ATTACHMENT C

Docket No. 37308-2010

IN THE SUPREME COURT OF THE STATE OF IDAHO

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

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

CLEAR SPRINGS FOODS, INC.,
Petitioner/Respondent/Cross-Appellant,

v.

BLUE LAKES TROUT FARM, INC.,
Cross Petitioner/Respondent/Cross-Appellant,

v.

IDAHO GROUND WATER APPROPRIATORS, INC., NORTH SNAKE GROUND WATER DISTRICT, and MAGIC VALLEY GROUND WATER DISTRICT,
Cross Petitioners/Appellants/Cross-Respondents,

v.

GARY SPACKMAN, in his capacity as Director of the Idaho Department of Water Resources; and the IDAHO DEPARTMENT OF WATER RESOURCES,
Respondents/Respondents on Appeal/Cross-Respondents,

v.

IDAHO DAIRYMEN'S ASSOCIATION, INC. and RANGEN, INC.,
Intervenors/Respondents/Cross-Respondents.

SPRING USERS' JOINT OPENING BRIEF

On Appeal from the District Court of the Fifth Judicial District of the State of Idaho, in and for the County of Gooding.

Honorable John M. Melanson, District Judge, Presiding.

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TABLE OF CONTENTS

TABLE OF CONTENTS i

TABLE OF AUTHORITIES ii

STATEMENT OF THE CASE 1

I. NATURE OF THE CASE 1

II. COURSE OF PROCEEDINGS 1

III. STATEMENT OF THE FACTS 1

ISSUES PRESENTED 6

STANDARD OF REVIEW 6

SUMMARY OF ARGUMENT 8

ARGUMENT 9

I. The Director's Exclusion of Junior Ground Water Rights From Administration based on a Plus or Minus Uncertainty is Arbitrary and Capricious, an Abuse of Discretion, and Contrary to Law. 9

II. Exclusion of Junior Ground Water Rights from Administration Based on Model Uncertainty Unconstitutionally Shifted the Burden of Proof to the Spring Users 12

CONCLUSION 17

CERTIFICATE OF SERVICE 19

TABLE OF AUTHORITIES

CASE LAW

A & B Irrigation Dist. v. Idaho Conservation League, 131 Idaho 411 (1998) 13
American Falls Reservoir Dist. #2 v. Idaho Dept. of Water Resources, 143 Idaho 862 (2007) 9, 13, 14, 16
American Lung Assoc. of Idaho/Nevada v. Dept. of Ag., 142 Idaho 544 (2006) 7
Cantlin v. Carter, 88 Idaho 179 (1964) 9
Chisholm v. IDWR, 142 Idaho 159 (2005) 7
Evans v. Board of Comm. of Cassia Cty., 137 Idaho 428 (2002) 8
Galli v. Idaho County, 146 Idaho 155 (2008) 8
Idaho State Ins. Fund v. Hunnicutt, 110 Idaho 257 (1985) 7
Jenkins v. State Dept. of Water Resources, 103 Idaho 384 (1982) 16
Jossyln v. Daly, 15 Idaho 137 (1908) 10
Mercy Medical Center v. Ada Cty., 146 Idaho 226 (2008) 7
Moe v. Harger, 10 Idaho 302 (1904) 10
Musser v. Higginson, 125 Idaho 392 (1994) 16
St. Joseph Reg. Med. Ctr. v. Nez Perce Cty., 134 Idaho 486 (2000) 6
State v. Nelson, 131 Idaho 12 (1997) 16

CONSTITUTIONAL & STATUTORY MATERIAL

Idaho Code § 42-602 12
Idaho Code § 42-607 ..... 10, 12, 16
Idaho Code § 67-5279(3) 7
IDAHO CONST. art XV, § 3 ..... 10, 12, 16

RULES & REGULATIONS

CM Rule 10.14 12
CM Rule 20 10
CM Rule 20.02 12
CM Rule 20.04 ..... 13, 15
CM Rule 40.01 ..... 12, 14
CM Rule 42.01.g 11
CM Rule 50 ..... 2, 12, 13, 16
Rules for the Conjunctive Management of Surface and Ground Water Resources (IDAPA 37.03.11, *et seq.*) 11

STATEMENT OF THE CASE

I. NATURE OF THE CASE

This is a cross-appeal from the *Final Order Regarding Blue Lakes and Clear Springs Delivery Calls*, issued by the Director of the Idaho Department of Water Resources ("IDWR"), on July 11, 2008. This cross-appeal was filed jointly by Blue Lakes Trout Farm, Inc. and Clear Springs Foods, Inc. (collectively "Spring Users").

II. COURSE OF PROCEEDINGS

The description of the course of proceedings in the *Spring Users' Joint Response Brief*, filed concurrently herewith, is incorporated by this reference.

Additionally, with respect to the issues raised by this cross-appeal, the District Court held that the Director acted within his discretion when he used a plus or minus 10% margin of error "trim line" to exclude hydraulically-connected junior ground water rights causing injury to the Spring Users' water rights from priority administration. This conclusion was "simply based on the function and application of the model." Clerk's Rec. at 72.

III. STATEMENT OF THE FACTS

The statement of facts in the *Spring Users' Joint Response Brief*, filed concurrently herewith, is incorporated by this reference. The following additional facts pertain to the issues raised by this cross-appeal regarding the Director's use of model uncertainty to exclude hydraulically-connected junior ground water rights causing injury to the Spring Users' water rights from priority administration.

The direct hydraulic connection between the Eastern Snake Plain Aquifer ("ESPA") and the Spring Users' spring water supplies is thoroughly documented in prior legislative, judicial and administrative findings and proceedings. *See Spring Users' Joint Response Brief* Part III.C (Statement of Facts). The ESPA is a defined "area of common ground water supply" that both supplies water to and receives water from the Snake River. CM Rule 50. Throughout the Thousand Springs area, ESPA water discharges through the walls of the Snake River Canyon to form natural springs.

Equally well documented is the fact that ground water diversions deplete the ESPA and consequently reduce hydraulically connected spring discharges. As ESPA levels decline, spring discharges decline as well. R. Supp. Vol. 3 at 4443, lns. 20-21. A model is not required to know these facts. Tr. at 1489, ln. 20 – 1490, ln. 12. Wells located in closer proximity to the Spring Users' water supplies have the greatest and most immediate impacts on spring flows. R. Vol. 1 at 47, ¶11. Over time, all groundwater depletions from the ESPA cause reductions in flows in the Snake River and spring discharges equal in quantity to the ground water depletions. R. Vol. 1, p. 47 ¶ 11; Ex. 400A at 8; Tr. at 818, lns. 21-23.

In the 2005 Orders, the Director found that junior ESPA ground water rights in Water District No. 130 cause material injury to the Spring Users' senior surface water rights. R. Vol. 1 at 58-59, ¶¶65, 67; R. Vol. 3 at 500-501, ¶¶ 62, 66. The Director's finding of material injury was based, in part, on his use of a hydrologic model, called the Enhanced Snake Plain Aquifer Model ("ESPAM"), to determine the impacts of junior diversions on the designated spring reaches in

which the Spring Users' water supplies are located. *Id.* The Director ordered curtailment, but, through an unprecedented "10% trim line" determination, exempted a significant number of junior ground water rights shown by the model to deplete the Spring Users' water supplies from administration. R. Vol. 1 at 61, ¶76; R. Vol. 3 at 502-503, ¶ 71.

The basis for the trim line is the former Director's assumption that the ESPAM's predictions of the impacts of ground water diversions on spring flows is subject to a plus or minus10% margin of error. The ESPAM is designed to predict the impacts of ground water pumping on designated Snake River or spring subreaches in the Thousand Springs area. R. Vol. 1 at 49, ¶ 20. Blue Lakes' water source is located in the Devil's Washbowl to Buhl Gage spring reach and Clear Springs' spring source is located in the Buhl Gage to Thousand Springs reach. R. Vol. 1 at 58-59, ¶ 67; R. Vol. 3 at 501, ¶ 66.

The ESPAM is "calibrated" to measured ground water levels, Snake River reach gains and losses, and spring discharges in the Thousand Springs area. Tr. at 1131, ln.s 13-25.[1] The former Director placed a "significant emphasis on model calibration," using 120 different model configurations until arriving at the final model. Tr. at 1131, lns. 13-25. The former Director testified that he "had never seen or used a ground water model that was calibrated so closely to actual measured ground water levels, measured reach gains, measured spring discharge." *Id.*

Although the ESPAM is the "best one [he] had ever seen," Tr. at 1132, lns. 6-7, the former Director acknowledged that it is not perfect, Tr. at 1133, lns. 9-13. Despite his confidence

[1] Calibration means that the model's parameters are adjusted so that its outputs or predictions match field observations. Tr. at 808, ln. 25 – 809, ln. 2.

in the model, the Director felt compelled to assign an uncertainty factor or margin of error to the model's outputs before using it in administration. Tr. at 1133, lns. 13-15. Since no analysis of model uncertainty had been performed, Tr. at 811, lns. 1-11, the Director assumed that the model's predictions could be no more accurate than the water measurements to which it was calibrated.[2] He identified stream gauge measurements as the largest potential source of uncertainty because stream gauges, although rated "good" by the USGS, have uncertainties of up to plus or minus 10%. R. Vol. 1 at 49, ¶ 16; R. Vol. 1 at 49, ¶ 16; Tr. at 1166, lns. 7-18; 1168, ln. 22 – 1169, ln. 6.

According to the Director's reasoning, because of the this uncertainty in the reach gain calibration targets, there is a possibility that the model's predictions may be up to 10% too high or 10% too low. The model predicts, for example, that curtailing all rights junior to 1973 would deliver 88 cfs to the Devil's Washbowl to Buhl spring reach. Ex. 462. The Director's assignment of 10% plus or minus margin of error to the model means that such curtailment may actually deliver as much as 97 cfs or as little as 79 cfs. However, Dr. Allan Wylie, the Department's modeling expert, testified that *the most likely outcome* is that ground water withdrawals *will have the impact predicted by the model*. Tr at 818, ln. 24 – 819, ln. 2.

The former Director translated his estimate of plus or minus 10% model uncertainty into a "trim line" to exclude all junior ground water rights whose impact on the springs is 10% or less than their depletions to the ESPA (e.g. 0.1 cfs impact from a 1.0 cfs depletion of the aquifer) from

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[2] Importantly, this trim line was *not* based on science. Clerks' R. at 68 ("The margin of error used by the Director was not established in conjunction with the development of the model ***nor was it developed pursuant to any***

administration. R. Vol. 1 at 61-62, ¶¶ 76-82; R. Vol. 3 at 502-04, ¶¶ 71-77. This exclusionary determination is called a "trim line" because it draws a virtual line upon the Eastern Snake Plain. On one side of the line are ground water rights that the model shows have a greater than 10% impact on the Spring Users' water supplies. Ground water rights diverting on this side of the line are subject to conjunctive administration. Junior ground water rights on the other side of the line (a much greater number of rights and irrigated acres), however, are exempt from administration. At hearing, the Director explained this new concept as follows:

> Q. And can you just explain how that worked? How did you translate the 10 percent uncertainty to where the trim line ends up on the map?
>
> A. Well, looking at the -- what we did is we looked at the source of water for the calling senior water rights. So in the case of Blue Lakes Trout that was one particular subreach of the spring discharge. So then we – ***we did a simulation of curtailing water rights that were junior to the right held by Blue Lakes that we had determined was causing injury***. And we looked at the depletion to the aquifer associated with those junior rights. And if – ***if the accretion or the increase from curtailment to that reach, to that particular reach that contained the source for the senior water right, if the increase was less than 10 percent of the depletion to the aquifer, that right was trimmed out as contributing to depletions***. Because within that 10 percent we're not certain whether that right is or is not causing depletions.

Tr. at 1229, lns. 7-25 (emphasis added).

According to the Director, "If you didn't apply the trim line, there is some probability that you would curtail junior priority rights that are not causing injury."[3] Tr. at 1230, lns. 20-22.

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scientific methodology or peer review process") (emphasis added).

[3] As the District Court recognized:

> In conjunction with running the model simulations in response to both delivery calls, the Director assigned a 10% margin of error factor, excluding from administration those ***junior rights identified by the model to be causing injury*** but within the 10% margin of error or

Importantly, however, the Director fails to acknowledge the equal probability that ground water rights located beyond the trim line cause 10% more injury to the Spring Users' water right than the model predicts. Nor does the trim line acknowledge the cumulative impacts of ground water diversions located beyond the trim line. The vast majority of ground water depletions causing injury to the Spring Users water rights occur beyond the trim lines. Exs. 461, 462, 463.

ISSUES PRESENTED

The Spring Users present the following issues on appeal:

1. Whether, as a matter of law, a "plus or minus" uncertainty factor in determining the impact of junior ground water diversions on senior water rights is a nullity for purposes of conjunctive administration, or may instead be applied by the Director to exclude certain junior ground water rights from administration.

2. Whether the Director unconstitutionally applied the Conjunctive Management Rules by shifting the burden of proof to injured senior surface water right holders through exclusion of certain junior ground water rights from administration based upon model uncertainty.

STANDARD OF REVIEW

Generally, a Court is charged with deferring to an agency's decision. *See St. Joseph Reg. Med. Ctr. v. Nez Perce Cty.*, 134 Idaho 486, 488 (2000) ("The reviewing court may not substitute

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"trim-line." ***The Director concluded that rights outside of the trim-line were <u>not subject to administration</u> because of the uncertainty that they would contribute water to the particular sub-reach.***
Clerks R. at 67 (emphasis added).

its judgment for that of the decision make on questions of fact"). The Court should not substitute its judgment for that of the agency as to questions of fact so long as the decision is "supported by substantial and competent evidence." *Mercy Medical Center v. Ada Cty.*, 146 Idaho 226, 192 P.3d 1050, 1053 (2008).

An agency, however, is not granted free reign. Rather, the Court is "free to correct errors of law." *Mercy Medical Center, supra.* An agency's decision must be overturned it if (a) violates "constitutional or statutory provisions," (b) "exceeds the agency's statutory authority," (c) "was made upon unlawful procedure, " (d) "is not supported by substantial evidence in the record as a whole" or (e) "arbitrary, capricious or an abuse of discretion." *Chisholm v. IDWR*, 142 Idaho 159 (2005) (citing I.C. § 67-5279(3)). An agency action is "capricious" if it "was done without a rational basis." *American Lung Assoc. of Idaho/Nevada v. Dept. of Ag.*, 142 Idaho 544, 547 (2006). It is "arbitrary if it was done in disregard of the facts and circumstances presented or without adequate determining principles." *Id.* In addition, the petition must show that "a substantial right has been violated" as a result of the agency action. *Chisholm, supra.*

An agency's decision must be supported by "substantial evidence". *Idaho State Ins. Fund v. Hunnicutt*, 110 Idaho 257, 260 (1985); *see also Chisolm, supra* at 164 ("Substantial evidence ... need only be of such sufficient quantity and probative value that reasonable minds could reach the same conclusions as the fact finder"). The "reviewing courts should evaluate whether 'the evidence supporting [the agency's] decision is substantial." *Hunnicutt, supra.* at 261. The Director cannot use discretion as a shield to justify a decision that is not supported by substantial evidence. Such decisions are "clearly erroneous" and should be reversed. *Galli v.*

Idaho County, 146 Idaho 155, 159 (2008) ("A decision is clearly erroneous when it is not supported by substantial and competent evidence"). A court is not required to defer to an agency's decision that is not supported by the record. *See Evans v. Board of Comm. of Cassia Cty.*, 137 Idaho 428, 431 (2002).

SUMMARY OF ARGUMENT

Under Idaho law, junior ground water rights that cause material injury to senior water rights are subject to administration. This is the case, regardless of whether the right is located inside or outside of the Director's virtual "trim line." The use of uncertainty to disregard actual model results, exempt junior ground water rights from administration, and allow continued injury to the Spring Users' senior water rights is arbitrary and capricious, an abuse of discretion, and contrary to law. In truth, any plus or minus uncertainty (i.e. margin of error) in measuring water or using the ESPAM to determine the impact of junior ground water diversions on the Spring Users' senior water rights should be a nullity for purposes of water right administration. At the least, any plus or minus uncertainty cannot be applied against the senior right in favor of junior water users. Such an application clearly diminishes the senior right contrary to Idaho's prior appropriation doctrine.

