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 Attorneys for Blue Lakes Trout Farm, Inc.

BEFORE THE DEPARTMENT OF WATER RESOURCES OF
 THE STATE OF IDAHO

_____)
 IN THE MATTER OF DISTRIBUTION OF)
 WATER TO WATER RIGHTS NOS.)
 36-07210, 36-07427, AND 36-02356A)
)
Blue Lakes Delivery Call)
 _____))
 IN THE MATTER OF DISTRIBUTION OF)
 WATER TO WATER RIGHTS NOS.)
 36-04013A, 36-04013B, AND 36-07148)
 (SNAKE RIVER FARM))
)
Clear Springs, Snake River)
Farm Delivery Call)
 _____))

**THIRD AFFIDAVIT OF
 DANIEL V. STEENSON RE.
 IGWA's MOTIONS IN LIMINE
 AND FOR PARTIAL
 RECONSIDERATION**

STATE OF IDAHO)
) ss
 COUNTY OF ADA)

DANIEL V. STEENSON, being first duly sworn upon his oath, deposes and says that:

- Attached hereto as **Exhibit A** is a true and correct copy of the deposition transcript of Karl J. Dreher, Vol. I.

2. Attached hereto as **Exhibit B** is a true and correct copy of the deposition transcript of Karl J. Dreher, Vol. II.

3. Attached hereto as **Exhibit C** are true and correct copies of the *Affidavit[s] of David R. Tuthill, Jr.*, and the *Report[s] Regarding IDWR's Recommendation of Fish Propagation Facility Volume* filed in SRBA subcases involving water rights owned by Blue Lakes Trout Farm ("Blue Lakes") and Clear Springs Foods Inc. ("Clear Springs").

4. Attached hereto as **Exhibit D** is a true and correct copy of the North Snake Ground Water District's ("NSGWD") *Reply Brief in Support of Motion to Alter or Amend* filed in the SRBA subcase involving Blue Lakes' water rights.

5. Attached hereto as **Exhibit E** is a true and correct copy of the NSGWD's *Brief in Support of Notice of Challenge (Consolidated Issues)* filed the SRBA consolidated subcases on IDWR's recommendations to include facility volume in the decrees for fish propagation water rights

6. Attached hereto as **Exhibit F** is a true and correct copy of the *Affidavit of Brett Rowley*, a Texas fish propagator, filed in the SRBA by NSGWD in support of its Notice of Challenge on the facility volume issue.

7. Attached hereto as **Exhibit G** is a true and correct copy of portions of NSGWD's *Reply Brief in Support of Notice of Challenge (Consolidated Issues)*, filed in the SRBA Subcase on the facility volume issue.

8. Attached hereto as **Exhibit H** is a true and correct copy of the SRBA District Court's *Order on Challenge (Consolidated Issues) of "Facility Volume" Issue and "Additional Evidence" Issue*.

9. Attached hereto as **Exhibit I** are true and correct copies of the following email correspondence between counsel in this proceeding regarding discovery:

- (1) an October 1, 2007 email from Candice McHugh, with attached schedule;
- (2) an October 15, 2007 email from Candice McHigh;
- (3) an October 22, 2007 email from myself to Candice McHugh;
- (4) a November 5, 2007 email from Randy Budge, and
- (5) a November 6, 2007 email from Randy Budge.

10. Attached hereto as **Exhibit J** is a true and correct copy of the News Release by the Idaho Department of Water Resources dated April 30, 2007.

11. Attached hereto as **Exhibit K** is a true and correct copy of IGWA, MVGWD and NSGWD's *Complaint for Declaratory Relief, Writ of Prohibition, Temporary Restraining Order and Preliminary Injunction* dated May 7, 2007.

12. Attached hereto as **Exhibit L** is a true and correct copy of the Jerome County District Court's *Order Dismissing Application for Temporary Restraining Order, Complaint for Declaratory Relief, Writ of Prohibition and Preliminary Injunction* dated June 12, 2007.

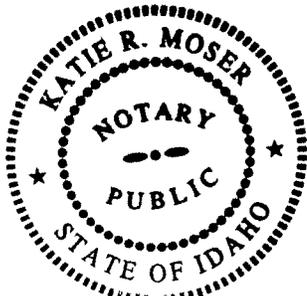
Further your affiant sayeth naught.

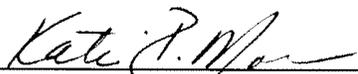
Dated this 27th day of November, 2007.



Daniel V. Steenson

Sworn to and subscribed before me this 27th day of November, 2007.





Notary Public for Idaho
Residing in Boise, Idaho
My Commission Expires: 2/20/08

CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of November, 2007, I served a true and correct copy of the foregoing by delivering the same to each of the following individuals by the method indicated below, addressed as follows:

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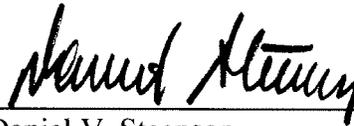
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Daniel V. Steenson

EXHIBIT A

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF)
WATER TO WATER RIGHT NOS.)
36-02356A, 36-07210, AND 36-07427)
(Blue Lakes Delivery Call).)

_____)

IN THE MATTER OF DISTRIBUTION OF)
WATER TO WATER RIGHT NOS.)
36-04013A, 36-04013B, AND)
36-07148 (SNAKE RIVER FARM);)
(Clear Springs Delivery Call).)

_____)

DEPOSITION OF KARL J. DREHER, P.E.

October 31, 2007

Volume I, Pages 1 - 157

REPORTED BY:

COLLEEN P. KLINE, CSR No. 345

Notary Public

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1 DEPOSITION OF KARL J. DREHER, P.E. was
 2 taken on behalf of the IGWA, Inc., at the offices
 3 of the Idaho Department of Water Resources,
 4 located at 322 E. Front Street, 6th Floor, Boise,
 5 Idaho, commencing at 9:05 a.m., on October 31,
 6 2007, before Colleen P. Kline, Certified
 7 Shorthand Reporter and Notary Public within and
 8 for the State of Idaho, in the above-entitled
 9 matter.

10 APPEARANCES:
 11 For the Twin Falls Canal Company and North Side:
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 13 BY MR. JOHN SIMPSON
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 17 Office of Attorney General
 18 Deputy Attorney General
 19 Natural Resources Division
 20 Chief Water Resources Section
 21 BY MR. PHILLIP J. RASSIER
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 21
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 23
 24
 25

Page 5

1 KARL J. DREHER, P.E.,
 2 first duly sworn to tell the truth relating to
 3 said cause, testified as follows:
 4 EXAMINATION
 5 QUESTIONS BY MR. BUDGE:
 6 Q. Good morning. Will you state your
 7 name, business address, and phone number for the
 8 record.
 9 A. My name is Karl, spelled with a K,
 10 middle initial J, last name Dreher, D-r-e-h-e-r.
 11 My business address is 1697 Cole Boulevard, Suite
 12 200, Golden, Colorado 80401, telephone number is
 13 area code (303) 239-5476.
 14 Q. And your current employment?
 15 A. I'm a vice president with Brown and
 16 Caldwell. They are a consulting firm on
 17 environmental issues and engineering, relating
 18 primarily to water.
 19 Q. You are the former Director of the
 20 Idaho Department of Water Resources?
 21 A. I was.
 22 Q. And what was the period of time that
 23 you served in that capacity?
 24 A. I served as the Director from May 1995
 25 through the end of December 2006.

1 Q. And would you just briefly summarize
2 the circumstances under which you left the
3 Department?

4 A. Well, I can only tell you what I know.
5 I was an appointee of the Governor subject to
6 confirmation by the Senate. Idaho elected a new
7 Governor, who chose not to reappoint me.

8 Q. Well, at the outset, Mr. Dreher, let me
9 tell you that we all appreciate your willingness
10 to come and have yourself deposed and be able to
11 explain the orders, and your willingness to
12 appear at the hearings on both the spring case
13 and the delivery call case.

14 And I think my feelings are shared by
15 all Counsel, that we're appreciative of your
16 willingness to do that. We consider you to have
17 the most knowledge of what's going on, and why
18 the orders were rendered. And it's most
19 important that you have an opportunity to
20 describe and explain it.

21 And from talking with other Counsel,
22 I'm sure they share my feelings. So let me
23 express that for even those that may not be here
24 at the moment. And also, to Phil and others at
25 the Department for helping with those

1 thinking in particular, that I've got meetings in
2 Las Vegas the week of the 26th of November, and
3 then, again, sometime around December 12th, that
4 I would have a hard time changing.

5 Q. That's fine. We'll bring that up
6 probably at the pre-hearing scheduling
7 conference, and try to schedule it a day certain
8 so you can plan on it, and we can plan on it.

9 And you are appearing for purposes of
10 this deposition voluntarily, and as an
11 independent witness?

12 A. I am.

13 Q. And you are appearing at the request of
14 the Department, as I understand it?

15 A. I am.

16 Q. You are a licensed engineer in good
17 standing?

18 A. I am.

19 Q. Do you have other areas that you will
20 consider yourself to be an expert in?

21 A. Well, "expert" is a relative term, I
22 suppose. But I have expertise in public policy,
23 application of water law, construction
24 management, economics, financing, but whether
25 that expertise would rise to the level of being

1 arrangements.

2 I did have a question on that. As far
3 as testifying at the hearing on the spring users
4 case, which is scheduled to commence on November
5 28th, and go for a number of days, do you
6 anticipate any difficulty in being able to make
7 yourself available during that hearing process in
8 order to present live testimony?

9 A. It starts towards the end of November?

10 Q. I think it's November 28th, and would
11 go for -- it's scheduled for a couple of weeks.
12 And I think, as I understand it, there would be
13 considerable flexibility as to when you
14 testified. It's just that the parties
15 anticipated the importance of you testifying
16 live. And the Hearing Officer, Justice
17 Schroeder, indicated the same thing, that he had
18 hoped to have opportunities for both existing and
19 former Department personnel, who may have
20 knowledge about this case, to be able to come and
21 explain the reasoning.

22 A. Well, I have no plans to be traveling
23 out of the country, but I do have commitments out
24 of -- well, not in Idaho, and not in Colorado,
25 that I have some flexibility around. But I'm

1 an expert, I will leave that to others to judge.

2 Q. Did you bring any documents with you
3 today?

4 A. I did not.

5 Q. What did you do insofar as reviewing
6 documents and other efforts to prepare for your
7 deposition?

8 A. All that I did is I reread the orders
9 that I wrote and issued in the Blue Lakes
10 delivery call matter, in the Clear Springs
11 delivery calls for the Snake River Farms, and the
12 Crystal Springs.

13 Q. And those would be the orders starting
14 in 2005 in each of those cases in response to
15 those parties' delivery calls that were made that
16 year?

17 A. That's correct.

18 Q. If you began with the Department in May
19 of 1995, that would have been not too long after
20 the Conjunctive Management Rules were enacted. I
21 believe the enactment date on the copy of the
22 rules I had, indicates October 7th, 1994?

23 A. That's my understanding.

24 Q. And do you have any knowledge whether
25 those were amended or changed at any time after

1 you were the director?

2 A. They were not.

3 Q. Do you have any knowledge of the
4 parties that were participating in the
5 rule-making process that gave rise to the
6 enactment of those Conjunctive Management Rules?

7 A. Not, specifically. When I first
8 started in May of 1995, I had discussions with
9 attorneys -- two attorneys, one representing
10 surface water interests, and one representing
11 ground water interests. But I don't know
12 specifically which entities those attorneys
13 represent.

14 Q. Who were those attorneys?

15 A. John Rosholt was the attorney that
16 represented surface water interests, and Jeff
17 Fereday was the attorney that represented ground
18 water interests.

19 Q. So from those conversations, you just
20 had a general understanding that those respective
21 surface and ground water interests had been
22 involved in some fashion in the rule making?

23 A. That's correct, but I didn't have any
24 idea to what extent, or what the process was.

25 Q. Have you had an opportunity to read

1 A. I wouldn't say I performed an
2 on-the-ground inspection. I visited the location
3 of the facilities.

4 Q. And the purpose of that visit was what?

5 A. To develop some level of familiarity
6 with the facilities, and how they were laid out.

7 Q. And what else would you have done to
8 familiarize yourself with those facilities?

9 A. Well, I relied on the employees that I
10 had here to do a more detailed inspection and
11 evaluation. In particular, Cindy Yenter, the
12 Watermaster for Water District No. 139, and Brian
13 Patton, who was a licensed professional engineer
14 who was employed here.

15 Q. While we're on that subject, insofar as
16 the orders that you wrote and what was done by
17 the Department in response to those delivery
18 calls, who were the employees that you knew were
19 involved in that process of evaluating the water
20 rights, and responding to the delivery call,
21 assisting in the writing of the order? Who were
22 the key folks that were involved that we might
23 want to be aware of?

24 A. Well, to begin with, you know, I wrote
25 the orders myself. I did not delegate that work,

1 that decision entered by the Supreme Court in
2 March of 2007 in the AFRD#2 versus the Idaho
3 Ground Water Resources case?

4 A. I have, but not recently.

5 Q. It may be unfair if you haven't read it
6 recently. But is there anything that comes to
7 your mind now that was said in that decision that
8 you think would cause you to change your view of
9 how the Conjunctive Management Rules should be
10 applied to these two delivery call proceedings?

11 A. No.

12 Q. For purposes of this particular
13 hearing, the two delivery call proceedings have
14 been consolidated, being the 2005 delivery call
15 by Blue Lakes, and also the 2005 delivery call by
16 the Clear Springs entities. Let me ask you about
17 those particular facilities.

18 Have you personally inspected either of
19 those facilities on the ground?

20 A. Not in detail.

21 Q. You have been to their locations?

22 A. Yes.

23 Q. So as far as being generally familiar
24 based on an on-the-ground inspection, you could
25 say, yes, to that?

1 because of what I thought would be the
2 precedent-setting nature of what needed to be
3 done. But I, obviously, didn't do all of the
4 work myself.

5 I just mentioned that I did assign the
6 responsibility to do a detailed field
7 investigation of the facilities to both Cindy
8 Yenter and Brian Patton. And, again, the word
9 "detailed" is relative. I'm not going to say
10 that they performed an inspection that would have
11 identified every little aspect of the operation
12 of those facilities. That wasn't the point of
13 their work. The point of their work was to
14 fulfill the investigation to the level that was
15 contemplated -- maybe not contemplated, but set
16 forth in the Conjunctive Management Rules.

17 The orders are also based upon a number
18 of simulations using the current ground water
19 model for the Eastern Snake Plain. And those
20 model simulations were done by Allan Wylie, who
21 is an employee of the Department.

22 In terms of the water rights
23 investigations, I did those myself, relying on
24 records that were here at the Department.

25 Q. Would you have anything, other than

1 just a general knowledge, of how those businesses
2 operate, insofar as the production of fish and
3 processing of fish?

4 A. No.

5 Q. There was a special master's report
6 that was issued on the date of March 18th, 1998,
7 which gave indications that the EPA and DEQ would
8 not allow any net increase in effluents in the
9 Milner to King Hill reach of the river from those
10 fish farm operations.

11 Do you have any knowledge of those
12 water quality requirements of EPA or DEQ on those
13 facilities?

14 A. I do not.

15 Q. Are you aware that DEQ regulates the
16 discharge standards that reflects aquaculture?

17 A. I am.

18 Q. What's your knowledge of their
19 regulation?

20 A. Only that they do it.

21 Q. Would you agree that neither water
22 quality or water temperature are elements of a
23 water right as defined by Idaho Code?

24 A. I would.

25 Q. When it comes to licensing a particular

1 A. Yes.

2 Q. You indicated you did the analysis of
3 the water right once these calls were made. Can
4 you just describe what analysis you did, and how
5 you did it?

6 A. Well, I asked for all of the water
7 right files that the Department had, some of
8 which were housed in this facility that we're in
9 this morning. Most of which, however, were
10 housed at the Idaho archives, Idaho State
11 archives.

12 And in each delivery call and for each
13 water right that was involved, I went through all
14 of the files from beginning to end looking at the
15 history of how the water rights were established;
16 any measurements of water use; water diversion
17 that had been made historically for the rights;
18 how the Department formulated -- if there was
19 documentation to that extent, how the Department
20 formulated its recommendations in the SRBA; how
21 the rights had been decreed in the SRBA. I
22 looked at ownership changes. The full range of
23 anything that was in those files, I looked at.
24 Now, it wasn't necessarily all pertinent, but I
25 looked at it.

1 water right, or making a recommendation in the
2 SRBA, would it be true to say that neither water
3 quality or temperature are a factor that is
4 considered by the Department?

5 A. Well, it's not considered in terms of
6 recommending the elements of a water right for
7 decree in the SRBA, that's correct.

8 Q. And would you consider those
9 aquaculture rights that these entities have, Blue
10 Lakes and Clear Springs, to be nonconsumptive in
11 nature?

12 A. Yes.

13 Q. Is the extent of that --

14 A. For the aquaculture portion. I mean,
15 there are some uses that are not part of the fish
16 production. But, for example, there is some
17 amount of irrigation of landscaping associated
18 with Snake River Farms. Those uses, those are
19 consumptive.

20 Q. And I suppose there is some evaporation
21 that would exist with respect to the operation of
22 the holding ponds and facilities?

23 A. There is, but we don't consider that.

24 Q. That's considered minor, diminimous, I
25 suppose?

1 Q. If my memory serves me correct, partial
2 decrees were entered by the SRBA Court of these
3 particular rights in 2000.

4 And do you know what the basis would be
5 for the quantities that were entered in those
6 partial decrees? Was there anything different
7 about the rights as licensed as to when they were
8 partially decreed?

9 A. I would have to look back into the
10 files to be sure. But nothing comes to mind that
11 I would recollect indicating that the rights were
12 decreed differently than they had been licensed.

13 Q. What period of records were available
14 on these particular rights when you examined
15 them?

16 A. It varied, depending upon the right,
17 and I don't recall the specific dates.

18 Q. Was there a need for you to request
19 additional flow information or data from any of
20 these users that were making the call?

21 A. One of the things that I asked Cindy
22 Yenter and Brian Patton to do when they did their
23 field inspections was to make measurements of
24 current diversions, current water use. And, of
25 course, one of the watermasters assigned duties

1 is to make sure that the measurements are taken
2 on an ongoing basis. And I would have looked at
3 the most current measurements that the
4 watermaster provided, beyond what was already in
5 the Department's files.

6 Q. And would you have had a need, or did
7 you request any additional water right data or
8 records from either of these entities making the
9 call; Clear Springs or Blue Lakes making the
10 call?

