequency. And it's similar to the index that's used for
16 determining winter-run size, spring-run size in the
17 Sacramento River.

18 MR. LILLY: Okay. And do you have any opinion
19 regarding what percentage of the juveniles you caught were
20 spring-run versus what percentage were fall-run?

21 MR. NELSON: We could make some estimate, that was
22 not made, but it could be made based upon the length
23 frequency for any given date.

24 MR. LILLY: Okay. Would there be a difference in
25 the length frequency data for spring-run and for fall-run

CAPITOL REPORTERS (916) 923-5447

2104

1 when you're looking at the juveniles in the November,
2 December, January period?

3 MR. NELSON: There will be some difference, yes,
4 obviously, because the fish have emerged -- the spring-run
5 have emerged earlier do tend to be a little larger and so
6 there is some difference in size.

7 MR. LILLY: And do you have any data to support your
8 statement that the spring-run are emerging earlier?

9 MR. NELSON: I think, yes, because what we're seeing
10 is comparable spawning times in the Yuba and in other
11 tributaries. And we know that those fish are emerging
12 earlier. We have temperature that we can calculate, but,
13 yes, there is some correlation that you can make there.

14 MR. LILLY: Okay. The only way you can be
15 absolutely sure as to whether or not you have a spring-run
16 or a fall-run is to look at the chromosomes of the fish,
17 right?

18 MR. NELSON: That may or may not be definitive, but
19 that is one indicator, not absolute at this time, but it
20 is difficult to determine the difference.

21 MR. LILLY: Well, are there -- are there any
22 definitive indicators to tell the difference between a
23 spring-run and a fall-run for sure?

24 MR. NELSON: Well, there is phenotypic
25 characteristics. I mean if you're talking about

CAPITOL REPORTERS (916) 923-5447

2105

1 juveniles --

2 MR. LILLY: Yes.

3 MR. NELSON: -- no. But, in fact, there is not for
4 winter-run either on a 100-percent basis.

5 MR. LILLY: Has anyone at DFG ever done any analysis
6 of chromosomes from chinook salmon from the Yuba River?

7 MS. MCKEE: The Department has been collecting
8 tissue samples on the Yuba River for the last couple of
9 years. And we just finished shipping off allozyme samples
10 to David Teal, National Marine Fisheries Service. So they
11 are presently doing an analysis.

12 MR. LILLY: Okay. So is it fair to say, then, that
13 there's no results from those analyses available to DFG,
14 or to other parties at this time?

15 MS. MCKEE: For the Yuba, no. There is on the
16 Feather River and there is on Butte Creek, Middle Creek,
17 Deer Creek, winter-run chinook salmon. We have samples,
18 also, from Battle Creek.

19 MR. LILLY: Okay. But not from the Yuba River?

20 MS. MCKEE: No.

21 MR. LILLY: Okay. Let's go back to you, Ms. Brown.
22 On the trap data, I believe your testimony says that the
23 total that was caught during November from this trap was
24 852 fish; is that correct?

25 MS. BROWN: Which are you referring to, which page

CAPITOL REPORTERS (916) 923-5447

2106

1 now, the same paragraph?

2 MR. LILLY: Well, no. Wait a second. I lost my
3 train of thought here. Just a minute. Oh, I'm sorry. We
4 need to look at S-DFG-6. Okay.

5 On the second page of S-DFG-6 in the lower
6 right-hand corner it indicates 852 fish caught in
7 November; is that correct?

8 MS. BROWN: That was for the days we sampled in
9 November, yes, from I believe the 20 -- we put it in on
10 the 24th, but we actually caught the first one on the 25th
11 or 26th.

12 MR. LILLY: Okay. You have just a few data on the
13 25th and then you started getting more?

14 MS. BROWN: Right.

15 MR. LILLY: Okay.

16 MS. BROWN: Because the drum wasn't turning -- the
17 trap kind of swung to the side and wasn't rotating like it
18 should have been. The minute we had the drum down and it
19 rotated like it was supposed to, we caught fish.

20 MR. LILLY: Okay. And for December, if you go
21 forward two pages, your total for December it looks like
22 it was -- if I can read this right -- it looks like 69,755
23 fish?

24 MS. BROWN: Yes.

25 MR. LILLY: And, then, for January this data only

CAPITOL REPORTERS (916) 923-5447

2107

1 goes through January 14; is that correct?

2 MR. NELSON: That's correct.

3 MR. LILLY: Okay. And, then, let's see what's the
4 total -- the total for January is, then, what number, is
5 it just the 3,296?

6 MS. BROWN: So far as we have --

7 MR. NELSON: The total for January is 80,301.

8 MR. LILLY: Now, is that the total since the trap
9 began operations, or just for January?

10 MR. NELSON: 80,000 --

11 MS. BROWN: Yes.

12 MR. LILLY: Oh, that many were --

13 MR. NELSON: -- 301 for January.

14 MR. LILLY: Okay. So 80,000 were caught during
15 January?

16 MR. NELSON: Through the 14th of January.

17 MR. LILLY: Okay. Now, if you can go back one page
18 it says, "Year, 1999; month, January," I assume that was
19 supposed to be 2000?

20 MR. NELSON: You're right.

21 MR. LILLY: Okay.

22 MR. NELSON: I'm sure it is, without looking at it.

23 MR. LILLY: Since you weren't operating the trap in
24 January of 1999.

25 MS. BROWN: Yeah.

CAPITOL REPORTERS (916) 923-5447

2108

1 MR. LILLY: Okay. So basically to get the total
2 number of fish caught by the trap through January 14, we
3 just add up those numbers; is that correct, which I get to
4 be about 150,000? Does that sound about right?

5 MS. BROWN: You're probably adding -- there's two on
6 the sheet.

7 MR. LILLY: Okay. Why don't you clarify that, what
8 the different numbers mean?

9 MS. BROWN: One is the number -- if you look at the
10 bottom of the sheet where it says, "Date," and right below
11 that is, "Daily total."

12 MR. LILLY: Okay.

13 MS. BROWN: And that's -- in parentheses it says,
14 "measured." If they had 100,000 fish that day, they
15 didn't measure all 100,000 fish.

16 MR. LILLY: Okay.

17 MS. BROWN: They could only subsample and, say, if
18 they had anything over 100 or more, they would measure 50
19 or 100 fish, depending on how many fish they had and then
20 extrapolate from that. So the daily total measured is to
21 the right, say for November, it was 852.

22 The number they plus-counted -- or, excuse me,
23 the total that they would use from extrapolating would be
24 the number on the bottom where it says, "Total." In
25 November they didn't have --

CAPITOL REPORTERS (916) 923-5447

2109

1 MR. LILLY: You measured --

2 MS. BROWN: I probably should use December, because
3 in November they didn't extrapolate.

4 MR. LILLY: Okay. They measured them all in
5 November?

6 MS. BROWN: Yes.

7 MR. LILLY: And then --

8 MS. BROWN: Same principle applies for December.

9 MR. LILLY: Okay. So, fair enough, the daily total
10 measured is the number measured, plus counts are the ones
11 counted?

12 MS. BROWN: Yes.

13 MR. LILLY: And then the total is the total number?

14 MS. BROWN: Yes.

15 MR. LILLY: Okay.

16 MS. BROWN: So that's why you get higher numbers,
17 the numbers that we have.

18 MR. LILLY: Now, the one thing I could not -- or one
19 of the things that I could not figure out is going back to
20 Exhibit 1, S-DFG-1 on Page 2 of your testimony in that
21 third paragraph on entrainment. This is just below the
22 middle of the second page. It says,

23 (Reading):

24 "From November 24th through January 20 a total
25 of 350,399 juvenile chinook salmon have been

CAPITOL REPORTERS (916) 923-5447

2110

1 caught in the RST with over 100,000 captured in
2 a single day --

3 MS. BROWN: Wait. You're talking about -- I'm sorry
4 to interrupt. Go ahead.

5 MR. LILLY: And then it cites to Table 2, which is
6 Exhibit S-DFG-6, is the reason for the difference in the
7 numbers is that there's different sampling, or different
8 periods shown there?

9 MS. BROWN: I think -- I think we're talking about
10 two different things here.

11 MR. LILLY: Okay. Why don't you explain how we get
12 350,000?

13 MR. NELSON: As I recall, actually, it's through
14 January 20th and if you notice that on the data sheets
15 that were given it only goes through January 14th.

16 MR. LILLY: Okay.

17 MR. NELSON: And the reason for that was the date
18 that the testimony was due, which I believe was shortly
19 after the 20th, I think, I don't recall the exact date.

20 And we did not have, in hand, the data entered on
21 the spreadsheet, but rather just included the dates from
22 January 16th, 17th, 18th, 19th, and 20th into that total.

23 MR. LILLY: Okay. So was it one of those days when
24 the over 100,000 were captured?

25 MR. NELSON: Yes. It was 100,000 and 80,000 in that

CAPITOL REPORTERS (916) 923-5447

2111

1 time frame, yes.

2 MR. LILLY: So sometime between January 14 and
3 January 20?

4 MR. NELSON: Yes. I apologize for not entering that
5 data, it was just a matter of time.

6 MR. LILLY: Okay. And I assume you're still
7 operating that trap through today?

8 MS. BROWN: Yes.

9 MR. LILLY: Okay. And are you continuing to collect
10 data from that trap?

11 MR. NELSON: I'll answer since Julie isn't dealing
12 with it anymore. Yes, we are.

13 MR. LILLY: Okay. And are you willing to provide
14 copies of the data, that trap data to Yuba County Water
15 Agency and other interested parties?

16 MR. NELSON: No problem.

17 MR. LILLY: Okay. We'll send you a request. Thank
18 you. If we can now go to discussing the spawning redd
19 survey, which I believe is discussed in Exhibit S-DFG-1 on
20 Page 2 in the last sentence. Very last sentence on Page 2
21 it says,

22 (Reading):

23 "Spring-run adults presently oversummer
24 above Daguerre Point Dam and then spawn in
25 later summer."

CAPITOL REPORTERS (916) 923-5447

2112

1 Do you see that sentence?

2 MS. BROWN: Yes.

3 MR. LILLY: Okay. Just by way of background, when
4 do the spring-runs migrate upstream into the Yuba River
5 from the Feather River?

6 MR. NELSON: Typical spring-run migration is March,
7 April, May, June --

8 MR. LILLY: Okay.

9 MR. NELSON: -- for adults ascending.

10 MR. LILLY: And, then, where in the Yuba River do
11 the spring-run oversummer?

12 MR. NELSON: Above Daguerre Point Dam.

13 MR. LILLY: Can you be any more specific than that?

14 MR. NELSON: Actually, there are several locations.
15 We have on some of the snorkeling events that we've been
16 out there, we've seen fish from, typically, the Narrows
17 pool, which is about a mile, a mile and a half downstream
18 of Englebright Dam down to below Highway 20, between
19 Highway 20 and Daguerre Point Dam.

20 MR. LILLY: Well, how far below Highway 20 have you
21 seen those spring-run adults?

22 MR. NELSON: I've seen fish, adult fish holding
23 there several miles downstream.

24 MR. LILLY: Okay. And what was the year when you
25 saw those fish?

CAPITOL REPORTERS (916) 923-5447

2113

1 MR. NELSON: I'd have to go back to my daily diary.
2 It was typically in the late spring, summertime, late
3 summertime.

4 MR. LILLY: Okay. When you say, late spring, early
5 summer, you talking the June period?

6 MR. NELSON: Yes.

7 MR. LILLY: Now, is there any way you can tell
8 whether or not those fish are holding over at that
9 location, or whether they were still migrating upstream at
10 that location?

11 MR. NELSON: I think it's an irrelevant point from
12 the standpoint that they're milling around in the river,
13 they've been in the river for some time. You know, they
14 may tend to move up, they may tend to move back down.

15 MR. LILLY: So do you have any specific data where
16 they hold over during July and August?

17 MR. NELSON: I've been out there in July and August
18 also and I have seen fish holding within that same reach.

19 MR. LILLY: Okay. And you say even down below the
20 Highway 20 bridge?

21 MR. NELSON: Yes.

22 MR. LILLY: Okay.

23 MR. NELSON: These are surveys -- I won't call them
24 surveys. They were snorkeling events to go out and just
25 observe what is happening, what is the current status of

CAPITOL REPORTERS (916) 923-5447

2114

1 the river. Some of these were done with Mr. Bill Mitchell
2 of Jones and Stokes. At the time we were going out, it
3 was strictly snorkeling events and not surveys.

4 MR. LILLY: Okay. And, then, regarding the
5 fall-run, when do they start migrating up into the Yuba
6 River?

7 MR. NELSON: They can start coming up in September.
8 It depends on the flows and the year, the water year. You
9 know, as a matter of fact, we can see them -- in the
10 summertime we will see some fish coming up.

11 MR. LILLY: So those would be fall-run coming up
12 then?

13 MR. NELSON: Well, they could be fall-run, or they
14 could be -- they could be fall-run, yes, but we typically
15 see the main thrust of that coming up in October,
16 November, December. The peak is in about the second week
17 of November.

18 MR. LILLY: Okay. Now, if you can refer to Exhibit
19 S-DFG-8.

20 MR. NELSON: Okay.

21 MR. LILLY: Which one of you prepared this exhibit?

22 MS. BROWN: I did.

23 MR. LILLY: Okay.

24 MR. NELSON: Julie did, but we were both out there
25 on the river.

CAPITOL REPORTERS (916) 923-5447

2115

1 MR. LILLY: Okay. And the heading at the top says,
2 "Table 3, Yuba River Spring-run Chinook Salmon Spawning
3 Survey, September, 1999." Ms. Brown, is it your opinion
4 that all of the redds that are described in this exhibit
5 were from spring-run salmon?

6 MR. NELSON: The answer is, no. What we know is we
7 have early spawning, that is characteristic of spring-run.
8 We saw early ascending fish in the river March, April,
9 May, June. So we had something that walks like a duck,
10 talks like a duck, and really looks like a spring-run. So
11 there is this early spawning that is occurring out there.
12 But without a doubt, all those are not spring-run.

13 MR. LILLY: So is it fair to say that without doubt
14 some of these were fall-runs?

15 MR. NELSON: That's true.

16 MR. LILLY: Okay. And you, at this point, I assume
17 you can't make a very educated guess as to the percentages
18 that were spring-run and the percentages that were
19 fall-run?

20 MR. NELSON: Not absolute, but I would certainly say
21 that the ones that were early spawning are more likely to
22 be spring-run, because they are exhibiting that phenotypic
23 characteristic.

24 MR. LILLY: Okay. Now, let's go forward, this
25 Exhibit S-DFG-8 has a column marked "depth." And could

CAPITOL REPORTERS (916) 923-5447

2116

1 one of you, whichever one of you is more knowledgeable,
2 tell me what does the measurement of depth refer to?

3 Ms. Brown, what does "depth" mean?

4 MS. BROWN: We measured in tenths of a foot just in
5 front of where the redd was built on the cobble
6 substraight, the depth at which the redd would be.

7 MR. LILLY: So that is the distance, then, from the
8 surface of the water down to the -- basically, if you
9 stick a stick in there, is it the first rocks you hit when
10 you get done measuring it?

11 MS. BROWN: We don't use a stick. We use a rod that
12 goes with the Marsh-McBirney flow meter and it's in tenths
13 of a foot. And it's from the bottom to the water surface.

14 MR. LILLY: Okay. The bottom of what, basically,
15 the highest rocks on the redd, or --

16 MS. BROWN: No. It's directly in front of where the
17 depression of the redd is created. So it's just in front
18 of that is where you measure. If there's a big giant rock
19 sitting there, you don't put the rod on that. You can put
20 it a little bit to the left or to the right. It's just to
21 get the basic depth at which the redd was created. So you
22 don't want it on a big, big rock.

23 MR. LILLY: Okay. So you have to kind of average
24 among the rocks to get the average height there?

25 MS. BROWN: It's not usually difficult, because

CAPITOL REPORTERS (916) 923-5447

2117

1 redds aren't created in the big of rocks. The cobble is
2 usually three to four inches in diameter. So it's not
3 hard, it's usually all fairly easy to measure.

4 MR. LILLY: Okay. And, then, where are the eggs in
5 relation to these rocks that you're describing, both
6 laterally and vertically?

7 MS. BROWN: The what?

8 MR. LILLY: The eggs, the salmons eggs.

9 MS. BROWN: They're under the tail of the redd, the
10 tail spill behind -- there's a depression and then there's
11 a tail spill behind that and they're underneath the tail
12 spill.

13 MR. LILLY: Okay. So how much deeper are the eggs
14 than the measurement point where you're actually measuring
15 this depth?

16 MR. NELSON: It can vary. Some of the tail spills,
17 the ones that are a half a foot in depth here, I will
18 indicate that these are in increments of one foot. The
19 tail spill will be virtually out of the water. The eight
20 pockets are, you know, up to 12 inches below that.

21 MR. LILLY: Okay. And, then, if you can just go
22 through this exhibit -- either one of you -- tell me how
23 many of these redds that are listed on this exhibit have
24 listed depths of less than one foot?

25 MR. NELSON: I'm sure you calculated that, would you

CAPITOL REPORTERS (916) 923-5447

2118

1 care to give it to us?

2 MR. LILLY: Well, there's one that says, "zero,"
3 which I'm not sure what that means. And, then, I think
4 there's only three or four --

5 MS. BROWN: Either it was a typo, or it wasn't
6 measured on that particular one.

7 MR. LILLY: Okay. Is it fair to say it's a very
8 small fraction of the total at depths less than one foot?

9 MR. NELSON: That's probably true, yes.

10 MR. LILLY: Okay. Now, there was -- and I'm not
11 sure which one of you testified to it this morning, but I
12 believe one of you in response to a cross-examination
13 question said that the amounts of dissolved oxygen -- I
14 think it was you, Ms. Brown, said the amounts of dissolved
15 oxygen getting to the eggs and the waste removal from the
16 eggs can vary depending on the depth of the water over the
17 eggs; is that correct?

18 MS. BROWN: Well, I think Dennis was talking about
19 the waste, but it's not just the depth of the water. We
20 were talking about velocity.

21 MR. LILLY: Okay.

22 MS. BROWN: So velocity, temperature, all that has
23 to do with the amount of dissolved oxygen in it. And
24 Dennis was the one that had that discussion.

25 MR. LILLY: Okay. Well, let me just go ahead and if

CAPITOL REPORTERS (916) 923-5447

2119

1 we need to, Mr. McEwan can clarify. Have any of you done
2 any quantitative analysis of the availability of DO to
3 these eggs at different river flows?

4 MR. MCEWAN: No.

5 MS. BROWN: No.

6 MR. LILLY: And has any of you done any quantitative
7 analysis of the -- whether there is any differences in
8 waste removal from these egg areas at different river
9 flows?

10 MS. BROWN: No.

11 MR. LILLY: Okay. In your -- just going back to
12 your joint testimony, on Page 2, the very last paragraph.
13 The first sentence says at the bottom of Page 2, it says,
14 (Reading):

15 "Flows must be sufficient in March through June
16 to attract ascending spring-run adults to the
17 Yuba; and the Board recommended flows are
18 sufficient for that purpose."

19 Do you see that sentence?

20 MR. NELSON: Yes.

21 MR. LILLY: Okay. And I forget, which one of you is
22 responsible for that?

23 MR. NELSON: I am.

24 MR. LILLY: Okay.

25 MR. NELSON: We'll answer as a panel.

CAPITOL REPORTERS (916) 923-5447

2120

1 MR. LILLY: Okay. Fair enough. Did anyone at the
2 Department of Fish and Game make any quantitative analyses
3 of the available field data to determine what the minimum
4 flows would be in the Yuba River during March through June
5 to attract ascending spring-run adults?

6 MR. NELSON: No.

7 MR. LILLY: And do the levels of spring
8 attraction -- the attraction flows for spring-run in the
9 Yuba River depend on the levels of the flows in the
10 Feather River?

11 MR. NELSON: There's probably some correlation.
12 Obviously, if it's low flows and you have more outflow,
13 you're not going to get fish.

14 MR. LILLY: Okay. And, then, did anyone at the
15 Department of Fish and Game analyze what flows are
16 predicted to occur in the spring in these months in the
17 Feather River under different hydrological conditions?

18 MR. NELSON: We did no hydrological analysis.

19 MR. LILLY: Let's go forward to Page 3 of your
20 testimony. The paragraph at the bottom says, "Adult
21 passage at Daguerre Dam." And my question is:

22 Has the Department of Fish and Game asked the
23 Corps of Engineers to address the fish ladder problems
24 that are discussed in this paragraph?

25 MR. NELSON: Yes.

CAPITOL REPORTERS (916) 923-5447

2121

1 MR. LILLY: And what has the Corps' response to
2 date, if any, been?

3 MR. NELSON: Well, they are operating it on a longer
4 extended duration to when they exceed their criteria for
5 closing. In other words, they were to close it at
6 elevation 130, they now exceed that and maintain the
7 ladder opening. And when I say, "opening," I mean the
8 flow into the ladder, that is actually the ladder,
9 actually.

10 They maintain the gate opening so that water
11 flows through the ladder at times when they did not have
12 to. And they open it -- when they do have to close it,
13 they open it before they reach their target elevation
14 decrease. They are more rigorous at removing debris.
15 And, also, the U.S. Fish and Wildlife Service has funded
16 the Corps of Engineers to do a fish passage evaluation
17 improvement at Daguerre.

18 MR. LILLY: Let's go forward to Page 4 of your
19 testimony, your joint testimony. There's a table in --
20 just above the center of the page, which has some
21 different temperatures listed. And are these temperatures
22 that the Department of Fish and Game is recommending that
23 the State Board adopt for the Yuba River at the specified
24 locations and during the specified months?

25 MR. NELSON: I think so.

CAPITOL REPORTERS (916) 923-5447

2122

1 MR. LILLY: Okay. And are -- these temperatures, I
2 take it, are recommended for spring-run, fall-run, and
3 steelhead?

4 MR. NELSON: That's correct.

5 MR. LILLY: And for steelhead, did you rely on the
6 published reports that are cited in Mr. McEwan's testimony
7 to develop these recommendations?

8 MR. NELSON: We did use Mr. McEwan's information.
9 We used, again, the information presented in our 1991
10 Fisheries Management Plan. And I believe we used -- I
11 believe we used some of the exhibit -- Alice Rich's
12 testimony that we submitted as an exhibit, I believe we
13 used that also, which clearly indicated that those
14 temperatures are clustered around -- the recommended
15 temperatures are clustered around the 60-degree
16 recommendation.

17 MR. LILLY: Okay. And then for spring-run, is it --
18 did you rely on the references in Ms. McKee's testimony
19 plus the Fish and Game plan as well for those
20 recommendations?

21 MR. NELSON: That's correct. And, also, Ms. Alice
22 Rich's testimony, that was submitted as an exhibit along
23 with the U.S. Fish and Wildlife Service effects of
24 temperature on the Sacramento River winter-run and
25 fall-run chinook salmon.

CAPITOL REPORTERS (916) 923-5447

2123

1 MR. LILLY: And, then, at the very top of that Page
2 4, the second sentence, it says,

3 (Reading):

4 "The recommendations in the Draft Decision are
5 the minimum that should be implemented
6 immediately."

7 Do you see that sentence?

8 MR. NELSON: Yes.

9 MR. LILLY: And so does this sentence apply to all
10 the recommendations, or proposals in the Draft Decision?

11 MR. NELSON: Yes, in addition to the ones that we
12 have made here.

13 MR. LILLY: Okay. And did anyone at the Department
14 of Fish and Game ever analyze the hydrological impacts
15 that would result from implementing the instream flow
16 requirements in the Draft Decision?

17 MR. NELSON: Our responsibility as trustee agency is
18 to maintain and protect the fish and wildlife resources of
19 the State of California. And that is our job and that is
20 what we've done.

21 MR. LILLY: So the answer is, "no"?

22 MR. NELSON: That's correct.

23 MR. LILLY: And I assume, then, the answer also is
24 that no one at the Department of Fish and Game analyzed
25 the hydrological impacts of implementing the temperature

CAPITOL REPORTERS (916) 923-5447

2124

1 requirements in the Draft Decision?

2 MR. NELSON: That is not our responsibility as
3 trustee of the State resources, the California resources.

4 MR. LILLY: So nobody at the Department of Fish and
5 Game did that analysis?

6 MR. NELSON: That's correct.

7 MR. LILLY: Now, did anyone at the Department of
8 Fish and Game analyze what flows would be required in the
9 Lower Yuba River to attempt to implement the temperature
10 proposals that are listed on Page 4 of your testimony?

11 MR. NELSON: No.

12 MR. LILLY: Okay. And if the -- these temperatures
13 proposals would lead to New Bullards Bar Reservoir being
14 drawn down to the minimum pool elevation for several
15 months during a drought, would the Department of Fish and
16 Game still ask the State Water Resource Control Board to
17 adopt these proposals?

18 MR. NELSON: Would you restate that, please?

19 MR. LILLY: Yes. If these temperature requirements
20 would require that the storage level in New Bullards Bar
21 Reservoir be drawn down to the minimum pool level for
22 several months during a drought, would the Department of
23 Fish and Game still ask the State Water Board to adopt
24 these temperature proposals?

25 MR. NELSON: We have make the recommendation for

CAPITOL REPORTERS (916) 923-5447

2125

1 these temperatures. I think you're asking for a policy
2 decision that I cannot give you.

3 MR. LILLY: So you're, basically, leaving that to
4 the State Board?

5 MR. NELSON: The State Board -- and as somebody said
6 earlier -- we are making recommendations for resources,
7 others are making recommendations for their area. The
8 Board is going to be the one that makes the ultimate
9 decision as to what happens.

10 MR. LILLY: Are you recommending these that
11 temperature requirements be imposed as permit conditions
12 in the Yuba County Water Agency's water right permits?

13 MR. NELSON: That's correct.

14 MR. LILLY: Did anyone at the Department of Fish and
15 Game analyze whether or not it would be feasible for the
16 Yuba County Water Agency to implement, or to take actions
17 that would implement these temperatures?

18 MR. CUNNINGHAM: Objection. This goes beyond the
19 scope of the direct testimony provided.

20 MR. LILLY: And the Board has said many times that
21 we don't need to --

22 H.O. BROWN: Okay, Mr. Lilly.

23 MR. LILLY: Excuse me.

24 H.O. BROWN: Go ahead.

25 MR. LILLY: This Board has ruled many times that

CAPITOL REPORTERS (916) 923-5447

2126

1 cross-examination in this hearing is not limited to the
2 scope of direct.

3 MR. CUNNINGHAM: Mr. Brown, if I might?

4 H.O. BROWN: Go ahead.

5 MR. CUNNINGHAM: I think what Mr. Lilly is asking us
6 though is to start to speculate on a series of facts and a
7 series of hypotheticals that we've been presented not in
8 preparation for this testimony, but only through
9 presentation of other witnesses' testimony, including that
10 of Yuba County Water Agency.