The Director's exclusion of junior ground water rights from administration based on model uncertainty alleviates the junior water users from meeting their burden to show that they are not subject to administration, and impermissibly shifts the burden to the Spring Users to rebut the exclusion. The Director's exclusion of ground water users amounts to a futile call defense, which, according to this Court's decision in *American Falls Reservoir Dist. #2 v. Idaho Dept. of*

Water Resources, 143 Idaho 862 (2007) ("*AFRD#2*"), is a burden to be borne by the junior right holder causing injury. Idaho law requires junior appropriators to prove any valid defenses by "clear and convincing evidence".[4] *See AFRD #2*, 143 Idaho at 874 ("the Rules do not permit or direct the shifting of the burden of proof . . . [r]equirements pertaining to the standard of proof and who bears it have been developed over the years and are to be read into the CM Rules."). The Director's decision impermissibly shifts the burden to the Spring Users to rebut a defense that was never presented by the ground water users.

ARGUMENT

I. The Director's Exclusion of Junior Ground Water Rights From Administration based on a Plus or Minus Uncertainty is Arbitrary and Capricious, an Abuse of Discretion, and Contrary to Law.

The trim line excludes from administration ground water rights identified by the ESPAM to cause material injury to the Spring Users' senior surface water rights. Model uncertainty does not provide a rational basis for this exclusion. The ESPAM is a well-calibrated model, the best one the former Director has ever seen. Tr. at 1132, lns. 6-7. Although imperfect, the possibility of error does not establish that it is erroneous, or that any errors should be held against senior water users. As Dr. Wylie testified, the most reasonable interpretation of ESPAM results is that they accurately reflect the effect of ground water depletions on spring flows. Tr. at 818-19.

Since it is equally likely that the ESPAM either understates or overstates the impact of junior ground water diversions on spring flows, the plus or minus 10% margin of error identified

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[4] Junior water users carry the burden to establish by "clear and convincing evidence" that their diversions will not injure senior water rights on the same source. *Cantlin v. Carter*, 88 Idaho 179 (1964); *Jossyln v. Daly*, 15 Idaho 137

by the Director is a nullity for administration. With the equal probability of increased injury to senior water rights, there is no rational basis for the Director to apply model uncertainty exclusively for the benefit of junior ground water right holders. Applying model uncertainty only for the benefit of junior ground water users is contrary to the Director's constitutional, statutory, and regulatory duty to administer junior water rights that cause material injury to seniors. *See* IDAHO CONST. art XV, § 3; Idaho Code § 42-607; CM Rules 20, 40.

Furthermore, there is no rational basis to infer from a margin of error that a well shown by the model to deplete spring flows may have no impact. Ground water pumping will have the predicted effect, with the possibility that that effect will be somewhat greater or somewhat less (by 10 %) than the prediction.

Uncertainties are inherent in the use of technology to measure and determine the impact of a junior water diversion on a senior water right. This is true whether the technology is a common measuring device or a complex computer model such as the ESPAM. The Snake River stream gauges that have the 10% margin of error identified by the Director are rated "good" by the USGS and are regularly used in water rights monitoring and administration. R. Vol. 1 at 49. The Director has described the ESPAM as the best available technology for determining the impact of junior ground water diversions on spring supplies. *Id.*

There is no statute, rule or case law requiring 100% accuracy in measuring devices (or any other means of determining material injury) as a prerequisite to administering water rights.

(1908); *Moe v. Harger*, 10 Idaho 302 (1904).

Neither the Spring Users' decrees nor any general provision or order of the SRBA Court requires such accuracy in measurement as a precondition to priority administration of water rights. Chapter 7, Title 42 of the Idaho Code addressing headgates and water measurement does not impose a standard of accuracy for measuring devices. Chapter 6 of Title 42, governing water distribution, does not require or authorize watermasters to perform an uncertainty analysis as a precondition to distribution of water in organized water districts. Finally, the Department's Rules for the Conjunctive Management of Surface and Ground Water Resources (IDAPA 37.03.11, *et seq.*) ("CM Rules") impose no such standard, and only require that the Director consider the existence of measuring and recording devices as part of the analysis of the reasonableness of the senior's water diversions. CM Rule 42.01.g. In short, there is no legal authority authorizing the Director to exclude junior water rights from administration based on a margin of error in water flow measurements.

Furthermore, no evidence was presented in the administrative proceedings in this case to show that technology exists to measure and determine injury with 100% accuracy. Absent a method that is completely accurate, the Director is bound to use the best information available for administration, in this case the predictions of the ESPAM. Any uncertainty in those predictions is a nullity and cannot be used against the Spring Users for the sole benefit of junior ground water rights. Such action diminishes the senior rights contrary to Idaho's prior appropriation doctrine.

Therefore, the Director's use of model uncertainty to create a trim line that excludes from administration junior ground water rights that cause injury to the Spring Users' senior water rights

is arbitrary and capricious, an abuse of discretion, and contrary to law, and should be reversed by this Court.

II. Exclusion of Junior Ground Water Rights from Administration Based on Model Uncertainty Unconstitutionally Shifted the Burden of Proof to the Spring Users.

Idaho law requires water rights to be administered pursuant to the prior appropriation doctrine, which prohibits junior water rights from taking water that would otherwise flow to senior water rights. *See* IDAHO CONST. art XV, § 3; Idaho Code §§ 42-602;607.[5] The CM Rules define material injury as the "hindrance to or impact upon the exercise of a water right caused by the use of water by another person as determined in accordance with Idaho Law." CM Rule 10.14. Diverting ground water that would otherwise flow to a connected senior surface water right constitutes a "hindrance to or impact upon the exercise" of that senior right and therefore requires administration.

In organized water districts in the ESPA – such as Water Districts 120 and 130 – the CM Rules require curtailment or an approved mitigation plan to prevent material injury to a senior water right. CM Rules 40.01; 50. There is no "threshold" that must be met before these obligations are imposed. If a junior ground water right takes water that would otherwise flow to a senior surface water right, the right is subject to conjunctive administration.

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[5] The CM Rules follow the prior appropriation doctrine. CM Rule 20.02.

In 2002, the SRBA Court held that all water rights in the ESPA are legally connected for purposes of water right administration – the "connected sources" determination.[6] R. Vol. 13 at 3057; *A & B Irrigation Dist. v. Idaho Conservation League*, 131 Idaho 411, 421-22 (1998); *see also* CM Rule 50 (the ESPA "is found to be an area having a common ground water supply" and "supplies water to and receives water from the Snake River"). As such, "the prior appropriation doctrine applies as between all hydraulically connected ground and surface water right sources" in the ESPA and "a junior groundwater user is not per se insulated from a senior surface call simply because the junior right is diverting from a well." R. Vol. 13 at 3046.

Although the impacts from a ground water diversion may take several years to be fully realized – i.e. that "no direct immediate relief would be achieved if the junior-priority water use was discontinued" – administration is still required. CM Rule 20.04 ("Although a call may be denied under the futile call doctrine, these rules may require mitigation or staged or phased curtailment of a junior-priority use if diversion and use of water by the holder of the junior-priority water right causes material injury").

In *AFRD#2, supra*, this Court described the burdens and evidentiary standards that must be applied in conjunctive administration:

> The Rules should not be read as containing a burden-shifting provision to make the petitioner re-prove or re-adjudicate the right which he already has ... The presumption under Idaho law is that the senior is entitled to his decreed water rights. ... The Rules may not be applied in such a way as to force the

[6] Individual claimants in the SRBA have the opportunity to prove they divert from a "separate source," so as not to fall under the "connected sources" general provision. No ground water right holders in Water Districts 120 or 130 sought or obtained a "separate sources" provision on their water rights, thus they are deemed legally connected for purposes of conjunctive administration.

> senior to demonstrate an entitlement to the water in the first place; that is presumed by the filing of a petition containing information about the decreed right. The Rules do give the Director the tools by which to determine "how the various ground and surface water sources are interconnected, and how, when, where and to what extent the diversion and use of water from one source impacts [others]." ***Once the initial determination is made that material injury is occurring or will occur, the junior then bears the burden of proving that the call would be futile or to challenge, in some other constitutionally permissible way, the senior's call.***

143 Idaho at 877-78 (internal citations omitted) (emphasis added).

The CM Rules do not authorize the Director to exclude hydraulically connected junior ground water rights that have been found to contribute to the material injury suffered by a senior water right. To the contrary, the CM Rules demand their inclusion in administration. *See* CM Rule 40.01.

Once the Director determined that the Spring Users' senior water rights were being materially injured by hydraulically connected junior groundwater rights, the law required the Director to shift the burden to the holders of the junior water right to prove a valid defense to the call. *AFRD#2, supra.*

Contrary to this Court's clear guidance in *AFRD#2*, however, the Director did not shift the burden to the junior ground water users after finding material injury. Rather, he unilaterally exempted a majority of the junior ground water rights contributing to the material injury – essentially creating a de-facto "futile call" determination without any showing by the junior water user. Such an action effectively nullifies the burden of proof required under Idaho law. Clerk's R. at 65 ("The problem is that if aspects of futile call are cloaked in part of the material

injury determination and no subject to the applicable burdens of proof, ***then the burdens of proof are effectively circumvented***") (emphasis added).

Instead of requiring the legally mandated burden of proof, the Director chose not to require the juniors to submit any evidence as to futile call and unilaterally "trimmed" ground water rights found to be causing material injury. Using the trim line the Director eliminated any administrative obligations from those rights whose impacts to the spring sources was estimated to be 10% or less than their total diversions from the ESPA. R. Vol. 1 at 61-62, ¶¶ 76-82; R. Vol. 3 at 502-04, ¶¶ 71-77. Of the 300,000 acres covered by ground water rights junior to Blue Lakes' injured senior water rights, the Director exempted approximately 243,000 acres (80%) from any administration. R. Vol. 16 at 3711. For Clear Springs, the Director exempted 547,000 of the 600,000 acres (90%) from administration. *Id.*

The end result of this type of administrative scheme violates Idaho's prior appropriation doctrine. For example, a ground water user with a 1965 priority right with an 11% depletive effect on the spring reach is subject to administration, while a ground water user with a 1990 priority right and a 9% depletive effect on the spring reach is excluded.[7] In some cases the amount of water taken out-of-priority by the 1990 ground water right with a 9% depletion

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[7] Importantly, the fact that the diversions may be a longer distance from the spring source than others does not prevent administration.

> What these facts establish is that in the administration of ground water to spring flows the fact that curtailment will not produce sufficient water immediately to satisfy the senior rights does not render the calls futile. A reasonable time from the results of the curtailment to be fully realized may require years, not days or weeks. This is the reverse process of depletion of the water flowing to the springs from the aquifer over a substantial number of years.

Clerk's R. at 99 (citing R. Vol. 16 at 3709). Additionally, the "CMR acknowledge that relief from curtailment will not be immediate." *Id.* (citing CM Rule 20.04).

rate*could be greater than* the amount of water diverted by the 1965 ground water right with the 11% depletion rate.[8] Yet, under the Director's action the 1990 priority ground water right would be allowed to avoid administration altogether, while the 1965 priority ground water right would be subject to curtailment.

The Director has no authority to ignore priority in conjunctive administration. The law is clear that all junior ground water rights causing injury to senior surface water rights are subject to administration. Under the SRBA Court's "connected sources" determination, all water rights in the ESPA are hydraulically connected. *See supra.*; *see also*, CM Rule 50. As such, the Director and watermasters have a "clear legal duty" to regulate the use of water under every junior groundwater right contributing to a senior water right's material injury – regardless of total impact on the water supply used by the senior water right. *Musser v. Higginson*, 125 Idaho 392, 395 (1994); *see also State v. Nelson*, 131 Idaho 12, 16 (1997) ("the watermaster is to distribute water according to the adjudication or decree"); Idaho Code § 42-607; IDAHO CONST. art. XV, § 3; *Jenkins v. State Dept. of Water Resources*, 103 Idaho 384, 388 (1982) (to "diminish one's priority works an undeniable injury to the water right holder").

Once the Director determines that a senior water right is materially injured, it is the holder of the junior water right that must present and prove a defense to the call. *AFRD#2, supra*. Here, however, the Director flipped the burden back to the Spring Users to prove that those junior groundwater rights outside the 10% "trim line" should be subject to conjunctive

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[8] For example, assume the 1990 priority right authorizes a diversion rate of 10 cfs – or 0.9 cfs (9%) depletion to the spring source. If the 1965 priority right authorizes a diversion rate of 5 cfs, its depletion would be 0.55 cfs (11%).

administration. Since the Director (i) recognized that the waters of the ESPA are hydraulically connected, (ii) found that the Spring Users' senior water rights were being materially injured by out of priority ground water diversions and (iii) allowed certain groundwater rights to avoid administration even though they are hydraulically connected and contributing to the material injury, the Director abused his discretion and violated long-standing Idaho law. The District Court's failure to correct this error should be reversed.

CONCLUSION

Plus or minus uncertainty in water measurements or model calibration should be a nullity for purposes of water rights administration. The Director's use of a trim line to exclude junior ground water rights shown by the model to injure the Spring Users' water rights is arbitrary and capricious, an abuse of discretion, and contrary to the law for the reasons discussed herein. By imposing the trim line to exclude junior rights from administration the Director has impermissibly shifted the burden to the Spring Users' to demonstrate injury, when the law demanded that the burden should be on the juniors to prove a defense to administration. For these reasons, the Spring Users respectfully request that the Court reverse the Director's 10% trim line determination.

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RESPECTFULLY submitted, this 23rd day of July, 2010.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 23rd day of July, 2010, I served true and correct copies of the **SPRING USERS' JOINT OPENING BRIEF** upon the following by the method indicated:

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Daniel V. Steenson

ATTACHMENT D

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHTS NOS. 36-02356A, 36-07210, AND 36-07427. **(Blue Lakes Delivery Call)** IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHTS NOS. 36-04013A, 36-04013B, AND 36-07148. **(Clear Springs Delivery Call)**	)	**FINAL ORDER**

This order addresses the issue of seasonal variability and injury to Blue Lakes Trout Farm, Inc.'s ("Blue Lakes" or "BLT") water right no. 36-7210 and Clear Springs Foods, Inc.'s ("Clear Springs" or "SRF") water right no. 36-4013A. Based upon his consideration of this matter, Interim Director Gary Spackman ("Director") finds, concludes, and orders:

FINDINGS OF FACT

I. Procedural Background

1. This matter is before the Director as a result of the District Court's *Order on Petition for Judicial Review*, issued on June 19, 2009 and *Order on Petitions for Rehearing*, issued December 4, 2009, which remanded the question of seasonal variability back to the Department so that "the Director may apply the appropriate burdens of proof and evidentiary standards when considering seasonal variations as part of a material injury determination... ." *Order on Petition for Judicial Review* at 58.

2. In the *Order on Petition for Judicial Review* (hereafter referred to as "Order on Review"), the Court affirmed the Department's authority to take into account the inherent seasonal fluctuations in spring flows at the time the water rights were appropriated. The Court stated:

> [T]aking into account seasonal variability is not necessarily a re-adjudication of the water right despite the partial decrees not including conditions pertaining to seasonal fluctuations. Rather, taking seasonal variability into account is a consequence of administering water rights based on the effects of curtailment simulated through the ground water model, the inherent fluctuating characteristics of spring flows, and the application of the futile call doctrine. Therefore is [sic] not arbitrary or capricious or contrary to law.

Order on Review at 21.

3. However, the Court held the Department did not properly apply the appropriate burdens of proof and evidentiary standards regarding seasonal variation when the Director found no injury to water right no. 36-7210, held by Blue Lakes and water right no. 36-4013A, held by Clear Springs. The Court held that the junior water right holder, not the senior water right holder, should bear the burden of proving water availability, or lack thereof, during seasonal variation if there is lack of historic water measurements at the points of diversion. *Order on Review* at 24. The Court held that "[i]n making the factual determination as to what portion of a senior's deficit is attributable to seasonal variations, the Director necessarily needs to examine evidence that would show what those seasonal variations looked like before pumping by hydraulically connected juniors – i.e. what were the seasonal variations at the time of the senior's appropriation?" *Order on Review* at 22.

4. On remand, the Director must determine the extent to which water right nos. 36-7210 and 36-4013A were historically satisfied at the time of appropriation. If the rights were historically satisfied at the time of appropriation, then the current extent of material injury must be determined while also taking into account the seasonal variability.

II. Blue Lakes' Water Right No. 36-7210

5. Blue Lakes' water right no. 36-7210 authorizes the diversion of 45 cfs from Alpheus Creek for fish propagation. The priority date is November 17, 1971.

6. Water flow must be measured frequently throughout the year. A single measurement is not sufficient to determine seasonal variability. Multiple measurements may also be insufficient to establish seasonal variability if the flows are measured repetitively in the same month or season of the year.