11 A. I don't recall the specifics. But in
12 the initial response to their delivery calls, I
13 wrote letters asking for some information, but I
14 would have to look at the letters to see exactly
15 what it was I asked for.

16 Q. For the most part, would your
17 recollection be that you relied upon data and
18 records that the Department had available?

19 A. As supplemented by whatever additional
20 information would have been submitted in response
21 to the letters that I initially wrote.

22 Q. I'm handing you what is a copy of the
23 direct testimony of Dr. Brockway filed on behalf
24 of Clear Springs in this case, dated September
25 7th, simply to give you a quick reference of the

1 been provided by Clear Springs Food as a part of
2 his evaluation would be from 1988 on, and you'll
3 note that's all that he reflected on Exhibit 13.

4 And where their rights were partially decreed for
5 those full amounts that you find on Finding of
6 Fact 36 in the SRBA Court, you'll note that that
7 appears to be less than the flows that were
8 available at any time, at least since 1988, when
9 Dr. Brockway graphically depicted those flows.

10 So with that background, would it be
11 accurate to assume that the quantities
12 established for those particular rights would be
13 based upon some historic flow record in existence
14 back from the time they were licensed sometime
15 forward, not based on the flow level that would
16 have existed in 2000 when the partial decrees
17 were entered?

18 A. I believe that's addressed in the
19 order. Finding No. 58 in the order refers to a
20 memorandum describing measurements made in July
21 of 1972, showing that the total diversion of
22 water to the Snake River Farms was 118.86 cfs.

23 Q. So that sets the backdrop for a few
24 general questions. I wanted to ask you about the
25 quantity. And the reason that has become

1 water rights that were a part of the Snake River
2 facility that are listed there on Table 2. I
3 think those are the same rights that were
4 identified in Finding 36 of the order, if you'd
5 prefer to look at it there. But I hand you that
6 just to give you an opportunity to quickly review
7 those six rights. And you'll note that there
8 were priorities that range from 1933 to 1971, and
9 they show a cumulative total of 117.67.

10 A. I think I would like to look at the
11 order.

12 Q. Okay. Let me pull that order out. It
13 would be Finding 36 on page 9 of the July 8th,
14 2005 Clear Springs order. Do you have that?

15 A. I do.

16 Q. Also, handing you Figure 13, which was
17 an attachment to Dr. Brockway's direct testimony,
18 where he graphically depicted the flow levels
19 from those particular springs, the Snake River
20 Farms Hatchery of Clear Springs Food, in
21 relationship to the total of those particular
22 water rights, which was 117.67.

23 A. Okay.

24 Q. When Dr. Brockway testified about this
25 on Monday, he indicated the only records he had

1 significant, is some of the spring user parties
2 to this proceeding have asserted that a decreed
3 amount is not simply an authorized maximum, but
4 is a guaranteed entitlement that asserts that
5 they are entitled to have at all times during all
6 years, and they want curtailment to achieve that.
7 So I have some questions to propose to you on
8 that particular subject.

9 A. Okay.

10 Q. The first one would be is: How would a
11 quantity be established for purposes of a decree?
12 And maybe I better phrase that question: How
13 would the Department make a recommendation to the
14 SRBA Court for purposes of establishing a
15 quantity, such as the ones we looked at here for
16 Clear Springs, when you can see that the quantity
17 decreed in 2000 had not been available at least
18 for some period of time?

19 A. For rights that the Department had
20 licensed prior to the Snake River Basin
21 Adjudication, the recommended amount for decree
22 would have been identical to the licensed amount,
23 unless there was something else that had changed.

24 But in these particular rights, for the
25 Snake River Farms, nothing was identified as

1 having changed since the time that the license
 2 had been issued. And so the recommendation was
 3 based upon the amount that was in the license.
 4 The amount that was in the license was the
 5 maximum amount that had ever been measured as
 6 being diverted and applied to beneficial use.
 7 But it certainly was not the amount that was
 8 consistently available in all cases.

9 Q. And for purposes of administering a
 10 water right in response to a delivery call, how
 11 is the quantity relevant?

12 A. Repeat the question for me, please.

13 Q. So for purposes of establishing a
 14 licensed water right, or obtaining a decreed
 15 water right from the court, if the quantity had
 16 ever been applied to beneficial use, that would
 17 be the amount recommended and ultimately stated
 18 on the decree?

19 A. That's correct.

20 Q. And if I understand it correctly, that
 21 quantity would be considered an authorized
 22 maximum?

23 A. That's correct.

24 Q. And so the water right holder could
 25 divert up to that maximum amount as long as the

1 addressed in what's entitled, Third Affidavit of
 2 Karl J. Dreher, which was on the date of March
 3 23rd, 2001, in Sub Case No. 91-00005 Basin Wide
 4 Issue No. 5.

5 And on paragraph 14, page 6 of that
 6 affidavit, you make the statement, "Under the
 7 prior Appropriation Doctrine a water right
 8 defines the maximum entitlement to a water right;
 9 however, the amount of water that may be diverted
 10 under the right at any point in time is limited
 11 to the amount necessary to achieve the beneficial
 12 use authorized under the right." That's the
 13 point you've explained?

14 A. That is correct.

15 Q. And similarly in paragraph 15, you make
 16 the statement, this is on page 7, again, of that
 17 same affidavit. "In administering water rights,
 18 the Department of Water Resources cannot simply
 19 look at the quantity element of a water right as
 20 decreed. The quantity element sets the maximum
 21 limit for water distribution under the right.
 22 The Department must have the ability to determine
 23 what quantity of water is reasonably necessary
 24 for the authorized beneficial use without undo
 25 waste at the time when the water is distributed

1 water was available.

2 A. And the right holder made beneficial
 3 use of that amount.

4 Q. So is it your testimony that just
 5 because a partial decree in the SRBA Court
 6 established a maximum amount, that did not
 7 necessarily guarantee the right holder that that
 8 quantity would be available at all times during
 9 all years?

10 A. That's correct.

11 Q. And so when you discuss in your order
 12 inter-year and intra-year variations, is that the
 13 reason you discuss that topic in your order, to
 14 distinguish between a quantity that may be
 15 established for the purposes of a license or
 16 decree, and how that right may be delivered and
 17 viewed for administrative purposes?

18 A. In part. But the other reason for
 19 describing these intra-year variations and
 20 inter-year variations is to try to demonstrate
 21 the complexity of administering ground water and
 22 surface water as contrasted to surface under the
 23 implementation of the prior appropriation
 24 doctrine in Idaho and other western states.

25 Q. This same topic of discussion was

1 to a particular right." That further explains
 2 the concept?

3 A. That's correct.

4 Q. Now, you make a statement in paragraph
 5 17, and I'll let you read that first. Maybe you
 6 can just explain what was going on that gave rise
 7 to this affidavit in Basin Wide Issue 5 that you
 8 filed, and what paragraph 17 was about, if you
 9 can remember?

10 A. I would have to look at what's referred
 11 to here as the first paragraph of the Trout
 12 Company's proposed general provision. I don't
 13 recall what that was.

14 Q. Okay. As far as those prior statements
 15 that I read in your affidavit, you don't have any
 16 reason to believe that those are not accurate,
 17 and further illustrate the point that you've
 18 described, insofar as the difference between a
 19 decreed quantity for right purposes, and how that
 20 might be treated for administrative purposes?

21 A. That's correct.

22 Q. Would there be any question in your
 23 mind that the source of the water that supplies
 24 these particular spring rights, which are the
 25 subject of this call, is the identical source of

1 water relied upon by the ground water pumpers who
2 were subject to the curtailment?

3 A. Would you repeat that again?

4 Q. The aquifer discharge, Eastern Snake
5 Plain Aquifer, is clearly the source of the water
6 discharged into the springs that supply these
7 Blue Lakes and Clear Springs water rights; would
8 that be correct?

9 A. The aquifer is the source for the
10 springs, but that does not make the aquifer the
11 same source as the springs as you would deem the
12 source to be the same in purely a surface water
13 system.

14 Q. Okay. Well, what would be the source
15 for those ground water pumpers up on the rim to
16 the north, who were subject to the curtailment
17 order in these proceedings?

18 A. Well, the source for the ground water
19 pumpers is the aquifer. But the aquifer
20 discharges at numerous locations, not just a
21 single location. And that's why in a surface
22 water sense, the aquifer is not the same source
23 as the springs. The springs only represent one
24 discreet discharge from the aquifer.

25 Q. When you reviewed the records of Blue

1 reconstruction of the diversion facilities at the
2 Blue Lakes Trout Farm.

3 Q. Do you have any knowledge or
4 recollection about that specifically?

5 A. I would have to look back in the files
6 to see what it was. But something sticks in my
7 memory that there was some reconstruction there.

8 Q. Anything that you are aware of relating
9 to recirculation, or reuse of water at either of
10 those facilities, that come to mind?

11 A. Well, as I recall, there is another
12 hatchery that reuses the discharge from Blue
13 Lakes.

14 Q. That would be Pristine Springs?

15 A. Pristine Springs. But I don't recall
16 any recirculation at Blue Lakes or Clear Springs,
17 although there could be. Certainly, that's
18 within their right to do.

19 Q. Just as a general question, again, on
20 this issue of recirculation. Looking at
21 Dr. Brockway's Figure 13, again, which is
22 reflecting the Snake River hatcheries' spring
23 discharges. If you took a period of time, as
24 reflected for a number of years in the '90s to
25 about 2000 on this particular Figure 13, you'll

1 Lakes and Clear Springs, did you gain any
2 knowledge of the improvements that were
3 constructed by those facilities in order to
4 capture the flow from the springs that they
5 utilized?

6 A. Which facilities?

7 Q. Blue Lakes or Clear Springs.

8 A. Yes.

9 Q. And do you have any knowledge of what
10 construction they have undertaken with the time
11 their rights were established, or any subsequent
12 improvements that were made by them to capture
13 the springs or increase of water that was
14 available to them?

15 A. Only what's documented in the water
16 rights files, and what was identified from the
17 field investigations that Cindy Yenter and Brian
18 Patton undertook at my direction.

19 Q. Anything that comes to mind as being
20 remarkable to you that you can recall about
21 improvements that they may have made over time in
22 an effort to enhance the flows available from the
23 aquifer discharging to their respective springs?

24 A. Well, nothing stands out. But, you
25 know, as I recall, there has been some

1 see that the water available is something in
2 excess of 100 to 110 cfs at peak during those
3 years.

4 A. Yes.

5 Q. Which is perhaps as much as 10, to as
6 much as 15 cfs short of their authorized maximum
7 of 117. Do you see that?

8 A. Yes.

9 Q. Would it be possible, simply from a
10 physical standpoint, to make up that 10 or 15 cfs
11 shortfall by simply recirculating water
12 discharged from the end of those facilities?

13 In other words, it would seem that if
14 10 to 15 percent of the water discharged in that
15 facility were recirculated from their discharge
16 to the intake, it would make up any shortfall.

17 A. Hypothetically, that's true. But there
18 would be a question as to whether the water
19 quality utility of the water would be adequate,
20 which is not part of the water right. But it is
21 part of their consideration and recirculation, I
22 would think.

23 Q. And I recognize these orders were
24 entered on an emergency situation without full
25 hearing or full presentation. But absent any

1 questions with respect to water quality, it would
2 be something that hypothetically would be
3 feasible to do?

4 A. Yes.

5 Q. And was any evaluation on investigation
6 done by the Department, as far as you know, as
7 far as the feasibility of recirculation of water
8 for any of these aquaculture facilities?

9 A. There was none.

10 Q. When you look at this same table,
11 Figure No. 13 on the Snake River Farms discharge,
12 it's pretty similar to Figure 11, which is
13 depicting over roughly the same time period, 1985
14 through 2007, the springs from the Crystal
15 Springs hatchery of Clear Springs over that same
16 time frame in relationship to their total
17 authorized right, which is the red line. And I
18 had some questions that I wanted to ask you about
19 these annual flow variations.

20 Could you tell me just generally, why
21 is it that variations in flow, both annually and
22 seasonally, are relevant to your administering
23 the delivery call by these spring users against
24 ground water pumpers?

25 A. Well, this begins to illustrate the

1 will cause injury.

2 And so what happens is, the effects of
3 the depletion don't occur for months, years, or
4 decades, depending upon the location of the
5 ground water right. And so you don't know at a
6 particular point in time, when a ground water
7 diversion is made, whether or not the depletions
8 from that diversion will, in fact, cause injury
9 when those depletions affect the discharge and
10 the surface water source.

11 Now, superimpose on top of that, the
12 variations within the year, and the variations
13 between years, and that further complicates the
14 determination of whether or not injury will, in
15 fact, occur from a current diversion of ground
16 water.

17 It is not evident at the time that the
18 diversion occurs. And the determination of
19 whether, when those depletions are expressed to
20 cause injury, I mean, it becomes very
21 complicated, because of all of these variations
22 that are occurring, coupled with the nature of
23 the depletion caused by the ground water
24 diversion. It's dispersed in time. It's
25 dispersed spatially. And it simply is not the

1 complexity of administering ground water under
2 the prior appropriation systems that were
3 developed largely around surface water. When you
4 are administering just surface water, it's
5 visually evident what the effects of curtailing a
6 junior-priority surface water right would be, and
7 it's also visually evident how much water is
8 available to the senior.

9 So if you know that the senior is
10 entitled to, and can beneficially use a certain
11 amount of water, and that water is not reaching
12 the senior, and there is a junior upstream on the
13 same stream, the same source that's diverting
14 that water, absent some loss of the water between
15 the point of diversion of the junior to the point
16 of diversion to the senior, it's immediately
17 clear what the benefit would be to the senior of
18 curtailing the junior.

19 That same simplicity does not exist in
20 a ground water system. With the diversion of a
21 ground water right from the aquifer system some
22 distance away from the, in this case, the
23 discharge of springs, the depletion caused by the
24 ground water diversion is not immediate. And it
25 is not immediately evident whether that depletion

1 simple setting where you have two rights
2 diverting from the same surface water stream.
3 It's not the same.

4 And so because it's not the same, you
5 have to take into consideration all of these
6 other factors that are occurring that could
7 affect the water availability to surface water
8 users that rely on spring discharge.

9 The absence, or the reduced
10 availability of water, may or may not be the
11 result of ground water diversions, or it may be
12 in part the result of ground water diversions,
13 and in part the result of other causes, not the
14 least of which could be these inter-year
15 variations. Or in the case of within a single
16 year, the variation within that year itself.

17 Q. When one looks at the pattern reflected
18 on Figure 11 and Figure 13, it would seem to
19 indicate that the discharges from the springs are
20 increasing during the very irrigation season when
21 irrigation pumping would be going on.

22 Do you generally see that? Or how
23 would you interpret that to be? My question is:
24 Does that not illustrate the very testimony that
25 you've described, but it's not so simple to look

1 during the irrigation season and be able to
2 immediately see at a spring the impacts of the
3 well going on? There are other factors that seem
4 to be causing these discharges to go up at the
5 very time pumping would seem to indicate they
6 should be causing them to go down.

7 A. Well, again, the effect of the pumping
8 is delayed, and the rising limb, if you will, of
9 the spring discharge in a given year is the
10 result of many other factors, including
11 incidental recharge from surface water
12 irrigation, precipitation. There is a number of
13 factors that contribute to that. And the
14 depletion caused by ground water diversions may
15 or may not be expressed at that same period of
16 time.

17 Q. Can you describe some of the factors
18 that would cause seasonal variations? You
19 mentioned ground water pumping, obviously, and
20 incidental recharge, another.

21 A. Probably the two most significant
22 factors are the incidental recharge and ground
23 water pumping. But, you know, when you look at a
24 particular year, you can have variations that
25 could be, in part, the result of unusual

1 But there is also other factors that come into
2 this. The amount of depletion from crop
3 evapotranspiration can vary from year to year,
4 depending upon the length of the growing season.
5 It can also vary based on the preexisting
6 availability of soil moisture.

7 Q. When you examined the Department's
8 files with respect to these particular delivery
9 calls, did you see anything, or do you have any
10 other personal knowledge whether or not Blue
11 Lakes, or Clear Springs, or any other spring
12 users in the Thousand Springs area, filed
13 objections when the ground water rights were
14 established on the rim, either at the time of
15 permitting, or licensing, or subsequently when
16 they were claimed and decreed in the SRBA Court?

17 A. Those objections, if they were filed,
18 would not have been in the water right files for
19 the spring rights. They would have been in the
20 water right files for the ground water rights,
21 and I did not look at that when I was preparing
22 these orders.

23 Q. So you have no knowledge then, based on
24 what you've reviewed, that any objections were
25 filed?

1 precipitation patterns.

2 Q. What about annual flow variations?
3 What are some of the factors that would impact
4 annual flows?

5 A. You mean, between year variations?

6 Q. Between years.

7 A. Again, probably the single biggest
8 factor that addresses between year variations is
9 water supply availability, because it affects
10 other things. You know, for example, between
11 years you can have significant differences in
12 precipitation. And precipitation is a
13 significant source of recharge for the aquifer
14 system. It's not the largest, but it is
15 significant.

16 But varying water supplies also affect
17 how much water surface water users divert for
18 their purposes. And generally, when more is
19 available -- this is a generalization, of
20 course -- when more is available, they'll divert
21 more. I'm speaking of surface water irrigators.
22 And that can result in larger amounts of
23 incidental recharge.

24 And so that can vary from year to year
25 based upon, again, water supply availability.

1 A. That's correct.

2 Q. Just a couple very general questions on
3 the model. Can you describe how that was
4 utilized to respond to these delivery calls?

5 A. In general, it was used in two
6 different ways. The first general application
7 was to look at various scenarios involving
8 curtailment of ground water rights, and what the
9 resulting effects from that curtailment would be.

10 And the second general area would be
11 to look at proposed actions from the ground water
12 users to potentially mitigate the effects of the
13 depletions associated with their diversions.

14 Q. What do you consider to be the
15 strengths of the use of the ESPA Model?

16 A. At this point in time, or at the point
17 that these orders were written, it really was
18 the best available tool that the Department had
19 available. And, in fact, the ground water
20 model -- the current ground water model was
21 developed in part anticipating the need to use it
22 in response to a delivery call from the holder of
23 a senior surface water right.

24 And when I say that, when I first came
25 to the Department in the position of Director in

1 1995, the Department was in the latter stages of
2 publishing results from the prior ground water
3 model. I believe it was in a study called the
4 Upper Snake River Basin something.

5 And early on, I had looked at that. I
6 think that report was eventually published in
7 December of 1995, if I recall. But when I looked
8 at the report early on, and the model that had
9 been developed at that point in time, I felt that
10 that model was not sufficiently calibrated, not
11 sufficiently developed to be used in water rights
12 administration. And because of that, I wrote an
13 epilogue in that report that highlighted my
14 concerns.