11 If Mr. Lilly wishes to propose some kind of a
12 fixed hypothetical and clearly identify it as a
13 hypothetical, that's one thing. But he's now suggesting
14 that there are certain things that will happen. And he
15 wants a policy discussion on what those things are going
16 to be and how we'll deal with them. And I do think that
17 goes beyond the scope of the direct and the scope of the
18 proposal as well.

19 H.O. BROWN: Mr. Lilly is correct. I mean we do
20 allow to draw examination for cross, but, perhaps, you can
21 rephrase your question just a little bit, Mr. Lilly.

22 MR. LILLY: I'll try to focus in terms of these
23 witnesses' knowledge and that may address Mr. Cunningham's
24 concerns.

25 H.O. BROWN: Okay.

CAPITOL REPORTERS (916) 923-5447

2127

1 MR. LILLY: Mr. Nelson -- or if anyone on the panel
2 has knowledge of this, that's fine -- what actions can the
3 Yuba County Water Agency take to control water
4 temperatures in the Lower Yuba River?

5 MR. NELSON: Well, there's probably several actions
6 that they can take. There's several actions they can
7 take. In asking to speculate on those, one is, I believe,
8 they could use Narrows 1 Powerhouse for an extended period
9 of time, longer than they do. That has a deeper intake
10 than Englebright Dam and does tap into a colder water
11 elevation, into the reservoir.

12 They could extent the intake siphon on Narrows 2,
13 provide that colder water. They could put a low-level
14 outlet into Englebright Dam to provide colder water. They
15 could, also, assist in the passage of anadromous fish
16 spring-run and steelhead upstream to their historic areas.
17 And that would provide the cold water without having to
18 do, necessarily, additional flow releases.

19 MR. LILLY: Are you proposing that as an alternative
20 to these temperature requirements?

21 MR. NELSON: You asked me what they could do and
22 that's what they could do.

23 MR. LILLY: Okay. Well, I didn't ask you what they
24 could do to provide temperatures to the spring-run salmon.
25 I asked you what they could do to provide the temperatures

CAPITOL REPORTERS (916) 923-5447

2128

1 that are listed on Page 4 of your testimony, which are
2 listed at Daguerre Point Dam and the Marysville gauge.

3 So with that clarification, are there any other
4 measures that you believe that the Agency could do to
5 provide these water temperatures in the Lower Yuba River
6 at Daguerre Point Dam and the Marysville gauge?

7 MR. NELSON: Yes. I guess they could improve the --
8 or curtail the water that is leaking out of the South Yuba
9 Brophy Canal into the Goldfields, be heated by the
10 Goldfields and returned to the Yuba River.

11 MR. LILLY: Anything else?

12 MR. NELSON: I guess, I would say there's other
13 things that they could do.

14 MR. LILLY: What are the other things you believe
15 that they could do?

16 MR. NELSON: They can increase flows to maintain the
17 temperatures. You can also alleviate the potential leak
18 of these temperatures by restoring spring-run and
19 steelhead to their historic ranges or a portion thereof.

20 MR. MCEWAN: Mr. Lilly, may I chime in here?

21 MR. LILLY: Go ahead.

22 MR. MCEWAN: What we are asking for here is what we
23 believe, collectively, our expert opinion is what the fish
24 need to survive in the Yuba River. That's what we're
25 providing.

CAPITOL REPORTERS (916) 923-5447

2129

1 MR. LILLY: Okay. Fair enough. Then I'll just ask
2 the one follow-up question, then maybe we can move on.

3 Did you, Mr. McEwan, or you, Mr. Nelson, or anyone
4 else at the Department of Fish and Game analyze whether or
5 not it would be feasible for the Yuba County Water Agency,
6 using these types of actions that you've just described,
7 to implement the temperature requirements that are
8 proposed on Page 4 of your joint testimony?

9 MR. NELSON: No. But there's information that some
10 of those measures will provide cooler temperatures to the
11 river.

12 MR. LILLY: Okay, cooler. But whether or not they
13 will provide temperatures as cool as those listed in this
14 exhibit, you don't know; is that correct?

15 MR. NELSON: That's correct.

16 MR. LILLY: Does anybody on the panel know what the
17 summer water temperatures in the Lower Yuba River were
18 before New Bullards Bar Reservoir began to operate?

19 MR. NELSON: No.

20 MR. MCEWAN: No. But if I could clarify that, I
21 think you're comparing apples and oranges. What the
22 temperature was in the Lower Yuba River prior to the dams
23 being built, really was not as much of an issue to
24 steelhead and spring-run chinook, because they had access
25 above that. And it's only now that they do not have

CAPITOL REPORTERS (916) 923-5447

2130

1 access that it's become critical.

2 MR. LILLY: Well, Mr. McEwan, were all the dams that
3 you referred to constructed at the same time?

4 MR. MCEWAN: No. I don't know the answer to that
5 question, but I believe, no, they were not.

6 MR. LILLY: Do you know when Englebright Dam was
7 constructed?

8 MR. MCEWAN: No, I do not.

9 MR. LILLY: Do you know what New Bullards Dam was
10 constructed?

11 MR. MCEWAN: I believe it was in the early 1970's.

12 MR. LILLY: Do you know whether or not Englebright
13 was constructed before or after?

14 MR. MCEWAN: Englebright was constructed prior to
15 that.

16 MR. LILLY: And I'll ask Mr. Nelson, or Mr. McEwan,
17 or anyone else: Does any of you know if the summer water
18 temperatures in the Yuba River at the location of the
19 Daguerre Point Dam ever were as low as 56 degrees
20 Fahrenheit before New Bullards Bar began operations?

21 MR. NELSON: No. But we're dealing with a different
22 regime of fish than we did historically before the dams,
23 as Mr. McEwan indicated. But the answer is, no.

24 MR. LILLY: Okay. I'm almost done with you,
25 Mr. Nelson and Ms. Brown. The very last sentence of your

CAPITOL REPORTERS (916) 923-5447

2131

1 testimony on Page 5 says,

2 (Reading):

3 "Without these additional measures, impacts and
4 direct losses of listed species will continue
5 to occur."

6 Do you see that?

7 MR. NELSON: Yes.

8 MR. LILLY: And what does the word, "impacts," refer
9 to in this sentence?

10 MR. NELSON: Conditions that are not appropriate for
11 anadromous fish, or direct loss of entrainment, mortality
12 of anadromous fishes, spring-run, steelhead fall-run.

13 MR. LILLY: Okay. So it's for "direct losses,"
14 you're referring to entrainment at the diversions?

15 MR. NELSON: Yes, but it can, also, be direct losses
16 due to incubating eggs. It can also be stranding of
17 juvenile fish, or isolation of juvenile fish in the ponds
18 during flow reductions, which is a direct loss.

19 MR. LILLY: Okay. And, Mr. McEwan, this one is
20 probably for you, but are the steelhead listed as either a
21 threatened species, or an endangered species under the
22 California Endangered Species Act?

23 MR. MCEWAN: No, they are not.

24 MR. LILLY: And has the Department made a request
25 for such a listing to the Fish and Game Commission?

CAPITOL REPORTERS (916) 923-5447

2132

1 MR. MCEWAN: To my knowledge, we have not.

2 MR. LILLY: Okay. And let me go ahead and ask
3 either Mr. Nelson or anyone else on the panel:

4 If all of the measures that are listed in the
5 Draft Decision and those -- the new proposals in your
6 testimony were implemented, what populations of steelhead
7 do you expect would occur in the Lower Yuba River?

8 MR. MCEWAN: Could you repeat the question?

9 MR. LILLY: Yes. If all of the measures in the
10 Draft Decision and all of the measures that the Department
11 of Fish and Game is proposing in this hearing were
12 implemented and had remained in effect for several years,
13 what populations of steelhead would you expect would,
14 then, occur in the Lower Yuba River? And we'll talk about
15 adults, since they're easier to count.

16 MR. MCEWAN: That -- I think that's pretty difficult
17 to speculate. I don't know that I could come up with an
18 answer to that without a little bit more information and
19 study.

20 MR. LILLY: Okay. And I assume, Mr. Nelson, do you
21 have anything to add to that, or would you give the same
22 answer as Mr. McEwan?

23 MR. NELSON: I guess I would give the same answer,
24 but I would also say that what's important to realize is
25 that the 1965 Agreement for even the Board recommended

CAPITOL REPORTERS (916) 923-5447

2133

1 flows have really not occurred to any -- to as a great
2 extent as they could under a total -- well, let me back
3 up.

4 They have not occurred, based upon the historic
5 flow regimes or water availability as the 1965 Agreement
6 for the Board flow recommendations, the flows have
7 typically been higher. And, therefore, it may not be fair
8 to say how much increase you would get, because you would
9 never -- "never" is a bad word, because you have seldom
10 realized those flows that occurred in the '65 Agreement,
11 or the Board decision.

12 MR. LILLY: That's why I was looking toward the
13 future. Mr. Nelson, does the Department --

14 H.O. BROWN: Mr. Lilly, may I ask a question?

15 MR. LILLY: Of course.

16 H.O. BROWN: You don't have an idea, or do you have
17 an idea that if the Board were to implement the
18 recommendations as you have proposed as to what would
19 happen to the fish population?

20 MR. NELSON: Go ahead.

21 MR. ODENWELLER: If I may, one of the problems is
22 that we have to assume conditions that these fish migrate
23 to the ocean and back. And so we create ideal conditions
24 in the Yuba River system, but there's conditions
25 downstream that affect the result. Assuming that those

CAPITOL REPORTERS (916) 923-5447

2134

1 conditions are all the same, and that we achieve these
2 conditions, I think I would expect an increase in the
3 number of fish in the system.

4 But so much is predicated on everything else,
5 that to make a year-by-year comparison would be very
6 difficult, prediction would be difficult.

7 MR. NELSON: And I guess I would add that I would
8 anticipate that implementation of the flows is going to
9 increase the number of fish that are, actually, produced
10 by the Yuba. It's hard when you don't have baseline data
11 for steelhead and for spring-run, but, you know, to come
12 up with an absolute number is difficult, but we would
13 expect that they will improve.

14 H.O. BROWN: Well, I understand that. But that
15 answer is quite a bit different than what I had understood
16 a few minutes ago.

17 MR. MCEWAN: I think I may have misinterpreted
18 Mr. Lilly's question then. I thought he was asking me for
19 a number. And I would agree with Dan and John that
20 providing better conditions, or adequate conditions for
21 steelhead and spring-run, we do believe that would lead to
22 an increase in numbers. But to provide an absolute number
23 is a very difficult thing to do, because there's so many
24 other factors.

25 H.O. BROWN: I did not hear a request for an

CAPITOL REPORTERS (916) 923-5447

2135

1 absolute number.

2 MR. MCEWAN: I must have missed it.

3 H.O. BROWN: Maybe you can answer the question,
4 again, so we're sure on the record as to what the question
5 is.

6 MR. LILLY: Well, in light of the clarification, I
7 will ask a slightly more detailed question. Any three of
8 you gentlemen, can you -- do you have any opinion
9 regarding what increase, if any, in terms of percentages
10 would occur to the steelhead population on the Yuba River
11 if all of the measures in the Draft Decision and all of
12 the recommendations in Fish and Game's testimony for this
13 hearing were implemented?

14 MR. MCEWAN: Well, again, I would interpret that as
15 asking for a -- not in this case, a hard number, but at
16 least, you know, some sort of a number. And I don't know
17 that I could give that even in terms of a relative
18 percentage.

19 I think the safest thing to say is that we
20 believe that there would be an increase, but I'm not sure
21 that we have all the information that we need to even say,
22 you know, what percentage of an increase would be -- it
23 would be.

24 MR. LILLY: Okay. Let me ask the same question,
25 then, for spring-run salmon. And, again, for any member

CAPITOL REPORTERS (916) 923-5447

2136

1 of the panel:

2 Does the Department of Fish and Game have any
3 estimate as to what the percentage increase, if any, would
4 be on the Yuba River of spring-run salmon population if
5 all of the measures in the Draft Decision and all the
6 measures that the Department of Fish and Game is
7 recommending for this supplemental hearing were
8 implemented?

9 MR. NELSON: I guess I would answer the same with
10 respect to asking for a percent increase. I think that
11 implementation of these measures will, undoubtedly,
12 increase the abundance of fish produced in the Yuba River.

13 I mean when you're salvaging in a 45-day period a
14 half a million fish at a screen, that is going to produce
15 more fish. If you provide an improved spawning area, that
16 is going to improve fish, or increase the number of fish.
17 So without a doubt, it is going to increase the number of
18 fish produced.

19 MS. MCKEE: We would expect to see a positive
20 population trend. We would expect to see an increase in
21 the population and improvement in the cohort replacement
22 rate and probably an improvement above all on the
23 stability of the population. Which right now, given that
24 we have very little information on the spring-run, it is a
25 risk in and of itself to spring-run throughout the Central

CAPITOL REPORTERS (916) 923-5447

2137

1 Valley.

2 MR. LILLY: And as far as the spring-run on the Yuba
3 River, you don't really even have any information on what
4 the current populations are right now; is that correct?

5 MS. MCKEE: That's correct. It's basically
6 qualitative and it's in the hundreds.

7 MR. LILLY: Does -- and this is for anyone on the
8 panel -- does the Department of Fish and Game have a
9 management goal right now for what it believes is an
10 appropriate goal for the steelhead population on the Lower
11 Yuba River?

12 MR. MCEWAN: I've seen it. I've seen it written
13 somewhere and I believe it was in the Yuba County Water
14 Agency's testimony that 2,000 fish was the management
15 goal. And I remember reading that and I don't recall
16 where -- I don't know where that came from. There was a
17 question in my mind as to where that came from.

18 MR. NELSON: If I may add something, that was based
19 on an estimate that was done, I believe, in the 1970's --
20 I'm not sure of the date, but it was quite some time ago.
21 It was based upon what we anticipated the population
22 improvement, or increase sustainability would be. And
23 that's an old number at this point. So I would say it's
24 not really absolute.

25 MR. LILLY: Well, does the Department have any

CAPITOL REPORTERS (916) 923-5447

2138

1 update on that old number as to what they believe the
2 current goal should be or is?

3 MR. NELSON: I think the goal is to provide the
4 habitat that they need and to maximize that and that that
5 will provide, you know, a maximum sustainable use.

6 MR. LILLY: So you don't have any specific number as
7 far as a goal for adult steelhead on the river?

8 MR. NELSON: Carrying capacity?

9 MR. LILLY: Let me ask, again: Do you have a
10 specific number for the goal for adult steelhead on the
11 Yuba River?

12 MR. NELSON: Other than carrying capacity, there's
13 no numeric goal.

14 MR. LILLY: And how about spring-run on the Yuba
15 River?

16 MS. MCKEE: We, actually, just finished developing
17 the recovery goal, but it's narrative goals for the time
18 being. And we've submitted those to CalFed. And we will
19 be preparing a numeric recovery goal once the recovery
20 technical team is established in the next couple of
21 months.

22 MR. LILLY: So the answer is: At this time the
23 Department does not have a numeric goal for the spring-run
24 on the Yuba River?

25 MS. MCKEE: That is correct. It's in development.

CAPITOL REPORTERS (916) 923-5447

2139

1 MR. LILLY: Okay. I think I'm done with you,
2 Mr. Brown -- excuse me, Mr. Nelson and Ms. Brown. If I
3 have a few more, I'll come back to you. And I will shift
4 over to Ms. McKee, since you answered the last question.

5 If you could move over. And I would ask you to
6 look at your exhibit S-DFG-15. That's the report to the
7 Fish and Game Commission.

8 MR. NELSON: I'm sorry. Okay. I have it.

9 MR. LILLY: Do you have it?

10 MS. MCKEE: Yeah.

11 MR. LILLY: Okay. Good. I'd like you to look at
12 Section 5, Page 22. You have that page?

13 MS. MCKEE: Yes, I do.

14 MR. LILLY: Okay. In about the middle of the page
15 there's one short paragraph regarding the Yuba River. And
16 it looks like the third sentence says,

17 (Reading):

18 "However, following the termination of access
19 to their historic holding and rearing habitat,
20 spring-run now occupy the same area as fall-run
21 salmon and introgressive hybridization has
22 likely occurred."

23 Do you see that sentence?

24 MS. MCKEE: That is correct.

25 MR. LILLY: And what is "introgressive

CAPITOL REPORTERS (916) 923-5447

2140

1 hybridization"?

2 MS. MCKEE: Introgressive hybridization would occur
3 if you have two different species, in this case, we're
4 talking about possible introgression between fall-run and
5 spring-run. And at the time that this document was
6 written, we did not have any genetics data for spring-run
7 throughout the Central Valley with which to evaluate that
8 an introgressive hybridization was occurring anywhere.

9 And in other parts of this document, we used
10 coded-wire tagged information to meet some assessments of
11 what might be occurring in the Feather River system. But
12 subsequent to this document, we have done genetic analyses
13 using microsatellite DNA and allozyme DNA.

14 And part of the National Marine Fisheries
15 Service's subsequent status review clarified the record on
16 whether or not there was introgressive hybridization
17 occurring in the Feather River and did determine that
18 spring-run and fall-run were distinct, genetically; and
19 they went ahead and listed the spring-run as a threaten
20 species.

21 MR. LILLY: And I think you testified earlier there
22 is no such results that are available at this time
23 regarding salmon from the Yuba River; is that correct?

24 MS. MCKEE: That is correct, but we do have
25 information --

CAPITOL REPORTERS (916) 923-5447

2141

1 MR. LILLY: I need to. I'm sorry. We've got to
2 kind of move along here. When it's something that you can
3 answer with a "yes" or "no," please, do so. Otherwise,
4 I'm going to run out of time here and I don't want to do
5 that.

6 MS. MCKEE: Okay. Should I ask whether or not I
7 feel my answer needs clarification besides a "yes" or
8 "no"?

9 H.O. BROWN: Yes.

10 MR. LILLY: That's good. If there is introgressive
11 hybridization in the Yuba River between a spring-run and
12 fall-run and their prodigies survive to adulthood, when
13 would those adults then migrate up the Yuba River?

14 MS. MCKEE: That's really hard to say, because we
15 aren't exactly sure of what the characteristics might be.

16 MR. LILLY: Okay. Now, I'd like to go back to your
17 testimony, which I believe is Exhibit S-DFG-13, do you
18 have that in front of you?

19 MS. MCKEE: Yes.

20 MR. LILLY: All right. On Page 2, in the second
21 paragraph, it's just about the middle of the page, there's
22 a sentence that says,

23 (Reading):

24 "In the last decade the total number of
25 spring-run in California Central Valley has

CAPITOL REPORTERS (916) 923-5447

2142

1 ranged from 867 in 1991 to 22,718 in 1998
2 fish per year."

3 And then there's citations to Exhibit S-DFG-18
4 and S-DFG-19. Do you see that?

5 MS. MCKEE: Yes.

6 MR. LILLY: And do those numbers include any fish
7 from the Yuba River?

8 MS. MCKEE: No, because we did not have any
9 estimate, any quantitative estimate. There was no
10 escapement survey.

11 MR. LILLY: And why -- just looking at the next page
12 of that exhibit in your Table 1, I see that between 1990
13 and 1999 for the Yuba River every year it says either, "no
14 survey," or "no estimate;" is that correct?

15 MS. MCKEE: That's correct.

16 MR. LILLY: So, basically, the Department has not
17 done any surveys, or estimates regarding spring-run in the
18 Yuba River?

19 MS. MCKEE: That is correct, no one has done any
20 spring-run surveys.

21 MR. LILLY: And why has the Department not made any
22 of those surveys or estimates in the Yuba River?

23 MS. MCKEE: I think John Nelson can explain that as
24 far as our collaborative efforts with Yuba County.

25 MR. LILLY: All right. Mr. Nelson, why has the

CAPITOL REPORTERS (916) 923-5447

2143

1 Department not made any surveys or estimates regarding
2 spring-run in the Yuba River?

3 MR. NELSON: Again, I think it's a matter of
4 resources. We have concentrated our resource assessment
5 staff on Butte Creek and Big Chico Creek in this region.
6 With respect to estimates on there, while we have not done
7 any quantitative measurements, definitive numbers, is
8 because it's very, very difficult.

9 The only way you can do it -- you can't do it.
10 Typically, we would do it by snorkel surveys during the
11 low-flow periods, or during the summer periods, because
12 the area -- the area that these fish hold are quite large.
13 And they're very difficult to survey by snorkel.

14 And on a river of this size, your chance of error
15 is quite great. So the other opportunity you have is to
16 count them at Daguerre Point Dam. And to man a facility
17 out there would, basically, dictate a huge commitment of
18 time and equipment that we currently don't have.

19 I mean if I had to make a recommendation for
20 that, I would recommend that significant consideration be
21 given to doing those spring-run surveys. You know, we've
22 got no quantitative survey, just qualitative.

23 MR. LILLY: So to do that you could, basically --
24 assuming that you had the funds and resources, you could
25 count the spring-run as they ascended the fish ladders at

CAPITOL REPORTERS (916) 923-5447

2144

1 Daguerre in the spring, right?

2 MR. NELSON: Yes.

3 MR. LILLY: Okay. Ms. McKee, going back to your
4 testimony, I think you had an overhead earlier of Exhibit
5 S-DFG-17. I'm wondering if you could just put that up on
6 the projector?

7 MS. MCKEE: What's the title to it, which one?

8 MR. LILLY: It's entitled, "Estimated Total
9 Spring-run Chinook Salmon Abundance in California's
10 Central Valley." I don't know if it's in that overhead,
11 but on the written statement that you submitted it says,
12 "Present abundance is the sum of individual estimates for
13 Mill, Deer, and Butte Creeks."

14 Is that correct? If you need to, you can look at
15 the written copy, but that's what my written copy says.

16 MS. MCKEE: I'll take your word for it.

17 MR. LILLY: Okay. So that means that the present
18 abundance numbers do not reflect any numbers of spring-run
19 from the Yuba River; is that correct?

20 MS. MCKEE: That is correct, because we do not have
21 any quantifiable estimates.

22 MR. LILLY: Okay. Mr. Cunningham, you can turn off
23 the projector. That was all I needed from that slide.
24 Going back to your written testimony, Ms. McKee, which is
25 S-DFG-13 at Page 2, do you have that?

CAPITOL REPORTERS (916) 923-5447

2145

1 MS. MCKEE: Yes, I do.

2 MR. LILLY: Okay. The last paragraph starts out,
3 "Spring-run historically," do you see that?

4 MS. MCKEE: Yes.

5 MR. LILLY: And, then, the fourth line down says,
6 (Reading):

7 "When Bullards Bar Dam was constructed there
8 were so many spring-run congregating below the
9 dam and dying that they had to be burned."

10 Do you see that?

11 MS. MCKEE: That's correct.

12 MR. LILLY: Now, do you know if that's referring to
13 the New Bullards Bar Dam, or the Old Bullards Bar Dam?

14 MS. MCKEE: I'm presuming it is the Old Bullards Bar
15 Dam.

16 MR. LILLY: And when was that dam constructed?

17 MR. NELSON: I believe it was 1924, the '20s.

18 MR. LILLY: Okay. And who constructed that dam?

19 MR. NELSON: I believe it was PG&E, but I'm not
20 absolutely sure.

21 MR. LILLY: And just to make sure we're clear, does
22 Englebright Dam currently block spring-run salmon from
23 ascending to their historic habitat? I know we've,
24 previously, had testimony about steelhead. I just wanted
25 to clarify: Is that also the current upper limit for

CAPITOL REPORTERS (916) 923-5447

2146

1 spring-run --

2 MS. MCKEE: Yes, it is.

3 MR. LILLY: -- salmon in the Yuba River?

4 MS. MCKEE: Yes.

5 MR. LILLY: Is it presently legal to fish for
6 spring-run chinook salmon in the Pacific Ocean?

7 MS. MCKEE: Yes, it is.

8 MR. LILLY: Is it presently legal to fish for
9 spring-run chinook salmon in the Yuba River?

10 MS. MCKEE: It is presently legal to fish for any
11 chinook salmon as long as they follow the sportfishing and
12 the commercial fishing regulations, which are developed to
13 protect various runs based on their life history.

14 MR. LILLY: Okay. But some fishing of chinook
15 currently is authorized in the Yuba River?

16 MS. MCKEE: Yes, there is. And Julie Brown and John
17 Nelson are much more familiar with the regulations in the
18 Yuba River.

19 MR. LILLY: Is that correct, Ms. Brown, or,
20 Mr. Nelson, that fishing for chinook is allowed in the
21 Lower Yuba River?

22 MS. BROWN: Yes, it is. And I am not sure exactly
23 if it is different below Daguerre Dam at different times
24 of years and -- of the year. I'm not -- I can't quote you
25 the regulations right off the top of my head, but I do

CAPITOL REPORTERS (916) 923-5447

2147

1 know it's also different if they catch an adipose clip
2 fin, which is considered a hatchery, for steelhead --

3 MR. LILLY: I'm just asking for salmon.

4 MS. BROWN: Okay, I'm sorry. Then, it's not -- it's
5 different. All I know is that the regulations are
6 different below Daguerre Point Dam than they are above.

7 MR. LILLY: Okay. But they can keep spring-run --
8 or they can keep chinook salmon if they catch them in the
9 Yuba River assuming they follow the times and the
10 locations and the regulations?

11 DR. KJELSON: Yes.

12 MR. LILLY: Ms. McKee, back to you and your
13 testimony on Page 4. And I have some questions regarding
14 your Table 2, which is entitled, "Recommended Water
15 Temperatures for Spring-run Chinook Salmon."

16 First of all, regarding adult migration, do you
17 agree with Mr. Nelson, I think he said that adult
18 migration of spring-run occurs in the Yuba River in the
19 March through June period; is that correct?

20 H.O. BROWN: Mr. Lilly, you've been a little over
21 two hours. How much more time do you need?

22 MR. LILLY: Approximately, half an hour.

23 H.O. BROWN: All right.

24 MS. MCKEE: Thank you. We all need our handy-dandy
25 little charts here. Could you repeat the question,

CAPITOL REPORTERS (916) 923-5447

2148

1 please?

2 MR. LILLY: Sure. Do you agree with Mr. Nelson's
3 testimony that adult migration of spring-run in the Yuba
4 River occurs during the March through June period?

5 MS. MCKEE: Yes.

6 MR. LILLY: Okay. And, then, the holding over of
7 the spring-run, I assume, occurs from those adults that
8 migrate until they spawn in the September/October period;
9 is that correct?