7. Diversion records sufficient to establish seasonal variation for BLT's water rights flow date back to 1995. *Exhibit 16.*[1] These diversion records are reflected in Figure 1 below.

[1] All references to "Exhibit" in this order refer to exhibits from the administrative hearing in this matter unless otherwise noted.

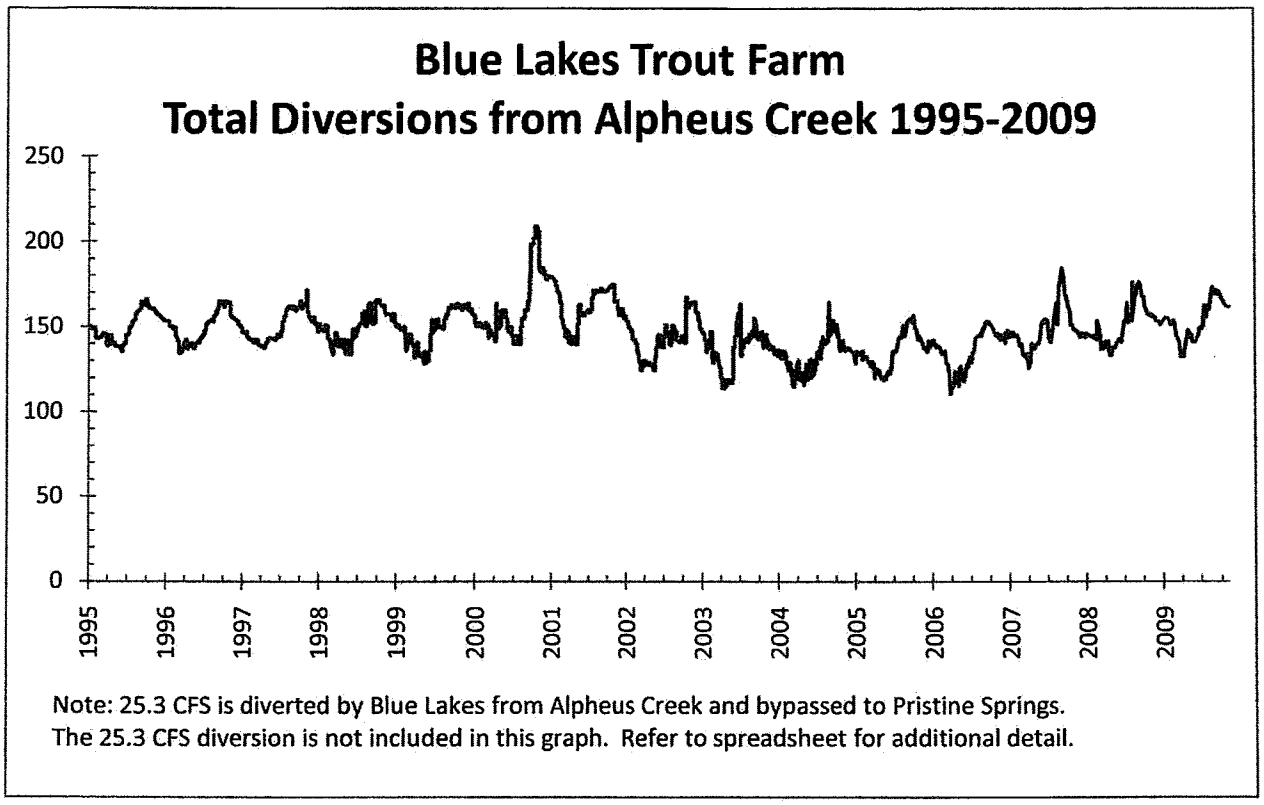

Figure 1 – Hydrograph of BLT Diversions from 1995 to 2010.

8. These diversion records do not span the early to mid-1970's, the development period for licensed water right no. 36-7210. To determine seasonal variability in the early to mid-1970's, the Department must evaluate additional data.

9. The record contains direct field measurements of BLT water flows conducted by the United States Geologic Survey ("USGS") in association with its Blue Lakes Outlet Gage #13091500 (Gage 1500) that pre-date 1995. R. Vol. I at 55-56. These measurements provide direct evidence of flow rate data from 1913 to 2010 and provide corroborating measurements during the time the water right was developed including the time of the field exam in 1977. The reported historic BLT diversions can be confirmed from USGS field notes associated with Gage 1500. However, only one or sometimes two measurements are recorded each year in the mid-1970's. Consequently, Gage 1500 data is not adequate to resolve the extent of seasonal variation.

10. The Department's records contain five miscellaneous diversion measurements[2] of combined BLT and Pristine Springs diversions prior to 1995: 165 cfs on February 15, 1977, 124 cfs on February 15, 1977, 149 cfs on February 22, 1977, 142 cfs on February 23, 1977, and 165

[2] The measurement values provided have been adjusted downward by 25.3 cfs from actual field measurements to account for water diverted on the behalf of Pristine Springs at the time of field measurements were taken. Refer to *IDWR Order of May 19, 2005, in the Matter of Distribution of Water Finding of Fact 53-55* for a detailed discussion of Pristine Springs' facility diversions and water rights. R. Vol. I at 55-56.

cfs on March 1, 1977. *Exhibit 16. Exhibit 17, pages 1-3.* J-U-B Engineering measured four of these recorded flow values for development of a rating curve for the BLT diversion[3]. The Department assumes the fluctuations observed in flow rate from these measurements are artificial and a result of operational control of the diversion works by J-U-B in establishing the rating curve and are not indicative of variation in the natural flows of the springs. The fifth measurement, associated with the Department's field exam on March 1, 1977, is assumed to be an actual representation of the natural flow rate of the springs at the time of measurement.

11. The USGS measured BLT diversions twice in 1977 for the Gage 1500 measurement data set in addition to the five 1977 miscellaneous measurements in the Department records discussed above. The four measurements associated with the development of a rating curve for BLT's diversions are not appropriate for determining seasonal variation. Of the remaining three 1977 measured BLT diversion rates, two were measured in the month of March and one was measured on October 31. These three measurements are not adequately distributed throughout the calendar year to completely capture and describe the seasonal variation in 1977. The Department is not aware of any additional direct measurement data of BLT diversions during 1977 that could provide direct evidence of the full extent of seasonal variability at the time the water right was developed.

12. If a sufficiently strong correlation can be established between BLT diversions and one or more independent[4] variables reflecting seasonal variability, and the independent variable is comprised of sufficient measurement points and dates far enough back in time (1977), then a relationship between BLT diversions and the independent variable could be used to establish seasonal variability in the BLT flow rates at the time water right 36-7210 was developed.

13. To estimate the seasonal variability associated with BLT's diversion rates prior to the start of continuous data collection by BLT in 1995, the Department considered a host of single and multiple linear regression models. Independent variables considered by the Department included the following: month; year; serial date; daily, monthly, and cumulative evapotranspiration; daily, monthly, and cumulative precipitation; daily and monthly average temperature; City of Twin Falls average daily and monthly pumping diversion rates and monthly diversion volumes; flow rate data from the USGS Gages 13090999, 13091000, and 13091500; and IDWR monitoring wells 05DAB1 and 05DAA1.

A. Description of Independent Variables

14. USGS has monitored the daily flow rates of the Blue Lakes Springs near Twin Falls, ID, USGS Gage #13091000[5], dating back to April 1, 1950. *Exhibit 312, Figure 7.* This data is reflected in Figure 2 below.

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[3] Correspondence dated February 24, 1977 from JUB to Blue Lakes Trout Farm in water right file 36-7210.

[4] Examples of acceptable independent variables might include, but are not limited to, alternative spring flows or depth to aquifer measurements in wells within the vicinity of the Blue Lakes facility.

[5] Discharge record at this site represents combined flow for Blue Lakes Spring Pumping Plant (station 13090998), which provides water to the City of Twin Falls beginning in July 1994, and Blue Lakes Spring below the Pumping Plant near Twin Falls (station 13090999).

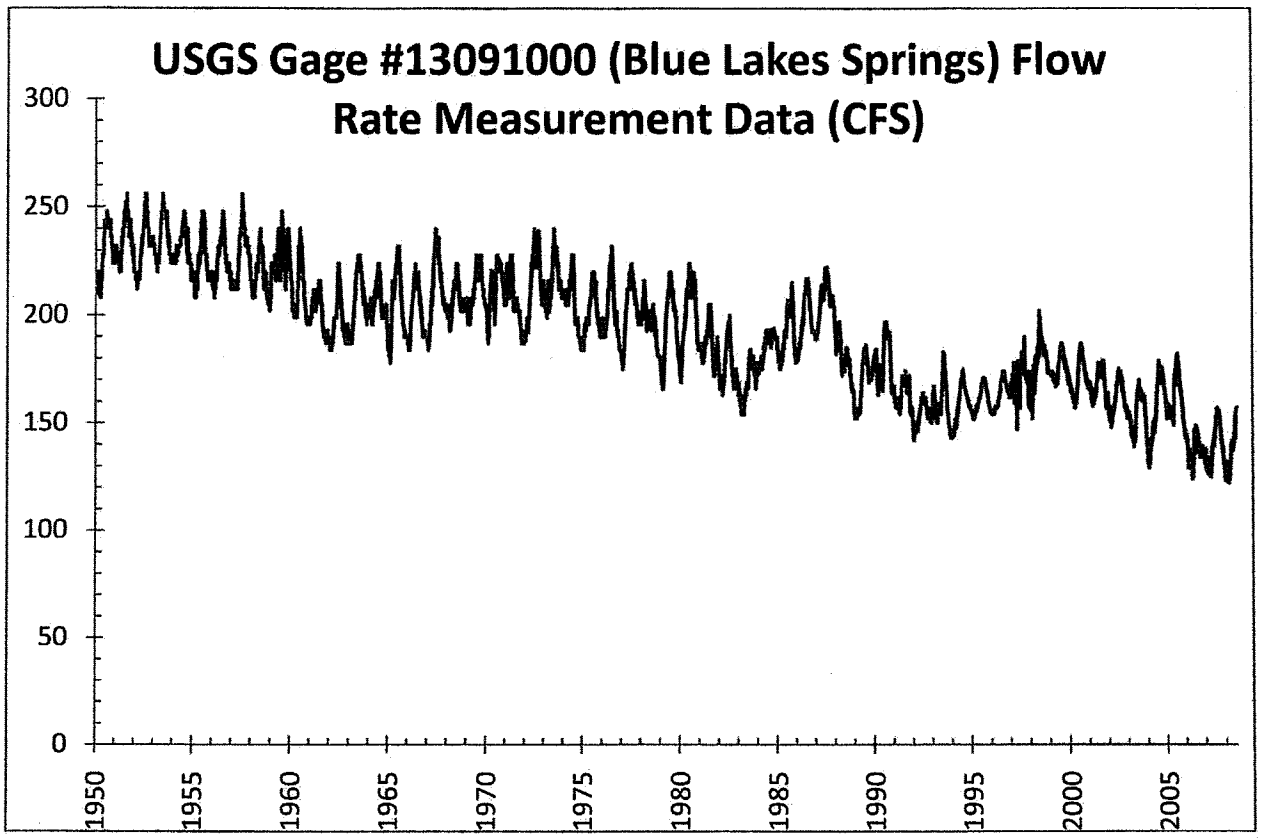

Figure 2 – Hydrograph of BLT Spring's Flow Rate 1950-2008.

15. The Department has monitored depth to water surface in a series of designated monitoring wells throughout the state. These data are maintained in the IDWR database known as Well_Log and made available to the public on-line[6]. Data for some of these wells date back to the early 1950's. *Exhibit 312, Figure 15.* Wells 05DAB1 and 01DAA1 are located in close proximity up-gradient or parallel to Blue Lakes Springs. Ground water levels in the wells have been measured at least semi-annually or more frequently for all years beginning in 1957 and 1950 respectively, and continuing until 2010. *Exhibit 317.* This data is reflected in the following figure.

[6] Ground Water Level information is made available to the public on the Department's webpage at the following link: http://www.idwr.idaho.gov/WaterInformation/GWLevels/default.htm.

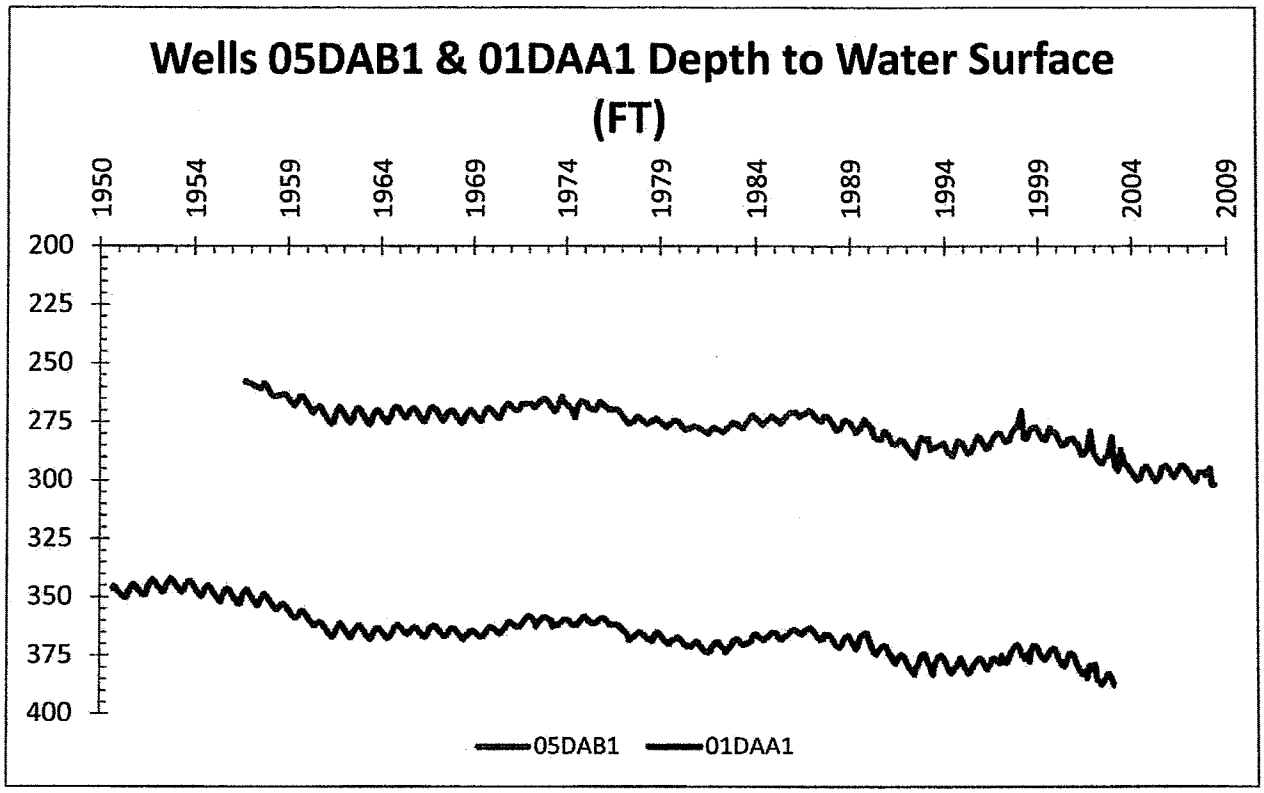

Figure 3 – Ground Water Hydrographs of IDWR Monitoring Wells from 1950-2009

16. Changes in temperature, precipitation, and evapotranspiration can influence ground water and surface water systems. Review of historic climate data can be used to understand and even estimate historic changes in ground water and surface water systems. The Department analyzed the climate variables of precipitation, temperature, and evapotranspiration[7]. Climate data considered by the Department were derived from ETIdaho data for the "Twin Falls WSO" weather station. This station (number 109303) is part of the National Weather Service cooperative network.

B. Model Development

17. The Department found no single independent variable that could be used to develop a single-variable linear regression model. The single variable data sets considered by the Department suffered from one or more of the following weaknesses: provided a poor correlation when modeled; were comprised of insufficient coincident data points resulting in small model sample sizes; data were not evenly distributed over the entire calendar year; or there were very few data points in the critical time period of 1971-1977.

[7] The ESPA Modeling Committee uses ET data in the ESPA Model. Temperature and precipitation are key components in the methods utilized to develop the ET values relied upon by the Model. See Exhibit 312, References page 21, Cosgrove, D. et al., 2006. Enhanced Snake Plain Aquifer Model Final Report Idaho Water Resources Research Institute, University of Idaho.