15 And based upon those concerns, then I
16 went back to the legislature, in collaboration
17 with a number of the ground water and surface
18 water interests, to seek additional funding from
19 the legislature to reformulate and recalibrate
20 the ground water model to where, at least when I
21 was in the position, I was comfortable using it
22 for the purposes of water rights administration.

23 You know, the difficulty is, again,
24 going back to the complexity of ground water
25 versus surface water, in the simple example that

1 configurations of hydraulic conductivity, for
2 store-activity, and other factors seeking that
3 configuration that would produce the most
4 reliable calibration. And when I say
5 "calibration," I mean, the most reliable
6 back-casting, if you will.

7 Does the model adequately replicate
8 what we've measured has happened in the past,
9 both in terms of ground water models, as well as
10 spring discharge, and reach gains and reach
11 losses to and from the Snake River?

12 Also, another source of uncertainty, I
13 suppose, in the model is it's an idealized
14 representation of a less than ideal system. What
15 I mean by that is, the Eastern Snake Plain
16 Aquifer consists largely of fractured basalt in
17 layers that are separated by various rubble zones
18 and other geologic features. And the model does
19 not discreetly represent those types of
20 discontinuities. Instead the model provides an
21 idealized representation of what those -- of the
22 characteristics of those discontinuities. So,
23 you know, there is assumptions involved in
24 putting together the model, and you tests those
25 assumptions, the viability of those assumptions

1 I provided of a senior diverting from a stream,
2 and a junior diverting from the same stream
3 upstream from the senior, you can see surface
4 water. You can visually assess what happens when
5 one right is curtailed in favor of another right.

6 But with ground water, you can't see
7 it. And you have no choice, but to rely on -- in
8 my opinion, you have no choice, but to rely on
9 suitably calibrated tools that simulate what is
10 occurring in terms of the effects of ground water
11 diversions and the associated depletions.

12 Q. What would you consider to be the
13 inherent weaknesses or uncertainty for the use of
14 the model for purposes of the ground
15 water/surface water administration call such as
16 this?

17 A. The weaknesses really come down to, how
18 certain is the calibration? And that's why the
19 reformulation of the Eastern Snake Plain Model,
20 most of the effort was not put in the development
21 of the model. Most of the effort was put in in
22 obtaining data and performing the calibrations.

23 And we looked at something on the order
24 of, it was over 100 different configurations of
25 the Eastern Snake Plain Model, different

1 during the calibration.

2 Q. When you say, "the model is an
3 idealized representation of aquifer
4 characteristics," do you mean the model treats
5 the aquifer that it's all homogeneous, when, in
6 fact, there are lots of layers of variations and
7 flow paths, and the like? Is that what you mean?

8 A. The model doesn't treat it as all being
9 homogeneous. But in a particular cell, it's
10 treated as being homogeneous. Whereas, in
11 reality, the aquifer that's represented by that
12 particular cell, is not homogenous -- or I
13 shouldn't say it's not. It may or may not be
14 homogenous. It could be, but it may not be.

15 Q. If I understand, the model is able to
16 back-cast, if you will, or predict a quantity
17 that would be developed to a particular reach of
18 the river resulting from some curtailment
19 scenario, but can't predict the quantity flowing
20 to a particular spring that might serve one of
21 these rights?

22 A. That's correct.

23 Q. Can you elaborate and explain that to
24 me.

25 A. Well, in part, the reason for that is

1 that, you know, the springs discharged from
2 particular fractures in the basalt system. Those
3 fractures are not specifically modeled in the
4 model. They are idealized in the model.

5 Q. Okay.

6 A. And in a particular cell, you could
7 have a number of springs discharging fractures
8 that are not discreetly represented by that cell.
9 And so, again, thinking that -- remembering that
10 the model is an idealization. The more that you
11 look at results across a series of cells, the
12 more accurate is going to be the representation
13 on a larger scale than on a smaller scale.

14 Q. How is the model used to address the
15 timing of a response from a particular
16 curtailment, and to address the quantity of a
17 response from a particular curtailment?

18 A. Well, what the model provides is a time
19 history of response from a particular action. So
20 in using the model to look at curtailment, for
21 example, we can use the model to isolate that
22 time history of response in the aquifer system to
23 a particular curtailment scenario. And the model
24 will give us simulated results of reach gains to
25 the Snake River, or really, changes in reach

1 Q. Explain what your thought is on that.

2 A. Well, in the spectrum of what's binding
3 on the Department, a policy probably has the
4 lowest degree of enforcement. You know, the
5 Department's actions are bound, first, by the
6 Constitution; and secondly, by statutes that are
7 specifically enacted by the legislature; third,
8 administrative rules that are properly
9 promulgated pursuant to statutes; fourth, I'll
10 lump them together, policies and guidelines.

11 But the Water Board being a separate
12 political entity, can't bind the Department in a
13 way that would be inconsistent with statutes that
14 are promulgated by the legislature, for example.
15 However, when the legislature essentially
16 confirms what the policies of the Water Board
17 are, that begins to take on a color of statute
18 that you certainly can't ignore.

19 And so, you know, in trying to develop
20 actions that are responsive to the policies that
21 have been enacted by the Water Board, you do it
22 in a way, or you try to do it in a way that
23 doesn't contradict the Constitution or other
24 applicable statutes.

25 Q. So maybe I should qualify that

1 gains to the Snake River, or changes in spring
2 discharge over time. And it gives us both in
3 terms of quantity, as well as the time frame that
4 the quantity changes, until it reaches,
5 essentially, what we call steady state
6 conditions.

7 Q. You are familiar with the 1984 Swan
8 Falls Agreement between the State and Idaho Power
9 from your work as a Director, I assume?

10 A. Generally. I have not read it lately.
11 But certainly, during my time here, I looked at.

12 Q. And I know that preceded your time in
13 when you started as Director in '95 --

14 A. Yes.

15 Q. -- like some nine years or so. Would
16 it be accurate to say that you were not involved
17 in any capacity in those negotiations that gave
18 rise to the Swan Falls Agreement?

19 A. I was not involved.

20 Q. Would you agree that once the
21 legislature approves and adopts a State Water
22 Plan Policy enacted by the Idaho Water Resource
23 Board, that such would then be binding upon the
24 Department?

25 A. Maybe, yes. Maybe, no.

1 question. So to the extent that the policy
2 adopted by the board becomes enacted or adopted
3 by the legislature, and maybe ratification
4 becomes the term, and to the extent that does not
5 conflict with a rule of law established
6 Constitutionally or by specific legislation, then
7 would you consider that to be generally binding
8 upon the Department?

9 A. That's correct, yes. An example of
10 maybe the difference. You know, the legislature
11 concurs with, or ratifies, whatever word you want
12 to use, with the state-wide plans that the Board
13 develops. But they are not necessarily codified.
14 Whereas; you know, you were talking about the
15 Swan Falls Agreement. There is an example where
16 the legislature specifically codified that
17 agreement in statute. And the legislature
18 generally does not go that -- generally, does not
19 codify the state water plans in particular
20 statutes.

21 Q. In the Swan Falls Agreement, the
22 minimum flows were established at the Murphy gage
23 in the summer of 3,900 cfs, and in the winter of
24 5,600 cfs. What's your knowledge of the source
25 of the water that would be in the river at that

1 location to supply those minimum flows? Would it
2 primarily be foraging from spring discharges in
3 the Thousand Springs Reach?

4 A. That would be the primary source, would
5 be spring discharges in the Thousand Springs
6 Reach. But there could also be return flows from
7 irrigation downstream of the Thousand Springs
8 Reach.

9 Q. The question has been raised in this
10 proceeding regarding the applicability of the use
11 of a local ground water board to curtail ground
12 water pumpers under the Code Section 42-237(B).
13 And it didn't appear to me that that had been
14 enacted, or those ground water boards had been
15 used in any way in these delivery call
16 procedures; is that correct?

17 A. That's correct.

18 Q. What's the position that you and the
19 Department had on that particular local ground
20 water board statutory requirement?

21 A. In my opinion, that's a mechanism that
22 potentially could have been used before the
23 ground water rights were decreed. But once the
24 ground water rights were decreed, they are
25 subject to administration in water districts

1 difficult time finding anything in the act that
2 would support the position you are stating, and
3 it may be that you are reading an interpretation
4 of that is different than ours.

5 A. Well, the conclusion that I reached, or
6 the determination that I made, likely is the
7 result of a combination of what's in the Ground
8 Water Act, and what's in the statutes that govern
9 the establishment and operation of water
10 districts.

11 And let me maybe add something to that.
12 As I recall, there is nothing really in the
13 statutes dealing with the establishment and
14 operation of water districts that limit them to
15 surface water. They are written in a way that
16 they apply -- I construed them to apply to
17 surface water and ground water.

18 Q. So is it your interpretation that the
19 director has discretion in choosing whether or
20 not to establish a local ground water board to
21 respond? Or is it your view that once a water
22 district has been established, that that
23 particular option is no longer available?

24 A. That's my view. I don't believe it is
25 a matter of discretion for the director.

1 under the supervision of watermasters, which are
2 under the supervision of the Director of the
3 Department. And, again, in my opinion, once the
4 ground water rights have been decreed, the ground
5 water board is not, in my opinion, the
6 appropriate mechanism to seek administration.

7 Q. And that's the reason you didn't
8 convene one in either of these delivery call
9 proceedings?

10 A. That's correct.

11 Q. Is there any authority that you are
12 aware of in the Idaho Ground Water Act for the
13 position that you've asserted by statute? I'm
14 just wondering -- I appreciate your position on
15 it, and I'm wondering if you are looking at some
16 statutory provision, or if you are aware of that
17 would provide support for your position?

18 A. I'm not recalling anything
19 specifically, but I would be happy to look at the
20 Ground Water Act, again, and see if something
21 stands out. I have not read it for some time
22 now.

23 Q. Maybe we'll have an opportunity during
24 the break over the noon hour to take a quick
25 glance. I'm not saying there is. I have a

1 Q. I wanted to ask you a few questions on
2 the Conjunctive Management Rules.

3 MR. BUDGE: And do you have that copy
4 available, Phil?

5 MR. RASSIER: Yes.

6 Q. (BY MR. BUDGE) And you have available
7 a copy of those, which are Exhibit 37?

8 A. I have.

9 Q. Initially, let's take a look at Rule
10 20.3. And Rule 20 deals with the "General
11 Statements of Purpose and Policies for
12 Conjunctive Management of Surface Ground Water
13 Resources." That's the title.

14 If you look at the last sentence of
15 20.3, it states that, "An appropriator is not
16 entitled to command the entirety of large volumes
17 of water in a surface water or ground water
18 source to support his appropriation contrary to
19 the public policy of reasonable use of water as
20 described in the rule."

21 The question I have is: How does
22 maintaining a method of diversion that requires
23 the aquifer at a full, or near full level, be
24 balanced with this particular requirement under
25 Rule 20.03, of reasonable use of the water? How

1 does one balance those conflicting interests?
 2 A. Well, maybe an example would be what I
 3 determined regarding the Crystal Springs
 4 facilities. The springs discharge not at one
 5 location, but through a whole series of spring
 6 complexes. And, you know, as the Crystal Springs
 7 facility developed, and the water appropriations
 8 will confirm this, the facility developed over
 9 time.

10 And initially, when the facility was
 11 put on-line, perhaps a sufficient amount of water
 12 for the initial development could be obtained by
 13 some relatively short length of a collection
 14 facility that would be capturing the discharge
 15 from one or more springs.

16 But as that facility was enlarged, it
 17 presumably was necessary to extend the collection
 18 system to capture additional springs in order to
 19 support the appropriation of additional water
 20 rights.

21 Now, you enter the situation as we have
 22 it today, with these complexities of inter-year
 23 variations and intra-year variations, and the
 24 spring discharge being in part the result of
 25 actions of third parties, namely surface water

1 alluvial channels, may find that the river moved
 2 away from him. And because of high flows, now
 3 the river is flowing in a different alluvial
 4 channel, and that surface water irrigator's
 5 diversion is high and dry.

6 Is it reasonable for that -- maybe that
 7 surface water irrigator has the senior-right on
 8 the system. Is it reasonable for him to demand
 9 the curtailment of upstream juniors so that some
 10 water will flow back into that channel where he's
 11 constructed his diversion works? Or should the
 12 senior be required to extend his diversion works
 13 to the new alluvial channel where the river is
 14 currently flowing? In my view, those are
 15 somewhat analogous and relate to this issue of
 16 reasonable use.

17 Q. This concept of "a reasonable means of
 18 diversion," seems to be embodied in Rule 20.03,
 19 is one that you believe gives a director some
 20 discretion in exercising sound judgment in making
 21 that determination?

22 A. Yes. But beyond that, there is
 23 also -- when I listed these various levels of
 24 law, I failed to include case law. And case law
 25 would sit between below the statutory laws

1 irrigators over which the spring users don't have
 2 any control, and the state can't make the surface
 3 water users use more water than they need, and
 4 all those other complicating factors.

5 Is it reasonable to demand that the
 6 water be delivered through just those springs?
 7 Or is it reasonable to require that when water
 8 supplies are short, that the right holder improve
 9 his or her diversion works to capture additional
 10 water that would be -- that's available under the
 11 priority of their rights? In other words, it
 12 isn't reasonable, in my view, to insist that the
 13 water has to be delivered at a certain point in a
 14 certain way, regardless of anything else. That's
 15 not reasonable.

16 And to put it in the context of a
 17 surface water system, you know, we have a number
 18 of surface water irrigators that divert from
 19 alluvial changes in the Snake River. And those
 20 alluvial channels change with time, because of
 21 variations in river flow.

22 For example, a high-water year will
 23 produce flows that may move those alluvial
 24 channels. And so the surface water irrigator,
 25 who constructed a diversion works on one of these

1 enacted by the legislature, and the policies and
 2 guidelines. So we need to assert another level
 3 of law in there that governs.

4 In this particular provision, I
 5 believe, as I read it, it is consistent with the
 6 case law listed in the Shoddie (phonetic) case.

7 Q. Now, let's look at Rule 42.01.h. It
 8 should be at the bottom of page 10. Rule 42
 9 lists various factors for "Determining Material
 10 Injury and Reasonableness of Water Diversions."
 11 And 42.h states, "The extent to which the
 12 requirements of the senior-priority surface water
 13 right could be met using alternate reasonable
 14 means of diversion or alternate points of
 15 diversion, including the construction of wells or
 16 the use of existing wells to divert and use water
 17 from the area having a common ground water supply
 18 under the petitioner's surface water right
 19 priority."

20 Would you agree that that particular
 21 factor listed under Rule 42.01.h, is another
 22 means of looking at whether or not one making the
 23 call is utilizing a reasonable means of
 24 diversion?

25 A. Well, I believe this provision goes one

1 step further than just looking at whether the
2 senior-right holder is making -- is exercising a
3 reasonable means of diversion. I think this goes
4 to the point of, is there something else that the
5 senior-right holder should be expected to do as
6 being reasonable to obtain the needed water
7 supply.

8 So this goes a step beyond just having
9 a reasonable means of diversion. This talks
10 about reasonable alternate means of diversion.

11 Q. And don't these particular provisions
12 we've been discussing, regarding reasonable means
13 of diversion, essentially, put the director in a
14 position that he can preclude, in a delivery call
15 such as this, a senior spring holder from using a
16 point of diversion where a spring comes out way
17 high on the rim, to essentially gain control of
18 the entire use of the aquifer?

19 A. Potentially. The reason I say,
20 "potentially" is, you know, that the example that
21 you used with the high-elevation spring, that may
22 be the only means of diversion available to that
23 right holder. So it would be hard to say that
24 that's not reasonable if that's his only means of
25 diversion.

1 wells. And my determination was that wasn't
2 reasonable for two reasons.

3 The availability of water from the
4 springs discharging in the Thousand Springs area,
5 if you don't do something to increase the
6 supply -- and I won't go into the various things
7 that could be done to do that. Obviously,
8 curtailment could be one potential.

9 But if you don't do something to
10 increase the supply, what one spring user takes,
11 reduces what would otherwise be available
12 potentially to another spring user. So in other
13 words, if we would have required a spring user to
14 construct a horizontal well to capture additional
15 water -- somewhat analogous to the discussion we
16 had about the surface water irrigator moving his
17 point of diversion -- the difference there is
18 that, potentially the surface water user moves
19 his point of diversion, and he doesn't -- he
20 takes his water in priority, but he doesn't
21 change the regime under which other users divert.

22 Whereas, if a spring user would
23 construct a horizontal well, that's going to
24 capture water that would otherwise have
25 discharged through another spring. And,

1 Q. In Rule 42.01.a, it discusses whether
2 or not it might be reasonable to divert to a
3 well. Was there any consideration done, when you
4 responded to these delivery calls, as to whether
5 or not either of these spring users could
6 reasonably drill a horizontal well, for example,
7 to access the shortfall they have under their
8 rights in the aquifer itself in the same way as
9 the ground water pumpers?

10 A. I had already made that determination
11 at the time the delivery calls were made. And
12 I'll take you back to the discussion we had about
13 the reformulated ground water model. You know, I
14 could see this coming. I mean, it was inevitable
15 that it was going -- the conflict was going to
16 occur, and that delivery calls would be made as
17 the rights were decreed.

18 And all it took was -- and maybe it
19 would have occurred anyway. But certainly, the
20 prolonged drought, in my view, was the trigger.
21 So I had been thinking about these various issues
22 for years before the delivery calls had been
23 made. And I had considered the reasonableness,
24 if you will, of requiring or encouraging spring
25 users to construct horizontal wells or vertical

1 essentially, that is taking water away from
2 another spring user -- and this is hypothetical,
3 of course -- but is hypothetically taking water
4 away from another spring user who may be senior
5 or junior in priority.

6 And so if that was the determination,
7 that we're going to require spring users to
8 construct horizontal wells to capture the water
9 needed under their rights, essentially, what
10 would have occurred, in my view, was a whole
11 series of horizontal wells being drilled. And it
12 sort of is the guy with the biggest well and the
13 biggest pumps wins. He gets the water, and the
14 others don't. And that was not, in my view, an
15 acceptable outcome.

16 And so based upon the premise that
17 these horizontal wells would have simply captured
18 water that otherwise would have gone to another
19 spring user, that wasn't going to solve anything,
20 and I didn't think was reasonable.