10 MS. MCKEE: Yes. And, in fact, this is one of the
11 graphs that we use which makes things more clear. It's
12 not necessarily an exhibit. If we could put that up
13 there, it would be easier to speak to.

14 MR. LILLY: No, that's all I needed on that. I just
15 needed to know the specific months. Of those two specific
16 life stages, the migration life stage and the holding life
17 stage, which one is more sensitive to physiological
18 factors like water temperature?

19 MS. MCKEE: The adults are very sensitive to water
20 temperature in terms of having a very prolonged period in
21 which they are in a nonfeeding condition, especially, for
22 spring-run. Where they leave the ocean and they have
23 several months over which they have to utilize their
24 stored food, their fat supplies, et cetera, to survive and
25 holdover.

CAPITOL REPORTERS (916) 923-5447

2149

1 However, once the eggs are maturing in their
2 body, the eggs themselves are very sensitive to
3 temperature conditions. And that's the reason for the two
4 different temperature criteria that we provided, one for
5 adult migration and one for adult holding while eggs are
6 maturing.

7 MR. LILLY: So is it fair to say that the salmon are
8 more sensitive to the water temperatures during the
9 holding period, because the eggs are starting to mature
10 during that period?

11 MS. MCKEE: I wouldn't say that one is necessarily
12 more sensitive than the another. I'm talking about the
13 difference between impacting the eggs and the difference
14 between both behavioral and physiological changes to
15 adults when they're migrating.

16 MR. LILLY: Okay. Let's go forward to the spawning
17 on the table here, the third entry. Does any spawning of
18 spring-run occur during July or August?

19 MS. MCKEE: Not to my knowledge.

20 MR. LILLY: Okay. Does -- so, then, obviously,
21 there's no egg incubation of spring-run during July and
22 August either; is that correct?

23 MS. MCKEE: That's correct.

24 MR. LILLY: And is it also correct, is there any
25 rearing of spring-run during July and August?

CAPITOL REPORTERS (916) 923-5447

2150

1 MS. MCKEE: Yes, there is for the yearlings.

2 MR. LILLY: That would be of the yearlings?

3 MS. MCKEE: Well, they're still young-of-the-year,
4 technically, until the following year, but the ones that
5 are oversummering and planning on exiting the next fall as
6 yearlings.

7 MR. LILLY: At that point the fish would be almost a
8 year old; is that correct? If their parents had spawned
9 in September and we're talking about the following July or
10 August, they would be, what, nine months old,
11 approximately?

12 MS. MCKEE: Correct.

13 MR. LILLY: So would those be classified as fry or
14 as juveniles at that point?

15 MS. MCKEE: They would be juveniles, or actually to
16 use a more correct term, probably silvery parr.

17 MR. LILLY: And does any smoltification of
18 spring-run occur during July and August?

19 MS. MCKEE: If the juvenile is oversummering, it's
20 likely still a parr and will undergo transformation to a
21 silvery parr. And, then, transformation to a smolt in the
22 fall right before its ready to exit.

23 MR. LILLY: Okay. So that would not be during July
24 and August then; is that correct?

25 MS. MCKEE: Not likely.

CAPITOL REPORTERS (916) 923-5447

2151

1 MR. LILLY: So of the seven life stages listed on
2 your table, the only two for spring-run that would occur
3 during July and August would be adult holding and juvenile
4 rearing; is that correct?

5 MS. MCKEE: Generally, correct.

6 MR. LILLY: Okay.

7 MS. MCKEE: I do want to caution that since we have
8 not done thorough surveys for spring-run chinook salmon we
9 are making a presumption that September 1st is, generally,
10 the time that spawning occurs; although, it does occur
11 earlier in all the other spring-run tributaries.

12 MR. LILLY: Okay. Subject to that qualification,
13 then, if the only two life stages of spring-run that are
14 present in the Yuba River in July and August are adult
15 holding and juvenile rearing, your table lists the upper
16 limit for the optimal range for each of those two life
17 stages at 60 degrees; is that correct?

18 MS. MCKEE: That's correct.

19 MR. LILLY: Okay. And, yet, the Department of Fish
20 and Game is proposing a maximum temperature of 56 degrees
21 for July and August at Daguerre Point Dam; is that
22 correct?

23 MR. NELSON: That's correct. And that's based upon
24 spring-run over adults oversummering above Daguerre Point
25 Dam.

CAPITOL REPORTERS (916) 923-5447

2152

1 MR. LILLY: Okay. So, Ms. McKee, your table
2 regarding migration of spring-run states that the
3 preferred maximum temperature is 56 degrees; is that
4 correct?

5 MS. MCKEE: For migration?

6 MR. LILLY: Yes.

7 MS. MCKEE: Yes.

8 MR. LILLY: And what was the reference source for
9 that statement?

10 MS. MCKEE: The spring-run status review which
11 references Bell, 1991.

12 MR. LILLY: And in Bell, 1991, is that a report of
13 studies that were, actually, done by that author, or is
14 that a compilation of results of other studies?

15 MS. MCKEE: It's a compilation.

16 MR. LILLY: Okay. And do you know where the studies
17 were conducted that provided the base data for the
18 statements in Bell, 1991, regarding adult migration?

19 MS. MCKEE: Actually, I don't recall, but all of the
20 information here is taken from the spring-run status
21 review. It's not new information. And all of this
22 information has undergone peer review.

23 MR. LILLY: Okay. Do you know whether the base data
24 for the statements in Bell, '91, for outmigration were
25 based on lab or field studies?

CAPITOL REPORTERS (916) 923-5447

2153

1 MS. MCKEE: As I just stated, I have not gone back
2 and reviewed all of the additional material that was in
3 the spring-run status review.

4 MR. LILLY: So do you know what methodologies were
5 used for these studies regarding adult migration
6 temperatures?

7 MS. MCKEE: Are you referring to the Bell study?

8 MR. LILLY: Well, or the base data in the Bell study
9 that led to these temperature numbers of 38 to 56 that are
10 listed in your Table 2.

11 MS. MCKEE: As I just stated, I have not gone in
12 preparation for this hearing and reviewed the original
13 sources of information that were in the spring-run status
14 review, referenced in the spring-run status review for
15 this hearing.

16 MR. LILLY: Okay. How do fishery biologists
17 determine preferred temperatures for adult spring-run
18 migration?

19 MS. MCKEE: Are you --

20 MR. LILLY: Well, let me just be clearer. For egg
21 incubation, I can see how you can do a lab study. You can
22 put the eggs under different temperatures and see what
23 happens to the eggs. But I'm wondering what methodology
24 of study can be used to determine the preferred
25 temperatures for adult salmon migration?

CAPITOL REPORTERS (916) 923-5447

2154

1 MS. MCKEE: There have been studies done in the
2 Sacramento River and studies done elsewhere in which,
3 based upon certain temperatures, adults have been
4 documented as failing to migrate upstream, because of the
5 temperatures created from the barriers.

6 There are, also, studies in which increased
7 incidents of disease, or mortality of migrating adults are
8 documented. I can't give you any specific citations of
9 those studies.

10 MR. LILLY: Okay. And do you know whether any
11 studies like that have been done for spring-run salmon in
12 the Yuba River?

13 MS. MCKEE: There are no studies, to my knowledge.
14 There have been -- there's been a lot of work in terms of
15 mortality due to simply having to negotiate fish ladders,
16 which were being handled at Red Bluff diversion dam, which
17 has ended up generating criteria to prohibit handling and
18 to change ladder operations at Red Bluff when temperatures
19 reach 60 degrees or higher. So there's quite a lot of
20 information along those lines, but not for the Yuba River
21 to my knowledge.

22 MR. LILLY: Okay. Well, let's go forward to
23 holding. And, again, I'm going to ask you the same
24 question: What's the reference source for your numbers of
25 59 to 60 degrees in Table 2 for adult holding while eggs

CAPITOL REPORTERS (916) 923-5447

2155

1 are maturing?

2 MS. MCKEE: Why don't you just put that up there, it
3 makes it a lot easier. Hinz, 1959.

4 MR. LILLY: Okay. And do you know if the studies
5 that were providing the data for the statements in Hinz,
6 1959, do you know what types of the studies those were?

7 MS. MCKEE: That was a study performed by the
8 Department at the Nimbus Salmon and Steelhead Hatchery.

9 MR. LILLY: And do you know what methodology they
10 used in that study?

11 MS. MCKEE: As I said earlier, I have not gone back
12 and reviewed these for this hearing. So I can't recall
13 the exact circumstances, if it was a laboratory or a
14 raceway condition.

15 MR. LILLY: Can you explain why there's a four
16 degree temperature difference between the upper preferred
17 and optimum numbers for adult migration and for adult
18 holding in your Table 2?

19 MS. MCKEE: One happens to be preferred temperatures
20 for adult migration. And the other is the upper limit of
21 the optimal range for adult holding while eggs are
22 maturing.

23 MR. LILLY: So in your opinion, those are
24 biologically different criteria?

25 MS. MCKEE: Yes.

CAPITOL REPORTERS (916) 923-5447

2156

1 MR. LILLY: Can you elaborate what the difference is
2 between those two?

3 MS. MCKEE: One is the difference between tolerance
4 and degree to which impacts may occur at temperatures
5 above optimum. The other is the preferred temperature
6 that the fish seek.

7 MR. LILLY: Now, going forward to spawning, your
8 table cites the two different sources. One is for 55
9 degrees, there's a citation to Chambers, 1956; and then
10 for 57 degrees, there's a citation to Reiser and Bjornn,
11 1979; is that correct?

12 MS. MCKEE: That is correct.

13 MR. LILLY: First of all, do you know if those were
14 studies or literature compilations?

15 MS. MCKEE: I believe Chambers was a compilation of
16 information. But, again, as I have said, I have not gone
17 back and reviewed all the primary sources of literature
18 that were in the status review for this hearing since this
19 has already gone through peer review. Reiser and Bjornn
20 was, I believe, the original research. Let me check --
21 no, I can't say that.

22 MR. LILLY: Okay. And, again, do you know whether
23 any of these studies that resulted in these numbers were
24 conducted on the Yuba River?

25 MS. MCKEE: Reiser and Bjornn did not compile any

CAPITOL REPORTERS (916) 923-5447

2157

1 information from the Yuba River and neither was Chambers.

2 MR. LILLY: Now, going forward to egg incubation,
3 your table lists there a variety of different numbers
4 depending on the criterion listed on the right. I'm going
5 to ask you about the 44 to 54 optimum range, which cites
6 to Rich, 1997; is that correct?

7 MS. MCKEE: That is correct.

8 MR. LILLY: And do you know whether or not Rich,
9 1997, was based on actual studies done by the author, or
10 whether that was a compilation of other data?

11 MS. MCKEE: That was a compilation of known research
12 on chinook salmon temperature tolerance with additional
13 information developed for the American River on Central
14 Valley chinook by Alice Rich. And that was submitted as
15 testimony to the State Board in the Delta Wetlands
16 hearing.

17 MR. LILLY: And, then, the greater than 58 degrees
18 increasing mortality cites to Velson, 1987. Where were
19 the studies that provided the base data for Velson, 1987,
20 conducted?

21 MS. MCKEE: Shall I say it, again?

22 MR. LILLY: Yeah. Go ahead, if it's your answer.

23 MS. MCKEE: Okay. I have not gone back and reviewed
24 the Velson document for purposes of this hearing, which is
25 for the primary sources to the spring-run status review,

CAPITOL REPORTERS (916) 923-5447

2158

1 which those recommendations were incorporated in my
2 testimony on the status review.

3 MR. LILLY: Okay. And I'll -- regarding the fry
4 rearing, I see you have a range here of 50 to 55 degrees.
5 And you cite to the Rich report and also to Boles, 1998,
6 and Seymour, 1956. In your preparations for this hearing,
7 did you review either Boles, 1988, or Seymour, 1956?

8 MS. MCKEE: For purposes of this hearing?

9 MR. LILLY: Yes.

10 MS. MCKEE: No.

11 MR. LILLY: And for purposes of developing these
12 recommendations, did you review those reports?

13 MS. MCKEE: For purposes of developing the original
14 spring-run status review, yes. Those documents were all
15 reviewed and peer reviewed.

16 MR. LILLY: Okay. And did you participate in that?

17 MS. MCKEE: Yes, I did.

18 MR. LILLY: As we sit here today, do you know where
19 the studies that were -- that provided the base data for
20 Boles, 1988, were conducted?

21 MS. MCKEE: Boles, 1988, was not a study. It was a
22 compilation.

23 MR. LILLY: The base data that resulted in the
24 Boles, 1988, report, where were those data assembled from?

25 MS. MCKEE: Many of them were done in the Central

CAPITOL REPORTERS (916) 923-5447

2159

1 Valley and some were done outside of the Central Valley in
2 other states.

3 MR. LILLY: And how about Seymour, 1956, where was
4 that study conducted?

5 MS. MCKEE: I can't recall.

6 MR. LILLY: Do you have a copy of S-DFG-36, which is
7 the Cech and Myrick report which has previously been
8 discussed at this hearing?

9 MS. MCKEE: I don't have a copy on me.

10 MR. LILLY: Okay. Well, have you seen that report
11 before?

12 MS. MCKEE: I have seen it. I have not read it.

13 MR. LILLY: Okay. Do you remember when -- if it
14 helps to look at it, fine, but do you remember when the
15 first time was that you saw that report?

16 MS. MCKEE: Several weeks following the obtaining of
17 the Yuba County Water Agency's written testimony.

18 MR. LILLY: So that would have been approximately in
19 February of this year?

20 MS. MCKEE: Yes.

21 MR. LILLY: All right. Thank you, Ms. McKee.

22 I'm going to shift now to Mr. Odenweller. I hope
23 you're still awake.

24 MR. ODENWELLER: Oh, yes.

25 MR. LILLY: You have contributed some already, so I

CAPITOL REPORTERS (916) 923-5447

2160

1 know that you're paying attention to the questions. I
2 have a question regarding your testimony, which is
3 S-DFG-32.

4 MR. ODENWELLER: Go ahead.

5 MR. LILLY: Okay. And is it your recommendation
6 that the State Water Resources Control Board issue a
7 requirement that the South Yuba-Brophy Canal intake be
8 screened to eliminate any entrainment of fish at any river
9 flow in the Yuba River?

10 MR. ODENWELLER: I believe that would be the most
11 prudent course of action, yes.

12 MR. LILLY: Okay. And are you aware that flows in
13 the Yuba River, on occasions, can exceed 100,000 cubic
14 feet per second?

15 MR. ODENWELLER: Yes, I am.

16 MR. LILLY: So your recommendation is that the
17 screening be sufficient to screen fish even if the flows
18 in the river are over 100,000 cubic feet per second?

19 MR. ODENWELLER: That would be the preferred
20 solution in my view, but there may be alternative ways of
21 dealing with the problem. It would have to be worked out.

22 MR. LILLY: Okay. So what are you recommending that
23 the State Water Resources Control Board order as far as
24 screening at high flows on the Yuba River?

25 MR. ODENWELLER: What I would recommend is that the

CAPITOL REPORTERS (916) 923-5447

2161

1 screen be designed and constructed in a manner that will
2 prevent the loss of fish through the diversion system
3 regardless of the flow conditions.

4 MR. LILLY: Okay. Mr. Brown, I think I'm done, but
5 I'd like to have just a minute to check my notes. And
6 we're kind of right at the break time. I wonder if we can
7 just take the break and, then, I'll give you a final
8 answer. And I do appreciate the patience and attention
9 from both the witnesses and the Board staff and you as
10 well, Mr. Brown.

11 H.O. BROWN: We'll take our afternoon break.

12 (Recess taken from 2:22 p.m. to 2:38 p.m.)

13 H.O. BROWN: Back on the record.

14 Mr. Lilly, I presume since you're sitting down
15 that you're through for the moment.

16 MR. LILLY: I'm through. And thank you and I
17 appreciate -- as I said before, I appreciate your
18 attention and the witnesses' attention.

19 H.O. BROWN: Mr. Minasian, welcome.

20 MR. MINASIAN: Mr. Brown.

21 //

22 //

23 //

24 //

25 //

CAPITOL REPORTERS (916) 923-5447

2162

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

---oOo---

CROSS-EXAMINATION OF CALIFORNIA DEPARTMENT
OF FISH AND GAME
BY SOUTH YUBA WATER AGENCY
BY MR. MINASIAN

MR. MINASIAN: Mr. Nelson, let's start with you. You're aware of the contents of 1965 Department of Fish and Game/Yuba County Water Agency agreement that was the basis for the building of Bullards Bar Project; are you not?

MR. NELSON: In general.

MR. MINASIAN: What, in general, is wrong about that agreement and the flows and conditions set in that agreement, in your opinion?

MR. NELSON: I think that was the whole basis of our 1992 testimony. I have not looked at that agreement for quite some time. And I don't feel comfortable off the top of my head trying to discuss the inadequacies of that.

MR. MINASIAN: Would you agree with, I believe it was Mr. Odenweller that described it as outdated -- excuse me, Mr. Cunningham who described it as outdated?

MR. NELSON: I don't know if it's outdated. I guess I would say it was inadequate to begin with.

MR. MINASIAN: Okay. Inadequate to begin with, in terms of flows?

CAPITOL REPORTERS (916) 923-5447

2163

1 MR. NELSON: Again, I haven't looked at,
2 specifically, the terms of it in quite some time. I think
3 virtually most of the recommendations in that agreement
4 were not adequate. That is my opinion. I believe that
5 was the entire basis for our original hearing in 1992 in
6 our management plan.

7 MR. MINASIAN: Between 1992 and today, what have you
8 learned that would indicate to you that the flow
9 requirements of the 1965 Agreement were inadequate and are
10 causing fish to be maintained in a bad condition below
11 Englebright or below Bullards Bar?

12 MR. NELSON: I believe that the lack of temperature
13 recommendations, which are associated with the flow, there
14 is an inadequacy of that agreement. I believe that the
15 flows with respect to the September -- early September
16 time frame, when the spring-run would be spawning, were
17 basically not even addressed, were inadequate. I believe
18 that the flows for spawning of fall-run were inadequate.
19 And the springtime flows were inadequate.

20 MR. MINASIAN: So it was outdated in each of those
21 regards and your experience since 1992 has led you to that
22 conclusion?

23 MR. NELSON: Well, I believe just general experience
24 overall from 1992 -- or from -- as part of the 1992
25 hearing and as information that observations that have

CAPITOL REPORTERS (916) 923-5447

2164

1 been seen on the river, specifically, spawning conditions
2 in September, those flows need to be maintained and that
3 is a definite observation. That has occurred since 1992.

4 MR. MINASIAN: Okay. And so the early spawning and
5 the observation of the early spawning since 1992 is an
6 important factor in your recommending more stringent
7 temperature requirements and more stringent flows than are
8 called for in the Board's Draft Opinion; is that correct?

9 MR. NELSON: I don't think we addressed flows,
10 specifically. We made recommendations for temperature
11 requirements to maintain spring-run and steelhead and,
12 also, to benefit and maintain fall-run chinook salmon.

13 MR. MINASIAN: Doesn't the Department object to the
14 dry-year criteria in the months of April, May, and June
15 proposed in the Board's Draft Opinion?

16 MR. NELSON: We would prefer to see our
17 recommendations implemented as recommended in our 1992
18 plan -- or I mean at the 1992 hearing, in the 1991 plan.
19 But we believe that the Board's flows are a definite
20 improvement and the Board's recommendations are definite
21 improvements over the 1965 Agreement.

22 MR. MINASIAN: Okay. Now, looking at the factors
23 that have come to the attention of the Department since
24 1992, in the spring -- what you believe to be the
25 spring-run, or the early spawning activity in the months

CAPITOL REPORTERS (916) 923-5447

2165

1 of September and early October, would you describe to us
2 what it is about that early spawning activity that makes
3 it imperative, in your view, that we maintain lower
4 temperatures upon the Yuba River than the Board
5 recommended?

6 MR. NELSON: Well, one, is we are talking about
7 listed species --

8 MR. MINASIAN: So --

9 MR. NELSON: Excuse me.

10 MR. MINASIAN: Can we just stop for a moment there.
11 The listing factor is really important in changing your
12 views, the Department's views in regard to temperature?

13 MR. NELSON: Well, what is important is the decline
14 in the species. It is listed so, obviously, it's
15 undergone significant decline in the last several years --

16 MR. MINASIAN: But isn't it --

17 MR. NELSON: -- so regardless of whether it's listed
18 or not it is of concern, because the population has
19 decreased so significantly.

20 MR. MINASIAN: But we don't know if it has decreased
21 since Bullards Bar Dam was constructed on the Yuba River,
22 do we, in terms of the spring-run or the early spawners?

23 MR. NELSON: We do not have definitive data on
24 spring-run.

25 MR. MINASIAN: Okay.

CAPITOL REPORTERS (916) 923-5447

2166

1 MR. NELSON: Since Bullards Bar, yes, we do know it
2 has decreased since Bullards Bar.

3 MR. MINASIAN: We know what has decreased?

4 MR. NELSON: Spring-run.

5 MR. MINASIAN: Well, how do you we know that if we
6 didn't have any tabulation, or counting?

7 MR. NELSON: Actually, Ms. McKee indicated as
8 indicated in the status review, that at Bullards Bar Dam,
9 I don't recall the exact year -- but there were so many
10 fish present that they literally had to burn them, because
11 of the stench.

12 MR. MINASIAN: But, John, that's the Old Bullards
13 Bar Dam which is 20 miles up the river; isn't it?

14 MR. NELSON: I believe you said Bullards Bar. If I
15 didn't hear that, did you say --

16 MR. MINASIAN: Yes, you're absolutely right, I did.
17 My question was ambiguous. So let me make it clear, since
18 the building and commencement of the operations of the New
19 Bullards Bar Dam, does the Department have any evidence
20 that the early spawners have either decreased in number,
21 or decreased in condition, or health?

22 MR. NELSON: We don't have any definitive data, as
23 we indicated earlier.

24 MR. MINASIAN: Okay. Now, the Feather River is
25 controlled by Orville Dam; is it not?

CAPITOL REPORTERS (916) 923-5447

2167

1 MR. NELSON: Yes.

2 MR. MINASIAN: And the Yuba River is part of the
3 Feather River system; is it not?

4 MR. NELSON: Yes.

5 MR. MINASIAN: And Mr. Hedgecock of the Department
6 of Fish and Game has done genetic sampling of the
7 spring-run and whether or not the spring-run are present
8 on the Feather River; has he not?

9 MS. MCKEE: May I intervene here? Dr. Hedgecock is
10 not with the Department of Fish and Game.

11 MR. MINASIAN: Dr. Hedgecock has done sampling.
12 Would you like to answer the question of whether or not
13 Dr. Hedgecock believes that there is any genetic evidence
14 that there is spring-run in the Feather River system?

15 MS. MCKEE: Dr. Hedgecock is a geneticist at that
16 Bodega Marine Lab with the UC Davis system. And the
17 Department has done sampling, very limited sampling of
18 literally a few fish.

19 Dr. Hedgecock has done some preliminary analysis.
20 His preliminary analysis was that he could not find the
21 statistical difference in the frequencies. He has made
22 some conclusions at a gathering of scientists, which has
23 gotten a lot of notoriety. It's not necessarily
24 conclusive. He has further samples that he has not
25 analyzed yet. He has not written up any report. It has

CAPITOL REPORTERS (916) 923-5447

2168

1 not been peer reviewed.

2 MR. MINASIAN: So, in essence, Dr. Hedgecock says
3 that his genetic sampling indicates that there are no
4 spring-run on the Feather River system as taken from
5 samples taken from the main stem of the Feather River
6 system; is that a correct statement?

7 MS. MCKEE: No.

8 H.O. BROWN: Mr. Baiocchi, you rise.

9 MR. BAIOCCHI: Mr. Brown, Mr. Minasian is
10 testifying.

11 MR. MINASIAN: Yes. I can rephrase that question.

12 H.O. BROWN: I think you probably ought to.

13 MR. MINASIAN: I'd be happy to.

14 Is it correct that Dr. Hedgecock, at least,
15 opines that there is no genetic evidence of the presence
16 of spring-run in the Feather River based upon his
17 experiments?

18 MS. MCKEE: I believe he concluded that he could not
19 find a difference between the fall-run samples and the
20 spring-run samples on the Feather River. But that is
21 conditioned upon an extremely small sample size. He has
22 not completed his analysis.

23 He has, specifically, imparted to us, the
24 Department and to me for purposes of this hearing, that
25 they are re-analyzing all of that data using additional

CAPITOL REPORTERS (916) 923-5447

2169

1 loci for greater resolution. And a report is forthcoming
2 in about a year to a year and a half. So there is no peer
3 reviewed information on that information at this time.

4 MR. MINASIAN: So let's imagine, Ms. McKee, that we
5 are hypothesizing that we've learned something new about
6 the Yuba River in regard to the spring-run since 1992. Is
7 the evidence of that the presence of early spawners in
8 early September?

9 MS. MCKEE: For the Feather River system, the
10 National Marine Fisheries Service for their status review
11 analyzed DNA allozyme samples and did make a conclusion,
12 and it's in the biological review team's report, that
13 spring-run chinook salmon were genetically distinct from
14 fall-run chinook salmon on the Feather River. And that
15 was supporting information to their decision to list the
16 naturally spawning spring-run chinook salmon in the
17 Feather River system.

18 MR. NELSON: I would, also, add something. It is
19 not necessarily early spawning. But we see the phenotypic
20 characteristics of spring-run and that is early ascending
21 adults, March, April, May, June. We see those
22 oversummering adults holding. And we see subsequent
23 spawning in early September. So it exhibits several
24 physical characteristics of spring-run.

25 MR. MINASIAN: Right. But you don't know that the

CAPITOL REPORTERS (916) 923-5447

2170

1 strays coming up in April/May are the fish that are
2 spawning in September early October, do you?

3 MR. NELSON: I don't know they're strays, in
4 particular, no.

5 MR. MINASIAN: Yeah. And isn't it true that early
6 spawning is typical of streams in which large amounts of
7 transportation of fish occurs such as the Feather and the
8 Yuba?

9 MR. NELSON: I'm not sure what you mean by
10 "transportation."

11 MR. MINASIAN: That is when you capture them at
12 Cordua-Hallwood and truck them, or when you truck them
13 from the Orville hatchery to the Delta, we tend to end up
14 with a larger percentage of adult strays; do we not?

15 MR. NELSON: There's an indication that hatchery
16 fish that are transported, there is straying that does
17 occur. Except for, I believe, 1990 there has not been any
18 trucking of juvenile fish at the Hallwood-Cordua
19 Diversion.

20 MR. MINASIAN: Okay. But that --

21 MR. NELSON: Let me add one thing. Typical
22 trucking, or trucking is not frequent. It is only done
23 when the habitat conditions, primarily, the water
24 conditions below Daguerre Point Dam are lethal or
25 extremely stressful. And that has been with -- the case

CAPITOL REPORTERS (916) 923-5447

2171

1 for when trapping and trucking is limited.