18. To estimate BLT diversions prior to the start of continuous water diversion data collection in 1995, the Department developed a multiple linear regression model that estimates average monthly diversions from the following independent variables: cumulative monthly ET; cumulative monthly precipitation; average monthly temperature; monthly depths to water surface in IDWR monitoring well 05DAB1; and the average monthly flow rate of the Blue Lakes Spring (USGS Gage # 13091000). The model was developed using data from 1995-2008 and relies upon 75 coincident data points during that time period (N = 75). The coefficient of determination or R^2 value of the model is 0.62.[8] The model allows for the calculation of a monthly average flow rate of water available to BLT for diversion given the corresponding monthly values for cumulative monthly ET, cumulative monthly precipitation, average monthly temperature, average monthly depth to water surface in IDWR monitoring well 05DAB1, and the average monthly flow rate of the Blues Lakes Springs. Over the modeled time period, the average residual (defined as actual BLT diversion rate less the estimated BLT diversion rate), is -0.3% of actual flows (on average 0.02 cfs), with a maximum residual of 13.6% (24.14 cfs) and a minimum residual of -14.0% (-19.32 cfs) of actual flows. Equation (1) is the numerical expression of the regression model:

(1) $Q_{BLT} = B_0 + B_1(ET) + B_2(W) + B_3(T) + B_4(D) + B_5(Q_{BLS})$ where,

Variables:
Q_{BLT} = BLT Diversion Rate, cfs (dependent variable)
ET = Cumulative Monthly Evapotranspiration, Inches (independent variable)
W = Cumulative Monthly Precipitation, Inches (independent variable)
T = Average Monthly Temperature, Deg-C (independent variable)
D = Depth to Water Surface in Well 05DAB1, Feet (independent variable)
Q_{BLS} = Blue Lakes Springs (Gage #13091000) Flow Rate, cfs (independent variable)

Constants:
$B_0 = 310.723$
$B_1 = 0.596$
$B_2 = -1.871$
$B_3 = -1.319$
$B_4 = -0.625$
$B_5 = 0.146$

19. The Department also used residual analysis to estimate the upper and lower bounds between which the Department would expect the historical measured flows to have occurred. These bounds were estimated by first determining the monthly average residuals, defined as the difference between the actual monthly average BLT weir flow and the monthly modeled average rate of flow available to BLT for diversion. The residuals were summarized by month to determine the maximum and minimum daily residuals for each of the 12 months. Finally, these monthly residuals were added to the modeled values (January max/min residuals

[8] Additional statistical evaluations of the model were conducted by the department including analysis of p-values, graphical analysis of residuals, and analysis of autocorrelation. From these additional evaluations, the Department found no compelling evidence to support an alternative conclusion regarding seasonal variation to the one presented in this Order.

added to January modeled data, February max/min residuals to February modeled data, and so on...) to develop month-specific upper and lower bounds of the regression model.

20. By utilizing the model developed from the regression analysis, the Department estimated the average monthly flow rate available for diversion dating back to January 1964 as a function of the independent variables previously described. Figure 4 is a graphical depiction of the average monthly BLT diversion rates as estimated by the regression model. Included in the figure are the upper and lower residual boundaries, the Gage 1500 measurements back to 1971[9], and the Field Exam measurement from March 1, 1977.

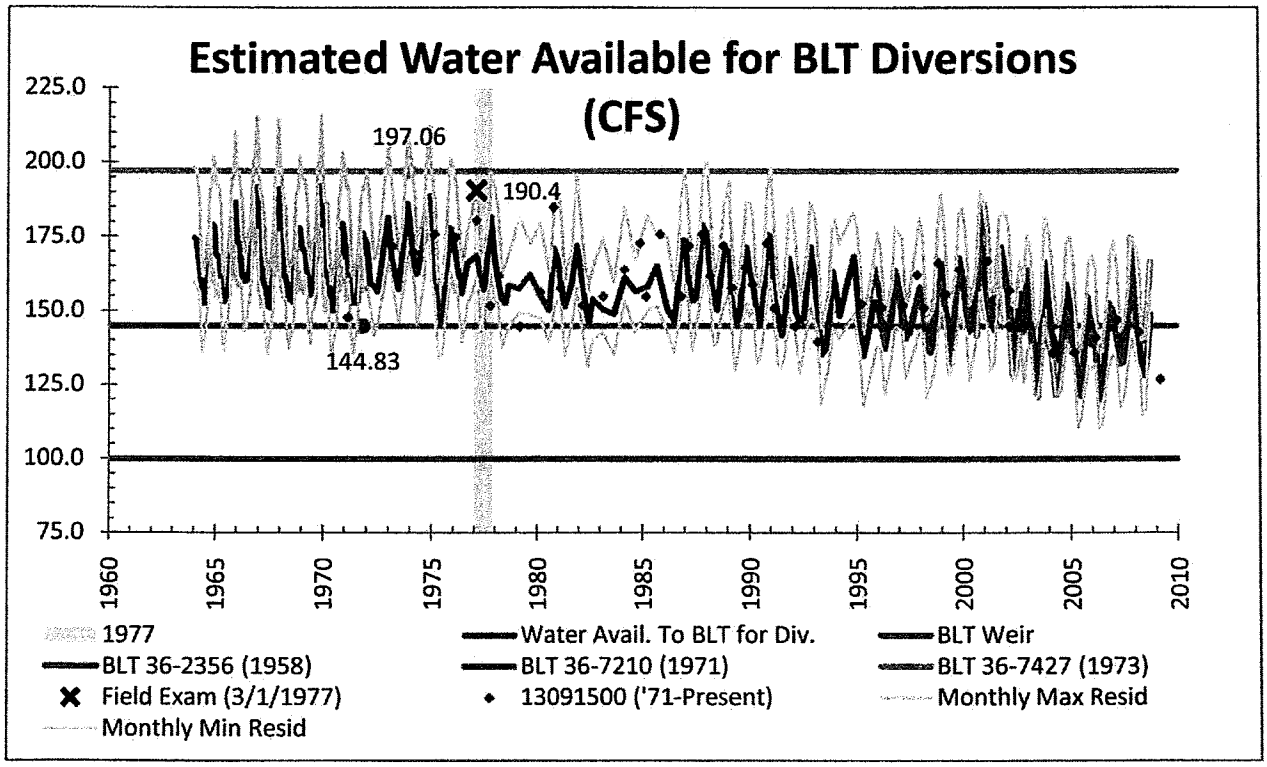

Figure 4 – Estimated Water Available to BLT for Diversion 1964-2008

21. There are three time periods during the 1964-2008 timeframe when the seasonal highs and lows were significantly dampened in comparison to the remaining period. These time periods are 1977, 1979-1980, and 1982-1985. For the latter two time periods, 1979-1980 and 1982-1985, the dampened effect in the seasonal variation can be partly attributed to a lack of sufficient data points in the independent variables in those time periods to capture the full range of seasonal variation. For those time periods, the model is not a reliable tool in analyzing seasonal variation. The estimated hydrograph for 1977 is comprised of five estimated values, including the months of March, May, July, September, and November. Both the number and distribution of the independent variable data utilized in the model to estimate diversion values for

[9] Although Gage 1500 data exists prior to 1977 they are not indicative of current or modern BLT diversion practices and therefore are not useful for comparison. In addition, as previously discussed the Gage 1500 data is not sufficient to determine seasonal variation but it can be used to validate the model.

1977 are sufficient to adequately capture the seasonal variability in that year. Therefore a lack of data does not call into question the veracity of the model's predictions for that year. In fact, the same dampened effect in seasonal variation are displayed in the underlying independent variables of 13091000 Gage flow rates and IDWR monitoring well 05DAB1 depth to water surface. Therefore the dampened effect in seasonal variation in the model's output for 1977 is a function of the physical conditions of 1977, as reflected in the seasonal variation of the underlying independent variables.

22. In the year of the field exam, 1977, the Department is aware of seven unique BLT diversion measurements; three of these measurements can be used to gage the accuracy of estimated values in the year of concern. The following table summarizes actual measured diversion data associated with the Gage 1500 and the field exam, estimated values from the regression analysis, the residual or difference between the actual and estimated values, and the percent discrepancy between the actual and estimated values.

Table 1 - Summary of Actual vs. Predicted Diversions

Date	BLT Measured Diversion Rate (cfs)	Estimated Average Monthly Diversion Rate (cfs)	Residual (cfs)	% Residual
3/1/1977	190.4	168.6	21.8	11.4%
3/3/1977	180.4	168.6	11.8	6.5%
10/31/1977	151.7	181.6	-29.9	19.7%

23. Utilizing monthly estimated diversion rates from the regression analysis, the Department constructed a hydrograph of water available for diversion to BLT for the years from the priority date of water right 36-7210 (11/17/1971) to the year in which the field exam was conducted (1977). Starting on November 17, 1971 with the addition of water right 36-7210, BLT was authorized to divert a combined flow rate of 144.8 cfs.

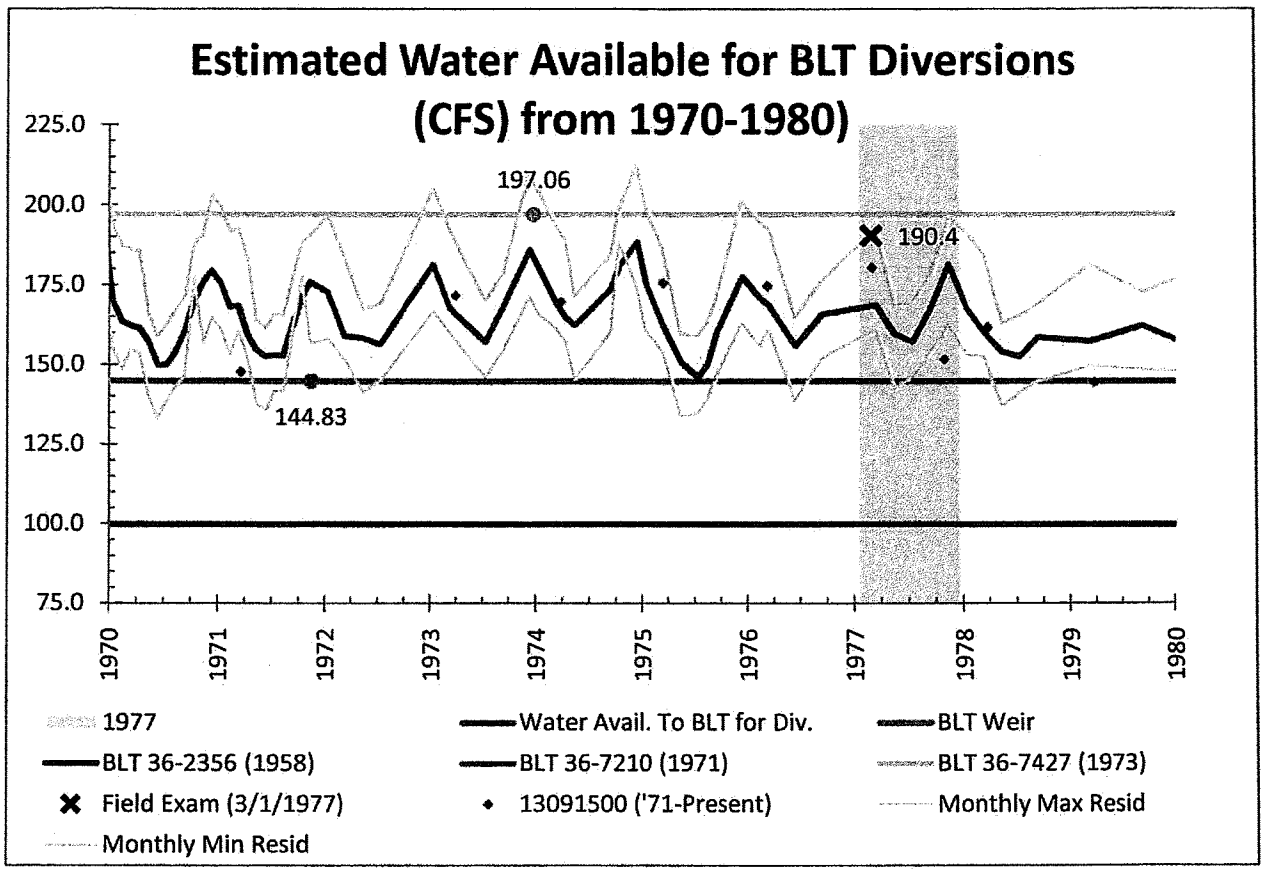

Figure 5 – Hydrograph of Estimated Water Available for Diversion to BLT from 1970-1980

24. Figure 5 depicts the estimated water available for diversion by BLT from 1970-1980 in relationship to the stacked suite of water rights developed by BLT up to and including water right 36-7210, which bears a 1971 priority date. The upper and lower residual analysis boundaries are also plotted. The estimated water available for diversion by BLT exceeds the 144.83 cfs rate of diversions authorized by BLT's 1971 priority water right at all times during 1977. The lower residual boundary for the estimated water available for diversion by BLT also exceeds the 144.83 cfs rate of diversions authorized by BLT's 1971 priority water right and all earlier priority BLT water rights at all times during 1977 except for the month of May. In the month of May the estimated water available for diversion by BLT less the monthly lower residual is equal to 142.7 cfs, 2.1 cfs less than the authorized combined diversion rate, or 98.5% of the authorized combined diversion rate. From these findings, it is likely that seasonal variation was not a factor in significantly limiting the supply of water available to BLT in the year in which the field exam was conducted.

25. Spring discharges in the Thousand Springs area have declined over time due to a combination of ground water pumping, increased drought conditions, and changes in surface water irrigation practices on the Eastern Snake River Plain. R. Vol. I at 49.

26. The hydrograph depicted in Figure 6 below shows the seasonal variation of the water supply diverted by BLT during 2005 in relation to the stacked suite of water rights

developed by BLT up to and including water right 36-7210. In 2005, the available water supply for diversion by BLT was not sufficient at times (more than ¾ of the year) to meet the diversion rate authorized by BLT's 1971 priority water right 36-7210.

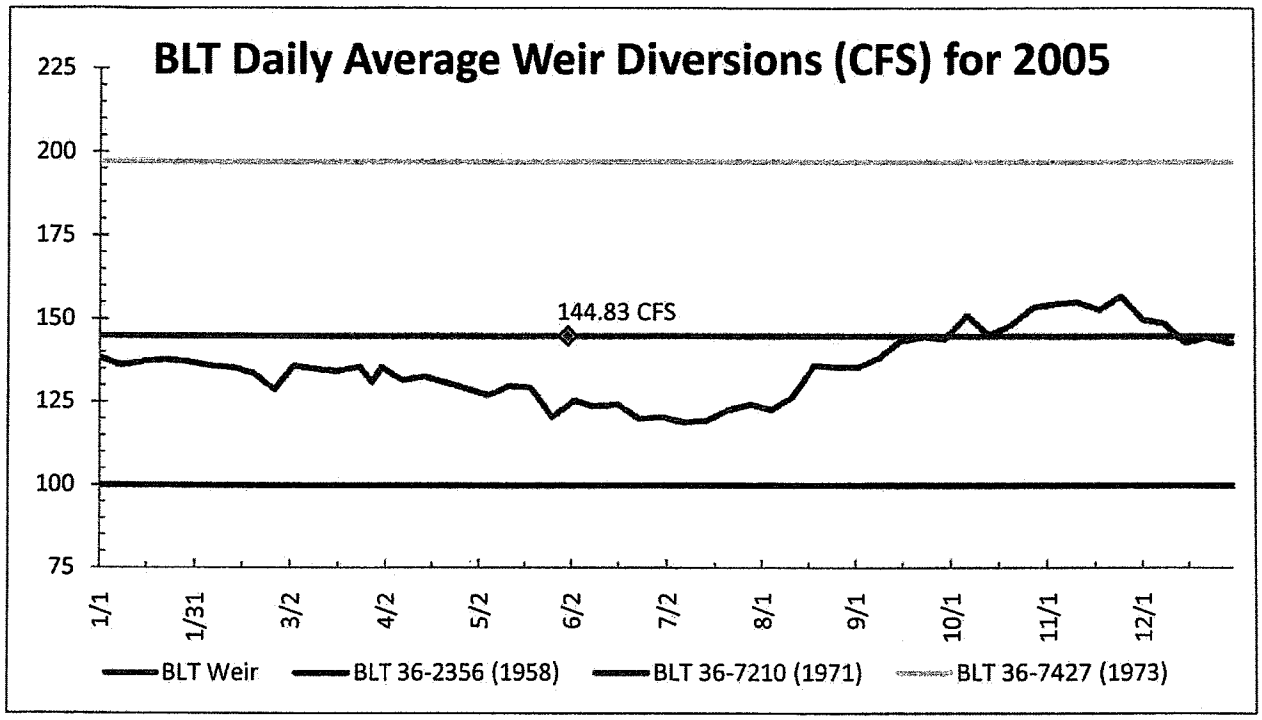

Figure 6 – Actual Hydrograph of Water Diverted by BLT in 2005.