21 The second factor is that, although
22 this provision is in the rules, and I agree it's
23 consistent with the common-law prior
24 appropriation doctrine as I understand it. There
25 is a question of whose responsibility it is to

1 construct the alternate point of diversion. If
2 the need for the alternate point of diversion
3 arises because of the diversions and use of water
4 under junior-priority rights, to the extent that
5 the water supplied to the senior could be
6 provided through an alternate point of diversion,
7 that constructing and operating that alternate
8 point of diversion may be the responsibility of
9 the junior, not necessarily the senior.

10 And so that, too, was a consideration
11 that -- you know, to the extent that a
12 junior-right holder wanted to -- in order to
13 mitigate for their depletions and provide for
14 their ongoing out of priority diversions, to the
15 extent that there was a means to construct an
16 alternate means of diversion to provide the
17 water, maybe that's something that should have
18 been part of the mitigation proposed. But it
19 doesn't necessarily arise to the -- to become the
20 responsibility of the senior.

21 And, you know, this -- I realize that
22 people don't necessarily like this particular
23 outcome, but it all depends upon what's
24 reasonable. And at least under Idaho law, that
25 seems to be under the sound

1 discretion -- hopefully, sound discretion of the
2 director. And in some instances, it may
3 reasonable for the senior to be required to
4 develop additional means of diversion, as I did
5 in the case of Clear Springs. In other cases, it
6 may be reasonable for the junior to provide
7 alternate means for diversion. It depends upon
8 the facts and the circumstances.

9 Q. If we were having the same discussion
10 relative to a bunch of ground water pumpers, and
11 if the supply were adequate, there wouldn't be
12 any concern about allowing a ground water pumper
13 to deepen his well in order to secure a supply if
14 due to drought circumstances; correct?

15 A. Correct.

16 Q. And if there were a shortfall there,
17 the priority system, would it not, deal
18 appropriately with shortfalls that may affect one
19 pumper over another, assuming that they were all
20 at reasonable pumping levels?

21 A. Correct. But there is one other factor
22 that enters in potentially between ground water
23 users, and that's direct well interference, which
24 is another factor that doesn't exist in the
25 surface water system.

1 Q. And to the extent the aquifer had
2 sufficient water for these ground water pumpers,
3 if there were a pumper that was not getting
4 water, you would have the discretion, as
5 director, would you not, to see whether or not
6 their means of diversion is at a reasonable
7 level?

8 A. Correct, or that their well was
9 constructed in a reasonable fashion.

10 Q. So if the spring users hypothetically
11 were all treated as ground water users, where
12 they have the same source or supply, would not
13 the priority system protect them, one against
14 another, if one were to drill a well into the
15 aquifer, whether it be a vertical or a horizontal
16 well? Wouldn't the priority system protect them
17 in the same way it protects different ground
18 water pumpers?

19 A. To a point. But now, to bring into the
20 analogy, you have to -- the element that you
21 raised in the ground water system was the
22 reasonable ground water level. So where is the
23 equivalent reasonable ground water level in
24 looking at possibly requiring spring users to
25 advance horizontal wells?

1 Q. So in applying this reasonable pumping
2 level principle, and reasonable means of
3 diversion principle, you would consider one
4 that's largely fact driven, it has to be analyzed
5 on a case-by-case basis?

6 A. That's correct.

7 Q. And ultimately, that requires the
8 exercise of sound judgment by the director in
9 determining whether or not some improvement in
10 the means of diversion needs to be made or not?

11 A. That's correct. All of which is
12 subject to review by the district court, if one
13 party or another believes that the determination
14 was not reasonable, was not based upon sound
15 discretion. There is opportunity for recourse.

16 Q. From a factual standpoint, do you
17 consider the source of water utilized by Blue
18 Lakes and Clear Springs to be ground water, or
19 spring water, or surface water?

20 A. Well, given the way the rights were
21 established -- given the way the rights were
22 established by the Department, in my view it's
23 clear that they are diverting from surface water
24 sources where the water is derived from ground
25 water, but they are diverting from surface water.

1 Q. What if you viewed it solely from a
2 hydrologic perspective without regard to how they
3 were licensed?

4 A. Well, as complex as all of this is, to
5 me, it becomes fairly simple on this question.
6 If it's above ground, it's surface water. If
7 it's below ground, it's ground water. So in my
8 view, unless -- but again, I'm, you know -- the
9 person in that position is constrained by how
10 rights have been legally established, and had
11 they been established as ground water, whether
12 they were above ground or below ground. That's
13 how they would have been treated. But, you know,
14 absent that, my view would be they are surface
15 water, because they are diverting from a water
16 source that is above ground.

17 Q. And then how would you treat an
18 artesian well?

19 A. Even in the case of an artesian well,
20 even where the water is being expressed above the
21 surface, the point of diversion is below the
22 surface.

23 And when I say, it's above the surface,
24 it's surface water, even if it's deriving the
25 water from ground water. That's not unlike a

1 surface water diverter diverting from the Snake
2 River from using water that's supplied by reach
3 gains.

4 So, you know, if you are diverting from
5 the reach of the Snake River that's clearly a
6 gaining reach, the gains are coming from the
7 aquifer. That's where the gains are coming from,
8 but the diversion is still surface water.

9 Q. Okay. So if the ground water pumper is
10 diverting, because his pipe is below ground, that
11 would clearly be ground water?

12 A. In my view, yes.

13 Q. But if the flows were coming out by
14 reason of artesian pressure because it emerges at
15 the surface, you would consider that surface
16 water?

17 A. No, because the artesian well was
18 completed in ground water.

19 Q. I guess you consider an artesian well
20 ground water, then?

21 A. Yes.

22 Q. In your view, does the Department have
23 discretion in administering hydrologically
24 connected ground water and surface water in a
25 manner that makes hydrological sense, or

1 hydrogeological sense?

2 A. Yes.

3 Q. When you administered these calls, how
4 did you give consideration to the applicability
5 of the principles under the Ground Water Act that
6 state that reasonable pumping levels must be
7 established?

8 A. That really wasn't, in my mind, a
9 factor that I considered in administering these
10 calls. In my mind, that would be more of a
11 factor in administering calls between ground
12 water to ground water rights. And in addition to
13 that, as you know, there are no reasonable ground
14 water levels that have been established.

15 Q. So when a surface water user then, such
16 as the spring users, considered to be surface
17 water users, make a call against the ground water
18 users, is the Ground Water Act applicable that
19 deals with maximum beneficial use, full economic
20 development --

21 A. Of course --

22 Q. -- is it considered in that regard?

23 A. Of course it's applicable to the extent
24 it's not in conflict with other law.

25 Q. With respect to these reasonable means

1 of diversions of the spring users, the
2 determination, as I understand it, is one that
3 you made in advance, that they shouldn't be
4 required to have to drill wells and improve their
5 diversions?

6 A. Yes. But when I say, I made it in
7 advance, it's because I considered the outcome of
8 what would happen. And I tested that with, you
9 know, other employees here at the Department that
10 had hydrogeologic expertise in terms of what
11 would be the result.

12 Q. So was that made simply as a general
13 conceptual policy/procedure, or was there some
14 kind of analysis of the costs involved in
15 drilling wells, or anything of that nature?

16 A. No, it was really conceptual policy
17 level determinations.

18 Q. And with respect to the feasibility of
19 recirculating water in the analysis of the costs
20 and feasibility of that, that had been performed
21 by the Department, that you know of?

22 A. Not that I know of.

23 Q. In the course of responding to these
24 delivery calls, did you make any attempt to try
25 to compare the inflow records of water into these

1 facilities with their discharge records?
 2 A. Well, in some cases, the measurements
 3 are made at the discharge location, not the
 4 inflow location. Now, I don't recall exactly
 5 which facilities those are. But because the uses
 6 are nonconsumptive, other than diminimus
 7 evaporation, these rights are administered as
 8 though inflow equals outflow.
 9 MR. BUDGE: Do you want to take a
 10 ten-minute break?
 11 THE WITNESS: That's fine.
 12 (A recess was had.)
 13 MR. BUDGE: Let's go back on the
 14 record.
 15 Q. (BY MR. BUDGE) So before we leave this
 16 reasonable means of diversion topic, would you
 17 agree that it may be physically feasible for the
 18 spring users to drill a well, either vertical or
 19 horizontal, to improve their supplies, and that's
 20 not a matter that you investigated or analyzed as
 21 to whether that was economically feasible,
 22 because you had made a previous decision not to
 23 go down that road?
 24 A. Yeah, I had decided previously that it
 25 was -- that such a course was not reasonable.

1 pre-development.
 2 So we did an analysis of spring
 3 discharge during the period of development up
 4 through licensing, and we contrast -- we
 5 compared, or I compared, those measured
 6 discharges with what had happened since
 7 licensing.
 8 Q. And why did you consider that to be
 9 important?
 10 A. Well, it was, and still is my view,
 11 that the maximum quantity authorized to be
 12 diverted under a water right has to have been
 13 diverted and applied to beneficial use. And when
 14 you look into the history of how these spring
 15 rights were being licensed, many, if not most of
 16 the holders of these rights, sought to have the
 17 rights licensed at the time that the spring
 18 discharge was a maximum, because they were trying
 19 to -- I mean, presumably, they were trying to
 20 maximize, or get the largest authorized maximum
 21 diversion rate that they could, that they could
 22 demonstrate that they diverted and applied to
 23 beneficial use, and that's perfectly appropriate.
 24 But I was looking to confirm that the
 25 quantity that was licensed had actually been

1 Q. But you wouldn't disagree that it may
 2 be physically feasible to drill a well of some
 3 sort to improve their supplies?
 4 A. Well, hypothetically, it's physically
 5 possible. Whether it's physically feasible, we
 6 didn't look at anything that specifically.
 7 Q. As I understand, you made an analysis
 8 of the changes in the spring discharges that
 9 supplied Blue Lakes and Clear Springs, comparing
 10 the pre-development discharges with the
 11 post-development discharges?
 12 A. Whose development?
 13 Q. Well, take your choice, either Blue
 14 Lakes or Clear Springs. And I was talking,
 15 generally. You made a general analysis of spring
 16 discharge in the Thousand Springs Reach to try to
 17 compare discharges in that reach with the
 18 pre-development period as contrasted with the
 19 post-development period?
 20 A. I don't think that's accurate. What I
 21 did was I looked at the documented measured
 22 diversions to beneficial use that had made
 23 through -- in some cases, the development of the
 24 permit period but certainly up to the point of
 25 licensing, but I wouldn't call that

1 diverted and applied to beneficial use. And then
 2 I wanted to see how that had changed with time
 3 subsequent to being licensed.
 4 Q. And from your evaluation, was it your
 5 view that they had been licensed based upon an
 6 actual quantity diverted and applied to
 7 beneficial use, as opposed to some projected
 8 expansion of spring facilities that would enable
 9 them a use of supply?
 10 A. In these particular calls, I was
 11 convinced that they had actually diverted the
 12 quantity that had been licensed, and applied that
 13 quantity beneficially.
 14 Q. And I believe you also made an analysis
 15 that gave rise to Attachment A to both orders,
 16 which is the average annual spring discharge to
 17 the Snake River Thousand Springs Reach looking at
 18 a 1902 to 2004 period?
 19 A. Yeah, that graph in Attachment A was
 20 generated from USGS data that is collected and
 21 evaluated -- I'll say, evaluated. It's collected
 22 and processed annually, and it has been for a
 23 long period of time. And it provides a useful
 24 indicator of what the total spring discharge is
 25 in the Thousand Springs area, which comprises

1 many different individual springs in a number of
2 specifics, what we call, spring reaches, which is
3 an assimilation of various spring complexes.

4 Q. So was Attachment A something you had
5 generated, or was that simply reproduced from
6 something that USGS or the modeling folks
7 generated?

8 A. I generated Attachment A using a plot
9 that was provided to me by one of the
10 hydrologists here at the Department, who had
11 obtained the data directly from the USGS.

12 Q. And why was the time period, commencing
13 with the time period of 1902, selected as opposed
14 to some earlier date?

15 A. To my knowledge, that's the earliest
16 date that these cumulative spring measurements
17 had been determined. I'm not aware of any data,
18 other than perhaps some qualitative data that may
19 exist in some of the USGS reports. But this is
20 the first quantifiable data that I'm aware of.

21 Q. And would irrigation have been
22 occurring on the East Snake Plain Aquifer prior
23 to 1902?

24 A. Yes.

25 Q. And when would that have commenced,

1 pre-irrigation condition would have been. But
2 that's not to say that there couldn't be some
3 influence from early irrigation. There could be.
4 But in 1902, the surface water irrigation on the
5 Eastern Snake Plain had not been fully developed.

6 Q. In looking at this Attachment A, that
7 reflects the flows' increase over time from 1902
8 up until 1952. Can you describe what you would
9 believe to be the cause of that increase
10 reflected in Attachment A?

11 A. Let me look at this for you for a
12 minute. When you look at the sources of recharge
13 to the Eastern Snake Plain Aquifer, which then
14 becomes the source of water for the springs
15 discharged in the Thousand Springs area, the
16 orders that I had issued in these matters define
17 the source of recharge for the aquifer as being
18 in order of magnitude, incidental recharge
19 associated with surface water irrigation,
20 precipitation, underflow from tributary drainage
21 basins, and losses from the Snake River and
22 tributaries.

23 So when you look at which of those
24 factors could vary so significantly to cause the
25 spring discharge, the accumulative spring

1 approximately, if you know?

2 A. Oh, boy. The mid -- I don't recall the
3 exact priority date of the earliest right for
4 irrigation on the Eastern Snake Plain, but it's
5 in the mid 1800s, 1850s, more or less.

6 Q. So was it your opinion that Attachment
7 A and the discharge levels in the Thousand
8 Springs Reach depicted the early use of this
9 graph in 1902 would have already been exhibiting
10 some influence from flood irrigation practices on
11 the plain?

12 A. Potentially, but we don't know.

13 Q. Would you have reason to believe, or
14 could you form an opinion as to whether or not
15 the discharges in the Thousand Springs Reach
16 would have been likely lower or higher in the
17 years prior to 1902 as a result of the influence
18 of incidental recharge from irrigation?

19 A. I don't have a basis to form such an
20 opinion. In the public statements that I've made
21 on this subject, you know, I presumed that the
22 early years of this sequence provided total
23 average spring discharges of about 4,200 cubic
24 feet per second. And that, you know, to the best
25 that I know, that's probably close to what the

1 discharge increased from around 4,200 cubic feet
2 per second to somewhere around 6,800 cubic feet
3 per second in the early 1950s.

4 There was no indication that
5 precipitation was changing that much. Underflow
6 from tributaries is subject to both precipitation
7 and irrigation practices in those tributary
8 drainage basins. And there is no reason to
9 believe that the losses from the Snake River were
10 changing that much.

11 So the only factor by process of
12 elimination that this increase could reasonably
13 be the result of, is incidental recharge from
14 surface water irrigation.

15 Q. And if you look at the period from the
16 early 1950s on forward, where you see steady
17 declines in those discharges, what would be the
18 factors that you believe were causing those
19 declines?

20 A. Well, again, there is no indication
21 that precipitation was varying that significantly
22 across that entire time period. And, again, by a
23 process of elimination, you are left with two
24 things that were happening.

25 First, beginning in the early 1950s,

1 the data that the Department has shows that the
2 development of ground water began increasing
3 dramatically, very dramatically in the early
4 1950s. And the second thing that began occurring
5 at that period of time, is that the surface water
6 irrigators began converting from flood irrigation
7 to sprinkler irrigation.

8 So two things were occurring. There
9 was a reduction in incidental recharge associated
10 with surface water irrigation, because the amount
11 being diverted for surface water irrigation
12 decreased, because of the use of sprinkler
13 systems.

14 And then secondly, the amount of ground
15 water being withdrawn for irrigation was also
16 dramatically increasing based upon the numbers of
17 permits for ground water appropriations that the
18 Department was issuing. And so those two factors
19 combined to reduce the amount of water that was
20 going into the aquifer, at the same time that the
21 amount of water that was coming out of the
22 aquifer for ground water irrigation was
23 increasing.

24 Q. And when you talk about conversion to
25 sprinklers, some of the records produced in the

1 say that all of the canal companies began
2 converting to sprinklers at the same time
3 uniformly during that time period. There were
4 different factors that were causing it to happen
5 in different systems. But it was happening.

6 Q. And after Palisades Dam was built in
7 the late '50s, there is indication in the records
8 that all or most of the canal companies, a number
9 of them, entered into these so called winter
10 water savings agreements, where they ended the
11 practice of running water in their canals in the
12 summer. And by contract agreed to store them in
13 the reservoir system. Would that have also been
14 a factor?

15 A. That also would have contributed to the
16 decline in reducing the time period that water
17 was diverted in these canal systems. It would
18 have reduced the incidental recharge associated
19 with the canal losses. However, even though that
20 is a factor, I think the two larger factors are
21 the development of ground water during that time
22 period, coupled with the loss of incidental
23 recharge associated with conversion to sprinkler
24 systems.

25 Q. I think you made the comment earlier,

1 Surface Water Coalition calls indicated that the
2 North Side Canal Company had converted from being
3 100 percent flood irrigator at one point in time
4 to now, where they are 85 percent sprinkler
5 irrigation. Would that be the factor you are
6 referring to?

7 A. That would be correct. I can't speak
8 to whether it's 85 percent, or something less
9 than that. I don't know.

10 Q. And during this same time period, 1950
11 on, was there a significant reduction in the
12 diversions by all the canal companies, or most of
13 the canal companies throughout the Eastern Snake
14 Plain into their systems as well that would be a
15 contributing factor to that reduction?

16 A. Well, the canal companies began
17 converting to sprinklers at different points in
18 time. I mean, for example, the canal companies
19 in the uppermost portion of the Snake River, some
20 of them did not convert to sprinklers until after
21 the Teton Dam failed.

22 And when those irrigation systems were
23 replaced following the damage associated with
24 Teton Dam, they went back in -- many of them went
25 back in as sprinklers. So I don't think you can

1 something to the effect that the Department would
2 not have any authority or right to compel the
3 resumption of those inefficient irrigation
4 practices that existed prior to 1950. Can you
5 explain what you mean by that?

6 A. Well, first off, I would characterize
7 them as not necessarily being inefficient, but
8 less efficient, because the
9 standards -- certainly, what's efficient changes
10 with time.

11 The rights that had been established
12 for surface water irrigation, many of them had
13 already been decreed by a court. And the
14 Department does not have the authority to go
15 behind the decree and determine that something
16 has -- basically, the Department can't come in
17 and unilaterally change the quantity that's been
18 decreed as the maximum amount that's authorized
19 to be diverted.