2 MR. MINASIAN: And is it true that in cases where
3 juvenile fish, or smolt, or fry conditions are
4 transported, that there is a higher frequency of straying
5 and of early return?

6 MR. NELSON: I would not say that early return is --
7 fits into that category whatsoever. There is some
8 straying that occurs. We don't see -- we see very little
9 straying into the Yuba River. Typically, based upon
10 coded-wire tagged fish, adults that were recovered it is
11 one or two fish a year. Except to say this last year, I
12 guess, that Jones and Stokes did obtain several more than
13 that. But, typically, it is quite, quite low based upon
14 fall-run tags, coded tagged fish that are returned to the
15 river.

16 MR. MINASIAN: But we don't know whether or not
17 those fish that are spawning in September, early spawners,
18 are through that wire coding return fish, straying fish,
19 or early returning fish, do we? There's been no studies
20 of that, has there?

21 MR. NELSON: They are not -- they are not -- my
22 impression would be that the code -- the coded-wire tagged
23 fish that we have recovered have typically been in later
24 October, November. And I do not recall any that have been
25 recovered ever in September.

CAPITOL REPORTERS (916) 923-5447

2172

1 MR. MINASIAN: Okay. So the answer is: There's
2 been no study and we can't draw any conclusions from
3 coded-wire tagging about the stray rate, or the early
4 return characteristics of the September spawners from
5 adults that we get wired codes out of in October or
6 November, can we?

7 MR. NELSON: No, that's not what I'm saying. What
8 I'm saying is the opposite, in that we do not see
9 coded-wire tagged fish in September. We do not see those
10 carcasses. When we pick up the carcasses, it's typically
11 in the time that the peak of the fall-run are spawning.

12 And from those tagged carcasses, the numbers that
13 are recovered, which are very low, indicate with respect
14 to the fall-run hatchery fish there are few straying to
15 the river; except to say, this year my understanding is
16 that Jones and Stokes in their carcass surveys, their
17 adult population surveys did pick up more tagged fished
18 than is typical on the river.

19 MR. MINASIAN: Will you all do something for me?
20 Assume the hypothetical that the early fall spawners, the
21 September spawners are, in fact, spring-run. Can you all
22 assume that for me?

23 MR. NELSON: I do assume that a significant portion
24 of those are.

25 MR. MINASIAN: I understand that you do. And I

CAPITOL REPORTERS (916) 923-5447

2173

1 thought you would have the easiest time of jumping to this
2 conclusion with me. Let's just assume that's the case.

3 In the state of nature, the spring-run
4 genetically and habitually adapted to go far up into the
5 watershed into the cooler waters; did it not?

6 MR. NELSON: Correct.

7 MR. MINASIAN: And the fall-run spawn at the lower
8 elevations, where the water was warmer; didn't it?

9 MR. NELSON: I don't know I'd say the water was
10 warmer. But they spawn at lower elevations because flows
11 were low, although, they probably -- they come in when
12 water temperatures are acceptable and spawn when water
13 temperatures are acceptable. It's, basically, a function
14 of flow and not necessarily the temperature that separates
15 the races, or separate the races historically.

16 MR. MINASIAN: Okay. So the fall-run, basically,
17 was simulated by winter flows to migrate in and spawn at
18 lower elevations; is that correct?

19 MR. NELSON: I think we're getting mixed up here in
20 that it's fall flows, not winter flows, that attract
21 fall-run.

22 MR. MINASIAN: Uh-huh.

23 MR. NELSON: Fall flows were, typically, low to
24 begin with and were low during -- when a significant
25 portion of the fall-run were up migrating into the lower

CAPITOL REPORTERS (916) 923-5447

2174

1 rivers. They were coming in at the time of the year when
2 water temperatures were acceptable to sustain them and to
3 allow spawning in the lower elevations.

4 MR. MINASIAN: Okay. Now, with our hypothetical we
5 have these two populations that behave differently; don't
6 we?

7 MR. NELSON: With respect to timing, yes.

8 MR. MINASIAN: All right. And now we have a dam
9 that blocks the pattern, don't we?

10 MR. NELSON: That's correct.

11 MR. MINASIAN: And what we're effectively trying to
12 do by these temperatures and flows is have two different
13 populations with two different characteristics spawn in
14 the same gravels, aren't we?

15 MR. NELSON: We are maintaining, yes, life history
16 requirements for both races.

17 MR. MINASIAN: Now, Ms. McKee, is there any evidence
18 that the spring-run when it, in fact, creates its redds
19 and then is followed within a matter of weeks by the
20 fall-run will end up with the eggs being fertilized by the
21 fall-run?

22 MS. MCKEE: No.

23 MR. MINASIAN: Okay. Is there any evidence that the
24 fall-run will destroy the redds of the spring-run when
25 they're trying to occupy the same space?

CAPITOL REPORTERS (916) 923-5447

2175

1 MS. MCKEE: Yes, there are problems. There is,
2 certainly, the potential for superimposition.

3 MR. MINASIAN: So what evidence do we have that in
4 some way the Yuba River can handle both these populations
5 in exactly the same stretch of river?

6 MS. MCKEE: That is our management challenge as has,
7 also, been articulated in the critical habitat
8 designations.

9 MR. MINASIAN: So how do you intend to manage the
10 temperature and the water flows in order to segregate
11 these populations?

12 MS. MCKEE: Our temperature flow recommendations are
13 not for the purpose of trying to segregate the population.

14 MR. MINASIAN: But they're uniform, aren't they?

15 MS. MCKEE: Our temperature and flow recommendations
16 are to provide conditions to allow those populations to
17 persist and survive. They have nothing to do with
18 segregation of the two populations.

19 MR. MINASIAN: So there's nothing about your
20 recommendation, which would take into account the fact
21 that these two populations, in fact, are not designed from
22 an environmental point of view to occupy the same space at
23 the same time? Do you understand the question?

24 MS. MCKEE: It didn't sound like a question.

25 MR. MINASIAN: Okay.

CAPITOL REPORTERS (916) 923-5447

2176

1 MS. MCKEE: It sounded like a statement.

2 MR. MINASIAN: Okay. Let me rephrase it, then. If
3 you were trying to create a hatchery for spring-run and
4 for fall-run, you wouldn't put them together, would you?

5 MS. MCKEE: We would not intentionally interbreed
6 them, no.

7 MR. MINASIAN: So what's the difference between
8 two -- a hatchery for both species in the Yuba River at a
9 maintained 56 degrees with the constant flows proposed in
10 the Management Plan and recommended by DFG?

11 MS. MCKEE: The fish are segregated based upon
12 temporal distribution. And, in fact, that was one of our
13 concerns with the recommendations for temperatures and
14 flows in the Yuba River, which we're focusing on providing
15 conditions for fall-run.

16 But presuming that there wasn't something there
17 prior to October, so that if spring-run were trying to
18 ascend and trying to spawn, we could, actually, be
19 retarding them from successfully spawning except during
20 the fall-run time period.

21 So providing them with good conditions for the
22 earlier fall months, actually, would aid in increasing the
23 temporal distribution between spring-run and the fall-run
24 so that we're avoiding having only successful spawners
25 during the period of time when the two runs may overlap,

CAPITOL REPORTERS (916) 923-5447

2177

1 which would have worse genetic consequences.

2 MR. MINASIAN: Well, explain to me how they're not
3 going to overlap if a spring-run, an assumed spring-run is
4 making a redd in the second week of September and a
5 fall-run comes in on the 1st of October and makes a redd,
6 how are you going to avoid that competition?

7 MS. MCKEE: Could you repeat the question?

8 MR. MINASIAN: Yes. I've given you a hypothetical.
9 A spring-run creates a redd on September 15 and lays its
10 egg; a fall-run fish comes in and creates a redd and wants
11 to incubate its eggs in the same place on October 1st,
12 now, how are they not competing?

13 Do you agree that the life stages of the eggs of
14 the spring-run -- do you agree that the eggs are still in
15 the redd two weeks later, aren't they?

16 MS. MCKEE: They are.

17 MR. MINASIAN: Yeah.

18 MS. MCKEE: As I previously stated, there could be
19 situations where there is superimposition.

20 MR. MINASIAN: Okay.

21 MS. MCKEE: And, in fact, improving the flows and
22 the temperature regime so that we maximize the amount of
23 spawning habitat would aid in reducing the incidents of
24 superimposition where the fish are crowded into one place.

25 MR. MINASIAN: Let me understand that. So,

CAPITOL REPORTERS (916) 923-5447

2178

1 basically, we keep the flows high so there's a large
2 flooded area so that there's lots of gravel for the fish
3 to spread out in; is that the theory?

4 MS. MCKEE: No. The theory is to provide optimum
5 spawning conditions based upon the information that's been
6 developed through the IFIM and other observations, other
7 measurements so that there is enough room for chinook
8 salmon to spawn to reduce the likelihood for
9 superimposition, which does occur especially in areas
10 where there's limited spawning habitat availability.

11 MR. MINASIAN: The IFIM that you just referred to
12 was, in fact, my next point. The IFIM curves, basically,
13 show spawning habitat goes up, reaches a maximum and then
14 as you increase the flow, they come down. Those curves
15 come down meaning more flow is disadvantageous for
16 spawning. Do they not?

17 MS. MCKEE: That is correct. There is a certain
18 point at which flows can become disadvantageous.
19 Unfortunately, it's very difficult to really determine the
20 point at which that is -- that flows become
21 disadvantageous, because it's very difficult to get out
22 there and measure spawning fish under high-flow
23 conditions.

24 Typically, most people don't do the kinds of
25 studies that we have been supporting on the Ameri- --

CAPITOL REPORTERS (916) 923-5447

2179

1 excuse me, on the Sacramento River where we have,
2 actually, utilized scuba divers to see whether or not we
3 are having successful spawning in some of the deeper
4 reaches. So that's one of the weaknesses of much of the
5 instream flow information for spawning habitat.

6 MR. MINASIAN: Okay. So in 1990 and 1991 the
7 Department of Fish and Game commissioned a management
8 study for the Yuba River, did it not?

9 MS. MCKEE: That is correct.

10 MR. MINASIAN: Okay. And, Mr. Nelson, this may be
11 more of yours and Mr. Odenweller's area. And a key note
12 to that was the use of what is called IFIM technology, or
13 approach, was it not?

14 MR. NELSON: Correct.

15 MR. MINASIAN: And under that approach you look at
16 various characteristics of habitat and you try to combine
17 those characteristics in terms of flow and you come out
18 with a usable area curve; is that correct?

19 MR. NELSON: Yes. You're primarily looking at depth
20 and velocity for a given species.

21 MR. MINASIAN: Right. Typically, those curves go up
22 at a certain cfs, they reach their maximum in terms of the
23 overall characteristics, and then they come down
24 indicating the more flow the less benefit you get?

25 MR. NELSON: There is a peak to the curve, yes.

CAPITOL REPORTERS (916) 923-5447

2180

1 MR. MINASIAN: All right. And did the report which
2 was largely done for the Department of Fish and Game by
3 Beak and Associates conclude that certain numbers --
4 certain cfs, or certain flows were the best weighted
5 usable area flows for spawning salmon?

6 MR. NELSON: Yes, that's true.

7 MR. MINASIAN: Okay. And I want you to look up at
8 what I believe to be Page 71 of the study on the screen.
9 And do you see the 500 to 700 cfs provides the greatest
10 amount of WUA for spawning salmon?

11 MR. NELSON: Yes.

12 MR. MINASIAN: And that's under the category both
13 fall- and spring-run salmon, is it not?

14 MR. NELSON: Yes, that was -- the recommendations
15 are made.

16 MR. MINASIAN: If I gave you the hypothetical that
17 we take almost double that amount of flow to reach your
18 temperature criteria on September 1, would your opinion
19 change in regard to whether or not you're doing the
20 spawning salmon a benefit by demanding 56 degrees?

21 MR. NELSON: Actually, I think that even the way the
22 river is operated at this point, that is not the case.
23 What happens is we made a recommendation of 700 cfs, as
24 you indicated, and that's true for the peak of that curve.

25 But based upon the agricultural demands, even

CAPITOL REPORTERS (916) 923-5447

2181

1 though it is in the fall, those flows above Daguerre Point
2 Dam exceed, typically exceed our recommendation.

3 But with respect to your question, if you don't
4 maintain the fish and, particularly, a listed species in
5 good condition or conditions that it can survive, it
6 doesn't make any difference what flow you have.

7 We need to maintain the habitat conditions, the
8 temperature, the viability of those eggs that are
9 developing in the females. And that has to be paramount,
10 because if we don't do that it doesn't make any difference
11 what flows we have in the fall if we don't have any fish
12 present.

13 MR. MINASIAN: Okay. So is there evidence that you
14 have today that either the fall-run or the spring-run
15 salmon are having difficulty successfully spawning because
16 of temperatures in the Yuba River, in the period of
17 September through November?

18 MR. NELSON: I will say there is some information in
19 that there are years in which flows were low and we did
20 not see fish spawning, or did not see fish that exhibited
21 spring-run characteristics in the Yuba River. Now, was
22 that a result of flows in the fall and the result of
23 temperatures? May be, but I can't say.

24 MR. MINASIAN: Okay. So do we need to study this
25 and vary the temperature and flows to see what response we

CAPITOL REPORTERS (916) 923-5447

2182

1 get on the Yuba River?

2 MR. NELSON: To do what?

3 MR. MINASIAN: To be sure of what we're going to
4 accomplish by a particular regime.

5 MR. NELSON: It's very difficult to do what you're
6 indicating in that we are dealing with a listed species
7 and it's numbers have severely declined. And you may not
8 have a large enough population out there and you probably
9 don't have a large enough population, to truly go out
10 there and measure response. I mean, it's kind of like
11 looking, to a certain extent, for a needle in a haystack.

12 MR. MINASIAN: But the Department in 1992
13 recommended 500 to 700 cfs. Has that become an outdated
14 report, in your opinion?

15 MR. NELSON: Well, as I indicated in my testimony
16 there was a shortcoming in our report in that,
17 primarily -- as a matter of fact it is in our testimony,
18 that it was directed towards fall-run chinook salmon. And
19 that may be -- that is a shortcoming in that report with
20 respect to adequately addressing spring-run chinook salmon
21 and the steelhead.

22 MR. MINASIAN: I see the title, "Spring-run Chinook
23 Salmon." John, I know that you didn't have much to do
24 with this report at the time, but why is the title,
25 "Spring-run Chinook Salmon," up there?

CAPITOL REPORTERS (916) 923-5447

2183

1 MR. NELSON: I can tell you, specifically. In
2 either direct testimony or cross-examination it was asked
3 what is the main focus of our management plan and what is
4 it directed to, what species. And the answer was fall-run
5 chinook salmon.

6 MR. MINASIAN: Okay. So it really is outdated. We
7 ought to focus now, then, upon the spring-run?

8 MR. NELSON: Well, we are focusing on the
9 spring-run.

10 MR. MINASIAN: If there are spring-run on the Yuba
11 River --

12 MR. NELSON: I have no doubt that there are not
13 spring-run on the Yuba River.

14 MR. MINASIAN: And so what sort of damage will we do
15 to the fall-run if we're wrong about there being
16 spring-run sustainable on the Yuba River? And it's
17 permissible to indicate if you don't know --

18 MR. NELSON: I realize that. And I guess from that
19 standpoint, I don't know. That may be a data void. You
20 know, I think we need to look at the specific flow
21 numbers. It may not be that great, granted that the
22 maximum usable area is 700.

23 But, again, as Ms. McKee indicated when you get
24 to those much higher flows, typically, surveys, or the
25 IFIM is not conducted at those higher flows and that may

CAPITOL REPORTERS (916) 923-5447

2184

1 be something we may need to look at.

2 MR. MINASIAN: Okay. Isn't it true that since 1982
3 we have, also, learned something in regard to the
4 outmigration numbers of fry and the early date to which
5 those fry are going out on the Yuba River?

6 MR. NELSON: We are just developing that
7 information, yes.

8 MR. MINASIAN: That is, Julie has just gotten some
9 of the data from her RST, but on other streams of
10 California, the Stanislaus, the Tuolumne, the Merced we're
11 seeing the same thing on those streams, aren't we, earlier
12 and larger outmigrations at the fry stage than anybody
13 ever thought?

14 MR. NELSON: I can't speak to those, but that is
15 true for Butte Creek. I can only see a primary component
16 of outmigration of fry.

17 MR. MINASIAN: Dan, do you want to pitch in?

18 MR. ODENWELLER: For background, I presented the
19 Department's testimony on salmon and steelhead at the 1379
20 hearings about 1975. And at that time we were just
21 beginning to become aware of the fry outmigration, as it's
22 called. We had seen that sort of migration -- or we'd
23 seen fry in the Delta and the Sacramento River and Reimers
24 in Oregon on the Sixes River had postulated as a result of
25 his studies, that fry were using the estuary for rearing

CAPITOL REPORTERS (916) 923-5447

2185

1 purposes.

2 I think you were around that far back. And Ed
3 Whitesel made a similar case for the Sacramento River and
4 he'd begun to document the presence of fry down there.

5 I think one thing that is very true about the
6 last few years is we've had an unusually long series of
7 wet years. And the data that I'm aware of suggests that
8 in the wetter years, production is higher and the fry
9 outmigration occurs earlier.

10 As to whether that's wash-outs, as they were
11 termed at one time, or my theory back in the mid-1970's
12 which was that we had excess production to the rearing
13 capacity in the upper reaches and the fish were displacing
14 downstream to find habitat. And it is still subject to
15 some argument, but we do see that sort of pattern and we
16 have seen it frequently in the last few years, in my view,
17 because we've had a wet series of years.

18 MR. MINASIAN: Okay. And some of that data comes
19 from the dry years of '91 and '92, does it not?

20 MR. ODENWELLER: There is some there, yes.

21 MR. MINASIAN: Okay.

22 MS. MCKEE: I would like to interject on that. Some
23 of the studies that are being done right now are trying to
24 focus on what are the preceding conditions as well as the
25 antecedent conditions for when you see these fry

CAPITOL REPORTERS (916) 923-5447

2186

1 outmigrating. And as Yuba County testified to the work
2 being done on the American River is trying to quantify
3 that.

4 And so there may be cases in which fry aren't the
5 predominant emigration pattern, but that could simply be
6 because conditions have worsened and the fish are moving
7 downstream to find suitable conditions. In other years
8 where conditions are wet and we high productivity they may
9 be due to displacement, because they're seeking habitat
10 downstream, because there's too many in the natal stream.
11 So one size does not the fit all when you're talking about
12 why fry are migrating.

13 MR. MINASIAN: So let me give you a hypothetical --
14 and anyone on the panel that wants to deal with it --
15 let's just assume that back in 19- -- before we had this
16 data regarding the early migration of fry, we had presumed
17 that they went out in April, May, and June when people
18 were irrigating.

19 And that somebody had asked this Board to shut
20 down all the irrigators to save all the fish. And the
21 Board had done it. Is it true that what we know now would
22 indicate that that would not have, in fact, saved the
23 fish?

24 MR. NELSON: No. I think that there is both
25 components that are outmigrating. And there are

CAPITOL REPORTERS (916) 923-5447

2187

1 substantial numbers of smolt, or smolt-size fish that are
2 present in the springtime that would have been impacted by
3 those diversions.

4 MR. MINASIAN: When do you think we get -- we will
5 gain enough information to really be able to manage an
6 area such as the Yuba River in terms of temperature, or
7 flow to properly maximize fish production and at the same
8 time coordinate water use?

9 MR. NELSON: I mean with respect to fishery, I
10 think, you know, we have a template for what they need.
11 These fish evolve in these systems under a flow regime and
12 are capable of surviving and reproducing and being
13 maintained in healthy, good conditions. So I think if we
14 mimic the natural hydrograph, that is one template that we
15 can use. You know, as a biologist there's never enough
16 data.

17 MR. MINASIAN: Okay. It's like a groundwater
18 hydrologist never has enough holes punched, huh. Well,
19 Mr. Odenweller, you are my resident expert on fisheries.
20 Let's just look at what we know about fisheries.

21 Now, you testified regarding the South
22 Yuba-Brophy Diversion, have you not?

23 MR. ODENWELLER: To some extent, yes.

24 MR. MINASIAN: And you're familiar with that?

25 MR. ODENWELLER: Yes, I am.

CAPITOL REPORTERS (916) 923-5447

2188

1 MR. MINASIAN: Okay. I've given the Board six
2 copies of what we'll call Exhibit 3 of the South Yuba
3 Water District.

4 MR. CUNNINGHAM: Thank you.

5 MR. MINASIAN: Mr. Brown, may I approach the
6 overhead? I have just a few brief questions. And if I
7 might speak from this location, if you have a problem, let
8 me know.

9 MS. MCKEE: Do you want the microphone?

10 MR. MINASIAN: No. No. That's all right. Thanks.

11 Dan, are you aware that in 1984/85 the
12 Brophy-South Yuba Water District provided for the
13 construction of what is referred to as the rock gabion, or
14 rock wall fish protection device?

15 MR. ODENWELLER: Yes, I am.

16 MR. MINASIAN: And you're looking at Exhibit 3. Do
17 you recognize that as a contract between the South Yuba
18 Water District and the Department of Fish and Game?

19 MR. ODENWELLER: Yes.

20 MR. MINASIAN: And have you seen that before?

21 MR. ODENWELLER: Yes. We discussed it at the last
22 hearings.

23 MR. MINASIAN: Okay. And do you work with that
24 contract?

25 MR. ODENWELLER: Have I worked with the contract?

CAPITOL REPORTERS (916) 923-5447

2189

1 MR. MINASIAN: Yes.

2 MR. ODENWELLER: No, I have not.

3 MR. MINASIAN: I'd like you to look at the bottom of
4 Page 3. Do you see the language,

5 (Reading):

6 "DFG recognizes District's need for certainty
7 in the amounts of water it is entitled to
8 divert and deliver to its service"?

9 MR. ODENWELLER: Yes, I do.

10 MR. MINASIAN: And then the language goes on,

11 (Reading):

12 "Areas and the Department of Fish and Game
13 agrees to take no action direct or indirect
14 aside from those necessary to achieve adequate
15 fish screening, which would prevent the South
16 Yuba and Brophy Districts from diverting 600
17 cfs from the Yuba River."

18 MR. ODENWELLER: Yes, I do.

19 MR. MINASIAN: Okay. And look at Paragraph 5, 5.1,
20 do you see the language,

21 (Reading):

22 "DFG agrees that it will hereafter affirm and
23 certify that the project of South Yuba, if
24 installed, constructed, and operated in
25 accordance with the Project Plan as described

CAPITOL REPORTERS (916) 923-5447

2190

1 in the Environmental Assessment and Exhibit B
2 and C, prevents any significant environmental
3 impact upon fish and wildlife resources as set
4 forth in Paragraph 5.0. And DFG agrees to
5 provided, upon reasonable request without
6 cost, the customary testimony, documentation,
7 and calculations to support those
8 representations"?

9 MR. ODENWELLER: Yes, I see the language.

10 MR. MINASIAN: Okay. Now, attached to that contract
11 is a stipulated judgment; is it not? Got a big four at
12 the bottom.

13 MR. ODENWELLER: Okay.

14 MR. MINASIAN: Do you agree that the contract is
15 signed by the Department of Fish and Game?

16 MR. ODENWELLER: It appears to have been sign by Don
17 Carper.

18 MR. MINASIAN: Thank you. And this stipulated
19 judgment bears a signature of the Yuba County Superior
20 Court, does it not?

21 MR. ODENWELLER: I assume so.

22 MR. MINASIAN: Why don't you look at the signature
23 page and then we'll come back.

24 MR. ODENWELLER: I have. And I have no knowledge of
25 who the judge of the superior court is. So --

CAPITOL REPORTERS (916) 923-5447

2191

1 MR. MINASIAN: Okay. Look -- look on the next page.
2 Do you see your old friend Dennis Smaage's signature?

3 MR. ODENWELLER: Yes, I do.

4 MR. MINASIAN: He was an attorney, Mr. Cunningham's
5 mentor, was he not?

6 MR. ODENWELLER: I'm not sure about the latter part,
7 but he was an attorney representing the Department at that
8 time.

9 MR. MINASIAN: Okay. And do you see that the
10 stipulated judgment signed by the judge, basically, says
11 at Line 22,

12 (Reading):

13 "Will adequately mitigate any adverse fish life
14 impacts on downstream migrant salmon and
15 steelhead in the Yuba River that might result
16 from such river diversion facilities"?

17 MR. ODENWELLER: Yes, I see the language.

18 MR. MINASIAN: And, then, it goes on to say,

19 (Reading):

20 "And will mitigate any fish or wildlife impacts
21 that may otherwise result from taking water
22 from the Yuba River"?

23 MR. ODENWELLER: I see that.

24 MR. MINASIAN: Okay. And attached, do you see
25 Exhibit D describes the criteria for various alternative

CAPITOL REPORTERS (916) 923-5447

2192

1 fish screens including a grated rock fish barrier?

2 MR. ODENWELLER: Yes, I do.

3 MR. MINASIAN: Okay. Now, was there a three-year
4 period within which the Department of Fish and Game was
5 able to test and monitor the Brophy-South Yuba Diversion
6 and their fish screen?

7 MR. ODENWELLER: As I understand it, the settlement
8 in the contract provided a three-year period for the
9 Department to conduct such testing, yes.

10 MR. MINASIAN: Okay. And do you see among the
11 criteria that there is a certain square footage per cfs
12 specified at the bottom of Page 10. That is six square
13 feet for each one cfs diverted?

14 MR. ODENWELLER: Yes.

15 MR. MINASIAN: Okay. And a return diversion of ten
16 percent of the water to provide a sweeping flow?

17 MR. ODENWELLER: Yes.

18 MR. MINASIAN: And do you see that the screen shall
19 have 95-percent effectiveness --

20 MR. ODENWELLER: Yes.

21 MR. MINASIAN: -- for salmon and steelhead of one
22 inch or greater length?

23 MR. ODENWELLER: Yes.

24 MR. MINASIAN: Okay. So those two steelhead that
25 we're talking about of 25 millimeters are less than one

CAPITOL REPORTERS (916) 923-5447

2193

1 inch, aren't they?

2 MR. ODENWELLER: They're right at the one-inch rate,
3 25.4 millimeters is an inch.

4 MR. MINASIAN: Okay. Do you have any reason to
5 believe the screen doesn't provide the 95-percent
6 criteria?

7 MR. NELSON: I would like to make a comment to that.
8 That was in our original testimony at the 1992 and while
9 we tried to quantify the number of fry, or juvenile fish
10 behind the rock gabions, because the configuration of the
11 pond is very steep sided and because of the structure in
12 both rocks and debris and the depth, seining was not
13 adequate. We could not seine the fish. We could not
14 quantify the fish.