27. Curtailment is warranted based upon the technical findings above.

C. Simulated Curtailment Of Ground Water Rights Junior to November 17, 1971

28. Currently, junior ground water users are mitigating for injury to BLT water right no. 36-7427 with a priority date of December 28, 1973. The benefit of curtailing ground water rights junior to December 28, 1973 within the 10% trim line and within the area of common ground water supply results in curtailment of 76,000 acres and a benefit to the Devil's Washbowl to Buhl reach of 61 cfs. The expected benefit to the BLT facility is 12 cfs.

29. The benefit of curtailing ground water rights junior to November 17, 1971 within the 10% trim line and within the area of common ground water supply results in a curtailment of 99,000 acres and a benefit to the Devil's Washbowl to Buhl reach of 78 cfs. The expected benefit to the BLT facility is 16 cfs.

30. Curtailing ground water rights junior to November 17, 1971 results in an increase of 23,000 acres curtailed and an increased flow to the reach of 18 cfs.[10] The increased benefit to BLT is expected to be 3.5 cfs.[11] Attached hereto and referenced, as Attachment A, is the

[10] Rounding to two significant digits results in the calculation of the benefit to the spring of 18 cfs, not 17 cfs.
[11] Rounding to two significant digits results in the calculation of the benefit to the spring of 3.6 cfs, not 3.4 cfs.

modeling analysis.

31. The net simulated benefit of curtailing water rights in response to BLT's call for delivery of water right 36-7210 is 18 cfs to the reach and 3.5 cfs to BLT. Below, the Department analyzes the separate impact to Water District 130 and Water District 140.

i. Water District 130

32. The benefit of curtailing ground water rights junior to December 28, 1973 that are within the 10% trim line, within the area of common ground water supply, and within the boundary of Water District 130, results in a curtailment of 56,000 acres and a benefit to the Devil's Washbowl to Buhl reach of 47 cfs. The expected benefit to the BLT facility is 9.4 cfs.

33. The benefit of curtailing ground water rights junior to November 17, 1971 that are within the 10% trim line, within the area of common ground water, and within the boundary of Water District 130, results in a curtailment of 69,000 acres and a benefit to the Devil's Washbowl to Buhl reach of 60 cfs. The expected benefit to the BLT facility is 12 cfs.

34. Curtailing ground water rights junior to November 17, 1971 results in an increase of 13,000 acres curtailed and an increased flow to the reach of 13 cfs. The increased benefit to BLT is expected to be 2.6 cfs.

ii. Water District 140

35. The benefit of curtailing ground water rights junior to December 28, 1973 within the 10% trim line, within the area of common ground water supply, and within the boundary of Water District 140 results in a curtailment of 19,000 acres and a benefit to the Devil's Washbowl to Buhl reach of 13 cfs. The expected benefit to the BLT facility is 2.6 cfs.

36. The benefit of curtailing ground water rights junior to November 17, 1971 within the 10% trim line, within the area of common ground water, and within the boundary of Water District 140 results in a curtailment of 29,000 acres and a benefit to the Devils Washbowl - Buhl reach of 18 cfs. The expected benefit to the BLT facility is 3.7 cfs.

37. Curtailing ground water rights junior to November 17, 1971 results in an increase of 10,000 acres curtailed and an increased flow to the reach of 5.0 cfs. The increased benefit to BLT is expected to be 1.0 cfs.

III. Clear Springs' Water Right No. 36-4013A

38. Clear Springs' water right no. 36-4013A authorizes the diversion of 15 cfs from springs for fish propagation at Clear Springs' Snake River Farms ("SRF") facilities. The priority date is September 15, 1955.

39. Diversion records sufficient to establish seasonal variation for SRF's water flow date back to 1988. *Exhibit 124.* These diversion records are reflected in Figure 7 below.

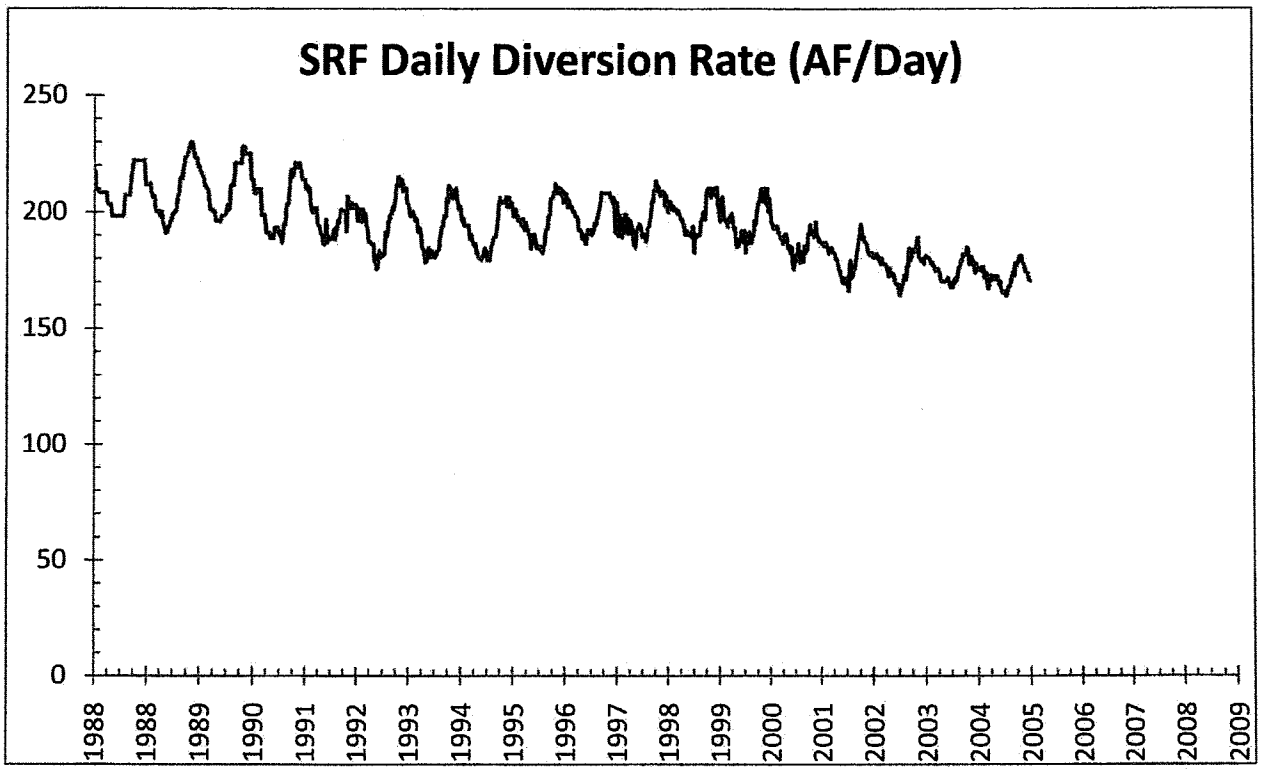

Figure 7 – Hydrograph of SRF Diversions from 1988-2005.

40. These diversion records do not coincide with the priority date of September 15, 1955, which represents the date of the establishment of beneficial use associated with water right 36-4013A. To determine seasonal variability dating back to 1955, the Department must evaluate additional data sets. The Department is not aware of any direct measurements of the SRF water flows during 1955 that would provide direct evidence of seasonal variability at the time the water right was developed.

41. However, if there is a sufficiently strong correlation between SRF's diversions and one or more independent[12] variables that reflects seasonal variability in SRF's diversions and the independent variable is comprised of sufficient measurement points, and dates far enough back in time (1955), then a relationship between SRF's diversions and the independent variable can be used to establish seasonal variability in the SRF flow rates at the time water right 36-4013A was developed.

42. The USGS has monitored daily flow rates of the Box Canyon Springs near Wendell, ID, USGS Gage #1309550, dating back to April 1, 1950. *See Exhibit 312, Figure 5.* Additional point measurements by the USGS of the flow rate of the Box Canyon Springs date as

[12] Examples of acceptable secondary metrics might include, but are not limited to, alternative spring flows or depth to aquifer measurements in wells within the vicinity of the SRF facility.

far back as 1917. *Exhibit 307; Exhibit 312, Figure 6.* These diversion records are reflected in Figure 8 below.

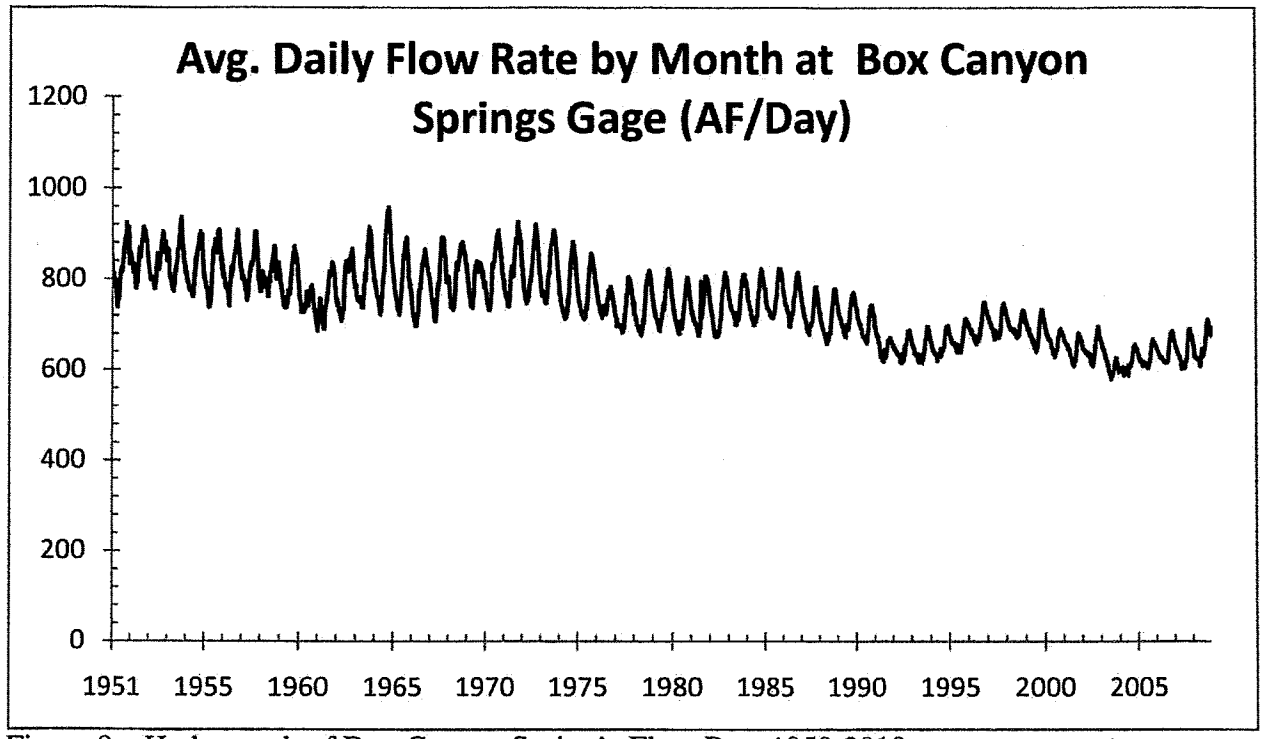

Figure 8 – Hydrograph of Box Canyon Spring's Flow Rate 1950-2010.

A. Model Development

43. To estimate daily SRF diversion rates prior to the start of data collection, the Department developed a linear regression model of daily SRF diversions versus daily Box Canyon Springs flow rates. The model was developed from recorded data dating from 1988-2005 and relies on 876 coincident data points during that time period (N = 876). The coefficient of determination or R^2 value of the model is 0.75.[13] The model allows for the calculation of a daily SRF diversion flow rate given the corresponding Box Canyon Springs flow rate for that day. Over the modeled time period, the average residual (defined as the actual SRF diversion rate less the estimated SRF diversion rate) is -0.1% of actual flows (on average -0.24 cfs), with a maximum residual of 9.1% (17.6 cfs) and a minimum residual of -9.3% (-17.9 cfs) of actual flows. The figure below depicts both data sets plotted with respect to each other.

[13] Additional statistical evaluations of the model were conducted by the department including analysis of p-values, graphical analysis of residuals, and analysis of autocorrelation. From these additional evaluations, the Department found no compelling evidence to support an alternative conclusion regarding seasonal variation to the one presented in this Order.

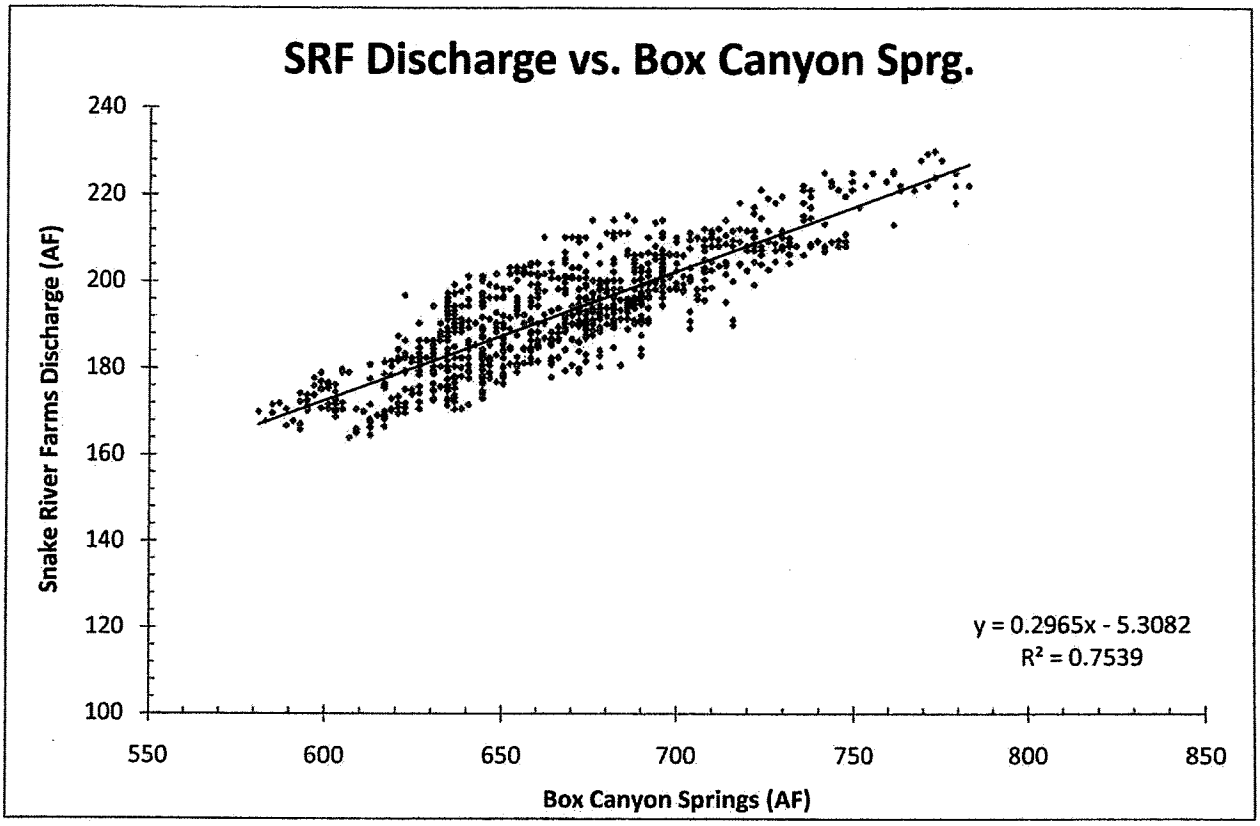

Figure 9 – XY Scatter Plot of SRF Diversions vs. Box Canyon Springs Flow Rates

44. Equation (1) summarizes the regression model in numerical form:

(1) $Q_{SRF} = 0.297*(Q_{BCS}) - 5.308$ where,
Q_{SRF} = Snake River Farms diversion rate, AF/Day (Dependent Variable)
Q_{BCS} = Box Canyon Springs flow rate, AF/Day (Independent Variable)

45. By utilizing the equation developed from the regression analysis, the Department was able to estimate daily SRF diversion rates as a function of daily Box Canyon Spring flow rates dating back to April 1, 1950. The Department is aware of four unique SRF diversion measurements taken prior to 1988. These measurements can be used to gage the accuracy of estimated values derived from the model. Exhibit 128A depicts average diversion rates for April-1971, May-1972, June-1972, and July-1972. The following table summarizes the actual measured diversion data from Exhibit 128A, estimated average daily flow rates available to SRF for diversion from the regression analysis, the residual or difference between the actual and estimated values, and the percent discrepancy between the actual and estimated diversion rates.