20 But having said that, regardless of
21 whether a right has been licensed, or decreed, or
22 for what quantity, the right holder is not
23 entitled to divert water to waste. In other
24 words, they can only divert, under my
25 understanding of the prior appropriation system,

1 they can only divert what they need. They are
2 not allowed to divert substantially beyond the
3 need for purposes of waste.

4 But at the same time, so long as the
5 irrigator is not employing a wasteful practice,
6 the Department doesn't have the authority to
7 require an irrigator to implement a more
8 efficient means.

9 So in today's context, sprinkler
10 systems are generally viewed as an efficient
11 means of irrigation. A more efficient means of
12 irrigation in some instances could be a drip
13 system. But the Department does not have the
14 authority to compel use of a drip system. And on
15 the other side of the issue, just as we can't
16 compel a more efficient use of a drip system, we
17 can't compel an irrigator to go back and use a
18 less efficient means of irrigation based upon how
19 that right was originally established. That's
20 not within our authority to do.

21 All that we can look at is determine
22 whether or not the diverter is diverting the
23 water for a beneficial use, and whether or not
24 there is an unreasonable amount of waste
25 associated with that. But in terms of requiring

1 diminished over time consistent with the pattern
2 of the overall discharges in the Thousand Springs
3 area shown in Attachment A?

4 A. More or less, that's correct. But the
5 pattern shown in Attachment A reflects the
6 cumulative discharge from all spring complexes,
7 and not all spring complexes diminished or
8 changed in discharge to the same extent. It
9 depends on the particular spring complex, and the
10 geologic factors associated with that spring
11 complex, coupled with the other things that were
12 changing/affecting the amount of recharge to the
13 aquifer system.

14 Q. Looking at Attachments C and D, which
15 is a graphic depiction of flows of Snake River
16 Farms in C, and Crystal Springs Farms in D. Can
17 you explain the significance of the period
18 analyzed, which only went back to 1988 in these
19 attachments?

20 A. Well, Attachment C goes back to 1988,
21 and Attachment D goes back to 1978. There really
22 is no significance to the time periods, other
23 than this is all of the data that we had
24 available at the time that these orders were
25 issued. This was all that we had. And most of

1 an irrigator that's converted to a sprinkler
2 system to readopt flood irrigation, that's not
3 within the discretion or the authority of the
4 Department.

5 Q. So if I understand your earlier
6 comments, although one may have an authorized a
7 decree of quantity of water right, the concepts
8 of wastes and beneficial use would still be
9 considered limiting factors?

10 A. Absolutely. You know, generally, in
11 the west, including Idaho, you know, generally
12 followed Colorado's implementation of the prior
13 appropriation system, that statement is correct.

14 Q. You indicated earlier that you had
15 actually looked at the individual rights for the
16 Blue Lakes facility and also for the Snake River
17 Farms' facility owned by Clear Springs to
18 determine to what extent their discharges may
19 also have changed from the time their rights were
20 established. And I think some of those findings
21 of that analysis would be reflected in your
22 findings of fact in the order?

23 A. Correct.

24 Q. And generally, would it be accurate to
25 say that the discharges from those springs

1 these measurements were self-reported by the
2 spring user. So it reflects when they began --
3 I won't say maintaining -- but when they begin at
4 least submitting their measurement records to the
5 Department.

6 Q. Would it be a more accurate way to
7 analyze what had happened to their flows, if you
8 had this same information going back from the day
9 each right was established?

10 A. That would be a more complete picture.
11 But I don't know that it would be more accurate.
12 I mean, it's limited, because of the data that's
13 available. But it's not less accurate. It just
14 isn't as complete of a picture.

15 Q. You considered the information you had
16 available on this particular time period to be
17 sufficient for purposes of the findings you made
18 and the conclusions you made?

19 A. Coupled with the additional measurement
20 information that was available in the water right
21 records upon which licensing was based.

22 Q. We talked about various factors that
23 would cause a decline in the spring flows at
24 these particular discharges at Snake River Farms
25 and Blue Lakes, as well as the Thousand Springs

1 area as a whole, was there any attempt made by
2 the Department to quantify what portion of the
3 diminished flows would be attributable to one
4 factor or for another?

5 A. Only in general terms. We did do some
6 work, and I don't have it with me, and I can't
7 tell you exactly where it's located in the
8 Department's files. But there was some analysis
9 done of the relative magnitude of the changes
10 that were occurring.

11 And our conclusion at that time was
12 that the largest change, in terms of quantity of
13 water, was associated with the loss of incidental
14 recharge. But having said that, that may have
15 been the largest. But that certainly didn't
16 render the amount of depletion that was occurring
17 from ground water withdrawals to be
18 insignificant. They were both major factors.

19 Q. And the reason that the quantification
20 of the impact of ground water pumping was
21 analyzed on the model was because that was the
22 one factor you would have control over?

23 A. Correct.

24 Q. Did you see any reason --

25 A. Let me qualify that, though.

1 when they made their appropriation.

2 But to the extent -- I have to qualify
3 that -- to the extent that ground water
4 depletions are reducing the quantity available to
5 a senior-right holder, and that quantity is
6 within the authorized maximum use authorized, and
7 that quantity, if it were available, would be
8 beneficial used, then the junior ground water
9 right holders would be responsible that their
10 depletions would be construed to be injury.

11 Q. Well --

12 A. But only up to the extent of the
13 depletions. The ground water users can't be
14 responsible for the amount of water available
15 beyond what's being removed from their
16 depletions.

17 Q. And doesn't that underscore the
18 importance of and significance of going back and
19 looking at these supplies that were available
20 when their water rights were established to
21 understand intra-year variations and inter-year
22 variations, to make sure that you aren't trying
23 to curtail ground water pumpers to supply some
24 quantity, or some level of certainty, that they
25 wouldn't have under conditions unaffected by

1 Q. Okay.

2 A. It's correct to a point. I mean,
3 although the Department can't control and require
4 less efficient use of surface water to increase
5 incidental recharge, certainly recharge is a
6 beneficial use in Idaho. And we certainly can
7 use the model to evaluate the effects of
8 intentional recharge conducted pursuant to water
9 rights for that purpose.

10 Q. Would you agree that junior ground
11 water pumpers should only be responsible for the
12 depletion they cause that results in material
13 injury to a senior user?

14 A. Yes.

15 Q. And so you would agree that the water
16 right holder making a call should not be able to,
17 by curtailing ground water pumpers, a supply of
18 water that would be greater in quantity, or
19 greater in certainty than they had at the time
20 their right was established?

21 A. Well, in general a right holder
22 is -- the principle in the prior appropriation
23 system, is that a right holder is not entitled to
24 enhanced hydrologic conditions, or an enhanced
25 water supply of conditions beyond what existed

1 ground water pumping?

2 A. Well, not necessarily. I mean, I don't
3 think it -- these other factors that make this so
4 complex, the inter-year variations, the
5 intra-year variations, those go to the difficulty
6 in determining whether ground water depletions
7 are or are not causing injury.

8 But if the ground water depletions are
9 causing injury, that's the level of
10 responsibility that resides with the right
11 holder. And if their depletions are causing
12 injury, they either need to mitigate that injury
13 or curtail. And that's regardless of what other
14 factors are affecting the water supply available.

15 Q. What you described is essentially the
16 bottom line of the difficult issue you had to
17 decide in this case. That being, exactly what
18 portion -- well, I suppose the threshold
19 question: Is a material injury occurring? And
20 if so, what portion of that is attributable to
21 ground water depletions, if they are responsible?

22 A. I would probably phrase it a little
23 differently. I would say, what's been the
24 reduction in water supply available to the
25 seniors? And what portion of that reduction is

1 attributable to ground water depletions, and
2 would be then potentially determined as being
3 material injury?

4 Q. Let's look at the futile call doctrine,
5 which was defined in Conjunctive Management Rule
6 20.04.

7 A. (Witness complying.)

8 Q. The second sentence of that states
9 that, "The principle futile call applies to
10 distribution of water under these rules."

11 And I suppose you've spent considerable
12 time analyzing the definition of "futile call,"
13 which I think is in 10.08 of the rules back on
14 page 3?

15 A. That's correct. And this definition of
16 a futile call is consistent with the Department's
17 and with my application of the doctrine in other
18 settings. The Big Lost River being probably the
19 one where this has come up, at least during my
20 time here, the most frequently.

21 Q. And when you look at that definition in
22 10.08 of "futile call," it talks about after
23 being satisfied within a reasonable time of the
24 call by immediately curtailing diversions.

25 The time factor becomes pretty

1 And that's why I believe my predecessor
2 crafted the rule the way he did. Okay. The call
3 may be denied under the futile call doctrine, but
4 that doesn't mean that there is not injury that
5 requires mitigation.

6 Q. So in responding to these particular
7 delivery calls, how did you apply that futile
8 call doctrine in arriving at the priority date,
9 the trim line drawn, all those factors, which I
10 assume came into consideration?

11 A. The orders that I issued did not focus
12 on futile call. They focused on injury. And so
13 to the extent that ground water depletions were
14 causing injury that had not been mitigated, then
15 the options that were laid out were curtailment
16 by priority irrespective of the futile call,
17 replacement of water directly to the ground
18 holder, mitigation to the spring reach in
19 general, or substitute curtailment.

20 Q. When you read under the Rule 20.04, the
21 call may be denied, you were interpreting that
22 you may have the discretion to deny it on the
23 ground of futile call, or essentially, look at
24 what the impacts might be, and then require some
25 mitigation of those impacts?

1 significant under that definition. And would you
2 agree? Meaning, the time factor in the response
3 to the call?

4 A. I would. But I would point you back to
5 Rule 20.04, after the sentence that you were
6 referring to. Where it says, "Although a call
7 may be denied under the futile call doctrine,
8 these rules may require mitigation or staged or
9 phased curtailment of a junior-priority use if a
10 diversion and use of water by the holder of the
11 junior-priority water right causes material
12 injury, even though not immediately measurable."

13 And how I would characterize that
14 provision, and I agree with it, is that in a
15 surface water system, just surface water rights
16 to surface water rights, if a call is futile,
17 there is no injury.

18 Q. Okay.

19 A. But in a ground water system that's
20 hydraulically connected to a surface water
21 system, the call could be futile, because of the
22 time period in which water would be made
23 available to the senior. But because of the time
24 delay in depletions, there may still be injury,
25 even though the call is futile.

1 In other words, that was a
2 discretionary decision that you made not to apply
3 the futile call doctrine?

4 A. I'm not sure I would say it was
5 entirely discretionary, because I made the
6 determination that injury was occurring; and
7 therefore, it didn't matter whether the call was
8 futile or not. The injury had to be mitigated.
9 And absent mitigation, curtailment was the only
10 course that could be implemented.

11 Q. Then how do you explain the trim line
12 that was drawn? That if pumpers were outside the
13 trim line, they were not subject to the call.
14 And if they were inside the trim line, they were
15 not subject to the call. That doesn't consider
16 the futile call doctrine in the sense that you
17 have to look at the time delay of water being
18 delivered from some remote distance.

19 A. Time delay was not the issue in the
20 trim line. The trim line was established based
21 upon the uncertainty in the simulated depletions
22 resulting from model calibration, the uncertainty
23 in depletions from those ground water diversions.
24 I didn't say that very succinctly. Let me try
25 that again.

1 The trim line was based upon the
2 uncertainty and the simulated depletions
3 associated with ground water diversions given the
4 uncertainty in the calibration of the ground
5 water model. It had nothing to do with time.
6 Because the uncertainty was evaluated at a steady
7 state, not under transient conditions.

8 Q. On that particular subject then -- and
9 we'll get to it later in your findings -- was
10 this plus or minus ten percent certainty?

11 A. Correct.

12 Q. And that's what you considered to be
13 the calibration of uncertainty?

14 A. Correct.

15 Q. And would that be based upon the lack
16 of procedure, or uncertainty, or preciseness of
17 the ability to measure the gages that were used
18 for purposes of calibration of the model?

19 A. Correct. The model can't be -- the
20 certainty of the model can't exceed the certainty
21 of the data to which the model was calibrated.
22 And the determination that we made was the most
23 uncertain components of what we were calibrating
24 to, were the measured reach gains based upon USGS
25 stream gages. That while those gages are rated

1 or minus ten percent when you try to determine
2 that accuracy level?

3 A. Well, this was not based upon a single
4 gage. I mean, the determination of a reach gain
5 or loss requires two gages. So what we're saying
6 is that when you are looking at the mass balance
7 between two gages, the results of that mass
8 balance could be off ten percent in either
9 direction just because of the inability to
10 measure it more precisely in the natural
11 environment that these gaging stations are
12 located.

13 Q. Now, if the futile call doctrine was
14 not considered, is what you are saying, when you
15 made the decision where to curtail, you didn't
16 give consideration to the time factor of when
17 water from a particular curtailed well might
18 arrive at a springs?

19 A. We did.

20 Q. Was that through the model's
21 replication of when steady state would occur?

22 A. No. I don't remember which rule it is.
23 I probably can find it here.

24 Q. Are you talking about the phased-in?

25 A. Correct.

1 as good by the USGS, that the uncertainty in a
2 good gage is plus or minus ten percent.

3 Q. So when that calibration occurs, is it
4 occurring to multiple sets of data from multiple
5 measuring points?

6 A. The calibration sought to match the
7 model simulations to 20 years -- 22 years, I
8 believe, of recorded reach gains determined from
9 these USGS stream gaging stations, and ground
10 water levels, thousands and thousands of ground
11 water levels across the plain. And more
12 importantly, perhaps for this -- well, not more
13 importantly. Just as important for this is the
14 measured spring discharge, which we were very
15 interested in having the model replicate.

16 Q. So if these gages that we're using in
17 the calibrations, were considered to be a "good
18 rated gage" by USGS, that meant that they would
19 have an accuracy of plus or minus ten percent?

20 A. Yes.

21 Q. So they could be off anywhere from a
22 plus ten to a minus ten, that would be the range?

23 A. That's correct.

24 Q. And does it make any difference if you
25 have multiple gages, or a single gage that's plus

1 Q. That's 40.01.a.

2 A. Okay. 40.01.a does allow the phased-in
3 curtailment over a period of not more than five
4 years. So when we looked at -- when we
5 determined this clipped area, based upon the ten
6 percent uncertainty in the gaging, essentially,
7 clipping out ground water uses and diversions
8 where less than ten percent of the depletion was
9 expressed in the hydraulically connected surface
10 water sources, clip those out.

11 Q. Okay.

12 A. Then we looked at what would happen if
13 ground water use within that remaining area was
14 curtailed, how much water would accrue to the
15 hydraulically connected surface water sources
16 after one year, after two years, after three
17 years, after four years, and after five years, as
18 well as at steady state. And, actually, it was
19 primarily at steady state. The transient
20 condition was not given as much weight as the
21 steady state was.

22 Q. Okay.

23 A. So then we said, okay. That's the most
24 that the senior surface water rights would
25 realize from administration of their delivery

1 call. We clipped the ground water use down to
2 the area where we're certain injury is occurring.
3 The most it could -- that could -- that the
4 surface water users could realize is water that
5 would accrue from curtailment in that area where
6 we're certain water would result, and that can be
7 phased in over five years.

8 So then we went in terms of replacement
9 water or mitigation, at least -- yeah. In terms
10 of replacement water mitigation, we said, okay.
11 If the ground water folks can provide a like
12 quantity of water to the spring reach, through
13 whatever -- whether it be conversions from ground
14 water irrigation to surface water irrigation,
15 intentional recharge, substitute curtailment,
16 whatever they can provide, as long as at steady
17 state it would equal the amount that would accrue
18 during that phase of curtailment, they would be
19 allowed to continue to divert out of priority.
20 So even in that instance, we did not focus on the
21 futile call. We focused on the depletions at
22 steady state.

23 Now, having said that, I want to go
24 back and look at a provision in the order to make
25 sure that I've stated this correctly.

1 A. It depends on the proximity of the
2 well. I mean, steady -- if the well is close,
3 located very close to the springs, steady state
4 conditions could occur very quickly in a matter
5 of a year, or a few years. But then the further
6 back away from the springs or any connected reach
7 of the Snake River you go, then it takes longer
8 to reach steady state conditions, and that could
9 take 30 years if you get far enough back.

10 Q. So any well, which if curtailed,
11 resulted in ten percent of that amount showing up
12 at the reach based on the model at steady state,
13 would be subject to curtailment?

14 A. State that again for me, please.

15 Q. Well, I'm trying to understand. If a
16 well is to be curtailed, your decision would be
17 made based upon whether or not the model would
18 show -- ten percent or more of the depletion from
19 that well would show up in the reach at steady
20 state, that would be subject to curtailment?

21 A. Correct.

22 Q. And if it was less than ten percent
23 would show up at steady state, they would not be
24 subject to curtailment?

25 A. That's correct. And let me describe

1 Q. Go ahead.

2 A. I'm looking for the order of Blue
3 Lakes, and I'm not finding that.

4 MR. SIMPSON: Karl, I think that would
5 be somewhere in the thirties.

6 THE WITNESS: Okay. Well, let me
7 continue looking at the Clear Springs. Phil's
8 got it.

9 MR. RASSIER: It's Exhibit 33.

10 THE WITNESS: Okay. I won't ask you to
11 read back what I said. I think what I said was
12 right. It was based upon, in all cases, steady
13 state conditions.

14 Q. (BY MR. BUDGE) I apologize for being
15 slow in understanding this trim line. But did I
16 understand you correctly that you were looking to
17 determine if ten percent of the curtailed water
18 was going to show up in the reach within one
19 year, then they would be subject to curtailment?

20 A. No. Ten percent in steady state
21 conditions.

22 Q. Ten percent at steady state conditions.
23 Okay. And what would those steady state
24 conditions be? What kind of a time period is
25 that?

1 the principle involved with that. You know, the
2 senior water rights clearly have the first
3 opportunity to use the available water supply if
4 they can use it beneficially without unreasonable
5 waste.

6 And the juniors have, if you will,
7 secondary rights. You might characterize them as
8 secondary rights. But even though they are
9 junior or secondary, they are still real rights.
10 And when I say, "real rights," they are real
11 property rights.

12 And although government has the
13 authority to regulate real property, it cannot do
14 so carelessly without certainty. And so the
15 reason that this trim line was used was to focus
16 on the ground water rights that were
17 causing -- that we were certain were causing
18 injury, not those that may or may not be causing
19 injury.

20 And so we were willing to defend our
21 determination, that within that area clipped with
22 this ten percent, the remaining rights in that
23 area, we believed we could defend were causing
24 injury with certainty.