15 Also, we tried to electroshock behind there with
16 a boat. And the boat electroshocking on very small fish
17 was not effective. The testimony at that time was that
18 there were literally hundreds -- potentially, up to
19 hundreds of fish that were present in front of the
20 electroshocking boat but for which we could not capture.
21 And I would like to add one last thing: I believe this
22 was the year that it did not overtop.

23 MR. MINASIAN: Okay. So, Mr. Nelson, Mr. Odenweller
24 is going to add something and I'll come back to you. Go
25 ahead.

CAPITOL REPORTERS (916) 923-5447

2194

1 MR. ODENWELLER: Well, as we discussed at the last
2 hearing and it should be in the record from the last
3 hearing, we went over the Agreement then. And we
4 discussed the matters. One of the things that had
5 happened in the interim was that because the geotextile
6 liner on the barrier had apparently plugged, there had
7 been a need to go in and repair it. And it was done in
8 the wet.

9 And at the time that I visited it, just before
10 the '92 hearings, there were ends of the geotextile liner
11 sticking up through the rock coverings. And there was, I
12 think in my mind, a reasonable question as to whether the
13 original integrity of the stretcher was still there or
14 not. Having said that, we continued to catch fish on the
15 backside --

16 MR. MINASIAN: Can I stop you there?

17 MR. ODENWELLER: Sure.

18 MR. MINASIAN: "We," you mean we after the 1992
19 hearing when we paid to have Steve Cramer to go monitor --

20 MR. ODENWELLER: That's correct.

21 MR. MINASIAN: -- on the season-long basis we found
22 fish in the barrier before we started to divert, did we
23 not?

24 MR. ODENWELLER: That's my understanding.

25 MR. MINASIAN: Okay. Do you have any other

CAPITOL REPORTERS (916) 923-5447

2195

1 information to indicate anything is wrong with this
2 barrier other than what Steve Cramer did since 1992?

3 MR. ODENWELLER: No.

4 MR. MINASIAN: Okay. In your personal opinions, was
5 executing that agreement and getting the judge to say,
6 this is adequate and you parties shall do this, was that a
7 mistake on the Department of Fish and Game?

8 MR. ODENWELLER: Would I say it was a mistake, no.
9 I think it was what we agreed to do at the time that
10 gabion stretcher was completed. It does require, as I
11 read it, that it continue to be maintained according to
12 its original design. And in my mind, there's some
13 question whether that happened or not.

14 MR. MINASIAN: Give Member Brown your opinions on
15 that. What is it about the maintenance of it that hasn't
16 happened?

17 MR. ODENWELLER: Well, as I started to say, the
18 liner has had to be replaced during maintenance. And it
19 was done in a manner that left ends of the geotextile
20 material sticking up through the outer coating of the
21 rock.

22 MR. MINASIAN: Are you sure about that?

23 MR. ODENWELLER: Yes, I am.

24 MR. MINASIAN: That the liner has been replaced --
25 that the geotext fabric liner that's underneath the rock

CAPITOL REPORTERS (916) 923-5447

2196

1 has been replaced?

2 MR. ODENWELLER: I was told during a site visit
3 prior to the '92 hearing that, in fact, occurred. And it
4 was done by the District -- or a contractor with the
5 District.

6 MR. MINASIAN: Anything else?

7 MR. ODENWELLER: No.

8 MR. MINASIAN: So since 1984, when the judge signed
9 this stipulated judgment and ordered the parties to
10 comply, do you have an opinion as to whether or not this
11 was a mistake?

12 MR. ODENWELLER: No, I don't think it was a mistake.
13 I think it was the thing that was done at the time.
14 Unfortunately, for all of us, situations change. And we
15 now have listed species that are of special concern. And
16 from my perspective the -- we're facing a situation with
17 the Draft 4D Rule, that's been discussed earlier.

18 That puts the District, in this case, in the
19 position of either having to show that their structure
20 meets the NMFS criteria and get a sign off from the NMFS
21 engineer, or enter into a Section 10 consultation for
22 take.

23 We have the resources available at this time
24 through both CVPIA and Prop 204 to solve that problem.
25 And while it may have reflected the technology of the

CAPITOL REPORTERS (916) 923-5447

2197

1 time, it does not meet the NMFS standard at this point.
2 And I suggest that we take advantage of the opportunity
3 and move forward to solve the problem.

4 MR. MINASIAN: Okay. So is it your professional
5 opinion that we can install a mechanical screen out there,
6 metal in color and character, with electricity that will
7 achieve as good a protection of the fisheries as was
8 evidenced by Mr. Cramer's test the results in 1993?

9 MR. ODENWELLER: Yes, I believe we can. And a
10 special note is that we have been working with some fish
11 screens in the Suisun Marsh that are solar powered. And
12 they don't require bringing electricity into the site. So
13 there's been a number of advancements over the last 16 or
14 so years, particularly, in the last ten years that have
15 let us move ahead on a number of fronts.

16 MR. MINASIAN: And is it your belief that we can, in
17 fact, build and maintain a mechanical screen at that
18 location that will not allow any fall-run or spring-run
19 juveniles or fry to come through the screen and will allow
20 only two 25-millimeter sized steelhead to come through in
21 a season?

22 MR. ODENWELLER: I believe we can do, at least, that
23 well, yes.

24 MR. MINASIAN: All right. Now --

25 MR. ODENWELLER: But, if I can explain. Steve in

CAPITOL REPORTERS (916) 923-5447

2198

1 his testimony talked about some screens that were not
2 meeting those criteria. And it depends on the type of
3 screen. We have horizontal-vertical drum screens
4 installed in a number of locations, most notably on the
5 Yakima River where we've done a number of installations
6 like that, I say "we," collectively.

7 The seals on those wear and need to be replaced
8 on a regular schedule and have not been. And they have
9 found significant losses of very small fish as a result of
10 seal wear. Down here we have chosen to build flat-plate
11 screens, or fixed screens that do not require removing
12 seals. And the result is that with appropriate mesh size,
13 approach velocity, and sealing that way, we do not let
14 fish through the screen. But we have to move the cleaning
15 device.

16 And it puts, I suppose, the potential for failure
17 on the operational side rather than the fish's side,
18 shifts the responsibility a little bit in that sense, but
19 it is a more manageable problem from our perspective.

20 MR. MINASIAN: Mr. Odenweller, you are something --
21 you and Mr. Nelson are something of experts in regards to
22 the budgetary requirements of the Department of Fish and
23 Game and expenditures on the Yuba River.

24 Do you believe that if we had a less
25 confrontational and a more scientific study attitude on

CAPITOL REPORTERS (916) 923-5447

2199

1 the Yuba River and weren't engaged in hearings like this,
2 there would be enough money to run the Cordua-Hallwood
3 screen for a full season for the next decade?

4 MR. ODENWELLER: Do I believe that?

5 MR. MINASIAN: Yes.

6 MR. ODENWELLER: Yeah. I think between us we could
7 find the resources to do that.

8 MR. MINASIAN: Okay.

9 MR. ODENWELLER: In fact, I'll go one farther.
10 We're sitting on a pool of money in both the Central
11 Valley Project Improvement Act and Prop 204 money that
12 would allow us to move the screens, build new ones that
13 could be operated year round with less effort. And I
14 think we could make substantial improvements on the
15 system.

16 MR. MINASIAN: Okay. Now, we have the 1965
17 Agreement, we have the 1984 Agreement, we have the 1990
18 Fish Management Studies, all of which, apparently, are
19 outdated.

20 Would it not be, in your professional opinion,
21 wise to go out and get some better data before we start
22 throwing temperatures and flows at this problem?

23 MR. NELSON: Would you just repeat it one more time?

24 MR. MINASIAN: I'd be glad to. Its the question of:
25 Are we ready for the State Board to make a decision based

CAPITOL REPORTERS (916) 923-5447

2200

1 upon the information we have and run the risk of making
2 another mistake?

3 MR. NELSON: I think at the very --

4 MR. COOK: Mr. Brown?

5 H.O. BROWN: Mr. Cook.

6 MR. COOK: I believe that the question is assuming
7 substantial facts not in evidence. I don't believe any of
8 the witnesses have testified that there has been a
9 mistake, nor have they testified directly that previous
10 reports are outdated. And I think that's an assumption
11 that Mr. Minasian is making and it's unjustified.

12 MR. MINASIAN: I think it's probably correct. Let
13 me make a hypothetical --

14 H.O. BROWN: I was wondering who made the mistake,
15 too.

16 MR. MINASIAN: Yeah. Mr. Cunningham described the
17 '65 Agreement as outdated. You all have indicated that
18 you wonder about the contents of the 1984 Agreement in
19 light of what you would like to see in terms of fish
20 screening.

21 The WUA of the 1990 Fish Management Plan showed
22 700 cfs. You have to double that or triple that to get
23 the temperatures that you're now recommending.

24 In your view and opinion, wouldn't it be wiser to
25 go out and get more data and information before we throw

CAPITOL REPORTERS (916) 923-5447

2201

1 temperature requirements and flow requirements at this
2 problem and risk making another mistake?

3 MR. ODENWELLER: At some point we have to stop and
4 make a decision on the best available information that we
5 have. As a biologist -- and I think John said the same
6 thing -- there's always a need for more data.

7 In fact, in my training, a good research project
8 results in more questions than answers, which is a way of
9 ensuring funding for additional employment. Having said
10 that I was somewhat cast in the fishery management role.
11 We need to decide at some point that we have enough
12 information to make a decision and proceed.

13 The blending of those two desires or needs,
14 typically, at the State Board forum that I've experienced
15 has occurred in the way of plan implementation with
16 evaluations of conditions so that we have a chance to look
17 at what happens and come back and revisit the issue.

18 But if we took another ten years to study the
19 results, we'd simply be sitting in the hearing room ten
20 years from now having the same discussion and wondering
21 whether we had good data, then, or whether we needed to
22 proceed. At least, that's been the experience so far.

23 MR. MINASIAN: So are any of the panel members
24 concerned at all that if the Board were to do exactly what
25 you wanted it to do, temperature wise, that you might

CAPITOL REPORTERS (916) 923-5447

2202

1 actually be making the condition of the fall-run and
2 supposed spring-run worse? Is there anybody that's
3 concerned at all about that?

4 Good. Then let's look at DFG-10 to conclude.

5 H.O. BROWN: Let me ask a question while you're
6 putting that up.

7 MR. MINASIAN: Sure.

8 H.O. BROWN: Let me make sure that I understand your
9 testimony. You're presenting to us what you believe to be
10 the optimum criteria for the fish habitat and their
11 rearing?

12 MR. ODENWELLER: I don't believe we presented
13 "optimum criteria." We presented the criteria that the
14 studies show provides protection to the species for the
15 life stage in question.

16 John, do you want to --

17 MR. NELSON: I think in relation to temperatures,
18 our recommendations are for the upper limit.

19 H.O. BROWN: So it's not necessarily optimum?

20 MS. MCKEE: That's correct.

21 MR. NELSON: That's correct, yes. It is not --

22 H.O. BROWN: All right --

23 MR. NELSON: -- necessarily the optimum temperature
24 recommendation.

25 H.O. BROWN: Have you done any study as to what the

CAPITOL REPORTERS (916) 923-5447

2203

1 cost of providing those conditions are to other downstream
2 users, or to groundwater basins? Have you done any
3 comparison to the benefit -- the cost-type ratios or
4 analysis?

5 MR. NELSON: We have not done any hydraulic modeling
6 comparing the costs of providing those flows, or
7 temperatures, or costs. I'm not sure what the costs are
8 downstream other than potential water delivery, but we
9 have not done that analysis on the water delivery, no.

10 H.O. BROWN: I'm not sure what the cost is
11 downstream either. And I think before this Board can make
12 a fair decision, we need to have some idea of if more
13 water is provided in one area, I suspect that's water
14 taken away from another area.

15 MR. NELSON: I would tend to agree, taken away
16 from consumptive uses, or agriculture, or fishery, either
17 way, but, yes.

18 H.O. BROWN: Right. And I suspect that this Board,
19 what you're suggesting is our requirement is that we need
20 to know what that cost is in order to get an idea of what
21 water should be dedicated as you're recommending?

22 MR. NELSON: I think we are making the
23 recommendations as our responsibility as trustee agency
24 for the specific protection of anadromous fish. And that
25 is the position that we are coming from in this hearing.

CAPITOL REPORTERS (916) 923-5447

2204

1 And as I believe somebody else said several weeks
2 ago, is that that balancing act is something that is not
3 going to be made by any party presenting testimony, but it
4 would rather be a decision made by the Board. I don't
5 know if that helps you out, or answers your question,
6 Mr. Brown.

7 H.O. BROWN: No, I think I understand, John. Who is
8 providing information as to where that water may be coming
9 from and what the costs of nondelivery to the current
10 users, what that cost is?

11 Is that something that you're expecting the Board
12 to do, or are other parties presenting that? Is that part
13 of our charge as you see it?

14 MR. ODENWELLER: My understanding is that the
15 balancing is the responsibility of the Board. The
16 balancing of the competing public trust. You have, at
17 least, one simulation, system simulation run from Yuba
18 County Water Agency, which looks at the consumptive uses
19 and then allocations instream flows.

20 I might have liked to have seen a study that met
21 the instream flows and then allocated the consumptive uses
22 for the other half of the picture. I don't know whether
23 you have that. I don't know whether you can get it, but
24 it, certainly, would be an interesting alternative
25 analysis. That would provide some insight.

CAPITOL REPORTERS (916) 923-5447

2205

1 H.O. BROWN: Well, it seems like when we sit here
2 and now have gone through -- how many days, Mr. Frink?

3 MR. FRINK: I think we're on the ninth day.

4 H.O. BROWN: Ninth day, we've had an abundance of
5 testimony which is nonconclusive from your statements that
6 you've just made on one side of the equation. I'm
7 wondering if we're going to get some information on the
8 other side, or is that something that all of you are
9 expecting our staff to do?

10 How do we know if we go ahead and meet the
11 requirements as you're recommending here on your behalf,
12 how do we know what the cost is by diverting those waters
13 to meet those requirements? Who's presenting that
14 information to us?

15 MR. FRINK: Mr. Brown, if I might. One difference
16 that I think that the Board will be able to take advantage
17 of at the end of this hearing as compared to the end of
18 the 1992 hearing, is with the assistance of the Yuba
19 County Water Agency's consultant, the Department of Water
20 Resources has done some modeling and now has the model and
21 a person who can run the model.

22 And that will help in determining the impacts of
23 any changes in instream flows that the Board may wish to
24 consider on consumptive uses. So we do have extensive
25 evidence from Yuba County Water Agency and water districts

CAPITOL REPORTERS (916) 923-5447

2206

1 within Yuba County on their uses of water.

2 And we have recommendations from the fishery
3 agencies and the environmental groups on what they would
4 like to see. And, now, at the conclusion of this hearing
5 we will be able to take advantage of a model and determine
6 the effects of various flow recommendations one way or the
7 other.

8 H.O. BROWN: Okay.

9 Mr. Cook.

10 MR. COOK: With respect to the Board's concerns
11 about costs, Mr. Brown, as I read the Mono case, the Mono
12 Lake case and public trust, that no matter what, the
13 fisheries and the public trust cannot be unreasonably
14 damaged. And that is, I believe, question number one.

15 With respect to cost, in some instances, perhaps,
16 consumptive uses may need to be reduced in order to
17 eliminate or reduce damage to the fish and wildlife and,
18 in particular, endangered or listed species. And so,
19 also, I think -- and there's quite a bit of testimony by
20 these questions on the issue of conservation, for example.

21 And I believe that -- and this may be a personal
22 claim here -- but using this water which would be
23 beneficial to the fish on pasture, which is probably the
24 most wasteful use of water, I think, would be
25 unreasonable. And I'm not sure that allowing water to be

CAPITOL REPORTERS (916) 923-5447

2207

1 removed from pasture irrigation in order to prevent damage
2 to fish and wildlife and listed species would require
3 compensation.

4 I'm not sure water rights are that strong. I
5 think water rights must be limited by what is needed, what
6 can be reasonably used, and what is not unreasonably
7 damaging to the fish and wildlife and the general public
8 trust.

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

10 My reference to cost was not just the financial
11 cost of replacing valued agriculture. The cost, as I was
12 suggesting, could be additional water requirements in the
13 Delta to help meet Delta water quality standards, or other
14 environmental habitats' needs elsewhere than, perhaps,
15 some of this water had been used. I meant costs
16 generically.

17 And I understand what you're saying about the
18 pasture. I don't want to linger on this issue, I want to
19 continue on. But I just wonder from the testimony that
20 has been set forth here if it is the expectation of those
21 participating in this hearing that it is, then it will be
22 the State Board's responsibility to try to figure out what
23 those costs might be, whether it's in loss of habitat
24 downstream, or elsewhere, or if it's just pasture, or
25 something in between. I think we need to know that. And

CAPITOL REPORTERS (916) 923-5447

2208

1 I am wondering where that may be coming from.

2 Mr. Minasian.

3 MR. MINASIAN: I'm thinking that I would be rude to
4 not allow Mr. Cunningham and Mr. Lilly to weight in,
5 because I know the question that you're asking, I know,
6 they want to address.

7 But I would love to spend five minutes just
8 finishing my cross-examination, if I could. And this is
9 one of the most valuable exchanges that we can have. So I
10 induce the Board Member to continue the conversation after
11 I ask three more questions.

12 H.O. BROWN: All right, but I'm going to ask your
13 indulgence if you'll hang on to those questions --

14 MR. MINASIAN: Sure.

15 H.O. BROWN: -- such that we may give Mr. Cunningham
16 an opportunity to address the issue.

17 MR. MINASIAN: Sure.

18 MR. CUNNINGHAM: Mr. Brown, if I might, I appreciate
19 Mr. Minasian's quandary here, he wishes to at least finish
20 his cross-examination --

21 MR. MINASIAN: You go right ahead, Mr. Cunningham.

22 MR. CUNNINGHAM: -- but I feel it incumbent that I
23 speak as well on this issue. I've represented the
24 Department of Fish and Game in these proceedings now for
25 almost 20 years in a variety of appearances before this

CAPITOL REPORTERS (916) 923-5447

2209

1 Board.

2 And each time we've been faced with the same
3 quandary in that we are trying to represent the resource.
4 We oftentimes speak as the only voice for the resource.
5 Many times we're accompanied by a variety of other people
6 who are also concerned about that resource.

7 Each time we appear and speak we're faced with a
8 challenge and that's: What do we wish to represent and
9 what do we wish to present to this Board? Each time we
10 try our best to represent what we think are the concerns
11 for the resource, first. That is our focus and that is
12 our challenge.

13 Several times in the past, in fact, I'd argue
14 most of the time in the past we've been asked this same
15 question and that is: How do we help balance the scales
16 of protection for the resource and impacts upon other
17 users of those same waters?

18 And I guess each time I have to make the same
19 argument and, perhaps, the same suggestion and that's: We
20 would like to not be in that business. It is difficult
21 for us as an advocate for one resource to have to come in
22 and try to present both -- our advocacy position and this
23 is a position the Board has insisted we present:

24 We are usually in here as either participants or
25 protestants, not as consultants to the Board. So each

CAPITOL REPORTERS (916) 923-5447

2210

1 time we come in and have to present a specific position
2 and it is difficult to present, both, what is the
3 necessary waters for the resource; and at the same time,
4 what are those costs and impacts going to be on somebody
5 else?

6 You're asking, potentially, for us to put in
7 material on both sides of the scale. And that's difficult
8 for us, because we don't have either the manpower or
9 technical resources oftentimes to present that kind of
10 testimony.

11 I realize it places a difficult burden on the
12 Board, because our open-ended suggestion here, we are
13 providing you testimony on what we think the resource
14 needs. But we're leaving to the Board and other
15 participants to try to resolve what those costs of those
16 needs are going to be.

17 Our suggestion always comes back to the very
18 fundamental principle: We think it is within the
19 California Constitution in examining the reasonable use of
20 water in the State of California and that's that fish and
21 wildlife are entitled to a share of that reasonable use.

22 We want that share. We request you find us that
23 share. We're trying to provide you with evidence on what
24 that share should be. There's other competing testimony
25 what that share should be as well.

CAPITOL REPORTERS (916) 923-5447

2211

1 But as to the costs, our arguments are -- and
2 I'll put it most bluntly -- our arguments are fish and
3 wildlife have taken the costs, time and time and time
4 again. The Yuba River is a classic example where dams
5 have been built with little or no thought to the impacts
6 on downstream fisheries, where waters are diverted, uses
7 are made, and fisheries are often the last question in
8 everybody's mind.

9 We're been hit and hit and hit and all we want to
10 do is come back and say, "Think about us, balance our
11 uses." If it means it's going to impact somebody else's
12 use, it's going to cost somebody else, I guess in the
13 biggest sense of the word, "That's not our problem."
14 It really is not.

15 We are concerned that this is not unreasonable.
16 But, Mr. Brown, you put us in a most difficult quandary
17 with this question. I think it's a great question for all
18 of us to address in our closing arguments. But I think
19 it's a question that this Board has already dealt with in
20 the past. And I would suggest the Mono Lake cases and the
21 court's challenge cases back to this Board to resolve.

22 That exact issue has always placed the burden on
23 this Board as being arbiter between the balance for fish
24 and wildlife and the costs to the other users.

25 H.O. BROWN: Thank you, Mr. Cunningham. That was

CAPITOL REPORTERS (916) 923-5447

2212

1 well said.

2 Mr. Minasian, proceed.

3 MR. MINASIAN: I'd love to give a closing argument
4 now, but instead I'll ask a few questions.

5 H.O. BROWN: We'll wait for the closing argument.

6 MR. MINASIAN: Thank you.

7 On the question that Member Brown brought up,
8 among the panel would you, if you had been authorized by
9 the management of DFG, have submitted evidence in regard
10 to the impacts of your temperature and flow
11 recommendations upon the waterfowl habitat within North
12 Yuba County and South Yuba County?

13 MR. ODENWELLER: Would I?

14 MR. MINASIAN: Would you have put in evidence in
15 regard to the impacts of your flow regime and your
16 temperature regime upon waterfowl if you'd been authorized
17 to do that by the management of DFG?

18 MR. ODENWELLER: I'm not sure that authorization was
19 an issue, but we could have.

20 MR. MINASIAN: Okay. As a matter of fact, you're a
21 trustee agency for the waterfowl as well, are you not?

22 MR. ODENWELLER: Yes, we are.

23 MR. MINASIAN: Mr. McEwan, you've been neglected
24 here. How do you see the role of DFG in this hearing in
25 regard to bringing in evidence of the effect of the flow

CAPITOL REPORTERS (916) 923-5447

2213

1 regime and temperature regime that's being recommended
2 here upon waterfowl habitat?

3 MR. MCEWAN: Well, I'm not a waterfowl expert, but I
4 would surmise that if our waterfowl experts felt that
5 there was an impact to what we are asking for, that they
6 would be here in this hearing and they're not. So --

7 MR. MINASIAN: I see.

8 MS. MCKEE: I'd like to interject here, too. I
9 would suggest we would be making the same kind of
10 recommendation for our waterfowl, which is a public trust
11 resource as we are for the fishery. And it wouldn't
12 necessarily be in the context of pitting one resource
13 against another, but rather what are the recommendations
14 for protecting all of those resources including the avian
15 resources.

16 MR. MINASIAN: How should we balance them? Let me
17 give you a hypothetical, Ms. McKee. Let's assume that
18 your temperature requirement means that we can only
19 irrigate one-third of the acreage that is presently
20 devoted to wildlife, waterfowl habitat from October 1 on
21 in Yuba County.

22 And let me give the further hypothetical that
23 that's about 20,000 acres. So we're going to lose,
24 roughly, 14,000 acres of waterfowl habitat each year.
25 Would you think that's a proper balancing of the flow and

CAPITOL REPORTERS (916) 923-5447

2214

1 temperature goals likely to produce enough benefit to
2 justify drying up 14,000 acres of waterfowl habitat?

3 MS. MCKEE: In response, in general, on how we would
4 balance our resources, the Department would be looking at
5 the status of each of the resources that it is making
6 recommendations for. And, certainly, the populations and
7 the resources that are listed and the reason they're
8 listed is, because they are either threaten or endangered
9 with extinction, would receive higher priority. And,
10 then, we would prioritize the way in which we would make
11 our recommendation for allocation of those resources.

12 MR. MINASIAN: Can you take this hypothetical and
13 explain to me why this isn't happening in our society
14 today. I want to take you go back to the time of the
15 dinosaurs.

16 And I want you to imagine we had ESA out and
17 somebody saw one dinosaur species going down in
18 population, so they listed it. And so we all save that
19 species. And it ignore -- and we ignore the other
20 conditions that were leading to environmental decline.
21 Now, is that in the best interest of the environment?

22 MS. MCKEE: I don't believe that the Department is
23 ignoring resource, one resource to the benefit of another.
24 And that's what I just testified to.

25 MR. MINASIAN: How do you explain, then, the absence

CAPITOL REPORTERS (916) 923-5447

2215

1 of any testimony in regard to the effects on waterfowl as
2 a result of your temperature and flow regime
3 recommendation?

4 MS. MCKEE: I can't explain that. I'm not a
5 waterfowl expert.

6 MR. MINASIAN: Good. Now, the Department of Fish
7 and Game put in S-10 -- John, did you have --

8 MR. NELSON: I just want to add in one thing. We
9 did consider, ask, inquire as to whether it was
10 appropriate or necessary, or if we needed to evaluate and
11 have a wildlife biologist provide such testimony. And the
12 general consensus was, no.

13 MR. MINASIAN: And who did you talk to?

14 MR. NELSON: That was management.

15 MR. MINASIAN: And who in management?

16 MR. NELSON: I believe that was -- I believe it was
17 Banky Curtis, who is a regional manager; and also, I
18 believe, Ron Rempel, who is the Deputy Director was also
19 present at that meeting. I'm not absolutely positive
20 whether Mr. Rempel was present or not.

21 MR. MINASIAN: So on rebuttal, we'll basically bring
22 them in and they'll explain their rationale in regard to
23 the waterfowl -- strike that. That's not a question you
24 can answer. You have to know their state of mind.

25 Look at DFG-10 would you, Ms. McKee. And besides

CAPITOL REPORTERS (916) 923-5447

2216

1 not spelling the word "survival" right on the front page,
2 is this a recent report from the U.S. Fish and Wildlife
3 Service?