Table 2 - Summary of Actual vs. Estimated Diversions

Date	SRF Measured Diversion Rate (Exhibit 128A) (AF/Day)	Estimated Avg. Daily Diversion Rate (AF/Day)	Residual (AF/Day)	% Residual
April-71	199.8	213.3	-13.5	-6.8%
May-72	201.3	224.7	-23.4	-11.6%
June-72	215.6	237.7	-22.1	-10.2%
July-72	235.8	235.7	0.1	0.0%

46. Utilizing daily estimated values from the regression analysis, the Department is able to construct a hydrograph of water available for diversion to SRF in the priority year of water right 36-4013A (1955). Starting on September 15, 1955 with the addition of 36-4013A, SRF was authorized to divert a combined flow rate of 89.0 cfs (176.5 Af/Day). The hydrograph of water available to SRF in 1955 is depicted below in Figure 10.

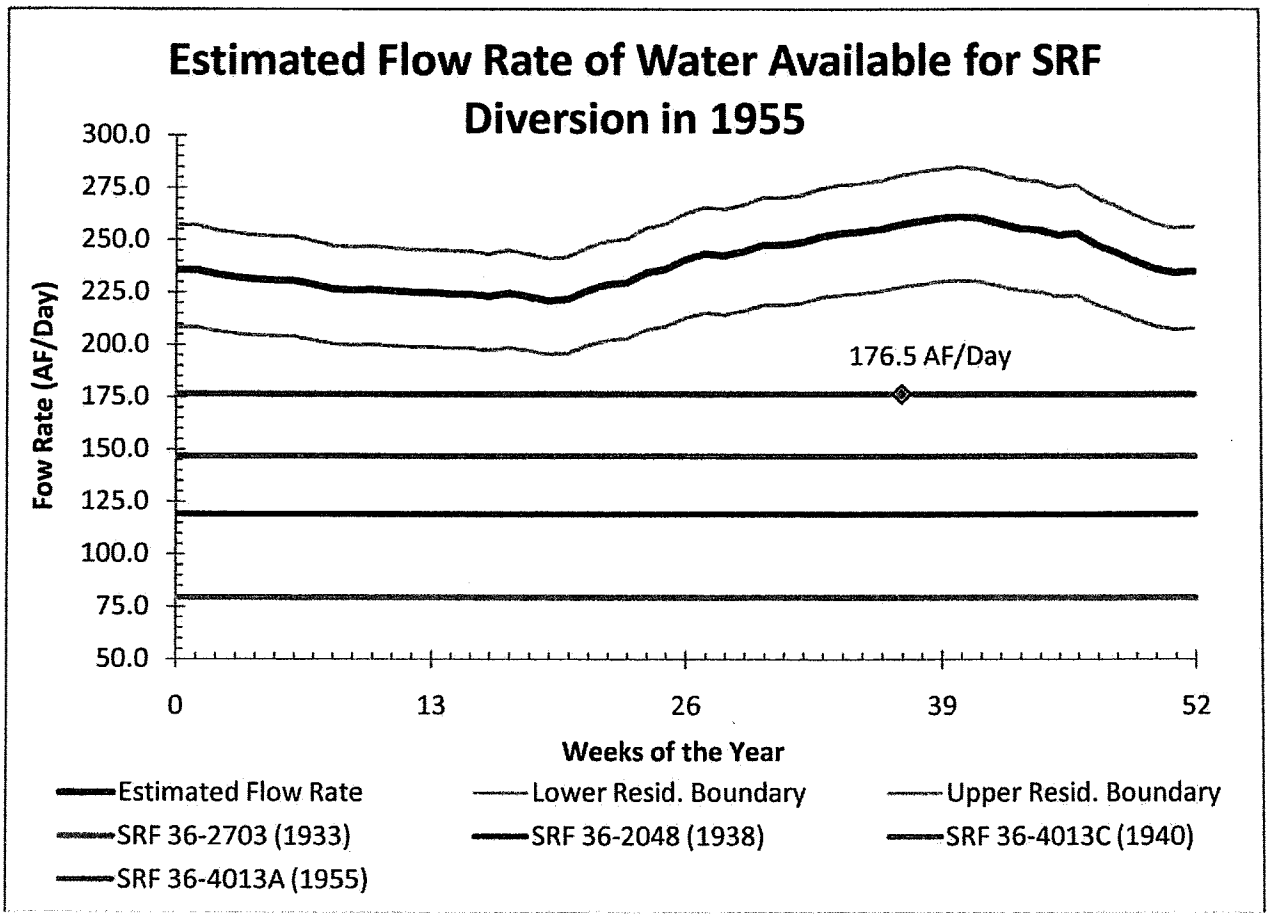

Figure 10 – Estimated Hydrograph of Water Available for Diversion to SRF in 1955

47. Figure 10 depicts the water available for diversion by SRF in 1955 in relation to the stacked suite of water rights developed by SRF up to and including water right 36-1013A, which bears a 1955 priority date. A plot of the estimated diversion values less the maximum

negative percent residual from Table 2 (-11.6%); and the estimated diversion values plus the maximum positive percent residual from Table 2 (9.1%) is also included in the figure. Both the estimated available water supply and the maximum lower residual boundary for the estimated water supply at SRF exceed the 89.0 cfs (176.5 AF/Day) rate of diversions authorized by SRF's 1955 priority water right. Therefore, seasonal variation was not a factor limiting the supply of water available to SRF at the time of appropriation.

48. Spring discharges in the Thousand Springs area have declined over time due to a combination of ground water pumping, increased drought conditions, and changes in surface water irrigation practices on the Eastern Snake River Plain. R. Vol. 3 at 492.

49. The hydrograph depicted in Figure 11 below shows the seasonal variation of the water supply diverted by SRF during 2005 in relation to the stacked suite of water rights developed by SRF up to and including water right 36-4013A. In 2005, the available water supply at Snake River Farm was not sufficient at times to meet the diversion rate authorized by SRF's 1955 priority water right 36-4013A.

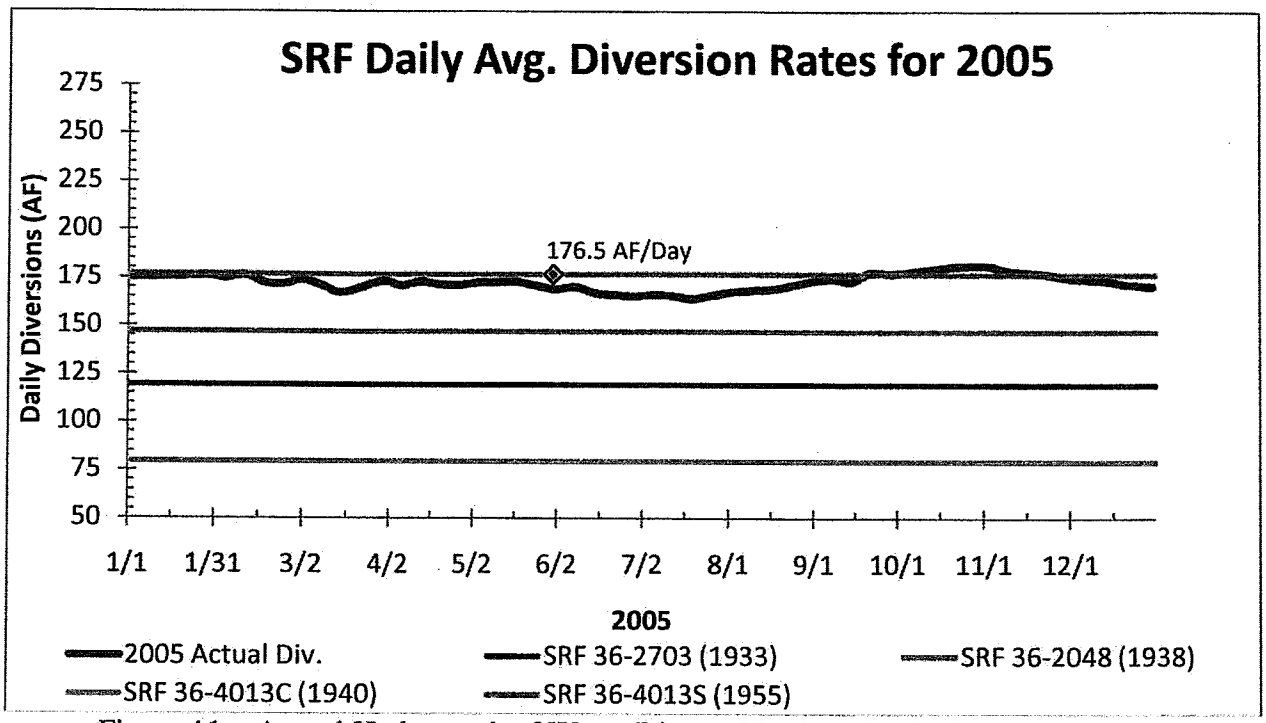

Figure 11 – Actual Hydrograph of Water Diverted by SRF in 1955

50. Curtailment is warranted based upon the technical findings above.

B. Simulated Curtailment Of Ground Water Rights Junior to September 15, 1955

51. Currently, junior ground water users are mitigating for injury to SRF's water right nos. 36- 4013B (priority date of February 4, 1964) and 36-7148 (priority date of January 31, 1971). The benefit of curtailing ground water rights junior to February 4, 1964 within the 10% trim line and within the area of common ground water results in a curtailment of 54,000 acres

and a benefit to the Buhl to Thousand Springs reach of 39 cfs. The expected benefit to the SRF facility is 2.7 cfs.

52. Using the ground water model to simulate the curtailment of the diversion and use of ground water to SRF's September 15, 1955 water right, the Department finds the benefit of curtailing ground water rights junior to September 15, 1955 within the 10% trim line and within the area of common ground water results in a curtailment of 86,000 acres and a benefit to the Buhl to Thousand Springs reach of 57 cfs. The expected benefit to the SRF facility is 3.9 cfs.

53. Curtailing ground water rights junior to September 15, 1955 results in an increase of 31,000 acres curtailed and an increased flow to the reach of 18 cfs. The increased benefit to Snake River Farm is expected to be 1.2 cfs. Attached hereto and referenced, as Attachment B, is the modeling analysis.

54. The net simulated benefit of curtailing water rights in response to SRF's call for delivery of water right 36-7210 is 18 cfs to the reach and 1.2 cfs to SRF. The Department has also analyzed the separate impact to Water Districts 130 and 140.

i. Water District 130

55. The benefit of curtailing ground water rights junior to February 4, 1964 within the 10% trim line, within the area of common ground water supply, and within the boundary of Water District 130 results in a curtailment of 51,000 acres and a benefit to the Buhl to Thousand Springs reach of 38 cfs. The expected benefit to the SRF facility is 2.6 cfs.

56. The benefit of curtailing ground water rights junior to September 15, 1955 within the 10% trim line, within the area of common ground water supply, and within the boundary of Water District 130 results in a curtailment of 78,000 acres and a benefit to the Buhl to Thousand Springs reach of 55 cfs. The expected benefit to the SRF facility is 3.8 cfs.

57. Curtailing ground water rights junior to September 15, 1955 results in an increase of 27,000 acres curtailed and an increased flow to the reach of 17 cfs. The increased benefit to Snake River Farm from curtailment in Water District 130 is expected to be 1.2 cfs.

ii. Water District 140

58. The benefit of curtailing ground water rights junior to February 4, 1964 within the 10% trim line, within the area of common ground water supply, and within the boundary of Water District 140 results in a curtailment of 4,000 acres and a benefit to the Buhl to Thousand Springs reach of 1.2 cfs. The expected benefit to the SRF facility is 0.082 cfs.

59. The benefit of curtailing ground water rights junior to September 15, 1955 within the 10% trim line, within the area of common ground water supply, and within the boundary of Water District 140 results in a curtailment of 8,000 acres and a benefit to the Buhl to Thousand Springs reach of 2.4 cfs. The expected benefit to the SRF facility is 0.16 cfs.

60. Curtailing ground water rights junior to September 15, 1955 results in an increase of 4,200 acres curtailed and an increased flow to the reach of 1.2 cfs.[14] The increased benefit to Snake River Farm from curtailment in Water District 140 is expected to be 0.082 cfs.[15]

CONCLUSIONS OF LAW

1. Idaho Code § 42-602, addressing the authority of the Director over the supervision of water distribution within water districts, provides:

> The director of the department of water resources shall have direction and control of the distribution of water from all natural water sources within a water district to the canals, ditches, pumps and other facilities diverting there from. Distribution of water within water districts created pursuant to section 42-604, Idaho Code, shall be accomplished by watermasters as provided in this chapter and supervised by the director. The director of the department of water resources shall distribute water in water districts in accordance with the prior appropriation doctrine. The provisions of chapter 6, title 42, Idaho Code, shall apply only to distribution of water within a water district.

2. Idaho Code § 42-603, which grants the Director authority to adopt rules governing water distribution, provides as follows:

> The director of the department of water resources is authorized to adopt rules and regulations for the distribution of water from the streams, rivers, lakes, ground water and other natural water sources as shall be necessary to carry out the laws in accordance with the priorities of the rights of the users thereof. Promulgation of rules and regulations shall be in accordance with the procedures of chapter 52, title 67, Idaho Code.

3. In addition, Idaho Code § 42-1805(8) provides the Director with authority to "promulgate, adopt, modify, repeal and enforce rules implementing or effectuating the powers and duties of the department."

4. It is the duty of a watermaster, acting under the supervision of the Director, to distribute water from the public water supplies within a water district among those holding rights to the use of the water in accordance with the prior appropriation doctrine as implemented in Idaho law, including applicable rules promulgated pursuant to the Idaho Administrative Procedure Act. Idaho Code § 42-607.

5. In accordance with chapter 52, title 67, Idaho Code, the Department adopted rules regarding the conjunctive management of surface and ground water effective October 7, 1994. IDAPA 37.03.11 et seq. ("CM Rules"). The CM Rules prescribe procedures for responding to a delivery call made by the holder of a senior-priority surface or ground water right against junior-priority ground water rights in an area having a common ground water supply.

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[14] Rounding to two significant digits results in the calculation of the benefit to the spring of 4,200 acres not 4,000 acres.

[15] Rounding to two significant digits results in the calculation of the benefit to the spring of 0.082 cfs, not 0.078 cfs.

6. CM Rule 10 contains the following pertinent definitions:

01. Area Having A Common Ground Water Supply. A ground water source within which the diversion and use of ground water or changes in ground water recharge affect the flow of water in a surface water source or within which the diversion and use of water by a holder of a ground water right affects the ground water supply available to the holders of other ground water rights.
03. Conjunctive Management. Legal and hydrologic integration of administration of the diversion and use of water under water rights from surface and ground water sources, including areas having a common ground water supply.
04. Delivery Call. A request from the holder of a water right for administration of water rights under the prior appropriation doctrine.
14. Material Injury. Hindrance to or impact upon the exercise of a water right caused by the use of water by another person as determined in accordance with Idaho Law, as set forth in Rule 42.
16. Person. Any individual, partnership, corporation, association, governmental subdivision or agency, or public or private organization or entity of any character.
17. Petitioner. Person who asks the Department to initiate a contested case or to otherwise take action that will result in the issuance of an order or rule.
20. Respondent. Persons against whom complaints or petitions are filed or about whom investigations are initiated.

7. As used herein, the term "injury" means "material injury" as defined by CM Rule 10.14.

8. CM Rule 20 contains the following pertinent statements of purpose and policies for conjunctive management:

01. Distribution Of Water Among The Holders Of Senior And Junior-Priority Rights. The rules apply to all situations in the State where the diversion and use of water under junior-priority ground water rights either individually or collectively causes material injury to uses of water under senior-priority water rights. The rules govern the distribution of water from ground water sources and areas having a common ground water supply.
02. Prior Appropriation Doctrine. These rules acknowledge all elements of the prior appropriation doctrine as established by Idaho law.
03. Reasonable Use of Surface and Ground Water. These rules integrate the administration and use of surface and ground water in a manner consistent with the traditional policy of reasonable use of both surface and ground water. The policy of reasonable use includes the concepts of priority in time and superiority in right being subject to conditions of reasonable use as the legislature may by law prescribe as provided in Article XV, Section 5, Idaho Constitution, optimum development of water resources in the public interest prescribed in Article XV, Section 7, Idaho Constitution, and full economic development as defined by Idaho law. An appropriator is not entitled to command the entirety of large volumes of

water in a surface or ground water source to support his appropriation contrary to the public policy of reasonable use of water as described in this rule.