25 In the gray area -- not the gray

1 area -- not a good characterization. In the area
 2 that comprised this area that was clipped out
 3 under this ten percent criteria, curtailing
 4 ground water in that area, whether or not it
 5 would produce any meaningful supply at steady
 6 state conditions, notwithstanding the futile
 7 call, was uncertain. And beyond that area, we
 8 were certain that curtailing ground water would
 9 not provide a meaningful supply at steady state
 10 conditions.

11 And then the flip side of that is that
 12 we applied the same criteria to mitigation
 13 actions. And we were not willing, or we didn't
 14 believe it was appropriate -- I shouldn't say
 15 "willing." That implies discretion. It wasn't
 16 appropriate to give credit for mitigation, unless
 17 we were certain it would produce water.

18 And so, again, in this ten percent
 19 zone, mitigation in that area, we couldn't be
 20 certain that it would produce meaningful water at
 21 steady state conditions to the senior-right
 22 holders.

23 So on the one hand, we clipped out the
 24 potential for curtailing real property rights
 25 where it was not certain that there would be any

1 training. But he certainly would have to be
 2 considered an expert in this whole area. And I
 3 relied on his recommendations, but applying my
 4 own professional judgment.

5 So is it arbitrary? No. Is it a
 6 judgment? Yes. But to do otherwise would have
 7 put us in a position where we would have -- were
 8 potentially going to curtail rights, where we
 9 weren't certain it would produce results, and I
 10 think that action is contrary to law.

11 You don't curtail junior-priority
 12 rights to see if it might make a difference.
 13 That's not the standard. You curtail
 14 junior-priority rights when it will make a
 15 difference.

16 Now, how can I say that so
 17 definitively? That's what the futile call
 18 doctrine is based on. It's exactly what it's
 19 based on. Under the futile call doctrine, you
 20 don't curtail a junior just because he's junior,
 21 just because he's diverting from the same source,
 22 or just because he's diverting from a
 23 hydraulically connected source.

24 You curtail the junior if it will make
 25 a difference to the senior, a substantial or a

1 meaningful benefit to the senior. And on the
 2 same token, we clipped out mitigation areas where
 3 we weren't certain that it would provide a
 4 meaningful benefit to the senior-right holder.

5 But, you know, it goes to the simple
 6 principle that you don't curtail rights that you
 7 are not certain will produce results. You don't
 8 give credit for mitigation that you are not
 9 certain will produce results.

10 Q. I think you answered the question, but
 11 I'm going to ask it another way. The
 12 consultants -- I think all the consultants for
 13 the spring users have criticized the ten percent
 14 principle, and have asserted that the ten percent
 15 principle and the trim line is arbitrary and
 16 capricious.

17 What would you say in defense of that
 18 principle? Maybe what you've already said, but I
 19 wanted to ask you from that kind of question --

20 A. Well, it wasn't arbitrary. It was
 21 based upon analysis and evaluation and
 22 professional judgment conducted by myself and
 23 Allan Wylie, and I relied heavily on Allan Wylie,
 24 as a -- well, he has a Ph.D. in hydrology, and I
 25 can't recite the specifics of his academic

1 measurable difference. I'm not sure what
 2 right -- maybe substantial isn't the right level.
 3 But certainly measurable is the right level, and
 4 if it doesn't make a measurable difference. Or
 5 if the senior is not in a position of using the
 6 water beneficially without waste, you don't
 7 curtail the junior. Because if you do, what you
 8 end up doing is wasting the resource.

9 And, you know, it's not necessarily
 10 directly applicable. But, you know, in Colorado
 11 this past year, junior-priority well owners in
 12 the South Platte River were curtailed. And
 13 something on the order of 40,000 acre-feet of
 14 water went down the South Platte, out of state,
 15 unused, because these juniors were curtailed.

16 And, you know, you have to ask the
 17 question: Why? Because that 40,000 acre-feet
 18 under the applicable laws in Colorado and under
 19 interstate compacts was available to be used in
 20 Colorado, but it wasn't, because the wells were
 21 curtailed.

22 Q. And that would be an example that you
 23 would say, the principle of wastes would be
 24 violated?

25 A. Not wastes. No, not wastes.

1 Q. Of beneficial use?

2 A. Well, no. Let's go back to the -- to
3 some of the -- to a central principle in the
4 prior appropriation system. Certainly, the core
5 principle that everybody points to is first in
6 time, first in right.

7 But an equally important principle is
8 the principal of what in Idaho law is called
9 "optimal use." In Colorado law, it's called
10 "maximum utilization." In the Ground Water Act,
11 it's referred to as "full economic development."

12 And the idea, or the principle involved
13 is that water in the West is scarce. And we're
14 going to give -- we're going to provide a system
15 that provides certainly for the seniors, but yet
16 allows for the full, or optimal, or maximum use
17 of this limited resource.

18 And as a result of that principle, we
19 allow juniors to come in to the system and
20 appropriate water that's been unappropriated, or
21 is otherwise not being used. If it weren't for
22 this principle of optimal, or maximum, or full
23 economic development, you would reach a point
24 where you wouldn't let the juniors in. Why?

25 Well, because the seniors might need the water

1 economic development?

2 A. No, I wouldn't say the trim line was
3 the only expression of that. I mean, the whole
4 approach that was outlined in the order was
5 attempting to provide for optimal use or full
6 economic development.

7 Again, you go back to the alternatives
8 that the junior ground water holder will get.
9 You're junior. You are causing injury; so
10 therefore, you face curtailment. Unless what?
11 Unless you can replace the amount of water
12 associated with your injury directly to the
13 senior-right holder, or you can provide an
14 equivalent amount of water to the reach through
15 mitigation activities, whatever those might be,
16 or you employ subsequent curtailment, rather than
17 have the state curtail strictly based upon
18 priority.

19 Ground water districts that were
20 created largely for the purpose of mitigation, if
21 you are able to reach agreement amongst
22 yourselves on which acres will be curtailed that
23 will produce an equivalent amount of water at
24 steady state conditions to what would have been
25 achieved through curtailment by priority, fine.

1 someday.

2 But that's not how the system works.
3 We don't preclude a junior from appropriating
4 unappropriated water, because the senior might
5 need it. We allow the junior to appropriate the
6 unappropriated water, recognizing that that
7 junior may, under some set of circumstances, be
8 curtailed, so that the senior is able to divert
9 the water to which he was entitled to first.

10 Q. And what you just described seems to be
11 exactly what Rule 20.03 is trying to embody,
12 using the concepts of what you said, optimal
13 development of resources in the public interest,
14 it's reciting -- Article 15, Section 7 of the
15 Constitution, cites, "full economic development,"
16 and we have public policy of reasonable use in
17 the water.

18 So all of those Rule 20.03 factors are
19 what you are describing, and what you were giving
20 consideration to when you made your decision and
21 adopted the ten percent trim line at steady
22 state?

23 A. That's correct.

24 Q. And would that be to the extent that
25 you gave consideration to this concept of full

1 And the concept of replacement water, mitigation,
2 or substituting curtailment, those were all
3 founded on this principle of making optimal or
4 maximum utilization of a resource.

5 Q. In 40.01.a in dealing with this same
6 concept, response to delivery calls, it indicates
7 that the director has discretion in phasing in a
8 curtailment over not more than five years to
9 lessen economic impacts to meet incomplete
10 curtailment.

11 And I believe that's the rule you
12 relied upon in providing for the five-year
13 impact?

14 A. That's correct.

15 Q. And the economic impacts would have
16 been to those curtailed ground water pumpers, who
17 essentially, have no supply at all once the
18 curtailment occurs?

19 A. It's not just them. It's not just the
20 ground water irrigators. It's third-party
21 impacts.

22 Q. Explain all those economic impacts that
23 you believe would be relevant.

24 A. Well, I mean, certainly, there are
25 direct economic impacts to an irrigator that's

1 curtailed and not able to raise irrigated crops,
 2 and has to look at dry land crops or no crops as
 3 an alternative. But then there are third-party
 4 impacts to that -- resulting from that economic
 5 impact. The loss of purchasing power by the
 6 farmer, potentially the loss of -- well, not
 7 potentially, the loss of tax revenues.
 8 Eventually, if the land is no longer deemed to be
 9 irrigated land, there is a loss in property
 10 value, and there is an associated loss of
 11 property tax revenues.

12 And, again, I don't have to go very
 13 much farther than where I currently reside to see
 14 those impacts firsthand in the South Platte
 15 Basin. There are the irrigators there, they are
 16 junior in priority. Remember that. But they are
 17 on the verge of going under, because it's been a
 18 couple of years, several years -- a couple or
 19 several years since they've been able to
 20 irrigate.

21 And those communities are suffering.
 22 Those farmers aren't buying fertilizer. They are
 23 not buying seed. They are not buying new
 24 implements. School teachers are moving out.
 25 Property values are plummeting. And, you know,

1 bit.

2 Some could argue that there is no such
 3 provision in the administration of a surface
 4 water source. And they are right. Why isn't
 5 there? Because surface water has always been
 6 administered this way. They knew it going in
 7 when they got their secondary right.

8 And although Idaho law has recognized
 9 the potential for hydraulic connection between
 10 ground water and surface water dating back to the
 11 enactment, the first enactment of the Ground
 12 Water Act of the 1950s, the truth is, before
 13 these delivery calls were made and I issued these
 14 orders, ground water in Idaho was treated as a
 15 separate source and not administered that way.

16 Now, you can argue, should it have
 17 been? Could it have been? You know, from my
 18 perspective, that doesn't matter. I wasn't here.
 19 There wasn't anything I could do about it. You
 20 know, when faced with the need to take action, I
 21 did. And, of course, one can see what happens
 22 when you do your job.

23 Q. Let me just ask one more question
 24 before we leave this economic issue, and then
 25 maybe we can take a lunch break.

1 and it's on a smaller extent than what we were
 2 looking at here. There is something on the order
 3 of 1,300 wells more or less involved in the
 4 curtailment in Colorado. But the consequences
 5 are real.

6 But having said that, those right
 7 holders are still junior, and they do have a
 8 secondary right. But there are economic impacts
 9 of curtailing those junior users in preference to
 10 the senior. They don't overcome the seniority of
 11 the right. That's not the point.

12 But in this particular rule, this
 13 five-year phase-in, I think that's what it was
 14 aimed at. If curtailment was necessary to
 15 protect the senior-priority rights, that it was
 16 given the delayed impact from ground water
 17 depletions, or conversely, the delayed impact
 18 from a lack of those depletions, or the delayed
 19 benefit from the lack of those depletions, it was
 20 reasonable, at least under the crafter of the
 21 rule, that curtailment be phased-in to allow both
 22 the right holders and their communities time to
 23 prepare and adjust.

24 Now, some could argue -- and you didn't
 25 ask me a question, but I'll go on here a little

1 A. Sure.

2 Q. In your attempt to give some
 3 considerations towards the economic impacts
 4 required by this Rule 40.01.a we've been looking
 5 at and other rules, did you rely upon any of the
 6 economic studies that have been presented as to
 7 what the economic impacts would be on those
 8 communities who were faced with curtailment of
 9 acreage?

10 A. I'm going to say, no, based upon my
 11 recollection that the economic study that the
 12 State commissioned was done after these orders
 13 were issued.

14 Q. Okay. You wouldn't disagree that if
 15 you had that information available at a full
 16 hearing, that you would consider it to be
 17 relevant?

18 A. I would consider it to be relevant.
 19 But I have to say that, had I had that
 20 information available at the time that I wrote
 21 these orders, I wouldn't have done anything
 22 differently. You know, from my perspective, I
 23 went as far as I could on the economic issues by
 24 allowing for the five-year phased-in curtailment.
 25 That's as far as I could go.

1 The rights were still junior. If they
2 couldn't mitigate, the only option for the State
3 was curtailment, unless -- you know, I mean,
4 obviously, the State took over other courses of
5 action attempting to provide other alternatives
6 for the ground water users, the CREP program.
7 The CREP program was a form of voluntary
8 curtailment that could have replaced the need for
9 involuntary curtailment.

10 MR. BUDGE: Let's go off the record.
11 (A lunch recess was had.)

12 Q. (BY MR. BUDGE) Back to our rules.
13 There are a number of rules that deal with the
14 concept of material injury, 20.01, 30, 40, 42.
15 Do you consider that determination of what
16 constitutes material injury to be a factual
17 issue, or a legal issue, or some combination of
18 both?

19 A. Depending upon what you mean by "legal
20 injury."

21 Q. Material --

22 A. Subject -- excuse me. Yeah, depending
23 on what you mean by "legal material injury."

24 Q. Okay.

25 A. Subject to what you have in mind, I

1 would say, it's a combination of both. But
2 having said that, you know, I don't differentiate
3 between material injury and injury.

4 Q. Okay.

5 A. If the injury isn't -- if there
6 isn't -- if there is injury, it's material. And
7 if the injury isn't material, then there is no
8 injury. So I just -- to me, they are -- it's an
9 unnecessary distinction. There is either injury
10 or there isn't. And if it is, it's material.

11 Q. Do you consider this determination of
12 whether a material injury has occurred under the
13 rules to be the first or threshold decision you
14 have to make in response to a call?

15 A. Let me look at the rules.

16 Q. Maybe look at Rule 20.01, Exhibit 37.
17 I asked that based on -- so you can look at these
18 first. 20.01, it's on page 4, which is the
19 "General Statements of Purposes and Policies for
20 Conjunctive Management Rules."

21 And then you can then look at 30.01
22 that deals with responses to calls. It states,
23 "When a delivery call is made by the holder of a
24 surface water or ground water right alleging that
25 by reason of diversion of water by the holders of

1 one or more junior-priority ground water rights a
2 petitioner is suffering material injury, the
3 petitioner shall file with the director a
4 petition," so on and so forth.

5 I think the next rule would be 40.01 in
6 the responses. It talks about, "And upon a
7 finding by the director as provided in Rule 42
8 that material injury is occurring, the director
9 through the watermaster, shall." And then
10 describes what has to happen. Am I jumping ahead
11 of you on that?

12 A. Well, let me start with 21. That
13 really is a general statement of purpose of
14 policy. It doesn't really provide any indication
15 as to how to appropriately respond.

16 Rule 30 doesn't apply, and I didn't
17 apply it, because it only applies to areas in the
18 state that are not in organized water districts,
19 and these calls didn't involve such rights.

20 Rule 40, I think makes it clear. Rule
21 41, that the threshold issue -- the initial
22 threshold issue is a finding that there is
23 injury. It says -- it uses the term, "material
24 injury." But, again, from my perspective, there
25 is no difference.

1 But then Rule 42 sets forth the factors
2 that have to be considered -- well, that may be
3 considered. I shouldn't say have to
4 be -- factors that may be considered in making
5 the determination whether injury is or is not
6 occurring.

7 So, yes, the initial issue, the
8 threshold issue is whether or not there is
9 injury. But in making that determination, at
10 least in my orders, I considered all of the
11 factors enumerated in 42.01. The amount of water
12 available in the source, the effort or expense of
13 the holder of the water right to divert water
14 from the source, whether the exercise of
15 junior-priority ground water rights individually
16 or collectively affects the quantity and timing
17 of when water is available.

18 The irrigation rate of diversion
19 compared to the acreage of land served. The
20 amount of water being diverted and used compared
21 to the water rights. The existence of water
22 measured in recording devices, and so on.

23 And if you look at the order, you'll
24 see that I addressed each one of those factors, A
25 through H, in making the determination as to

1 whether or not there was injury.
 2 Q. And I read in 42.01, the factors seem
 3 to indicate that you can look at all the factors,
 4 but you are not limited to doing that. And then
 5 as I read the order, it appeared, as you
 6 described, that every factor had been addressed.

7 Are there other factors in addition to
 8 these that went into your consideration or
 9 thought process in entering the order?

10 A. I don't believe so, because I was
 11 sticking as closely as I could to directly
 12 applying the rules. And, you know, as we talked
 13 about earlier, the rules certainly embody to
 14 varying degrees and in different ways, various
 15 principles of the common-law of prior
 16 appropriation. And I -- you know, I think they
 17 generally cover all of the various principles and
 18 factors that one ought to take into
 19 consideration.

20 Q. When these orders were entered, they
 21 all appear to have pretty much a common thread
 22 with some of the paragraphs, either identical or
 23 very close to each other, subject to whatever
 24 right or factual variations they may have.

25 My understanding is that all of these

1 delivery calls were being made, the calls were
 2 submitted after most of the junior ground water
 3 folks had made decisions about what they were
 4 going to do the coming irrigation season.

5 And I thought it was important and
 6 appropriate to get these orders entered on an
 7 emergency basis, so that the holders of the
 8 junior-priority rights that were subject to
 9 curtailment, knew what was -- knew what was going
 10 to happen. That if they didn't come up with
 11 mitigation or replacement water or substitute
 12 curtailment, there would be involuntary
 13 curtailment, and they better be making plans
 14 accordingly.

15 On the other side of the token, it
 16 wasn't so much a factor in these calls, but it
 17 was still a factor, that the holder of the
 18 senior-priority right, having had a determination
 19 that injury was occurring, I think they
 20 needed -- that they were entitled to some
 21 certainty as to what was going to happen.

22 I mean, was it just going to continue
 23 as it was? And if not, then what was going to be
 24 done, and what could they count on? So that was
 25 really the basis for entering them as

1 orders were entered on an emergency basis as
 2 provided for in the statute. Can you explain to
 3 me the basis of which you chose to enter these
 4 orders on an emergency basis prior to having an
 5 evidentiary hearing?

6 A. Well, I guess there were two factors
 7 that went into this. And before I address those,
 8 let me backup a second and address what you
 9 identify, that the orders all appear to be
 10 similar. That was by design. I mean, I wasn't
 11 going to treat one party differently than another
 12 party.

13 There were a number of delivery calls
 14 that were before me. And I wanted -- whether
 15 people agreed or disagreed with what I had done,
 16 I at least wanted them to understand that they
 17 were treated equally with everyone else. So it
 18 was no accident that much of the basis for the
 19 orders is identical for the various delivery
 20 calls.

21 Now, in terms of the emergency basis,
 22 I'll talk about the junior users first. But that
 23 doesn't mean that they had the higher
 24 consideration, because they didn't. But if you
 25 consider the timing of this, of when these

1 emergencies. It was really for the well being of
 2 both the junior rights and the senior rights to
 3 provide some degree of certainty as to what would
 4 happen while the evidentiary hearing sorted
 5 itself out.

6 I mean, look how much time has gone by,
 7 you know. And here we are in 2007, and we're
 8 still in the process. And, you know, I
 9 understand that the holders of junior-priority
 10 rights probably feel that they weren't given the
 11 benefits of the process to which they might have
 12 been -- which they undoubtedly feel they were
 13 entitled, and they've been asked to do things
 14 that maybe in the end didn't have to be done.