4 MS. MCKEE: Yes, it is.

5 MR. MINASIAN: And I asked you before we had this
6 most interesting dialogue, whether or not any of you had a
7 fear that your flow and temperature regime might, in fact,
8 do damage to the fall-run and to the supposed spring-run
9 salmon. And all of you answered, no.

10 Would you turn to Page 24 and 25 of that. And,
11 Bill, if you would flip on the overhead. See the
12 underlined language? You'll have to come down a little
13 bit more, Bill.

14 MR. CUNNINGHAM: I'll bring it there.

15 MR. MINASIAN: Thank you. Maybe just read it and
16 then I'm going to ask you some questions. Do you have the
17 underlining language in mind, Ms. McKee?

18 MS. MCKEE: Yes, I do.

19 MR. MINASIAN: Do you agree lower temperature
20 results in slower growth rates?

21 MS. MCKEE: Yes.

22 MR. MINASIAN: Do you agree that the U.S. Fish and
23 Wildlife Service is saying in this report be careful about
24 lowering temperatures in order to make embryos survive,
25 because you may delay migration patterns and result in

CAPITOL REPORTERS (916) 923-5447

2217

1 greater mortality?

2 MS. MCKEE: Greater survival is relative to the
3 temperature experiments. I don't see where there -- you
4 paraphrased it. Could you, please, rephrase what
5 you're saying?

6 MR. MINASIAN: Yeah. Look at the first line,
7 (Reading):

8 "Because larval fish size is related to
9 survival, incubation temperatures that maximize
10 survival of embryos," or eggs, "while slowing
11 growth can be a tradeoff."

12 MS. MCKEE: Yeah, I agree with that.

13 MR. MINASIAN: Okay. Do you agree that by lowering
14 temperatures in order to have better egg survival you may
15 be slowing down the time at which juveniles, or fry, or
16 smolts migrate out to the ocean and putting them in risk?

17 MS. MCKEE: I'm not sure your interpretation is the
18 same as theirs. I agree with their statement --

19 MR. MINASIAN: Do you -- can you affirm to us --

20 MS. MCKEE: Can I finish my sentence?

21 MR. MINASIAN: Yes.

22 MS. MCKEE: I agree with their statement that growth
23 rates may, also, indirectly influence survival by altering
24 smolting and migration timing. I, also, agree with the
25 following sentence: That timing is potentially important

CAPITOL REPORTERS (916) 923-5447

2218

1 to survival, because of seasonal variation in rearing
2 environments is high.

3 MR. MINASIAN: Okay. In your opinion -- Mr. McEwan,
4 I'll ask you, would you like to respond to that?

5 MR. MCEWAN: If I can.

6 MR. MINASIAN: Yeah. Your note -- I don't want you
7 to have to write notes. Go ahead. Do you want to respond
8 to the same question:

9 Do you agree with the statement in the U.S. Fish
10 and Wildlife study, and do you agree that your temperature
11 regime may, in fact, risk survival by delaying migration
12 time?

13 MR. MCEWAN: I think the way I would answer that is,
14 yes, lower temperatures do affect growth. But what we're
15 asking for here, the temperatures we're asking for are
16 still well within the preferred range for all life stages
17 of salmonids.

18 So it may not be as great as having a few degrees
19 more, but I don't think that it would result in any really
20 objective signif- -- I wouldn't say significant, but a
21 large scale mortality for that reason.

22 MR. MINASIAN: Has the Department of Fish and Game
23 done anything to project what the delay in growth rate and
24 emigration time will be as a result of their temperature
25 regime on the typical juvenile?

CAPITOL REPORTERS (916) 923-5447

2219

1 MR. MCEWAN: Well, I'm not a chinook salmon expert.

2 I would have to say I don't know.

3 MR. MINASIAN: How about on the steelhead?

4 MR. MCEWAN: Not that I can think of off the top of
5 my head, no.

6 MR. MINASIAN: There's no question in your mind that
7 God didn't make the temperature 56 degrees year-round at
8 Daguerre, is there?

9 MR. MCEWAN: Could you state restate that, please?

10 MR. MINASIAN: Yes. That's not the state of nature,
11 is it?

12 MR. MCEWAN: For the Yuba River at Daguerre?

13 MR. MINASIAN: Yes.

14 MR. MCEWAN: No.

15 MR. MINASIAN: So this is a man-induced regime.
16 What's going to be the result of it in terms of migration?

17 MR. MCEWAN: Well, again, as I stated earlier, we're
18 looking at apples and oranges. Previous to Daguerre and
19 Englebright, steelhead and spring-run chinook salmon had
20 access to the headwaters where these conditions occurred
21 naturally.

22 So, yes, you're correct. It is a man-induced
23 regime. We're attempting to recreate those conditions in
24 the Yuba River, but we have to, because that's all that
25 they have left. They don't have the underlying --

CAPITOL REPORTERS (916) 923-5447

2220

1 MR. MINASIAN: But, Dennis, if we're mad about the
2 dams, don't we tear the dams down rather than try to
3 pretend the dams don't exist?

4 MR. MCEWAN: Well, that is -- yes, tearing the dams
5 down, or modifying them to allow passage is, I believe,
6 the preferred alternative. However, in the absence of
7 doing that, we have to provide the conditions in those
8 reaches where those fish exist now, because they're
9 relegated to those reaches. They can't go any higher, or
10 we would be causing extinction.

11 MR. MINASIAN: So can you envision filing a
12 complaint that it's an unreasonable waste of water to dam
13 it on the Yuba River and tear those things down versus
14 what we're doing here, trying to figure out how to the
15 Bullards Bar, the New Bullards Bar Project cause fish not
16 to be in good condition?

17 MR. MCEWAN: Could you restate that, please?

18 MR. MINASIAN: Yeah. Can you envision making an
19 argument at a hearing that we ought to tear these dams
20 down?

21 MR. MCEWAN: I don't think I would put it in that
22 way. I would put it that: If possible to remove the
23 dams, or if not possible to do that, to modify them to
24 allow passage.

25 But I think the question here is: Is it feasible

CAPITOL REPORTERS (916) 923-5447

2221

1 to get fish above the present day blockages, such as
2 Englebright Dam and getting them into areas where habitat
3 conditions are maintained naturally so that we don't have
4 to maintain them, in a sense, artificially below the dams.
5 And in my opinion, that's a win/win situation for
6 everybody.

7 MR. MINASIAN: Okay. But we do have habitat that's
8 sort of natural below Englebright Dam, don't we?

9 MR. MCEWAN: In what respect?

10 MR. MINASIAN: Well, it's gravel, rock subject to
11 flooding, to predators?

12 MR. MCEWAN: For a steelhead it is natural in the
13 sense that it is mostly migratory habitat that they
14 migrated through to get back up into the headwaters.

15 MR. MINASIAN: So why are we trying to make it a
16 hatchery by having a uniformed year-round temperature?

17 MR. MCEWAN: We're not asking for uniform year-round
18 temperatures.

19 MR. MINASIAN: Well --

20 MR. MCEWAN: We're asking for minimum
21 temperatures -- I'm sorry, maximum temperatures.

22 MR. MINASIAN: Nothing further.

23 H.O. BROWN: That had me thrown there for a while.

24 Thank you, Mr. Minasian.

25 Mr. Bezerra?

CAPITOL REPORTERS (916) 923-5447

2222

1 MR. BEZERRA: We have no questions for this panel,
2 Mr. Brown.

3 H.O. BROWN: Mr. Morris?

4 MR. MORRIS: You would be pleased to hear that I
5 have very few questions.

6 H.O. BROWN: Always pleased to hear from you,
7 Mr. Morris.

8 ---oOo---

9 CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT
10 OF FISH AND GAME

11 BY WESTERN WATER COMPANY AND WESTERN AGGREGATES, INC.

12 BY MR. MORRIS

13 MR. MORRIS: Good afternoon, panel. Thank you for
14 your indulgence. Like I said I have a few questions and,
15 Mr. Nelson, I'd like to start with you.

16 Previously -- and I apologize, because I walked
17 in during the process of your questioning about the Yuba
18 Goldfields, so I hope I don't repeat anything -- but it's
19 my understanding that your testimony was that the
20 discharge, if you will, or the outflow channel -- I don't
21 know if I'm calling it the correct thing -- has
22 temperatures that are different than the Yuba River; is
23 that correct?

24 MR. NELSON: Yes.

25 MR. MORRIS: I was wondering if you can tell me if

CAPITOL REPORTERS (916) 923-5447

2223

1 you have taken temperature readings on these?

2 MR. NELSON: I have. In one year thermographs were
3 placed near the outfall, near the Yuba River approximately
4 several 100 yards upstream from the discharge and, also,
5 at the upstream end of the Goldfields near the head of the
6 South Yuba-Brophy Diversion. The actual time frame of
7 that, I recall as being from approximately March through
8 early to mid June.

9 MR. MORRIS: Do you recall what year that was? Is
10 it --

11 MR. NELSON: I believe it was 1994.

12 MR. MORRIS: And I assume a thermograph, is that a
13 temperature recording device that records over a period of
14 time?

15 MR. NELSON: Right. I believe it recorded it during
16 that period of time on one-hour increments.

17 MR. MORRIS: And have you submitted this data as
18 testimony before this Board today?

19 MR. NELSON: No. That was not part of my testimony.
20 It was cross-examination.

21 MR. MORRIS: Okay. I guess my only other question
22 that I have is for, Ms. McKee. Ms. McKee, we were talking
23 during cross-examination -- I believe you were talking
24 about several reports that may or may not have been peer
25 reviewed.

CAPITOL REPORTERS (916) 923-5447

2224

1 And I was curious if you could tell me a peer
2 review process, if you know it for a report that would
3 come out from, say, Fish and Game, for example?

4 MS. MCKEE: Are you talking in general, or are you
5 asking for more specific clarification of the two examples
6 that I gave?

7 MR. MORRIS: If you could -- excuse me. If you
8 would like you can pick a report that you helped author,
9 or one you submitted with your testimony and talk about
10 how that would be peer reviewed within Fish and Game.

11 Does it go out to the public, or does it stay
12 internal, or what?

13 MS. MCKEE: The spring-run status review was peer
14 reviewed according to the regulations in Title 14 of the
15 California Code of Regulations. And rather than repeating
16 into the record the details of those regulations:

17 In general, the Department is required to select
18 a panel of recognized experts with preferable worldwide
19 recognition and an expertise on the area that is contained
20 within the document.

21 The list of our peer reviewers is in the
22 spring-run status review. The document did go out for
23 peer review. And it, also, was publicly noticed for
24 request for input from the general public, including many
25 of the water agencies. And it was, also, again,

CAPITOL REPORTERS (916) 923-5447

2225

1 distributed after the peer review process for public
2 review. And, then, there was an opportunity for public
3 testimony before the Fish and Game Commission.

4 MR. MORRIS: Okay. Thank you. And I believe you
5 stated that Dr. Hedgecock's work has not undergone that
6 process yet; is that correct?

7 MS. MCKEE: That is correct. That is my
8 understanding from speaking with both Dr. Hedgecock and
9 Dennis Banks -- I'm sorry, Michael Banks. In that the
10 work that was done preliminarily on the Feather River is
11 going to be redone with some recent additional loci
12 markers that they have just recently developed.

13 And they're also going to be looking at some
14 other spring-run tissues that they have been provided.
15 And they have imparted to me that they plan on writing up
16 a report over the next year. And, then, once that report
17 is prepared, it will go out amongst some level of peers.
18 And I'm assuming it will be published in the scientific
19 journal.

20 MR. MORRIS: Thank you. Do you -- are you aware of
21 any report that has undergone this peer-review process
22 that would regarding -- or that will show or discuss
23 regarding the genetic integrity of spring-run salmon on
24 the Feather River at this time?

25 MS. MCKEE: Yes, at least, a peer and public review

CAPITOL REPORTERS (916) 923-5447

2226

1 process, which is first the biological review team's
2 report for the National Marine Fisheries Service -- I
3 better read this into the record, the title of the
4 document if you'll just wait a moment.

5 H.O. BROWN: We'll go off the record for just a
6 moment and give Mary a break.

7 (Off the record from 4:10 p.m. to 4:11 p.m.)

8 H.O. BROWN: Back on the record.

9 MS. MCKEE: The official title is, "The Status
10 Review of Chinook Salmon from Washington, Idaho, Oregon,
11 and California," which was prepared by the Biological
12 Review Team for the National Marine Fisheries Service.
13 And that's NOAA, technical memorandum, NMFS, and NWFSC-35.

14 That document was widely distributed to
15 comanagers, scientists and it was available on the web.
16 And results of that document are also contained within the
17 Federal listing decision which was published in the
18 Federal register and was put out for public comment. And
19 those public comments are also published.

20 MR. MORRIS: And does that document contain specific
21 samples taken from the Feather River that were genetically
22 tested?

23 MS. MCKEE: Yes, the document does, actually, speak
24 to the Feather River. And then the follow-up memorandum
25 by the Biological Review Team dated July 16, 1999,

CAPITOL REPORTERS (916) 923-5447

2227

1 contains additional information on the Feather River and
2 the decision that the Feather River spring-run naturally
3 spawned fish were spring-run and would be listed.

4 MR. MORRIS: Okay. Thank you very much.

5 I have no further questions, Mr. Brown.

6 H.O. BROWN: Thank you, Mr. Morris.

7 Staff?

8 MR. FRINK: Yes, we do have some questions.

9 ---oOo---

10 CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT

11 OF FISH AND GAME

12 BY STAFF

13 MR. FRINK: Mr. Nelson, you mentioned that return
14 flows from the Yuba Goldfields can be 20 to 30 degrees
15 warmer than the water in the river at certain months of
16 the year.

17 Do you or any other staff from the Department of
18 Fish and Game have any recommendations on what might be
19 done to reduce the problem of warm water entering the Yuba
20 River from the Goldfields?

21 MR. NELSON: Yes, I can make some recommendations.
22 One is to minimize the amount of water that is diverted on
23 the South Yuba-Brophy Diversion and is being spilled at
24 the flashboard dam from the canal into the channels. I
25 would also -- although, difficult, would be to reconfigure

CAPITOL REPORTERS (916) 923-5447

2228

1 conditions such in the Goldfields that you did not have
2 such a large body of water that is subject to solar
3 radiation and radiation from the pebble cobble substraight
4 at the banks.

5 MR. FRINK: Are the ponds themselves the problems in
6 term of warming the water?

7 MR. NELSON: It's the ponds and the rock that is
8 adjacent to the ponds that is a substantial reason for
9 increases, I believe, yes.

10 MR. FRINK: If there were a more direct way of
11 routing water through the Goldfields and getting it to the
12 places that it's being delivered, would that help in
13 reducing the temperature and the amount of water returning
14 to the river from the Goldfields?

15 MR. NELSON: I'm not sure what you mean by
16 "delivered," but if the South Yuba-Brophy Canal was
17 potentially located in a different point of intake, that
18 may reduce it somehow. The Goldfields itself, outside of
19 the South Yuba-Brophy Canal, is not really conveying the
20 water to anyplace other than the waters percolating into
21 or being discharged from the canal into the Goldfields and
22 is strictly used as a mechanism to get water out of and
23 not to convey water through.

24 MR. FRINK: Okay. Has the Department of Fish and
25 Game worked with Yuba County Water Agency in the

CAPITOL REPORTERS (916) 923-5447

2229

1 development of the proposal for a temperature control
2 structure at Englebright Reservoir?

3 MR. NELSON: We have reviewed that and made comments
4 on their initial study and environmental documents, yes.

5 MR. FRINK: Would the Department of Fish and Game
6 support construction of the temperature control device at
7 Englebright Reservoir?

8 MR. NELSON: In fact, we have. That was our
9 comments.

10 MR. FRINK: Okay. Mr. Nelson, I guess this is also
11 a question for you. Mr. Lilly asked you and other members
12 of the panel if you could estimate the effects of
13 implementing the Department of Fish and Game's
14 recommendations on the populations of fish in the Yuba
15 River. And I believe you responded that would be very
16 hard to do.

17 You, also, stated something to the effect about
18 how the minimum flow requirements in the 1965 Agreement,
19 generally, have not represented the flows actually present
20 in the river; is that correct?

21 MR. NELSON: That's correct.

22 MR. FRINK: Is it accurate to say, then, that one of
23 the goals of the Department's recommendations is to
24 prevent the deterioration in the habitat in the Yuba River
25 from the conditions that now exist?

CAPITOL REPORTERS (916) 923-5447

2230

1 MR. LILLY: I'm going to object that there's no
2 evidence that absent action by the Board on the
3 Department's recommendations that a deterioration would
4 occur. So this hypothetical question assumes facts not in
5 evidence.

6 H.O. BROWN: Mr. Cook.

7 MR. COOK: I'm sorry to keep jumping up, but with
8 respect to this, there is substantial evidence from the
9 Department of Fish and Game that the fisheries within the
10 Lower Yuba River are not healthy. That, certainly, I
11 believe there's been testimony to the effect that they
12 would like to see that health increased.

13 And I would say that, historically, I'm sure the
14 fish must have been healthy. If they are unhealthy now,
15 they must have deteriorated. And if they want to improve
16 the health of these fish, one of their goals must be just
17 what was asked. So I think the objection is unfounded.

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

19 I'm going to overrule the objection.

20 MR. NELSON: I'm sorry, would you repeat the
21 question? I apologize.

22 MR. FRINK: Yeah. I believe you stated that,
23 generally, the flows in the Lower Yuba River have exceeded
24 the minimum flows that are required under the 1965
25 Agreement?

CAPITOL REPORTERS (916) 923-5447

2231

1 MR. NELSON: That's correct, from looking at the
2 record, yes.

3 MR. FRINK: If the flows in the Lower Yuba River --
4 hypothetically, if the flows in the Lower Yuba River more
5 frequently approached the minimum flows in the 1965
6 Agreement, do you believe, in general, that would harm the
7 fishery?

8 MR. NELSON: I believe there would be a general
9 decline in the overall fishery, yes.

10 MR. FRINK: So in addition to some of the discussion
11 of improving the conditions in the Lower Yuba River, is
12 one of the goals of the Department's recommendations
13 simply to prevent a deterioration of the conditions that
14 have been there in recent years?

15 MR. NELSON: I think that's a fair characterization,
16 because the fishery has really evolved on what the actual
17 flows have been. And we do not have numbers that are
18 indicative of what the population would have been if the
19 '65 Agreement flows had, actually, occurred. But, yes,
20 your statement is correct, your characterization.

21 MR. FRINK: That's all the questions I have. Thank
22 you.

23 MS. LOW: Thank you. I've got a few questions for
24 you. My first set of questions is for Mr. Nelson and
25 mostly on your Exhibit 1 where you present

CAPITOL REPORTERS (916) 923-5447

2232

1 recommendations.

2 One thing I'd like to get clarified on Page 4 you
3 present temperature recommendations for two different time
4 periods. And I was wondering if these temperature
5 recommendations are intended as upper limits on mean daily
6 temperatures, or, I assume, that's what these temperatures
7 are. I was wondering if could you clarify that.

8 MR. NELSON: Actually, the recommendation is based
9 upon the upper limit that we would recommend not be
10 exceeded at any time. Now, we realize that that is very
11 difficult to meet. And it may be something that we would
12 need to work with all parties to better define what is
13 physically possible within the river.

14 MS. LOW: Okay. So they would be intended as daily
15 maximum -- maximum temperatures --

16 MR. NELSON: That's correct.

17 MS. LOW: -- is that right? Okay. Another thing
18 that I would like to have clarified on your -- let's see,
19 this is also Page 4 of Exhibit 1. Your condition two
20 states that, basically, that flows occurring on September
21 1st should be maintained thereafter to prevent dewatering
22 of redds, et cetera.

23 But the "thereafter" isn't defined within this
24 condition two. Is that intended as being a year-round
25 thereafter, or for this spring-run and spawning and

CAPITOL REPORTERS (916) 923-5447

2233

1 incubation period?

2 MR. NELSON: The absolute best for the fishery would
3 be to maintain that steady flow, or that flow of level
4 from the initiation of spring-run spawning onward, because
5 you also have fall-run that are going to be spawning
6 subsequently thereafter, steelhead.

7 So it would be an extended period of time. But
8 my best professional judgment at this time would say that
9 would probably be early into the following year, with some
10 refinement through an adaptive management process.

11 MS. LOW: Okay. Thank you. Let's see here, the
12 spring flows originally the April/May flows, originally,
13 in your recommendations and also in the staff analysis
14 were based primarily on professional judgment and opinion.

15 Do you see any need for additional outmigration
16 survival studies for either fall- or spring-run chinook
17 salmon to better define the relationship between spring
18 flows and outmigration survival?

19 MR. NELSON: There's always a benefit to having
20 additional information on that. I would add that,
21 additionally, our recommendations for the April/May/June
22 time frame was based upon American shad needs in the lower
23 river in providing flows that would -- that would attract
24 a fair share of American shad to the Lower Yuba River.
25 But -- so those are based upon those needs and that is

CAPITOL REPORTERS (916) 923-5447

2234

1 pretty clear information there. But with respect to
2 juvenile outmigration of salmonids, certainly, more
3 information is better.

4 MS. LOW: Okay. Thank you. You stated earlier that
5 you have been involved, you and Ms. Brown have been
6 involved in the fish salvage operation at the
7 Hallwood-Cordua fish screen for a number of years?

8 MR. NELSON: Between the two of us, yes.

9 MS. LOW: Between the two of you. I'd like to throw
10 an overhead up real quick, if I could. Thank you. This
11 is a relationship that was presented by Yuba County Water
12 Agency in their Exhibit 19. It was on Page 317. And it
13 shows a relationship between the timing of fish salvage at
14 the Hallwood-Cordua fish screen and the average April/May
15 flow near Smartville.

16 Are you familiar with this relationship that they
17 presented?

18 MR. NELSON: I've seen it, yes.

19 MS. LOW: Okay. Was -- in the years that are
20 presented here, this relationship here, do you know if the
21 trap was operated over a consistent time period in each of
22 those years?

23 MR. NELSON: No.

24 MS. LOW: In general.

25 MR. NELSON: No, it was not. I mean -- excuse me

CAPITOL REPORTERS (916) 923-5447

2235

1 while I find my exhibits. I think during the day I have
2 slightly reshuffled things and I'm not as quite organized
3 as the other folks here.

4 What I do know is from 1990 to 1999 the screen
5 has been operated as little as eight days. And I was just
6 trying to see what the last date is up there --

7 MS. LOW: 1994, I believe is.

8 MR. NELSON: There has been substantial -- without
9 going back to the record, there has been a substantial
10 difference in the number of the days operated. For
11 example, I believe it was 1994 we operated the screen
12 eight days, at least, in the early '90s. In the '80s I
13 know there were times when we didn't operate it, where we
14 may have operated it anywhere from a week to several
15 months, a couple months. So it has varied year-by-year.

16 MS. LOW: Quite significantly then?

17 MR. NELSON: Yes.

18 MS. LOW: So since the trap wasn't operated over a
19 consistent time period in each year, and I think you
20 testified earlier that at high flows that the trap was not
21 sampled due to difficulties with -- let's see, I'm not
22 sure exactly why it wasn't sampled, but I think you stated
23 that at higher flows you got lower number of fish salvaged
24 than in those time periods that the trap was not operated;
25 is that correct?

CAPITOL REPORTERS (916) 923-5447

2236

1 MR. NELSON: That's correct. It's strictly a matter
2 of best utilization of our time for the resource in the
3 region. And so we make a judgment call as to whether
4 we're substantially saving fish, or salvaging a few fish
5 and we act accordingly.

6 The other thing to remember in this is that this
7 is not -- there's been no calibration whatsoever of this
8 screen. We have no idea what percentage of fish it is
9 sampling. Also, it is probably slightly with respect to
10 smolts-size fish, in that the screen, the perforated plate
11 openings on the screen are five-thirty-seconds, which are
12 quite large.

13 In very young fish, 35 millimeters or less,
14 they're coming downstream into the screen and are likely
15 not going to show up in the trap. It will probably be
16 impinged on to the screen face itself.

17 MS. LOW: Okay. So could you say that this trapping
18 site is not necessarily representative of the fish
19 outmigrating from the Lower Yuba River?

20 MR. NELSON: It's only a trend indication. And to
21 qualify this with an absolute number of fish passing
22 Daguerre Point Dam at that point, it's not valid to do
23 that.

24 MS. LOW: Okay. Could this relationship be somewhat
25 biased due to the timing that the fish trap was operated

CAPITOL REPORTERS (916) 923-5447

2237

1 in a particular year?

2 MR. NELSON: Well, it would be biased by the time of
3 year and because it's an uncalibrated trap, it is biased.

4 MS. LOW: Okay.

5 MR. NELSON: Not that you can read anything into the
6 numbers, specifically, because it is uncalibrated.

7 MS. LOW: Okay. As an extension of this, in the
8 testimony of South Yuba Water District in their Exhibit 2
9 they use this relationship to present a theory that with
10 higher spring flows, outmigration chinook salmon juveniles
11 may be delayed. And, therefore, in drier years the spring
12 flows are high in the Lower Yuba River outmigration may be
13 delayed to the point where water temperatures are high in
14 the Delta and fish migrating from the Lower Yuba River may
15 experience high mortality through the Delta.

16 Do you have any evidence of decreased survival of
17 juvenile chinook salmon from the Lower Yuba River with
18 increased spring outflows?

19 MR. NELSON: There has been no specific data
20 collected, or any tagging operations of wild fish, there's
21 been nothing done on the Yuba.

22 MS. LOW: So there is no evidence of that. And in
23 returns of fish produced from the Lower Yuba River, you
24 haven't found any trends that there has been any -- has
25 been a detrimental effect of higher spring outflows.

CAPITOL REPORTERS (916) 923-5447

2238

1 MR. LILLY: I'm going to object now. I'm starting
2 to lose my patience here. These are leading questions and
3 it's really not appropriate for staff to be encouraging
4 Fish and Game to build up its case. These are going far
5 beyond questions to clarify prior testimony. I object on
6 those grounds.

7 H.O. BROWN: Thank you, Mr. Lilly.

8 Mr. Frink.

9 MR. FRINK: I'm sorry. I did not hear, or could not
10 repeat the question to understand it. I guess, if Ms. Low
11 could repeat the question, I'd be more in a position.

12 I do think it would be advisable to state things
13 more in a way of a question than with lengthy statements
14 proceeding the question.

15 H.O. BROWN: Mr. Cook, you rise.

16 MR. COOK: Well, I believe the staff is entitled to
17 cross-examination. And I, certainly, don't see any reason
18 why they can't do it.

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

20 Mr. Cunningham.

21 MR. CUNNINGHAM: Mr. Brown, thank you. As you
22 reminded me as well the scope of cross-examination here
23 quite off exceeds that of direct and that is all, as it is
24 properly intended to provide information to the Board.