04. Delivery Calls. These rules provide the basis and procedure for responding to delivery calls made by the holder of a senior-priority surface or ground water right against the holder of a junior-priority ground water right. The principle of the futile call applies to the distribution of water under these rules. Although a call may be denied under the futile call doctrine, these rules may require mitigation or staged or phased curtailment of a junior priority use if diversion and use of water by the holder of the junior-priority water right causes material injury, even though not immediately measurable, to the holder of a senior-priority surface or ground water right in instances where the hydrologic connection may be remote, the resource is large and no direct immediate relief would be achieved if the junior-priority water use was discontinued.

05. Exercise of Water Rights. These rules provide the basis for determining the reasonableness of the diversion and use of water by both the holder of a senior-priority water right who requests priority delivery and the holder of a junior-priority water right against whom the call is made.

9. Rule 40 sets forth in relevant part the following procedures to be followed for responses to calls for water delivery made by the holders of senior-priority surface or ground water rights against the holders of junior-priority ground water rights from areas having a common ground water supply in an organized water district:

01. Responding to a Delivery Call. When a delivery call is made by the holder of a senior priority water right (petitioner) alleging that by reason of diversion of water by the holders of one or more junior-priority ground water rights (respondents) from an area having a common ground water supply in an organized water district the petitioner is suffering material injury, and upon a finding by the Director as provided in Rule 42 that material injury is occurring, the Director, through the watermaster, shall:

a. Regulate the diversion and use of water in accordance with the priorities of rights of the various surface or ground water users whose rights are included within the district, provided, that regulation of junior-priority ground water diversion and use where the material injury is delayed or long range may, by order of the Director, be phased-in over not more than a five-year period to lessen the economic impact of immediate and complete curtailment;

10. Factors that may be considered in determining whether junior-priority ground water rights are causing injury to the senior-priority spring rights held by Blue Lakes and Clear Springs are set forth in CM Rule 42 as follows:

01. Factors. Factors the Director may consider in determining whether the holders of water rights are suffering material injury and using water efficiently and without waste include, but are not limited to, the following:

a. The amount of water available in the source from which the water right is diverted.

b. The effort or expense of the holder of the water right to divert water from the source.

c. Whether the exercise of junior-priority ground water rights individually or collectively affects the quantity and timing of when water is available to, and the cost of exercising, a senior-priority surface or ground water right. This may include the seasonal as well as the multi-year and cumulative impacts of all ground water withdrawals from the area having a common ground water supply.
d. If for irrigation, the rate of diversion compared to the acreage of land served, the annual volume of water diverted, the system diversion and conveyance efficiency, and the method of irrigation water application.
e. The amount of water being diverted and used compared to the water rights.
f. The existence of water measuring and recording devices.
g. The extent to which the requirements of the holder of a senior-priority water right could be met with the user's existing facilities and water supplies by employing reasonable diversion and conveyance efficiency and conservation practices; provided, however, the holder of a surface water storage right shall be entitled to maintain a reasonable amount of carry-over storage to assure water supplies for future dry years. In determining a reasonable amount of carry-over storage water, the Director shall consider the average annual rate of fill of storage reservoirs and the average annual carry-over for prior comparable water condition and the projected water supply for the system.
h. The extent to which the requirements of the senior-priority surface water right could be met using alternate reasonable means of diversion or alternate points of diversion, including the construction of wells or the use of existing wells to divert and use water from the area having a common ground water supply under the petitioner's surface water right

11. Based upon the above analysis, the Director concludes that water right nos. 36-7210 (November 17, 1971) and 36-4013A (September 15, 1955) were historically satisfied on a continuous basis at the time of appropriation and that seasonal variability did not influence the amount of water available to these water rights at the time of appropriation.

12. Based upon the above analysis, curtailing ground water rights junior to September 15, 1955 within the 10% trim line and within the area of common ground water supply results in a curtailment of an additional 31,000 acres and an increased flow to the Buhl to Thousand Springs reach of 18 cfs. The increased benefit to SRF is expected to be 1.2 cfs.

13. Based upon the above analysis, curtailing ground water rights junior to November 17, 1971 within the 10% trim line and within the area of common ground water supply results in a curtailment of an additional 23,000 acres and an increased flow to the Devil's Washbowl to Buhl reach of 17 cfs. The increased benefit to BLT is expected to be 3.6 cfs.

14. The diversion and consumptive use of ground water, under water rights junior in priority to water rights nos. 36-7210 and 36-4013A, reduces the quantity of water available to water rights nos. 36-7210 and 36-4013A, thereby causing material injury.

15. Unless mitigation is provided by ground water district(s) or irrigation district(s) through which mitigation can be provided, the Director should order the curtailment of junior

ground water rights. Curtailment shall be phased-in over a five-year period to lessen the economic impact of immediate and complete curtailment pursuant to CM Rule 40.01.a.

16. The date of this order is approximately the midpoint of the 2010 irrigation season. Curtailment in 2010 would not provide any significant water to the senior water right holders, and it would not be reasonable to order curtailment this year.

ORDER

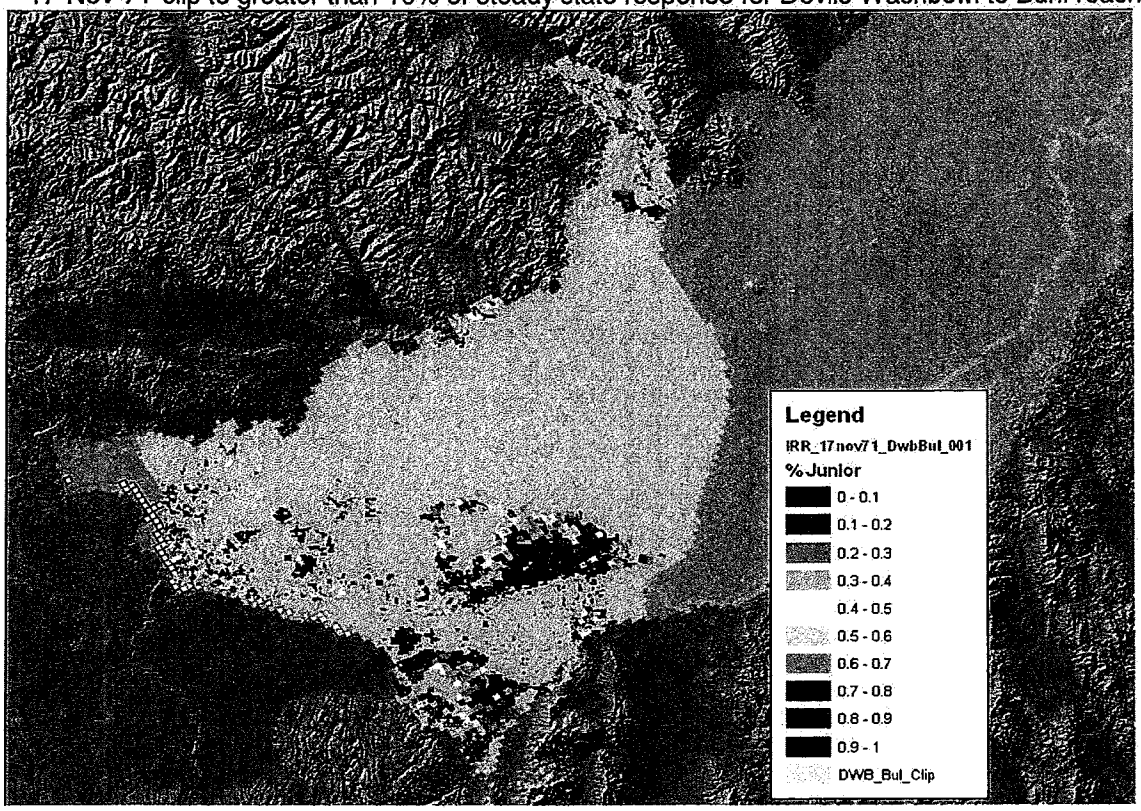
IT IS HEREBY ORDERED that, in response to BLT's delivery call for water right 36-7210, unless an approved mitigation plan is in place by March 1, 2011, ground water rights junior to November 17, 1971 shall be curtailed; however, such curtailment shall be phased-in over a period of 5 years (2011, 2012, 2013, 2014, 2015). Based on simulations using the ESPA model, phased curtailment must result in simulated cumulative increase over current mitigation activities to the average discharge of springs in the Devil's Washbowl to Buhl reach at steady state conditions of at least of at least 1.0 cfs, 2.0 cfs, 3.0 cfs, 4.0 cfs, and 5.0 cfs, for each year respectively. Alternatively, the junior ground water users may supply direct delivery of 0.2 cfs, 0.4 cfs, 0.6 cfs 0.8 cfs and 1.0 cfs to BLT for each year respectively. Mitigation can be a combination of reach gains and direct delivery.

IT IS FURTHER ORDERED that, in response to SRF's delivery call for water right 36-4013A, unless an approved mitigation plan is in place by March 1, 2011, ground water rights junior to September 15, 1955 shall be curtailed; however, such curtailment shall be phased-in over a period of 5 years (2011, 2012, 2013, 2014, 2015). Based on simulations using the ESPA model, phased curtailment must result in simulated cumulative increase over current mitigation activities to the average discharge of springs in the Buhl to Thousand Springs reach at steady state conditions of at least 3.6 cfs, 7.2 cfs, 10.8 cfs, 14.4 cfs, and 18 cfs, for each year respectively. Alternatively, the junior ground water users may supply direct delivery of 0.25 cfs, 0.5 cfs, 0.74 cfs 0.99 cfs and 1.2 cfs to SRF for each year respectively. Mitigation can be a combination of reach gains and direct delivery.

DATED this 19th day of July 2010.

GARY SPACKMAN
Interim Director

17-Nov-71 clip to greater than 10% of steady state response for Devils Washbowl to Buhl reach

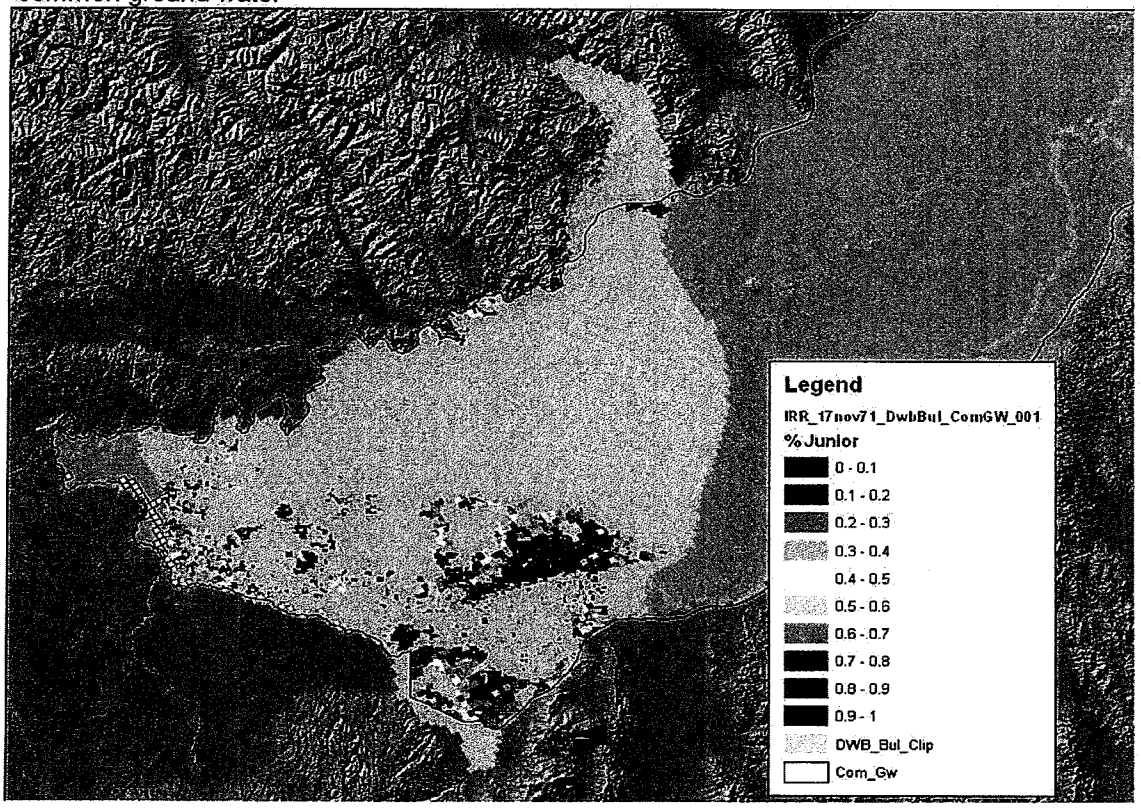


irr_area		Depleation		ft/ac/yr
450441063	m^2	29,724,964	ft^3/d	2.2392548
111,306	ac	249,242	ac-ft/y	
23,207				

reach	cf/d gain	cfs gain	ac-ft/y
MLD-BAN	103597.2	1.2	869
MLD	2290621	26.5	19,207
KSP-MLD	294931.5	3.4	2,473
KSP	2491396	29	20,890
BUL-KSP	3853242	45	32,309
DWB-BUL	7350104	85	61,630
A-R	289588.6	3.4	2,428
H-S	325308.7	3.8	2,728
S-B	2308354	26.7	19,355
N-M	2675014	31.0	22,430
B-N	7742809	89.6	64,923
sum	29,724,966	344	249,242

Global senior fraction = 0.682
Global junior fraction = 0.318

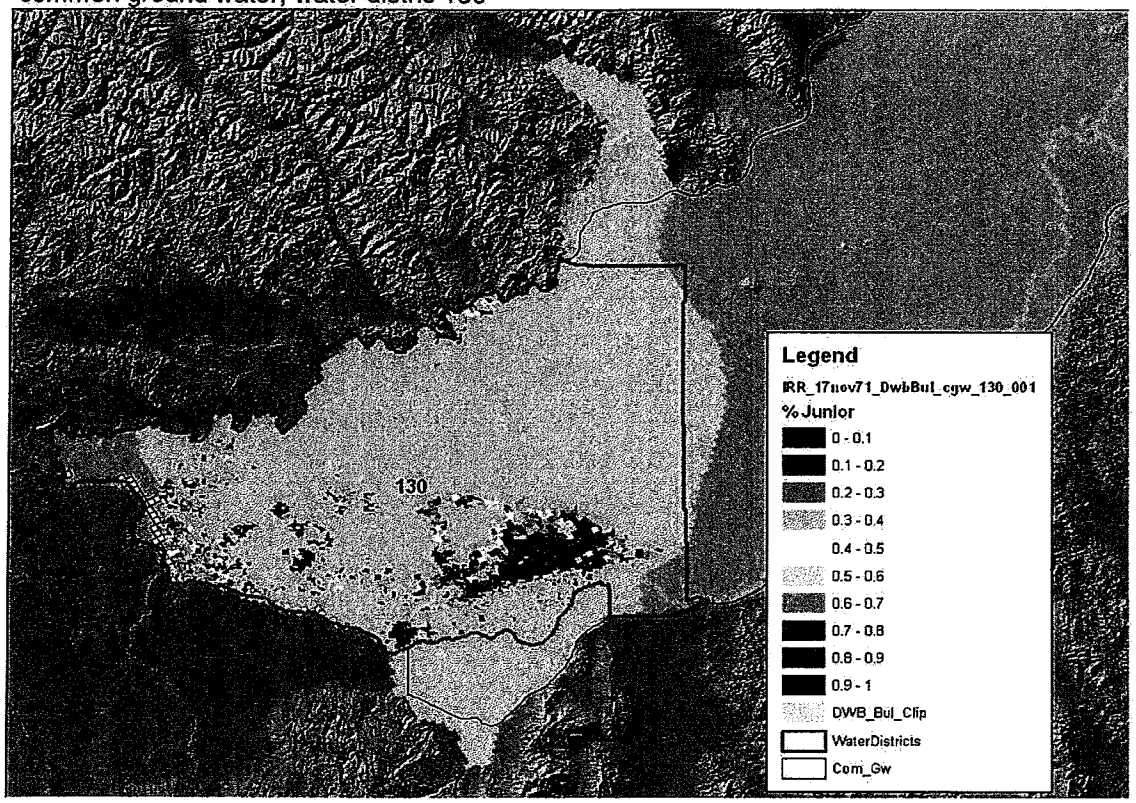
17-Nov-71 clip to greater than 10% of steady state response for Devils Washbowl to Buhl reach common ground water



irr_area		**Depleation**		ft/ac/yr		
401515257	m^2	26,282,406	ft^3/d	2.2211773		
99,216	ac	220,377	ac-ft/y			
23,024						

reach	**cf/d gain**	**cfs gain**	**ac-ft/y**			
MLD-BAN	99047	1.1	831			
MLD	2171263	25.1	18,206			
KSP-MLD	280791.7	3.2	2,354			facility
KSP	2361095	27	19,798	difference	to facility	difference
BUL-KSP	3645841	42	30,570			
DWB-BUL	6774418	78	56,803	18	16	3.5
A-R	216991	2.5	1,819			
H-S	247710.6	2.9	2,077			
S-B	1827755	21.2	15,326			
N-M	2318980	26.8	19,445			
B-N	6338516	73.4	53,148			
sum	26,282,408	304	220,377			