15 Okay. I understand that. But on the
 16 other side of the coin, I can understand folks
 17 with the senior right saying, you didn't do
 18 enough. You know, prior to a hearing, there
 19 should have been more that was done.

20 And, again, I was trying to properly
 21 apply the facts and the law with the balance
 22 between protecting the priority of a senior
 23 right, giving them the first preference on the
 24 one hand. And on the other hand, providing for
 25 optimal use of the resource and full economic

1 development. It's not easy to do.
 2 Q. So that none of us anticipated that
 3 we'd be heading into 2008 without having
 4 that -- I'm sorry -- that we would be heading
 5 into 2008 still operating under the order that
 6 was entered in early 2005.

7 Let me, if I may, ask you a couple of
 8 questions, a few questions about the order
 9 itself, and where they are similar. Maybe we can
 10 just focus on the Blue Lakes order, and then I
 11 will be able to identify if there is a
 12 corresponding number in the Clear Springs order
 13 that is either identical or nearly identical.

14 It would be the May 19th, 2005 Blue
 15 Lakes order.

16 MR. STEENSON: Exhibit 11.

17 Q. (BY MR. BUDGE) Looking at Finding of
 18 Fact No. 5, which is the same on both the Blue
 19 Lakes and Clear Springs order. That is the one
 20 that discusses changes, and some of the changes
 21 occurred that we talked about earlier. And I
 22 think you've indicated that the data that was
 23 used to produce that graphic depiction of those
 24 changing spring flow discharges is Attachment A,
 25 based on USGS data.

1 irrigation.

2 Q. Flood irrigation, yes.

3 A. Yes.

4 Q. Looking at Attachment A, one would try
 5 to quantify what was there around the turn of the
 6 century was somewhere in the 4,100 cfs range;
 7 correct?

8 A. Correct.

9 Q. And would that represent -- if you
 10 disregarded whatever impact the minor impact
 11 might have been from some flood irrigation prior
 12 to the turn of the century. But for the most
 13 part, would that discharge level be approximately
 14 equivalent to what you believe would be naturally
 15 discharging from the aquifer?

16 A. I believe so.

17 Q. And if one used the word "unnatural" to
 18 describe the results of man-made activities,
 19 irrigation, if you would, occurring after 1902,
 20 the rises in the discharge levels depicted on
 21 this Attachment A, if we characterized that as
 22 being the artificial increase in spring
 23 discharges, would you accept that as a
 24 characterization, unnatural?

25 A. I probably would use the

1 I wanted to just ask you another
 2 question or two on that Attachment A --

3 A. Okay.

4 Q. -- which is referred to in Finding of
 5 Fact 5.

6 A. Okay. One clarification. You said
 7 "pre-irrigation conditions"?

8 Q. Yes. I'm just looking at that top
 9 line, "pre-irrigation conditions of the 1860s
 10 until the 1950s."

11 A. Okay. But the pre-irrigation
 12 conditions went up to the 1860s, in the early
 13 1860s, certainly various rights became
 14 established. But between the 1860s and 1950s,
 15 that would not be the pre-irrigation condition.
 16 That surface water irrigation was being fully
 17 developed during that time period.

18 Q. Right. And I think you would
 19 probably -- and I think you've described this
 20 before, that there was not a lot of irrigation
 21 even in 1902. So Exhibit A that starts in 1902
 22 would, for the most part, capture the development
 23 of sprinkler irrigation, even though you
 24 explained to us there was some in the late 1800s?

25 A. Not sprinkler irrigation, early flood

1 characterization of, you know, man-induced, or I
 2 don't know that -- I mean, the process of
 3 recharge, which is what was responsible for that,
 4 is not unnatural. But the recharge wasn't
 5 naturally occurring. It was induced by the
 6 activities of the surface -- largely induced by
 7 the activities of the surface water irrigators
 8 above the springs.

9 Q. If one goes over to the last year
 10 depicted, which appears to be 2003, or '04?

11 A. 2004.

12 Q. It would appear that the discharge
 13 level at that time is still something in the
 14 5,200 cfs range?

15 A. Correct.

16 Q. And would it be your opinion and
 17 conclusion based on Exhibit A then, if the
 18 natural discharge level from the springs or
 19 pre-development discharge levels would still be
 20 in excess by some thousand cfs or so, greater
 21 than what was there from the pre-development
 22 period?

23 A. Yes. And that's actually addressed in
 24 Finding No. 3, where it identifies that at least
 25 during the 22-year period on which the ground

1 water model was calibrated, it was on average,
2 3.4 million acre-feet of incidental recharge
3 occurring associated with surface water
4 irrigation. And, of course, that No. 3.4 million
5 is presumably in excess of what smaller amount of
6 incidental recharge was occurring at 1902 and
7 prior.

8 Q. While we're right there on Finding of
9 Fact 4, which is the same under both orders. The
10 very last couple of lines talks about the
11 discharge of two million acre-feet annually in
12 the form of depletions from ground water
13 diversions?

14 A. Mm-hmm.

15 Q. Is that two million acre-feet number
16 there, in fact, a depletion number and not a
17 diversion number?

18 A. That's correct.

19 Q. And how would that have been
20 calculated?

21 A. It would have been calculated as the
22 aggregate of the ET values on a cell-by-cell
23 basis across the model, less the amount of
24 affective precipitation. You know, actually, I
25 would have to go back and look to see whether it

1 be expressed in proximity of the well at the end
2 of the period of time over which ground water is
3 pumped from the well over time factor type items.

4 And would it be accurate to say that
5 the ground water model relies on a porous media
6 paradigm that does not accurately reflect the
7 geological characteristics of the aquifer?

8 A. No, I don't think that would be fair to
9 say that. It depends upon the scale that you are
10 looking at. If you want to look at the discharge
11 from a single spring, the model doesn't represent
12 that. What the model does conceptually is it
13 represents this fractured geologic material with
14 these various zones with an equivalent porous
15 media, but on a larger scale than an individual
16 spring-by-spring scale, is equivalent in terms of
17 its response as the fractured media would
18 respond.

19 And that's in part why the model -- it
20 would be inappropriate to use the model to look
21 at the effects of either ground water
22 withdrawals, or recharge, or mitigation on an
23 individual spring, because the model doesn't
24 represent the individual springs.

25 It takes the character of this

1 was less affective precipitation or not. The
2 reason I'm thinking that through again, is
3 because it talks about depletion from the
4 aquifer -- the precipitation would have -- had it
5 not been for ground water irrigation, that
6 precipitation would have been an addition to the
7 aquifer. So this depletion I'm thinking is, as I
8 think this through, that it probably is ET,
9 period. It's probably just the ET aggregated
10 across all the cells of the model.

11 Q. Okay. So it would be a mathematical
12 calculation of how many irrigated acres you have
13 from ground water, times whatever the ET factor
14 that's ran through the model to come up with
15 that?

16 A. Well, the ET would have been run
17 through the model. It would have either been
18 determined using the standard analytical methods
19 that had been developed, or the metric method
20 that has been developed by the University of
21 Idaho using land sat. thermal base.

22 Q. Let's turn to Finding of Fact No. 10 in
23 both orders. That finding appears to address the
24 time factor concept in that you discussed the
25 time required for depletionary effects to first

1 fractured material, and it represents it as an
2 equivalent porous media that responds in this
3 larger scale in the same manner. And the reason
4 that we know it's in the same manner is based
5 upon the calibration.

6 Q. When you use that term "preferential
7 pathways," can you just describe what you mean by
8 that, and how does that get represented by the
9 model, if it does?

10 A. I don't know that I used the term
11 "preferential pathways." But water is going to
12 follow the path of least resistance, that's for
13 sure. So it tends to follow the less restrictive
14 fractures and zones through the aquifer.

15 And so as long as you look at the
16 response on a scale that's sufficiently larger
17 than these individual fractures, it can be
18 adequately represented with an equivalent porous
19 media that has the same response.

20 Q. Let's look at Finding of Fact 11, and
21 particularly the very last sentence of that
22 finding, which is the same in both orders. It
23 says, "However, essentially all depletions of
24 ground water from the ESPA cause reductions in
25 flows in the Snake River and spring discharges

1 equal in quantity to the ground water depletions
2 over time."

3 So basically, you are simply saying
4 that at steady state, once all the depletions
5 work their way through the system, whether it's
6 five years, or ten years, or 20 years, 100
7 percent of them are going to show up in the river
8 itself?

9 A. Somewhere, that's correct. Because the
10 aquifer system is unconfined in that there is not
11 a confining layer that presents discharge from
12 the river or through the springs. But it is a
13 system that has the final boundaries.

14 So in simplistic terms, you've got
15 something that takes water in, and you've got
16 something that discharges water out at various
17 points. And in the end what comes in is going to
18 go out, either through springs or returns to the
19 river, or partially through depletions from
20 ground water withdrawals.

21 So if those ground water withdrawals
22 aren't taking place, then an amount equal to the
23 depletion associated with those draws would be
24 expressed somewhere else in the river system or
25 in the springs.

1 Q. You may have already answered this, but
2 let me ask it, again. How would you respond to
3 arguments of the spring users, that since it
4 states here, since all ground water pumping takes
5 water from the springs when they are
6 hydraulically short, curtailment has to occur
7 without any regard to time factors, or distance
8 factors, or quantity factors?

9 A. Well, absent everything else that we've
10 been talking about, the fact that these
11 depletions reduce spring discharges in and of
12 themselves doesn't equate to injury. If the
13 depletions occur, but the water that remains is
14 sufficient to meet the rights of the seniors,
15 there is no injury.

16 Q. So depletion alone does not equal
17 injury. And would impacts alone equal injury?

18 A. No.

19 Q. We'll go on Finding of Fact No. 45;
20 actually, 45 through 51, which have an equivalent
21 reference to Finding of Fact 51 through 56 on the
22 Clear Springs order. All discuss in various ways
23 inter-year variations, intra-year variations.
24 And I think we've discussed this perhaps already
25 in too great a length.

1 But if I understand correctly, you did
2 state that ground water users would not be
3 responsible for seasonal variation to spring
4 discharges that are not caused by ground water
5 depletion?

6 A. Correct.

7 Q. And similarly, the spring users should
8 not be in a position as a result of their
9 delivery calls of enlarging their water right
10 beyond what it was at the time the appropriation
11 was originally established?

12 A. Correct. I guess an example of that
13 would be the fact that this variation that occurs
14 within years is largely the result of surface
15 water -- incidental recharge from surface water,
16 and perhaps to a lesser extent, precipitation.

17 That variation within years would occur
18 with or without ground water depletions. And
19 there is nothing that the junior-right holders
20 can do anything about the fact that these
21 within-year variations occur.

22 And unless they are responsible for
23 some part of that variation, they shouldn't be
24 required to provide a constant water supply that
25 never existed before, and it wouldn't exist

1 with -- the constant water supply didn't exist
2 before, and it wouldn't exist without ground
3 water, ground water use.

4 Q. Let's look at Finding of Fact 48 in the
5 Blue Lakes order, which is the same as 53 in the
6 Clear Springs order.

7 A. (Witness complying.)

8 Q. The very end of that talks about these
9 various factors on the discharge from individual
10 springs are not presently quantifiable. Can you
11 give further explanation of what was intended by
12 that?

13 A. Sure. I think we know enough to
14 identify both the regional and the local factors
15 that affect these intra-year and inter-year
16 variations. But the interaction and the effects
17 of all of this when it's put together, we don't
18 have sufficient information to be able to take
19 those factors and predict in advance what kind of
20 variation is going to occur next year or five
21 years from now. At this point, its complexity is
22 beyond our ability to predict, even though we
23 understand generally what's occurring and why.

24 Q. So when you make that initial or
25 threshold determination of whether injury has

1 occurred, and you model what quantities of water
2 from a curtailed right will show up at the
3 springs at some point in the future, which could
4 be relatively short to as long as 20, 30 years, I
5 suppose, do you feel that it's necessary to make
6 a present determination of injury in anticipation
7 of a future amount of water arriving at the
8 springs? Maybe that's a bad question.

9 But do you have to decide today, can
10 this spring user put to beneficial use in 30
11 years, 20 years, some water when it shows up at
12 that future time?

13 A. Well, we can simulate what will happen
14 from curtailment. We provided a framework for
15 accepting replacement water mitigation or
16 substitute curtailment equal to that, but that
17 then was all predicated upon the injury
18 continuing. It was with the idea that every
19 year, we would continue to make a determination,
20 is injury occurring? To the extent it was, then
21 the curtailment, the substitute curtailment, the
22 replacement water, the mitigation continues.

23 But if something else changed, so that
24 the injury was no longer occurring, the
25 curtailment, substitute curtailment, replacement

1 insufficient information or any other means for
2 determining what those variations were, and what
3 factors contributed to those variations, and to
4 what extent at the time that these spring
5 appropriations were made.

6 Which then leads you to the conclusion
7 that, you know, unless there is something that
8 we're missing at the Department, unless there is
9 something that we're missing, we don't see any
10 way to identify whether the variations have been
11 somehow made worse by the appropriation of ground
12 water.

13 Q. So if we had records now, that I think
14 there is some indication in the records of -- at
15 least Blue Lakes' discharge records come out of
16 their facility going back to 1950, those would be
17 relevant in examining the pattern of variations
18 that existed previously in preparing those with
19 what was happening more recently?

20 A. Potentially, correct.

21 Q. At the bottom of Finding of Fact 50,
22 towards the bottom, you make the statement in the
23 last full sentence at the beginning. "Blue Lakes
24 Trout is not entitled to a water supply that is
25 enhanced beyond the conditions that existed at

1 water mitigation would no longer be necessary.

2 Q. So that annual review process would
3 essentially be a means of re-evaluating if the
4 facts had changed. And if they had changed,
5 enable you to adaptively manage --

6 A. Correct.

7 Q. -- whatever plan had been put in place?

8 A. Yes.

9 Q. Finding of Fact 49, which is the same
10 as Clear Springs Finding 54. The last sentence
11 talks about, "There are no known measurements,
12 nor any other means, for reasonably determining
13 the intra-year variations in the discharge from
14 the springs comprising the source for these water
15 rights on the days of the appropriation for these
16 rights."

17 Is this information that the Department
18 doesn't have, or are you referring to Blue
19 Lakes's inability to provide you additional
20 records?

21 A. Well, this actually is the next step
22 following Finding of Fact 48, which we talked
23 about is, we're not in a position of predicting
24 these inter-year and intra-year variations.

25 Which in 49 goes on to say, and there is

1 the time that such rights were established."

2 That's the same concept that we
3 discussed earlier, that ground water users are
4 not responsible for spring flow reductions that
5 occurred due to conditions, other than ground
6 water pumping?

7 A. I'm not sure I -- can you state it
8 again? State the question again.

9 Q. Yes. I think this is the concept that
10 we've been discussing. But the question would
11 be, that you are trying to say here in Finding of
12 Fact 50, and you do say, that ground water users
13 are not responsible for reductions in spring
14 flows that occur for naturally, or for reasons
15 that are unrelated to ground water pumping?

16 A. That's correct.

17 Q. And in the very next Finding of Fact
18 51, which is the same as 56 in the Clear Springs
19 order. Is this concept that you describe in this
20 finding really a way to describe the law
21 regarding futile call?

22 A. Not entirely. We've already talked
23 about the difficulty of applying futile call in
24 the ground water system when the call may be
25 futile, but there is still injury occurring by

1 depletions caused by prior ground water
2 diversions. So this is taking a broader look at
3 the time element, which we've been talking about.

4 And we talked about how the
5 curtailment, replacement water, subsequent
6 curtailment mitigation would continue until and
7 unless there no longer is injury. So this is
8 related to that in that over that time frame,
9 that's all that, in my view, that Blue Lakes
10 Trout can demand, is for administration of water
11 rights that over that time period will result in
12 a usable amount of water reaching the Blue Lakes
13 points of diversions when they need it. And when
14 depletions that are causing -- and I see I
15 actually used material injury here, I should have
16 just said injury -- unless those have been
17 adequately mitigated.

18 But, you know, I guess the point of all
19 this -- well, not -- I mean, of this particular
20 aspect of this, is that the ground water folks
21 could replace 100 percent of their depletions to
22 the aquifer, and there still may not be, and
23 likely would not be, sufficient water to fill
24 Blue Lakes' rights.

25 Q. And that's because of that ten percent

1 factor?

2 A. No. No. It's because of the loss of
3 incidental recharge associated with surface water
4 irrigation compounded by the effects of what
5 appears to be prolonged periods of drought.

6 Q. Well, and how do you respond to the
7 argument of Blue Lakes that in those
8 circumstances, you continue to curtail more and
9 more acres permanently, until we get our full
10 supply, period, at the beginning and end of the
11 gage.

12 A. Well, even though they may not realize
13 a full supply of water with the ongoing
14 curtailment of ground water use, that doesn't
15 mean that they are not entitled to that increment
16 of increased supply that would occur through
17 curtailment of ground water use within that area
18 of known certainty where curtailment would
19 produce water.

20 And in that setting, the only way that
21 the shortages are continued, and ground water
22 depletions are causing injury by contributing to
23 those shortages, the only way that those
24 junior-priority ground water uses could continue
25 is if they are mitigated. And if they can't be

1 mitigated, or sufficient replacement water can't
2 be provided, then there has to be curtailment.

3 Q. And does their mitigation have to be
4 the amount of their depletions, or simply the
5 amount of the water that they are impacting the
6 spring that would show up in the spring?

7 A. No, it's -- I'm not sure if you are
8 talking about mitigation or replacement water.
9 But if it's mitigation to the reach that contains
10 the spring, then it has to be equal to -- an
11 amount equal to what would have occurred with
12 curtailment by priority.

13 Q. And when you use the term "usable
14 amount" in Finding of Fact 51, is that any
15 quantity would be considered to be a "usable
16 amount"?

17 A. No.

18 Q. That has to be balanced against this
19 reasonable use, beneficial use, waste concept,
20 optimum beneficial use?

21 A. Yes, it's balanced with what would be
22 reasonable. If Blue Lakes is -- let's say they
23 are short -- I'm just using a hypothetical
24 number -- let's say they are short a hundred cfs,
25 and widespread curtailment would generate a tenth

1 of a cfs. I think one could argue whether that
2 one-tenth of a cfs represents an increase in the
3 useable utility of the water that's available.