25 This is an information gathering hearing, not

CAPITOL REPORTERS (916) 923-5447

2239

1 necessarily a straight adversarial proceeding. And, also,
2 I do think that leading questions, as you know it as well
3 as most other people in this room, is a classic form of
4 cross-examination. Such to the extent that this is going
5 to elicit additional information for the Board, I would
6 suggest this is an appropriate question.

7 H.O. BROWN: Thank you, Mr. Cunningham.

8 Mr. Lilly, you get the last say.

9 MR. LILLY: Mr. Cunningham's responses are not on
10 point at all. I did not object on the grounds of beyond
11 the scope of the direct testimony. I objected on the
12 ground that the questions were leading.

13 And I suggest that we follow Mr. Frink's
14 suggestion that these questions be stated in the form of a
15 question rather than in statements followed by a simple,
16 "Do you agree," or "Do you disagree."

17 H.O. BROWN: Let's try the question again and see
18 how it comes out.

19 MS. LOW: I think I got an answer to the question,
20 the main question that I wanted to ask about.

21 H.O. BROWN: Okay. Then, let's move on.

22 MS. LOW: Mr. Nelson, you presented some evidence
23 here of the spring-run redd survey data over a two-week
24 time period in, I think, it was 1999 and 1998?

25 MR. NELSON: Primarily, it's 1999, this last

CAPITOL REPORTERS (916) 923-5447

2240

1 September.

2 MS. LOW: Is there a need for standardized
3 spring-run spawning surveys in the Lower Yuba River over
4 the entire spring-run period?

5 MR. NELSON: Well, there's definitely a need to
6 enumerate spring-run chinook salmon. From the standpoint
7 of spawning timing, I think it is important as well as
8 enumerating adult fish. And probably the best way to do
9 that is truly at Daguerre Point Dam in springtime.

10 MS. LOW: So you'd recommend setting up some kind of
11 an accounting system at Daguerre Point Dam?

12 MR. NELSON: Some type of accounting system and that
13 would also spill over into steelhead.

14 MS. LOW: Okay. This is a question for Ms. McKee.
15 In your Exhibit 13 it stated that to protect spawning
16 adults and incubating eggs water temperatures in August
17 and September at Daguerre Point Dam should be less than or
18 equal to 56 degrees Fahrenheit.

19 But, then, you also report in other exhibits that
20 the majority of spring-run spawning occurs above the
21 Highway 20 bridge, which is quite a few miles upstream
22 from Daguerre Point Dam.

23 Is the temperature objective of 56 degrees needed
24 at the Daguerre Point Dam site in August and September to
25 protect spawning and egg incubation for spring-run when

CAPITOL REPORTERS (916) 923-5447

2241

1 the majority of that spawning occurs quite a distance
2 upstream?

3 MR. NELSON: Can I say something?

4 MS. MCKEE: John can help here as far as where we
5 know the fish to be.

6 MR. NELSON: Actually, the most intensive survey
7 that we did, which was last year, we started on September
8 7th and did a survey distribution of redds by -- on a
9 weekly basis, as I indicated, from about a little over two
10 miles upstream on Highway 20 downstream to Daguerre Point
11 Dam.

12 And if you look at S-DFG-8 it will give you the
13 basic time range of spawning on a given week. And it will
14 give you a location of where those redds were. And in
15 looking at this, the location at least for the initial
16 spawning, is primarily at 20 and above.

17 Although the difficulty becomes discerning -- and
18 I believe as Mr. Minasian and Mr. Lilly brought up --
19 which ones are spring-run, but, obviously, as you progress
20 into the third week of September we are seeing, looking at
21 this real quick, about a dozen and a half of redds that
22 were constructed below the Old Debrie Dam, number six,
23 downstream to Daguerre Point Dam, in that reach.

24 And, actually, if you look on the fourth page it
25 will give you the number of redds constructed in any given

CAPITOL REPORTERS (916) 923-5447

2242

1 site. You are correct, that the early ones are above 20,
2 but there's still approximately 25 percent that were
3 constructed below Highway 20.

4 MS. LOW: So to protect that 25 percent you have set
5 your temperature objectives at Daguerre Point Dam?

6 MR. NELSON: It becomes very difficult as to where
7 you set those. And so, yes, that is, you know, the
8 recommended compliance point. Also, there's been the
9 comment about concentrating the spawning of the fish and
10 having impacts by subsequent fall-run spawning on top of
11 those, and the position would be that the more you
12 disburse these fish, there is a somewhat lesser likelihood
13 that they are going to be impacted by subsequent fish
14 coming in. Potentially, a higher survival from impacts of
15 the superimposition -- or lack of superimposition, excuse
16 me.

17 MS. LOW: Okay. Okay. Thank you.

18 Yeah, Mr. McEwan, I was going to ask you the same
19 question about steelhead spawning surveys. Would you also
20 recommend that to better manage the steelhead population
21 that you have estimates of spawning population?

22 MR. MCEWAN: Yeah. And that's a problem throughout
23 the Central Valley. It's lack of information on that very
24 thing. It's a little more difficult to monitor spawning
25 escapement for steelhead. Probably the biggest reason is

CAPITOL REPORTERS (916) 923-5447

2243

1 they don't necessarily die after they spawn, so you can't
2 do carcass surveys.

3 But there are some things that can be done, in my
4 mind, probably just getting an estimate of run size would
5 help tremendously and knowing how that population is doing
6 and how it responds to various recovering measures, or
7 natural cycles. So, yeah, that is something that can be
8 done in my mind and can be implemented. It's a little
9 more difficult than doing a fish examine, but it's not
10 impossible.

11 MS. LOW: And what methods would you use for
12 steelhead for spawning surveys for adult returns?

13 MR. MCEWAN: Well, I think as I said determining the
14 run size as the fish are moving into the lower river and
15 moving up to the areas that they spawn, would probably be
16 the best method.

17 I think that the methodology that's being used on
18 the North Coast is probably the best. And that's probably
19 the most informative. And that is to put some sort of --
20 I hate to say this -- semipermanent structure in place to
21 monitor the run and count the fish as they're coming up.

22 And the Fish and Wildlife Service is doing this
23 on some of the tributaries on the North Coast where they
24 pour permanent footings for a temporary weir to allow the
25 fish to come in and count the fish. I'm not advocating

CAPITOL REPORTERS (916) 923-5447

2244

1 that, I guess, for the Yuba River until we looked at the
2 feasibility of it. It's a bigger river system and it
3 tends to have much higher flows.

4 But having some sort of thing -- some sort of
5 counting device in place, and it may be just some large
6 Fyke traps would, certainly, help. Putting something in
7 place, we could do something, I think, fairly soon
8 apparently -- fairly soon and just having some sort of
9 device on the fish ladders on Daguerre Dam to monitor
10 passage over Daguerre Dam.

11 So there's -- that's probably the -- would be the
12 most effective, in my mind. You can do redd surveys.
13 Chinook salmon and steelhead redds can be differentiated.
14 Again, that's a little more difficult in that steelhead
15 tend to spawn in high flows and more turbulent flows.

16 So a lot of times you can have problems with
17 that. But I'm kind of pointing out some of the problems
18 associated with it, but I don't want to sound too
19 negative, because I think we can, certainly, get more
20 information on steelhead.

21 MS. LOW: Okay. It is necessary, that would be a
22 good tool for better managing and monitoring the effects
23 of flow or temperature changes?

24 MR. MCEWAN: Certainly, yeah.

25 MS. LOW: How about outmigration studies for

CAPITOL REPORTERS (916) 923-5447

2245

1 steelhead, is the rotary screw trap operation adequately
2 sample outmigrating steelhead as currently operated?

3 MR. MCEWAN: Julie, you may be able to answer that a
4 little bit better.

5 MS. BROWN: I think it does a fairly good job of
6 sampling all the anadromous fish in the river. The
7 constraints of that would be timing and how long -- when
8 the trap would be run. Wouldn't you say, Dennis?

9 You know, if you're going to manage it, run the
10 trap if it's only funded for spring-run chinook, then, you
11 would not run it as things are now. We plan on running it
12 all year long and we do try to enumerate and identify
13 steelhead along with everything in the trap.

14 MS. LOW: Uh-huh.

15 MR. MCEWAN: I think I would like to see maybe a
16 more diversified method. If we had unlimited dollars and
17 unlimited staff, I think it works well for steelhead to
18 use other methods of capture such as beach seining in
19 addition to rotary screw traps.

20 The general thought is that rotary screw traps
21 are not as efficient for steelhead as they are for chinook
22 salmon, because steelhead are larger and better swimmers
23 and when they encounter the traps they can move out of its
24 influence. I would look to the American River as a good
25 example, monitoring that's being done to obtain steelhead

CAPITOL REPORTERS (916) 923-5447

2246

1 information.

2 And in that instance, they do have screw traps
3 and ask they are doing seining and I believe other methods
4 as well to try to look at those, all of the anadromous
5 fish populations as well as the residence.

6 MS. LOW: Okay. Okay. Thank you.

7 I think that's all the questions I have. Thank
8 you very much.

9 MR. MCEWAN: Can I point out one thing?

10 MS. LOW: Uh-huh.

11 MR. MCEWAN: Ms. Low, I don't know the exhibit
12 number, but it is one of our exhibits, "Monitoring
13 Assessment and Research on Central Valley Steelhead." At
14 the -- towards the end of that is a generalized monitoring
15 plan for Central Valley steelhead. So I would encourage
16 you to -- I wanted to point that out. So I want to
17 encourage you to look at that if you're thinking of other
18 studies that may be necessary.

19 MS. LOW: Okay.

20 MR. MCEWAN: That is worth pointing out. S-DFG-30
21 is the Exhibit Number.

22 MS. LOW: Okay. And those methods would apply in
23 the Lower Yuba?

24 MR. MCEWAN: Yes.

25 MS. LOW: Okay. Thank you.

CAPITOL REPORTERS (916) 923-5447

2247

1 H.O. BROWN: All right.

2 Mr. Frink, are you all through?

3 MR. FRINK: Yes. Staff has no additional questions.

4 H.O. BROWN: Okay.

5 Mr. Cunningham, do you have any redirect?

6 MR. CUNNINGHAM: Mr. Brown, I think I will. But may
7 I ask for about a three-minute recess to check to see what
8 my witnesses as well think before we start our redirect?
9 I think it will be very short.

10 H.O. BROWN: Make it five.

11 MR. CUNNINGHAM: Thank you.

12 (Recess taken from 4:46 p.m. to 4:53 p.m.)

13 H.O. BROWN: Okay. We're back on the record.

14 Mr. Cunningham, it looks like you're going to
15 have some redirect.

16 MR. CUNNINGHAM: Yes, sir. I'll try to keep it
17 short and to the point.

18 H.O. BROWN: Okay.

19 ----oOo----

20 REDIRECT TESTIMONY OF THE CALIFORNIA DEPARTMENT

21 OF FISH AND GAME

22 BY MR. CUNNINGHAM

23 MR. CUNNINGHAM: First questions for redirect are
24 for Mr. McEwan, a very specific question. You were asked
25 by Mr. Lilly, I think, to examine the steelhead status

CAPITOL REPORTERS (916) 923-5447

2248

1 report. And, specifically, you were referred to a page
2 within that report, Page 47.

3 Could I ask you to take a copy of that page back
4 out and take a look at that, please.

5 MR. MCEWAN: Got it.

6 MR. CUNNINGHAM: And I believe Mr. Lilly's questions
7 at the time were asking you about whether or not there was
8 any information dealing with actual populations of
9 steelhead on the Yuba River. And I believe Mr. Lilly read
10 a sentence out of Page 47, about three-fourths of the way
11 down, where it talks about a 2,000 number that's
12 mentioned. And I believe he read that and asked you a
13 question about that.

14 Mr. McEwan, are you familiar with that number
15 2,000 in that statement in the report?

16 MR. MCEWAN: Yes, I am.

17 MR. CUNNINGHAM: Are you familiar with how that
18 2,000 number was generated?

19 MR. MCEWAN: I guess I should say, I was not at the
20 time that I wrote this report. The information that I
21 used to gather this report, since it was a statewide
22 report and had such a wide scope, the information that I
23 used was limited. In this case, I got that entirely out
24 of the Yuba River Management Plan that the Department had
25 written.

CAPITOL REPORTERS (916) 923-5447

2249

1 And since that time, I've looked into where that
2 estimate came from in the Management Plan. And, yes, the
3 answer to that question is: Yes, I have looked further
4 into that.

5 MR. CUNNINGHAM: Do you still consider that number
6 in your steelhead status report an accurate depiction of
7 the steelhead population status on the Yuba River?

8 MR. MCEWAN: I would want to say, no, or not as
9 accurate as I thought at that time. That number seems to
10 have been generated, initially, by a report by Worster and
11 Wickwire in 1970 to DFG biologists. And at that time they
12 had estimated the steelhead population in the Yuba River
13 to be 200 adults. And they stated that there was the
14 potential for about 2,000 spawners after completion of New
15 Bullards Bar. So that's where the number 2,000 came from.

16 Now, that was reiterated in a report done by Ron
17 Rogers, a DFG biologist. And that study report -- that
18 study was done in the early 1980's -- excuse me, I think
19 it was, actually, the late 1970's. And the report was
20 issued in 1984.

21 Ron Rogers at that time attempted to quantify the
22 adult run of steelhead into the Yuba River by doing a mark
23 and recapture study. And he estimated using that
24 methodology that the run was just slightly less than 500
25 adults. With the caveat that the study had some vary low

CAPITOL REPORTERS (916) 923-5447

2250

1 problems and that's in the report and he felt that was an
2 underestimate.

3 He tried to, then, look at another way of getting
4 at the run size by looking at harvest rate and the number
5 of fish harvested. He had the number of fish harvested
6 from the previous year and he used what he felt was a
7 harvest rate from that year that he obtained from a kreil
8 study. And knowing harvest rate and harvest can then give
9 you a run size. And he estimated, using that methodology,
10 a run size of about 1500 adults.

11 But, again, recognizing that there was maybe some
12 problems with that methodology, he then stated that -- and
13 I can quote it here -- it represents an unknown part of
14 total harvest and -- because of the harvest estimate
15 represents an unknown part of the total harvest, an
16 estimate of the normal steelhead run as about 2,000 fish
17 seems reasonable. So that's where the 2,000 fish came
18 from.

19 So I think the important points of this is that
20 that estimate of 2,000 adults is tenuous, at best. And
21 even if it is an accurate number, it represents a run size
22 of the mid-1970's, which was 25 years ago. So I don't
23 believe that 2,000 steelhead is a very accurate number.
24 And if I were to rewrite this plan, I would reflect that
25 and qualify it in that respect.

CAPITOL REPORTERS (916) 923-5447

2251

1 MR. CUNNINGHAM: Thank you, Mr. McEwan.

2 Mr. Nelson and Ms. Brown, Mr. Lilly also asked
3 some questions of you. Specifically, for example,
4 Mr. Nelson, I think he asked you about some snorkeling
5 events that you had participated in, or had done on the
6 Lower Yuba River. And you indicated those snorkeling
7 times were not necessarily surveys as such.

8 Can you tell me what you were, actually, trying
9 to accomplish when you were doing that snorkeling?

10 MR. NELSON: Basically, the snorkeling events were
11 for my own professional benefit to really get a sense
12 of -- a feeling of what is going on in the river with
13 respect to fish that are present, you know, where are they
14 located? You know, a general increase in my knowledge of
15 the river of what was going on on any given day in any
16 given year. And that was the entire intent of that.

17 And I would add, that those surveys -- or those
18 events, were on several occasions, conducted with Jones
19 and Stokes staff just to get a sense of what is happening
20 on the river, not to -- not in any attempt to make any
21 estimate, or quantifiable number of anything, or to be
22 qualified or considered a survey reflecting a definitive
23 condition or current estimate.

24 MR. CUNNINGHAM: At the time or times that you were
25 snorkeling in accompaniment with the people from Jones and

CAPITOL REPORTERS (916) 923-5447

2252

1 Stokes, did you see in their snorkel efforts any indicia
2 that there was a formal survey being conducted with the
3 attempt to quantify any kind of final result on the Lower
4 Yuba River?

5 MR. NELSON: That was not my understanding at the
6 time that we actually went out on the river. I believe
7 that, subsequently, to that there were reports generated
8 that were some definitive -- intended to be definitive
9 data, but I would not consider it that.

10 MR. CUNNINGHAM: To the extent you have now seen the
11 results of the studies, or surveys prepared by Jones and
12 Stokes as part of the materials for this proceeding,
13 Mr. Nelson, to your knowledge, did anybody from the
14 Department of Fish and Game ever see the results of any of
15 these studies prior to their appearance at this
16 proceeding?

17 MR. LILLY: And I'm going to object now that this is
18 beyond the scope of cross-examination for this hearing.

19 MR. CUNNINGHAM: Mr. Brown?

20 H.O. BROWN: Mr. Cunningham.

21 MR. CUNNINGHAM: Mr. Lilly asked specifically about
22 whether or not any quantitative studies were done. He
23 also asked about whether any studies were done by the
24 Department on a variety of issues. He further asked about
25 whether any of the Department's efforts to collect

CAPITOL REPORTERS (916) 923-5447

2253

1 information were examined or reviewed.

2 I do think it's appropriate to ask whether or
3 not, at this point in time in clarification of those
4 questions, whether or not the Department itself had any
5 opportunity to see other studies done in the same time as
6 the studies, or lack of studies that Mr. Lilly was trying
7 to examine the Department on.

8 H.O. BROWN: Mr. Lilly.

9 MR. LILLY: Yes. I think Mr. Cunningham has made a
10 very clear distinction here. My questions on
11 cross-examination related to the work done by Department
12 of Fish and Game biologists. And when Mr. Cunningham was
13 asking redirect by Fish and Game's biologists, I did not
14 object.

15 Now he's extending it to the work done on the
16 Lower Yuba River by Jones and Stokes' biologists. And I
17 did not ask any of these witnesses on cross-examination
18 any questions regarding the work done by the Jones and
19 Stokes' biologists.

20 So he is going beyond the scope of the
21 cross-examination. And the Board's rules are clear that
22 redirect is supposed to be limited to the scope of the
23 cross-examination.

24 MR. CUNNINGHAM: Mr. Brown, if I might?

25 H.O. BROWN: Mr. Cunningham.

CAPITOL REPORTERS (916) 923-5447

2254

1 MR. CUNNINGHAM: I'm not asking for an examination
2 of the results, or an evaluation of the results. I think
3 to the extent these witnesses were asked what they did on
4 the river and what the Department did on the river.

5 One of the obvious things the Department could
6 have and should have done on the river was to, at least,
7 participate in the design, or discussion about studies
8 being produced by other agencies out there.

9 These witnesses have had significant experience
10 on the Yuba River and normally would be one of the
11 agencies contacted in participation and presentation of
12 other studies for other work. And my question to them is
13 not what are those results, or what is the interpretation
14 of those results, but whether or not their work on the
15 Yuba River included any contact with others to develop
16 other studies.

17 Mr. Lilly asked them what work they did, whether
18 they did quantitative studies, and what other work they
19 did on the river. Several other cross-examiners also
20 asked what work the Department did on the river.

21 One of my questions is: Was part of that work
22 evaluation of, or relevant of studies done by others? Not
23 what the results are, just did they participate in that
24 initial creation and design.

25 H.O. BROWN: Thank you, Mr. Cunningham.

CAPITOL REPORTERS (916) 923-5447

2255

1 Mr. Lilly, you get the last say.

2 MR. LILLY: Yeah, I'm hearing different things here.
3 I'm hearing participated in the design of the studies.
4 And I'm hearing evaluation and results of the studies. If
5 it's whether or not these witnesses evaluated results of
6 studies from Jones and Stokes, is that part of the data
7 they relied upon to develop their opinions, that is a
8 legitimate question and within the scope of follow-up on
9 cross-examination.

10 I think the other thing about, basically,
11 starting to critique Jones and Stokes' work, or asking
12 whether the Department participated in the development of
13 those, goes beyond that. The scope should be limited to
14 what these witnesses relied on to develop their opinions.

15 H.O. BROWN: Thank you, Mr. Lilly.

16 Let me hear the question as you stated it just
17 the last time.

18 MR. CUNNINGHAM: Okay. I'll see if I can re-ask it.

19 Mr. Nelson, I'll go directly to you and see if we
20 can work this.

21 Have you ever -- and this is very carefully
22 phrased this -- have you ever seen any results of any of
23 the studies presented in this hearing by other
24 participants, specifically, Jones and Stokes prior to this
25 proceeding?

CAPITOL REPORTERS (916) 923-5447

2256

1 MR. NELSON: Can I answer, Mr. Brown?

2 H.O. BROWN: Yes.

3 MR. NELSON: The answer is, yes, I have seen some of
4 the those on occasions when I became aware of them and
5 asked for them, but not all of those, I have not seen, no.

6 MR. CUNNINGHAM: If I might ask a second question,
7 then, on this same line. Do you or Ms. Brown -- were you
8 or Ms. Brown contacted by any party doing studies in
9 preparation for this hearing prior to the preparation and
10 conduct of those studies?

11 MR. LILLY: I'm going to make the same objection I
12 made before. That gets beyond the data of information
13 that these witnesses relied on for their --

14 H.O. BROWN: It's close enough. I'm going to allow
15 the question.

16 MR. NELSON: Repeat it one more time.

17 MR. CUNNINGHAM: Mary, can I get you to read it
18 back, please. I want to make sure I don't go outside the
19 scope.

20 (Whereupon the question was readback by the Reporter.)

21 MR. NELSON: In general the answer is, no, except on
22 really for the fall-run chinook salmon escapement surveys,
23 the adult carcass surveys. That's basically the only
24 study that we participated in, or I participated in in
25 respect to the actual activities that were going to take

CAPITOL REPORTERS (916) 923-5447

2257

1 place.

2 The others that are included as memorandum to
3 Yuba County Water Agency, or other studies indicated in
4 there, no, we were not contacted with respect to the
5 design or methodology of those. Although, I will say we
6 participated by default in that, again, it was my
7 understanding that when we went on the river on some of
8 these snorkel events, it was just to gain a general
9 perspective of the river. And they were not intended for
10 any other function other than that.

11 MR. CUNNINGHAM: Okay. Moving right along, then. I
12 believe Mr. -- I can't remember who asked this question.
13 Mr. Lilly, I think, again, asked questions regarding the
14 operation of the fish screen at Hallwood-Cordua Diversion.
15 And I believe you replied that the Department's operations
16 were limited for a variety of reasons including manpower
17 and money and an allocation of resources.

18 To your knowledge, has either the Yuba County
19 Water Agency, or Hallwood, or Cordua Irrigation Districts
20 ever financed any of the costs of operation of the fish
21 screen at that diversion point?

22 MR. NELSON: No, I'm not aware of any contribution.

23 MR. CUNNINGHAM: Ms. McKee, I know you want to
24 answer this question. I think you were concerned there
25 was some confusion. You were asked, again, I believe

CAPITOL REPORTERS (916) 923-5447

2258

1 by -- I'm sorry, I can't tell you whom -- about some
2 information, several lines of statement contained in, I
3 believe, it was DFG Exhibit 10.

4 And can I have you dig out that exhibit, again,
5 identify it for the record. And help me find where in
6 that record -- I believe, it was on Page 24?

7 MS. MCKEE: Yes, on the bottom of Page 24 and the
8 top of Page 25.

9 MR. CUNNINGHAM: Okay. This might have been
10 Mr. Minasian. I'm sorry, Mr. Lilly, to improperly
11 attribute.

12 There's several statements about impacts, I
13 believe, of cool water. And I believe you had a comment
14 to clarify what was, actually, being done to your
15 knowledge in that study document. If you would,
16 Ms. McKee.

17 MS. MCKEE: Yes. This document is -- U.S. Fish and
18 Wildlife Service has been conducting the temperature
19 tolerance experiments, because of four different runs of
20 chinook salmon and, then, steelhead that spawn in the
21 upper Sacramento River relative to management of the
22 temperature regime in the upper Sacramento River. And the
23 56-degree temperature criterion, which is why we felt that
24 this document was very relevant to this hearing.

25 And the discussion on the bottom of Page 24 and

CAPITOL REPORTERS (916) 923-5447

2259

1 the top of Page 25 that Mr. Minasian put up on the
2 overhead, it's my understanding that the U.S. Fish and
3 Wildlife Service was discussing the balancing relative to
4 what constitutes the best balancing of the temperature
5 regime, where they're striving for greatest survival at
6 the same time recognizing that for different runs there
7 may be a slight retardation in growth rate.

8 But I think it's very important to stress for the
9 record that the U.S. Fish and Wildlife Service concluded
10 that low temperatures that resulted in the greatest
11 survival of fall-run chinook salmon appeared to retard
12 growth. This was not necessarily the case for winter-run
13 chinook salmon.

14 It does appear that there's some difference
15 between runs. And, ultimately, the purpose of this
16 document is because there is a balancing of having full
17 runs in the upper Sacramento River at the same time, same
18 situation we're talking about in the Yuba.

19 And the case here, the ultimate recommendation is
20 that maintaining those low temperatures that you can
21 ultimately protect all of the runs and improve the
22 survival of those runs is the level recommendation, even
23 in the case where there may be slight retardation in the
24 growth of juvenile fall-run chinook salmon, or another
25 run, ultimately, you're maximizing temperature survival.

CAPITOL REPORTERS (916) 923-5447

2260

1 I'm not sure that that is clear.

2 MR. CUNNINGHAM: Mr. Nelson, I've got another
3 question for you. At some point in time you were asked
4 your opinion about whether or not there are spring-run
5 chinook salmon in the Yuba River. And I think,
6 unfortunately, you replied with a double negative.

7 Could you tell me, in your opinion, are there
8 spring-run chinook salmon in the Yuba River?

9 MR. NELSON: Yes. I apologize for that
10 inconsistency, but, yes, I do believe there are based upon
11 the timing of adult migration and the oversummering adults
12 as well as the spawning that occurs.

13 MR. CUNNINGHAM: And, then, I believe, also, for the
14 panel in general there was a staff question to you about
15 the selection of -- or what the temperature criteria for
16 the Department are supposed to be, whether they are daily
17 maximums, means, or others.

18 Mr. Nelson, perhaps, you can help me clarify.
19 Are the proposals of the Department are they maximum daily
20 temperatures at the points identified?

21 MR. NELSON: Our recommendations are for daily
22 maximum temperatures, because this is what we believe the
23 information indicates is the acceptable as an upper limit.

24 MR. CUNNINGHAM: And these are not optimal
25 temperatures, these are upper limit temperatures?

CAPITOL REPORTERS (916) 923-5447

2261

1 MR. NELSON: That's correct.

2 MR. CUNNINGHAM: The last question, again, I think
3 is a State Board one. And this goes to questions raised
4 by, I believe, Mr. Brown of the Board, and Mr. Minasian as
5 well and that's on the impacts of our proposal and whether
6 or not our proposal, or any proposal should be delayed for
7 additional studies.