4 Q. And if we have a situation as we do
5 now, with the full phase in curtailment, where
6 you are looking at potentially curtailing 57,000
7 acres, so 114,000 acre-feet of water, at what
8 point do you do such a curtailment if Blue Lakes
9 only receives 10 acre-feet of the 114,000, or 100
10 acre-feet of the 114,000?

11 A. Well, it's a hypothetical that I didn't
12 have to answer, I guess. I mean, I addressed it
13 in here in with these specific facts and
14 circumstances. But I'm not prepared to say there
15 is a bright line beyond which it's no longer
16 reasonable.

17 Q. Those are those fact-specific
18 circumstances that you have to evaluate all the
19 facts, apply them to the rules, and ultimately
20 exercise sound discretion in coming up with an
21 answer?

22 A. Correct.

23 Q. And so all of these responses to the
24 questions of what material injury, what
25 constitutes futile call, optimum use of resource,

1 all are pretty fact driven?
 2 A. I believe so.
 3 Q. Let's look at Finding of Fact 56, which
 4 talks about the Attachment C, which shows the
 5 time history of total measured diversions from
 6 Alpheus Creek under the three Blue Lakes rights.
 7 A. You may have to show me Attachment C,
 8 because for whatever reason, it's not in the
 9 exhibit in this book.
 10 Q. Okay.
 11 A. Okay.
 12 Q. At the end of your Finding of Fact 56,
 13 you say, the flows of Alpheus Creek generally
 14 peak from the period of October through December,
 15 with the lowest flows generally occurring during
 16 May.
 17 Looking at this Attachment C, it seems
 18 to indicate that Blue Lakes' water rights, at
 19 times, went historically unfilled during the
 20 seasonal low period?
 21 A. That's correct. But Blue Lakes had
 22 more than, obviously, one water right. And when
 23 the earlier rights were filled, the later rights
 24 were not.
 25 Q. And if that were true, that would be

1 I think it's important to note, that the quantity
 2 element in these rights did not address this
 3 inter-year variation, nor should it have if it
 4 was just an authorization to divert up to a
 5 maximum amount.
 6 And the fact that the quantity element
 7 didn't address this seasonal variation, doesn't
 8 mean the seasonal variation doesn't occur, nor
 9 does it mean that the historic use of water under
 10 a right doesn't shape what the right actually is.
 11 Q. For administrative purposes?
 12 A. For administrative purposes, correct.
 13 Q. Let's look at Finding of Fact 62.
 14 A. (Witness complying.)
 15 Q. The last statement there you say, "As
 16 shown on Attachment C, the flows in Alpheus Creek
 17 available for diversion by Blue Lakes have been
 18 stable since the seasonal low in 2003. And the
 19 pattern flows for 2005 expected to be similar."
 20 In making that finding, is it your
 21 belief that the springs are at or near
 22 equilibrium?
 23 A. Not necessarily. I was simply looking
 24 to the next year. The issue was raised by Blue
 25 Lakes in their delivery call. And clearly there

1 one of the instances when it is relevant and
 2 important in an administrative proceeding to look
 3 at the full period of record to see what was
 4 available to fill a right, not only during the
 5 high period, but also during the low period?
 6 A. Correct.
 7 Q. Okay. Blue Lakes has made the argument
 8 that once the partial decree is entered in the
 9 SRBA, and they have a quantity, that they are
 10 entitled to receive that entire quantity all the
 11 time, all the years, and throughout the year, and
 12 that you can't look behind that partial decree in
 13 2000 to look at any kind of historic variations.
 14 Would you agree with that assertion by Blue
 15 Lakes?
 16 A. If the assertion is as you've
 17 represented, I would say, no, I don't. Because,
 18 again, the quantity is the maximum amount
 19 authorized to be diverted when it's available,
 20 and when it can be applied to beneficial use.
 21 It's not a guarantee.
 22 But on the other side, to the extent
 23 that that maximum amount is needed, and can be
 24 put to beneficial use, then a junior right does
 25 not -- can't interfere with that. But, you know,

1 had been some reductions in spring discharge, oh,
 2 I'll say since the seasonal low of 2001, down to
 3 the seasonal low of 2003. But the seasonal low
 4 in 2004, to me, didn't seem to be any lower. And
 5 so absent some other significant factor that
 6 couldn't be foreseen, I didn't see any reason why
 7 you would expect the high or the low in 2005 to
 8 be different than it was in 2004.
 9 Because it didn't appear that this
 10 trend, based upon the information that we had,
 11 which was limited, it didn't appear that this
 12 trend downward that began in 2001 was continuing.
 13 Now, it would be interesting for me to
 14 see what happened in 2005 and 2006 and 2007. I
 15 don't know that. But certainly, I wouldn't have
 16 known it at the time, and all I could do is make
 17 the best assessment of what was likely in 2005
 18 given the information that I had, only because
 19 Blue Lakes raised it in their delivery call.
 20 Q. If you look at the effects of pumping
 21 on the aquifer as a whole, and consider where we
 22 are today, the moratorium has been on new wells
 23 since '92?
 24 A. Correct.
 25 Q. And prior to that, I suppose the Swan

1 Falls Agreement in '84 had a substantial impact
2 on preventing much, if any, additional ground
3 water pumping after that?

4 A. I don't know that. I would have to go
5 back and look at our records to see how many
6 permits were issued post Swan Falls, and I just
7 don't recall offhand.

8 Q. But certainly from 1994 on, or from the
9 '92 moratorium on, we have 15 years of no
10 additional pumping?

11 A. Yes.

12 Q. And perhaps a little bit in a 10-year
13 or 15-year period, but not a lot more. Do you
14 have reason to believe that we are at or near
15 equilibrium on the aquifer?

16 A. I'm not sure I have enough information
17 to respond, because remember, it's not just
18 dependent upon ground water depletions. It's
19 also dependent upon the incidental recharge from
20 surface water irrigation. Those are the two
21 principal factors.

22 Q. And I should have phrased that
23 differently. The impacts of ground water pumping
24 would be pretty much fully realized by now?

25 A. I think they would have to be

1 Q. And here you give a general description
2 of what happens when the well is pumped from the
3 aquifer?

4 A. Correct.

5 Q. Is that basically an idealized
6 description of what happens?

7 A. It is. Of course, I mean, it doesn't
8 reflect what would happen if the well was placed
9 immediately to an impermeable zone, or, you know,
10 on the other hand, a fracture zone that may have
11 a very hydraulic conductivity. It's more of an
12 idealized conceptual description of what happens.

13 Q. And we know that the aquifer is not
14 uniform. Is it accurate to say that a lot of the
15 detailed characteristics are not fully known or
16 fully understood?

17 A. I don't think it's accurate to say they
18 are not fully understood. I'm not sure it's
19 accurate to say they are not fully known. I
20 think what would be accurate to say is that there
21 is an insufficient amount of geologic data that
22 would enable us to model the aquifer as the
23 fractured zoned media that it really is.

24 But having said that I should qualify
25 that by saying, that doesn't make our simulations

1 approaching full expression at this point in
2 time.

3 Q. So if we were at or near equilibrium,
4 insofar as the impacts of ground water pumping,
5 if changes in the aquifer occur in future
6 periods, would that most likely be related to
7 other factors?

8 A. It would. However, the occurrence of
9 those other factors could increase or decrease
10 the extent of injury caused by ground water
11 depletions.

12 Q. Which is related to part is whether we
13 continue into a drought cycle or into a wet
14 cycle?

15 A. In part, that's true.

16 Q. Finding of Fact 63 and 64 all appear to
17 be dealing with these particular identified
18 rights of Blue Lakes that you found sufficient
19 water to fill them and no shortage, and I presume
20 the call being denied on those identified rights?

21 A. Correct.

22 Q. I'm jumping around a little bit. Can
23 we jump back to Finding of Fact No. 9, which
24 would be the same in both orders.

25 A. Okay.

1 using an equivalent porous media invalid. It
2 limits how those results can be used.

3 Q. So your view is using the model on the
4 regional basis is still generally accurate
5 despite that?

6 A. That's my view.

7 Q. But using it on a specific basis to
8 specific spring discharge, for example, becomes
9 less certain?

10 A. That's correct.

11 Q. Okay. Finding of Fact 16 talks about
12 this uncertainty level of the model with ten
13 percent, and I think we've pretty well covered.

14 Would it be accurate to say that this
15 model certainly without question would be
16 complicated?

17 A. Yes, that's fair to say. And in the
18 time I had to do this, we didn't have sufficient
19 information to do what would be considered a more
20 comprehensive analysis of quantifying the
21 uncertainty.

22 Q. If you were in a situation that we are
23 now that you had ample time, what would you do to
24 improve the results of the model?

25 A. To improve the results?

1 Q. To improve the certainty of the results
2 of the model that you have some concerns with.

3 A. I don't know if we could improve the
4 certainty. What we could do is improve the
5 probable listing of the assessment of the
6 listing. There is -- I'm not prepared today to
7 talk about the details, but there are statistical
8 methods that can be employed to address model
9 uncertainty.

10 And what we did was a simple
11 assessment. It was not the most complex
12 assessment that could have been done, but we
13 didn't have time to do a more complex assessment.
14 So we're confident that the uncertainty is at
15 least ten percent.

16 Q. Is it likely that it could be greater
17 than ten percent?

18 A. I wouldn't say it's likely, but it
19 could be.

20 Q. Possible. Okay. Look at Finding of
21 Fact 66, if would you, please.

22 A. (Witness complying.)

23 Q. In the last couple of lines, you state
24 that, "Blue Lakes Trout has expended reasonable
25 efforts to divert water for right No. 36-07427

1 require Blue Lakes Trout to incur the costs for
2 such a system."

3 This, again, relates back to our prior
4 discussion where you had made an earlier
5 determination for policy reasons, and
6 conceptually not to require the spring users to
7 drill a well in order to establish a reasonable
8 means of diversion?

9 A. No, I think this is different. The
10 prior discussion dealing with the horizontal
11 wells, you know, we did some preliminary analysis
12 of what would happen with that. And, you know,
13 we concluded that that wasn't going to solve
14 problems. It would further steepen the ground
15 water gradient back away from the springs. And,
16 you know, simply who could drill the horizontal
17 well the furthest would get the water.

18 This was a different type of
19 assessment. You know, I think I said earlier in
20 one of my answers, that we did not do any kind of
21 financial analysis of a pump-back system. But
22 certainly, at least hypothetically, a pump-back
23 system is technically feasible, again, subject to
24 whether or not the water quality attributes of
25 the recycled water would be suitable for use.

1 from its source for use at the Blue Lakes Trout
2 facilities."

3 What were you referring to there when
4 you described reasonable efforts of Blue Lakes
5 were made?

6 A. Well, when I assigned Cindy Yenter and
7 Brian Patton the task to go out and do these
8 investigations pursuant to the various factors
9 under the Conjunctive Management Rules, they
10 wrote their findings up in a memorandum.

11 And I read that memorandum. I talked
12 with Brian and Cindy about what they had found.
13 And came to the conclusion, based upon their
14 investigation and their documentation, that Blue
15 Lakes had expended reasonable efforts to divert
16 water for that water right.

17 Q. And then that investigation didn't
18 include any analysis of whether or not it might
19 be feasible to re-circulate water --

20 A. That's correct.

21 Q. -- over a good well?

22 A. That's correct.

23 Q. Over on Finding of Fact 70, where you
24 discuss a pump-back system for Blue Lakes. And
25 at the end you say, "It is not reasonable to

1 But we're simply saying, is it
2 reasonable to require a senior-right holder to
3 capture and recycle water for shortages that are
4 being caused by junior-priority ground water
5 uses? And even though this kind of a system may
6 be feasible, I didn't -- my determination was it
7 wasn't reasonable to require the senior to do
8 that before seeking the administration of
9 junior-priority rights.

10 Now, why would I put this in here?
11 Because this is one possible type of mitigation.
12 Or maybe I shouldn't characterize it as
13 mitigation, because of the way I've used that
14 term. But this is one possible source of
15 replacement water that could be provided by the
16 junior-right holders, but we didn't go any
17 further than that.

18 We just, you know, technically, it's
19 possible. Don't know if it financially makes
20 sense. Don't know if the water quality would be
21 adequate.

22 Q. You made it a point here, if there is
23 cost that has to be incurred, it shouldn't have
24 to be by the senior user, it should be by the
25 junior user, who is causing the problem?

1 A. In my view, that's correct.
 2 Q. On Finding of Fact 73, in the second
 3 full sentence, you discuss an agreement of 1993
 4 between Blue Lakes Trout and Blue Lakes Country
 5 Club.
 6 A. Yes.
 7 Q. It's not clear to me from that comment
 8 there how this type of agreement might affect the
 9 shortages complained of by Blue Lakes.
 10 A. Well, this likely has some affect on
 11 what would be expected from the junior. But we
 12 didn't pursue this particular aspect to the end,
 13 because of the small amount of water involved.
 14 And more importantly, it wouldn't have changed
 15 the outcome of the order. It wouldn't have
 16 changed what was ordered, in my view, in any way.
 17 But the reason for raising it was that
 18 this essentially is a limited subordination
 19 agreement between Blue Lakes Trout and the
 20 country club. And if a senior-right holder
 21 subordinates a portion of its right, that senior
 22 then can't turn to other juniors to make it up.
 23 I mean, that's the general principle that would
 24 be applied. But we didn't apply it here, because
 25 it wouldn't have changed anything. But it was

1 Does that mean that they don't have a
 2 water right? No. It means that they have a
 3 water right that was established as of the date
 4 that they first diverted ground water and applied
 5 it to beneficial use.
 6 Those rights are all junior to
 7 anything, I mean, that we're talking about. I
 8 mean, many of them are. I don't want you to have
 9 the perception that I just said that all domestic
 10 wells are junior to that, because they are not.
 11 But generally, those uses are the most junior
 12 uses in the system.
 13 And yet if we went out and sought to
 14 curtail those wells, how much water would it
 15 create? Not much. And we don't even -- we don't
 16 begin to have the resources to do it in the first
 17 place. How in the world would you enforce a
 18 curtailment order on domestic wells? I mean,
 19 there just aren't enough people to do it.
 20 And so this was our explanation of why
 21 we weren't doing it. Because by focusing on
 22 irrigation, which is the largest consumptive use,
 23 we were going to address about 95 percent of the
 24 depletions that potentially could be causing
 25 injury. And, you know, if we can address the 95

1 possibly a pertinent factor that we wanted to
 2 make sure was included in the record.
 3 Q. Finding of relevance on Finding of Fact
 4 73 is to somewhat make a place holder that there
 5 is an issue here that may require further
 6 analysis?
 7 A. Correct.
 8 Q. I had a question of Finding of Fact 79.
 9 You discuss the various consumptive uses,
 10 irrigation, domestic, industrial, livestock,
 11 looking at various percentages. Should all
 12 consumptive uses be accounted for?
 13 A. I'm not sure what you mean "accounted
 14 for."
 15 Q. Well, should they also be subject to a
 16 call?
 17 A. In principle, yes.
 18 Q. And in practice or from a practical
 19 reality standpoint?
 20 A. It may or may not be possible. Let me
 21 give you an example. In Idaho, domestic wells
 22 are exempt from getting a permit to appropriate
 23 water. They can simply -- if it meets the
 24 criteria in the statute, they simply get a well
 25 drilling permit and drill a well.

1 percent, that's getting pretty good.
 2 Q. What's the solution to this problem?
 3 A. Well, when there is not enough water to
 4 go around, there is only three things you can do,
 5 and you've heard this speech before. You can
 6 look for ways to augment the supply. You can
 7 change the way you manage what you have. Or you
 8 can reduce demand.
 9 And, you know, if it's not possible to
 10 increase the supply somehow, which we've not
 11 found a way to do. I mean, there is alternatives
 12 out there, of course, but nothing that's gained
 13 any traction. That means that you are
 14 either -- if you don't change the way you manage
 15 it, it will be curtailment, voluntary or
 16 involuntary.
 17 Q. When the State passes the Ground Water
 18 Act in '51 or '52, and encourages full economic
 19 development, and maximum beneficial use, and
 20 making the desert bloom mistake, coupled with
 21 Idaho Power's low power rates, and issues all of
 22 these permits, do you think the State has some
 23 responsibility given the situation we find
 24 ourselves in today?
 25 A. Absolutely.

1 MR. BUDGE: I'm going to go ahead and
2 stop at this point, reserving the right to ask
3 some additional follow-up questions, simply to
4 give you guys equal opportunity to start today.

5 MR. SIMPSON: Let's take a break for
6 five minutes.

7 (Deposition adjourned at 2:58 p.m.)

8 (Signature requested.)
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1 ERRATA SHEET FOR KARL J. DREHER, P.E.

2 Page ___ Line ___ Reason for Change _____
Reads _____

3 Should Read _____
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5 Page ___ Line ___ Reason for Change _____
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23 Page ___ Line ___ Reason for Change _____
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24 Should Read _____
25

26 You may use another sheet if you need more room.

27 WITNESS SIGNATURE _____

1 CERTIFICATE OF WITNESS

2 I, KARL J. DREHER, P.E., being first duly
3 sworn, depose and say:

4 That I am the witness named in the foregoing
5 deposition, Volume I, consisting of pages 1
6 through 155; that I have read said deposition and
7 know the contents thereof; that the questions
8 contained therein were propounded to me; and that
9 the answers contained therein are true and
10 correct, except for any changes that I may have
11 listed on the Change Sheet attached hereto:

12 DATED this ___ day of _____, 200__.

13
14 _____
15 KARL J. DREHER, P.E.

16
17 SUBSCRIBED AND SWORN to before me this ___
18 day of _____, 200__.

19
20 _____
21 NAME OF NOTARY PUBLIC

22
23 NOTARY PUBLIC FOR _____

24 RESIDING AT _____

25 MY COMMISSION EXPIRES _____

1 REPORTER'S CERTIFICATE

2 I, COLLEEN P. KLINE, CSR No. 345, Certified
3 Shorthand Reporter, certify:

4 That the foregoing proceedings were taken
5 before me at the time and place therein set
6 forth, at which time the witness was put under
7 oath by me;

8 That the testimony and all objections made
9 were recorded stenographically by me and
10 transcribed by me or under my direction;

11 That the foregoing is a true and correct
12 record of all testimony given, to the best of my
13 ability;

14 I further certify that I am not a relative
15 or employee of any attorney or party, nor am I
16 financially interested in the action.

17 IN WITNESS WHEREOF, I set my hand and seal
18 this 8th day of November, 2007.

19
20 _____
21 COLLEEN P. KLINE, CSR

22 Notary Public

23 P.O. Box 2636

24 Boise, Idaho 83701-2636

25 My commission expires September 17, 2011