8 Mr. Nelson, is it your understanding that the
9 Department has some desire to see changes in flows in
10 protection for fish in an immediate rather than in a
11 delayed fashion?

12 MR. NELSON: Yes. Our recommendation was that the
13 draft recommendation -- the recommendations in the Draft
14 Decision are the minimum that should be implemented
15 immediately as well as the additional recommendations that
16 we have made.

17 MR. CUNNINGHAM: Would you have any objection to
18 postponing the implementation of those flows for any
19 period of time while additional studies are conducted?

20 MR. NELSON: We should not postpone it for
21 additional studies. We've had -- we've had eight years
22 plus since the last hearing and no changes since then. I
23 believe it is imperative -- we've had eight years of delay
24 already. It is imperative that we implement these flow
25 recommendations, or these recommendations. We have had

CAPITOL REPORTERS (916) 923-5447

2262

1 the listing of two species since then and I believe that
2 it is not appropriate to wait.

3 MR. CUNNINGHAM: I have no further questions on
4 redirect.

5 Thank you, Mr. Brown.

6 H.O. BROWN: All right. Thank you, Mr. Cunningham.

7 Let's see hands of who wants to recross. Two.

8 How much time, Mr. Minasian?

9 MR. MINASIAN: Five minutes.

10 H.O. BROWN: Mr. Lilly?

11 MR. LILLY: Less.

12 H.O. BROWN: Thank you, Mr. Lilly.

13 Mr. Lilly, why don't you go first.

14 ---oOo---

15 RE-CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT

16 OF FISH AND GAME

17 BY YUBA COUNTY WATER AGENCY

18 BY MR. LILLY

19 MR. LILLY: Mr. McEwan, in response to
20 Mr. Cunningham's questions you elaborated on the accuracy,
21 or the margin of error of the 2,000 adult steelhead
22 population estimate that was listed in your report and had
23 been in a 1984 memo.

24 My question is: Have there been any other
25 estimates of adult steelhead populations in the Yuba River

CAPITOL REPORTERS (916) 923-5447

2263

1 since 1984?

2 MR. MCEWAN: To my knowledge, no, there has not.

3 MR. LILLY: If I may have just a moment here.

4 Mr. Nelson, did you accompany the Jones and Stokes
5 biologists every time they did any of their professional
6 fieldwork on the Yuba River?

7 MR. NELSON: No.

8 MR. LILLY: And, Mr. Nelson, do you know how many
9 degrees Fahrenheit -- temperatures on the Lower Yuba River
10 fluctuate on an average day during the summer?

11 MR. NELSON: It's dependent upon flow. It does
12 fluctuate, yes.

13 MR. LILLY: Okay. Do you have any estimate as to
14 how much? Obviously, this is significant if you're
15 proposing a maximum temperature rather than a daily
16 average.

17 MR. NELSON: I have some -- I have some concept of
18 the order of magnitude. I can't tell you exactly how many
19 degrees on any given day with given flow, but I've seen it
20 fluctuate up to five degrees.

21 MR. LILLY: So does that mean the maximum is five
22 degrees above the average, or is that five degrees between
23 the minimum and the maximum?

24 MR. NELSON: Well, what I have seen is, basically,
25 the maximum fluctuation.

CAPITOL REPORTERS (916) 923-5447

2264

1 MR. LILLY: So the difference between the minimum
2 and maximum has been up to five degrees?

3 MR. NELSON: Yes.

4 MR. LILLY: Okay. Thank you.

5 I have no further questions.

6 ---oOo---

7 RE-CROSS-EXAMINATION OF THE CALIFORNIA DEPARTMENT

8 OF FISH AND GAME

9 BY SOUTH YUBA WATER AGENCY

10 BY MR. MINASIAN

11 MR. MINASIAN: Mr. Nelson, following up on the
12 question relating to the daily fluctuations, there's also
13 a difference between the temperature at Englebright and
14 the temperature at Daguerre in terms of the warming of the
15 water that flows down river, is there not?

16 MR. NELSON: In the summertime, or when ambient air
17 temperatures are warm, that's correct.

18 MR. MINASIAN: Right. So you could effectively --
19 by trying to maintain a 56-degree standard on 24-hour
20 basis at Daguerre, you could effectively get water
21 temperatures immediately below Englebright in the range of
22 about 42 to 43 degrees, could you not?

23 MR. NELSON: I don't know. I don't have information
24 to substantiate that one way or the other.

25 MR. MINASIAN: Okay. Do you think it would be

CAPITOL REPORTERS (916) 923-5447

2265

1 valuable to know that before the Board implemented such a
2 standard?

3 MR. NELSON: Yes. I think that information is
4 available.

5 MR. MINASIAN: Do you think it would be valuable to
6 know whether or not at various life stages such a
7 temperature would, in fact, cause mortality even to
8 embryos?

9 MR. NELSON: I believe we need to look at the
10 temperature range. And I believe that Ms. McEwan --
11 Ms. McKee, I started to say --

12 MS. MCKEE: McEwan?

13 MR. NELSON: I apologize, has indicated basically
14 what those are. And I do believe that it is within that,
15 in that that is typically the condition that is within
16 that temperature range. I don't think we're looking at
17 mortalities associated with low-end temperature.

18 MR. MINASIAN: Okay. Do you think that a 42 to 44
19 degree temperature at Englebright throughout the summer
20 would retard the growth of fish that are rearing in that
21 area?

22 MR. CUNNINGHAM: Mr. Brown, if I might?

23 H.O. BROWN: Mr. Cunningham.

24 MR. CUNNINGHAM: I believe that goes beyond the
25 scope of my redirect.

CAPITOL REPORTERS (916) 923-5447

2266

1 MR. MINASIAN: It probably -- I'll confess. Let's
2 do one final --

3 H.O. BROWN: Just took a shot, right?

4 MR. MINASIAN: Yeah. Let's just do one final
5 examination of the U.S. Fish and Wildlife study. Deborah,
6 do you see at the bottom of Page 25 the following
7 language,
8 (Reading):

9 "In the absence of better data, fall-run should
10 not be used as a surrogate for winter-run
11 chinook salmon temperature in temperature
12 studies. Tolerances may differ between runs."

13 Does that indicate to you that it's fair to
14 characterize the U.S. Fish and Wildlife study as equally
15 applicable to some situation where you're trying to raise
16 both spring-run and fall-run?

17 MS. MCKEE: I think the very point that it makes:
18 That you need to have run specific information, is why
19 it's so important to this hearing.

20 MR. MINASIAN: Good. And you'd agree,
21 scientifically, that that's your opinion, you ought to
22 have run specific information?

23 MS. MCKEE: As best that we can.

24 MR. MINASIAN: That's why that colored bar chart was
25 so helpful to all of you in your referring to it

CAPITOL REPORTERS (916) 923-5447

2267

1 throughout your testimony, weren't you?

2 MS. MCKEE: Yeah.

3 MR. MINASIAN: This is confusing, isn't it?

4 MS. MCKEE: I liked it when we placed all four of
5 them on top of each other.

6 MR. MINASIAN: And we don't have run specific
7 information for steelhead, winter-run -- steelhead,
8 spring-run, and fall-run on the Yuba River in these
9 various conditions that are being proposed, do we?

10 MS. MCKEE: Not necessarily. The temperatures we
11 recommended for spring-run -- and there are studies to
12 support specific information on spring-run. I don't
13 believe that the temperature tolerances of spring-run in
14 the Yuba River are going to dramatically differ from
15 something on, let's say, the upper Sacramento River.

16 If we had winter-run in the Yuba, I would say
17 that the winter-run information from the Upper Sacramento
18 would apply to that. I wouldn't say that we can
19 necessarily just assume what's good for fall-run is going
20 to be good for spring-run.

21 MR. MINASIAN: Do you agree the temperature criteria
22 that you're seeking for spring-run is designed for -- and
23 based on your experience -- on Butte Creek, Big Chico
24 Creek, creeks which have high elevation water sources?

25 MS. MCKEE: No.

CAPITOL REPORTERS (916) 923-5447

2268

1 MR. CUNNINGHAM: Mr. Brown, again, if I might. I
2 think this goes beyond the scope of my redirect.

3 H.O. BROWN: I think it is moot right now,
4 Mr. Cunningham.

5 MR. CUNNINGHAM: I'm sorry. Thank you, sir.

6 H.O. BROWN: I'm presume you're through,
7 Mr. Minasian?

8 MR. MINASIAN: Yes. Thank you.

9 H.O. BROWN: Okay. Mr. Cunningham, do you have any
10 exhibits that you would like to offer into evidence?

11 MR. CUNNINGHAM: Yes, sir, I do, please. At this
12 time we'd like to offer into evidence Department of Fish
13 and Game's S-DFG-1 through 37. Mr. Mono is shaking his
14 head. I think we had two additional exhibits that have
15 been identified as ours since the proceedings began.

16 MR. FRINK: Correct.

17 MR. CUNNINGHAM: So I'd ask for 1 through 37,
18 please.

19 H.O. BROWN: 1 through 37, Ernie, does that compile
20 with your --

21 MR. FRINK: Yes, sir.

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

24 Mr. Lilly?

25 MR. LILLY: Before we go through objections, could

CAPITOL REPORTERS (916) 923-5447

2269

1 we just have Mr. Mono tell us what 36 and 37 are? I'm
2 trying to keep track, but there's a lot of --

3 MR. FRINK: Exhibit --

4 H.O. BROWN: Microphone.

5 MR. FRINK: Exhibit S-DFG-36 is the 1999 Technical
6 Report, Steelhead, Chinook Salmon Bioenergetics
7 Temperature Ration and Genetics Effects; and S-DFG-37 is
8 the proposed 40-D Rule for steelhead.

9 MR. LILLY: Thank you.

10 H.O. BROWN: All right. Does that take care of your
11 concern, Mr. Minasian? Any objections?

12 MR. LILLY: I do have some objections, but
13 Mr. Minasian can go first if you want to -- I'll go
14 first -- why don't you go first? I need a moment to look
15 through this.

16 H.O. BROWN: Mr. Minasian, why don't you go first.

17 MR. MINASIAN: I don't think it is proper to receive
18 the 4D as evidence offered by DFG of anything. You can
19 take public record notice of it if you wish. If the Board
20 finds that there is any information in there that's
21 relevant to this proceeding.

22 But the fact that a species has been treated by a
23 federal agency it is not binding in any way on this Board,
24 has no effect on water rights. And this is a water right
25 proceeding.

CAPITOL REPORTERS (916) 923-5447

2270

1 So my suggestion is that it not be accepted as an
2 exhibit offered and you can make a determination of
3 whether you want to take public notice, or record notice
4 of it, but it not be an exhibit.

5 H.O. BROWN: Mr. Lilly, do you wish to address 4G?

6 MR. LILLY: Excuse me?

7 H.O. BROWN: Do you wish to address that issue, 4G?

8 MR. CUNNINGHAM: 4D.

9 H.O. BROWN: Or D, rather?

10 MR. LILLY: Yes, Mr. Brown. I have others as well.
11 But on that particular exhibit the Board's previous ruling
12 was that certain National Marine Fisheries Service Federal
13 register notices would be accepted into the record. And
14 at that point we raised the objection that while these can
15 be admitted into the record for background information
16 purposes, they're clearly hearsay with the authors of the
17 documents not present as witnesses in this hearing.

18 So we request that the Board give it that same
19 treatment. It can be accepted into the record for
20 background information, but subject to the limitations on
21 the use of hearsay evidence as specified in Government
22 Code, I believe, it's Section 11.513.

23 H.O. BROWN: Mr. Cunningham, do you object to that?

24 MR. CUNNINGHAM: Sir, in part we identified the Rule
25 4D proposal for NMFS as our exhibit just because that was

CAPITOL REPORTERS (916) 923-5447

2271

1 suggested to us by staff. We brought it because the
2 matter had not otherwise been identified as an exhibit by
3 anybody in these proceedings.

4 It is clearly preferably conditionally noticeable
5 as a publication in the Federal -- as identified in the
6 Federal register. I would suggest that whether it's
7 identified as our exhibits, or the Board's Staff Exhibit
8 it should have some kind of identifier attached to it for
9 future reference by the Board and staff.

10 We offered our exhibit number just as a way to
11 identify that document. I would further suggest that that
12 document is considered as material by this Board as are
13 any other published document, report, or peer reviewed
14 survey, or study. And that, although, it may contain
15 hearsay information under Government Code 11.513, that
16 hearsay information may be examined and incorporated into
17 a decision by this Board. It cannot only and simply be
18 the sole ground for the basis for a decision by this
19 Board.

20 H.O. BROWN: Thank you, Mr. Cunningham.

21 Mr. Baiocchi.

22 MR. BAIOCCHI: Mr. Brown, I would agree with
23 Mr. Cunningham, but I want to go further. CSPA and others
24 sued NMFS concerning that 4D Rule, because they just
25 wouldn't announce it. It's finally been announced.

CAPITOL REPORTERS (916) 923-5447

2272

1 So we've been a direct party to having them not
2 only notice that 4D Rule, but to implement it. I don't
3 know if that's important at this hearing, but we are the
4 complainants at this hearing. So, again, I agree with
5 Mr. Cunningham.

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

7 Mr. Frink, do you have a suggestion on this one?

8 MR. FRINK: Yes. I believe the document is
9 judiciously noticeable. Giving it an exhibit number for
10 purposes of identification will be helpful for everybody.
11 And I would agree that any applicable restrictions on the
12 use of hearsay would apply since the Federal officials
13 involved in the development of it did not present the
14 document and were not available for cross-examination on
15 it.

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

17 I concur with you. And on that basis, I will
18 admit 4D into evidence. Any other objections?

19 MR. LILLY: I'm now ready and I appreciate your
20 giving me the time to go through these 37 exhibits. I
21 just have a similar objection to four other Fish and
22 Game's exhibits. And those are S-DFG-10, 15, 16, and 31.

23 And all of these are documents prepared by other
24 parties who were not witnesses to this hearing. And,
25 again, I understand with this Board's liberal rules on

CAPITOL REPORTERS (916) 923-5447

2273

1 evidence, those could be accepted into the record. But I
2 do object to the use of hearsay statements in those
3 documents beyond the extent that the use of hearsay is
4 allowed by Government Code Section 11.513.

5 H.O. BROWN: All right. Mr. Lilly, your concerns
6 are noted on the record. And on that basis I'm going
7 to --

8 MR. CUNNINGHAM: Mr. Brown, I'm sorry. Can I have a
9 comment on Mr. Lilly's objections?

10 H.O. BROWN: I was going to allow them into
11 evidence, do you wish to change my mind?

12 MR. CUNNINGHAM: No. I just wanted to clarify a
13 point in that as to S-DFG-15 I believe Ms. McKee was the
14 primary author of the spring-run status review. Also --
15 well, at least one of my other witnesses was also part
16 author to one of these. So to the extent we are going to
17 talk about these as hearsay, I wanted to make sure that
18 the Board understood that these are not hearsay documents
19 to the extent my witnesses had actually --

20 H.O. BROWN: That's number 15?

21 MR. CUNNINGHAM: 15 and -- John?

22 MR. NELSON: 15 as well --

23 MR. CUNNINGHAM: 15 and 16.

24 H.O. BROWN: 15 and 16?

25 MS. MCKEE: Yeah. 16, I made that.

CAPITOL REPORTERS (916) 923-5447

2274

1 H.O. BROWN: All right. Mr. Lilly, we have some of
2 the authors here on 15 and 16, do you wish to change your
3 objection?

4 MR. LILLY: Just a minute here. I do not change my
5 objection, I stand by my objection. I just -- I think
6 that the evidence so far is that for 15 and it looks like
7 16 is a copy of a page from 15.

8 There were numerous authors. And we have not
9 received evidence that the witnesses here were the primary
10 authors of that. And there's, certainly, no way we can
11 call out which statements in these lengthy reports were
12 prepared by witnesses who are here today and which are
13 not.

14 H.O. BROWN: Thank you, Mr. Lilly.

15 Mr. Frink.

16 MR. FRINK: Mr. Brown, expert witnesses are allowed
17 to consider hearsay evidence in the development of their
18 own expert opinions. And to the extent that these
19 documents provide a basis, or explanation for the opinions
20 of the experts, I think it was appropriate to -- it would
21 be appropriate to accept them into evidence, recognizing
22 the limitations that the actual authors of the report were
23 not here. But there are different rules that apply to
24 consideration of evidence by expert witnesses.

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

CAPITOL REPORTERS (916) 923-5447

2275

1 On 10, 15, 16, and 31, then, I will admit those
2 into evidence with the concerns as expressed by you,
3 Mr. Frink.

4 With all the other exhibits, are there any other
5 objections? Then, I will admit them into evidence.

6 Mr. Minasian, you rise.

7 MR. MINASIAN: South Yuba Number 3 is a copy of the
8 Agreement between South Yuba and DFG and the attached
9 stipulated judgment and exhibits, I would ask for
10 admission. It was admitted in the '92 hearing, but we
11 need to have a clear record in this proceeding as well.

12 H.O. BROWN: All right. Is there any objections?
13 Seeing none, that's admitted, Mr. Minasian.

14 All right --

15 MR. LILLY: Mr. Brown, before we wrap up today there
16 was a lengthy colloquy about an hour ago where you raised
17 some questions and several attorneys gave their responses.
18 I patiently waited my turn and then the decision was made
19 to proceed.

20 And considering the hour, I'm not going to make a
21 response now. I think you probably have forgotten exactly
22 what the issues were on that, since so much has happened
23 since then. But I do want the record to be clear that we
24 also have concerns and will raise those at the appropriate
25 time, either during the hearing or at closing briefs.

CAPITOL REPORTERS (916) 923-5447

2276

1 There is one major concern though that was raised
2 by a comment from Mr. Frink that I do think we need to
3 address today. And that is Mr. Frink commented that at
4 this point the State Board can, basically, go have the
5 Department of Resources go do additional hydrologic
6 analysis, if that's deemed appropriate. And I just want
7 clarification: If the State Board decides to do that, it
8 will be done through the hearing process and not as an
9 ex-parte communication?

10 H.O. BROWN: Yes.

11 MR. FRINK: Mr. Brown?

12 H.O. BROWN: Mr. Frink.

13 MR. FRINK: Yes. I did have a communication from
14 Mr. Sandino from the Department of Water Resources. And
15 he was going to cc the other parties. I don't believe
16 that they've received that, yet. But, in essence, it was
17 a memo that explained that Dr. Aurora had not been and
18 would not be involved in the development of any evidence,
19 or positions that the Department of Water Resources may
20 introduce or take as a part of this hearing process.

21 That Dr. Aurora's role was solely limited to
22 doing modeling that the Division of Water Rights, or staff
23 of the State Board have requested. So in that sense, he
24 is no longer serving and has not been serving as a member
25 of the staff of the Department of Water Resources for

CAPITOL REPORTERS (916) 923-5447

2277

1 developing any information that the Department may present
2 in this proceeding.

3 And it's our expectation that we may well rely
4 upon Dr. Aurora to run some other model runs. The model
5 has been introduced and accepted into evidence. Yuba
6 County Water Agency has indicated that they believe that
7 the model is an appropriate way to evaluate things. And
8 in the event the Board desires, we may have Dr. Aurora as
9 an augmentation of staff or essentially a consultant to
10 staff use the model to help in evaluating the evidence
11 that's already in the record.

12 H.O. BROWN: Mr. Lilly.

13 MR. LILLY: That partially, but not totally
14 addresses my concern. I'll just put it in simple terms:
15 At the beginning of the hearing Dr. Aurora testified to
16 some exhibits that had been submitted and reviewed by all
17 the parties.

18 If there are additional modeling runs that the
19 Department does that the State Board is going to consider
20 in its deliberation, that process should be followed
21 again. And we request that it will be followed again if
22 there's additional modeling work done by DWR by Dr. Aurora
23 or anybody on his staff.

24 H.O. BROWN: Mr. Frink.

25 MR. FRINK: I don't believe that's required. The

CAPITOL REPORTERS (916) 923-5447

2278

1 model is a tool that can be used to evaluate evidence that
2 has been offered into the record, or will be offered into
3 the record. And just as the Board's analysis of that
4 evidence is not subject to cross-examination, I don't
5 believe that the modeling runs themselves are subject to
6 cross-examination.

7 There was extensive cross-examination and
8 testimony regarding the model. And the model was accepted
9 by Yuba County Water Agency, in fact, developed by their
10 consultants as being an appropriate way to evaluate the
11 impacts of various flows on various uses of water. So I
12 think it comes within the realm of evaluation of the
13 evidence and not new evidence.

14 H.O. BROWN: Yes.

15 MR. LILLY: I just want to clarify: Our concern is
16 not the model. Our concern is the running of the model
17 and the generation of output. With something of this
18 complexity, there is the potential of error. And that's
19 why we want to have an open process so we can make sure
20 there are no errors.

21 H.O. BROWN: Mr. Minasian.

22 MR. MINASIAN: This is akin to a judge coming in
23 after the trial and running a demonstration model that's
24 been produced by the parties and concluding from that
25 something totally different occurred.

CAPITOL REPORTERS (916) 923-5447

2279

1 We need to be a part of it. And there are
2 people, other than the agency, whose life blood depends on
3 what interpretations are made out of this model. So this
4 is part of the evidentiary process. You couldn't do it if
5 you had a black robe on you.

6 Mr. Brown, my suggestion is don't do it without
7 having a hearing in regard to it.

8 H.O. BROWN: Mr. Frink.

9 MR. FRINK: I would say it's more akin to doing a
10 series of calculations, but using a computer model which
11 has been accepted as acceptable to do those calculations.
12 And judges do do calculations, they do extensive
13 calculations. The Board has relied on the use of models
14 before to evaluate evidence that's already been in the
15 record.

16 H.O. BROWN: All right. We'll hold any ruling on
17 that. But we understand your concerns and we share those
18 concerns, the Board truly does, to make sure that we
19 proceed in the spirit of the hearing for all of the
20 parties.

21 And sometimes we have to use the best sources of
22 information that's available to us. And in this case it
23 looks like the person that can run that model happens to
24 be employed by the Department. And I'm sure that Mr.
25 Frink will make sure that -- we just want the information

CAPITOL REPORTERS (916) 923-5447

2280

1 and nothing else.

2 Isn't that right, Mr. Frink?

3 MR. FRINK: Yes, that's right.

4 H.O. BROWN: But it helps. This is a difficult
5 process, at best. And it helps for those concerns to be
6 voiced from time to time and we do appreciate that.

7 But we won't have -- we don't want any parties
8 walking away from this hearing thinking that they did not
9 have the opportunity to be heard and that they weren't
10 treated fairly, that's primary.

11 Some other things, we have some new dates.

12 Mr. Frink, what are the new dates?

13 MR. FRINK: I believe Mr. Mona would be the one to
14 get that accurate.

15 H.O. BROWN: All right, Mr. Mona.

16 MR. MONA: In addition to the two additional days
17 that we already scheduled, which are May 1st and May 2nd,
18 the two additional dates, if we need them, will be May
19 16th and May 17th.

20 H.O. BROWN: All right, May 16th and May 17th at
21 9:00 starting on the 16th here. There's a couple other
22 issues. Rebuttal: Rebuttal, you gentlemen, know and
23 ladies, know as well as I do it's to be on the issues that
24 were presented in direct. While we're very liberal in
25 cross, we are not all that liberal in rebuttal and

CAPITOL REPORTERS (916) 923-5447

2281

1 recross.

2 So make sure that rebuttal pertains to the
3 direct. Mr. Lilly, had a question the other day that we
4 had moved Fish and Game to the last of the agenda to
5 accommodate Mr. Nelson, which we did.

6 Normally, the plaintiffs present their case up
7 front and, then, the defendants, so to speak in this case,
8 have a chance to respond. I'm about to rule on this.

9 Do either, Mr. Lilly, or, Mr. Cunningham, have
10 anything further you wish to add?

11 MR. LILLY: Nothing further.

12 H.O. BROWN: Mr. Cunningham?

13 MR. CUNNINGHAM: Nothing further, your Honor.

14 H.O. BROWN: All right. Mr. Cunningham, you're
15 moved in the agenda. You will be heard after Mr. Gee and
16 the Department of the Interior on the rebuttal.

17 MR. CUNNINGHAM: All right, Mr. Brown.

18 H.O. BROWN: All right. This -- Mr. Minasian?

19 MR. MINASIAN: May I ask for a clarification on
20 this? In a trial, if the judge examines witnesses we get
21 to rebut that. The staff has examined aggressively and
22 very confidently witnesses, that I deem to be on your
23 behalf, Mr. Brown. May we rebut that evidence as well?

24 H.O. BROWN: Anything that staff questions, they
25 asked either side, or either party you may, certainly,

CAPITOL REPORTERS (916) 923-5447

2282

1 address those issues.

2 MR. MINASIAN: Thank you.

3 H.O. BROWN: Anything further?

4 Mr. Cook.

5 MR. COOK: I'm not quite sure on the rebuttal
6 restrictions, but it would seem that because of the
7 approach being taken on cross by numerous parties that
8 there is testimony that has come out by all of the parties
9 which has never been responded to by those who had
10 previously presented their cross-examination.

11 And I'm wondering if it isn't -- if it shouldn't
12 be that we would be entitled to rebut testimony and
13 evidence that was presented by parties after those of us
14 who had finished our cross-examination.

15 I'm not sure I've made that clear, but I think
16 there might be a problem there that would be evidence
17 coming out that some of us would never have an opportunity
18 to rebut.

19 H.O. BROWN: You may rebut that.

20 MR. COOK: Thank you.

21 H.O. BROWN: Any further questions? And I'm sure if
22 it's strays from the direct too much, that there will be
23 someone here to call our attention to it.

24 Thank you all so much for a long and hard day.
25 And we're adjourned until the 1st of May.

CAPITOL REPORTERS (916) 923-5447

2283

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

(The proceedings concluded at 5:44 p.m.)

---oOo---

CAPITOL REPORTERS (916) 923-5447

2284

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) ss.
COUNTY OF SACRAMENTO)

I, MARY R. GALLAGHER, certify that I was the Official Court Reporter for the proceedings named herein, and that as such reporter I reported in verbatim shorthand writing those proceedings; that I thereafter caused my shorthand writing to be reduced to typewriting, and the pages numbered 1987 through 2285 herein constitute a complete, true and correct record of the proceedings.

IN WITNESS WHEREOF, I have subscribed this certificate at Sacramento, California, on this 7th day of April, 2000.

MARY R. GALLAGHER, CSR #10749

CAPITOL REPORTERS (916) 923-5447

2285