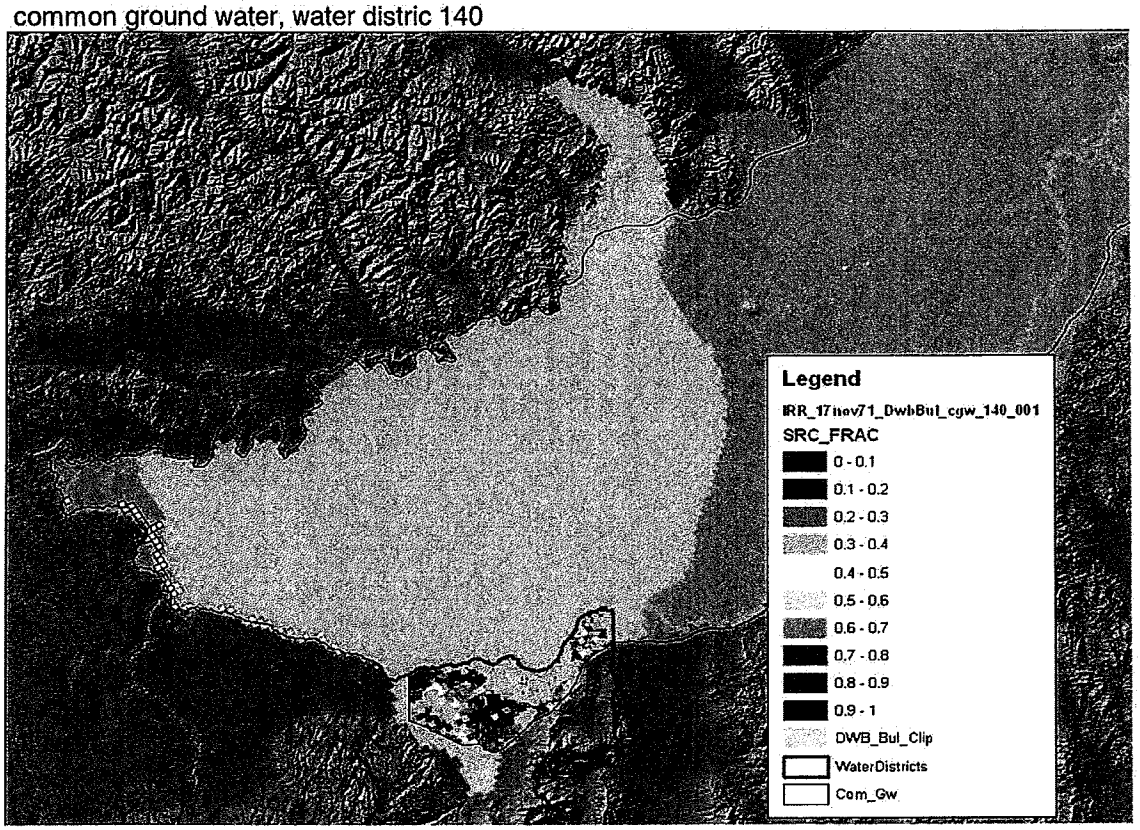
17-Nov-71 clip to greater than 10% of steady state response for Devils Washbowl to Buhl reach common ground water, water distric 130



irr_area		**Depleation**		ft/ac/yr		
278478208	m^2	19,045,350	ft^3/d	2.3206941		
68,813	ac	159,694	ac-ft/y			
13,172						

reach	**cf/d gain**	**cfs gain**	**ac-ft/y**			
MLD-BAN	86862.8	1.0	728			
MLD	1851264	21.4	15,523			
KSP-MLD	242432.4	2.8	2,033			
KSP	2004964	23	16,812			facility
BUL-KSP	3076232	36	25,794	difference	to facility	difference
DWB-BUL	5141638	60	43,112	13	12	2.6
A-R	132782.4	1.5	1,113			
H-S	152243.2	1.8	1,277			
S-B	1134828	13.1	9,515			
N-M	1258727	14.6	10,554			
B-N	3963377	45.9	33,233			
sum	19,045,351	220	159,694			

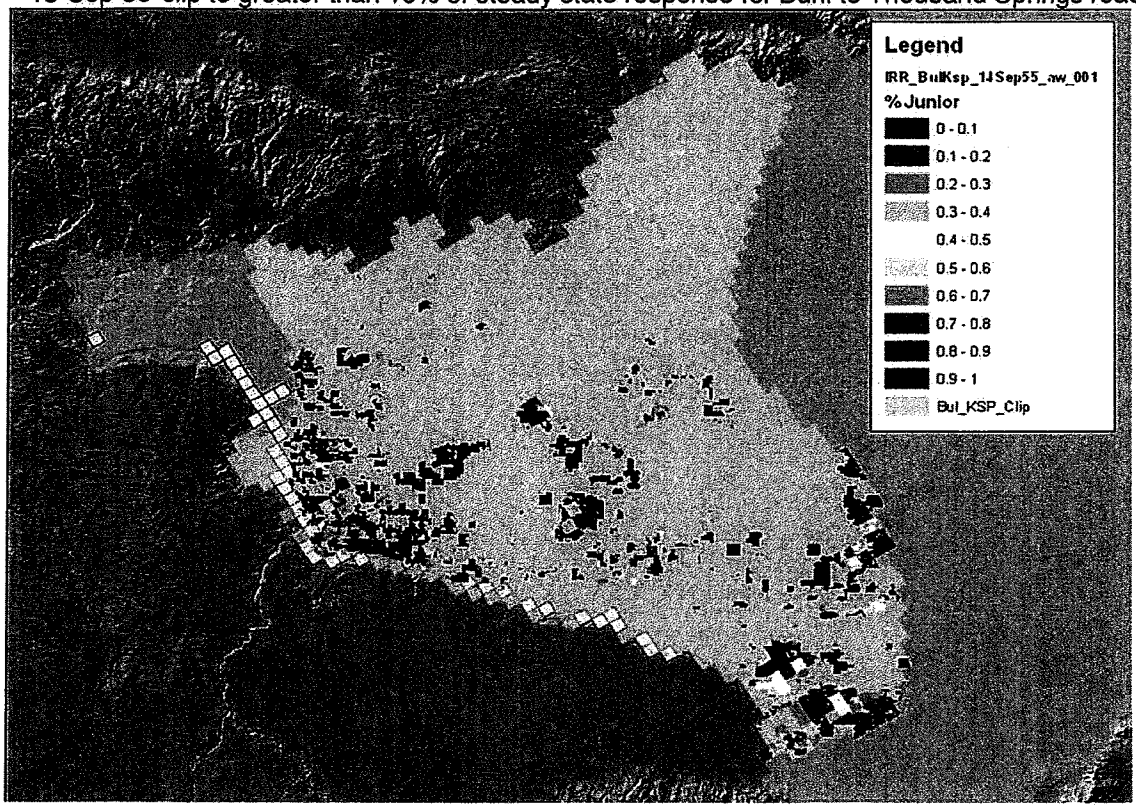
17-Nov-71 clip to greater than 10% of steady state response for Devils Washbowl to Buhl reach common ground water, water distric 140



irr_area		**Depleation**		ft/ac/yr		
115857676	m^2	6,855,823	ft^3/d	2.0079593		
28,629	ac	57,486	ac-ft/y			
9,878						

reach	**cf/d gain**	**cfs gain**	**ac-ft/y**			
MLD-BAN	11812	0.1	99			
MLD	310256.1	3.6	2,601			
KSP-MLD	37228.77	0.4	312			
KSP	345853.7	4	2,900			facility
BUL-KSP	553402.4	6	4,640	difference	to facility	difference
DWB-BUL	1590760	18	13,338	5.0	3.7	1.0
A-R	72823.58	0.8	611			
H-S	83543.9	1.0	701			
S-B	623795.9	7.2	5,230			
N-M	1036336	12.0	8,690			
B-N	2190011	25.3	18,363			
sum	6,855,823	79	57,486			

15-Sep-55 clip to greater than 10% of steady state response for Buhl to Thousand Springs reach

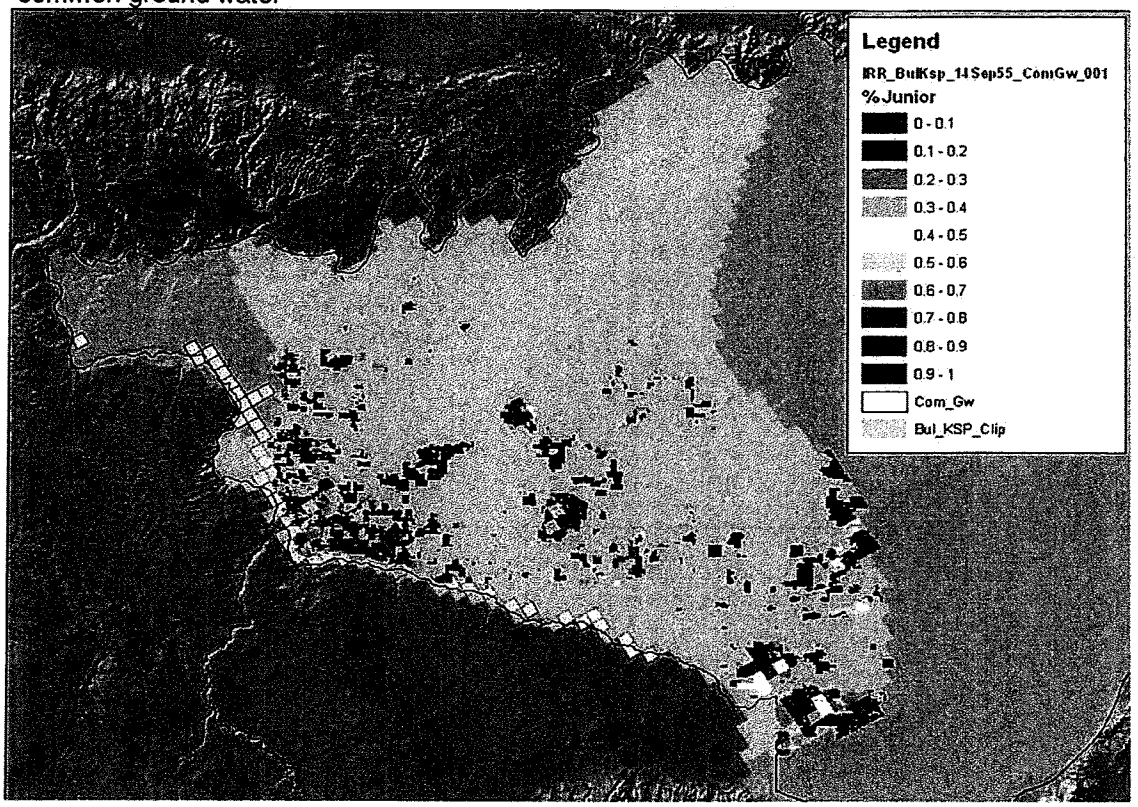


irr_area		Depleation		ft/ac/yr
348561823	m^2	24,463,160	ft^3/d	2.381513
86,131	ac	205,122	ac-ft/y	

reach	cf/d gain	cfs gain	ac-ft/y
MLD-BAN	93508.97	1.1	784
MLD	2481748	28.7	20,809
KSP-MLD	393235.1	4.6	3,297
KSP	3331445	38.6	27,934
BUL-KSP	4955757	57.4	41,554
DWB-BUL	7847453	90.8	65,801
A-R	109410.3	1.3	917
H-S	125442.3	1.5	1,052
S-B	934857.3	10.8	7,839
N-M	931573.3	10.8	7,811
B-N	3258730	37.7	27,324
sum	24,463,160	283	205,122

Global senior fraction = 0.185
Global junior fraction = 0.815

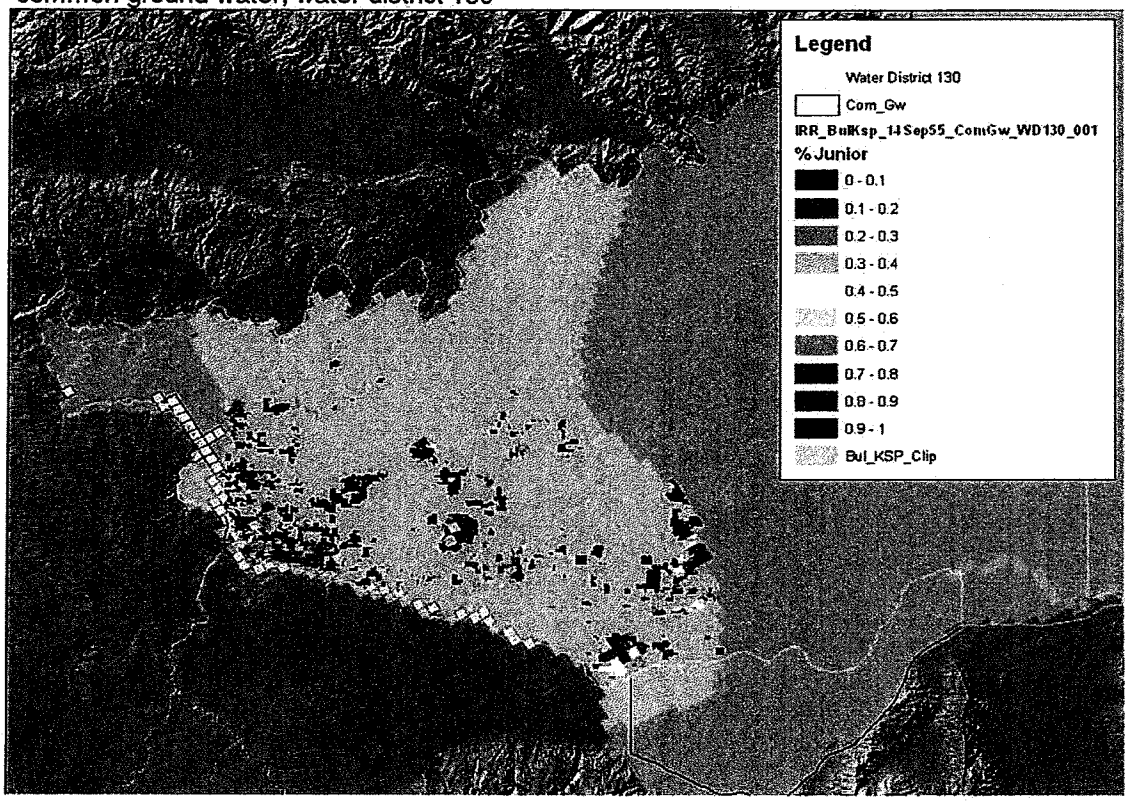
15-Sep-55 clip to greater than 10% of steady state response for Buhl to Thousand Springs reach, common ground water



irr_area		Depleation		ft/ac/yr
346207821	m^2	24,195,924	ft^3/d	2.371513
85,549	ac	202,882	ac-ft/y	

reach	cf/d gain	cfs gain	ac-ft/y
MLD-BAN	92955.27	1.1	779
MLD	2467114	28.6	20,687
KSP-MLD	391366.5	4.5	3,282
KSP	3313354	38	27,782
BUL-KSP	4924697	57	41,293
DWB-BUL	7748905	90	64,974
A-R	107358.5	1.2	900
H-S	123089.6	1.4	1,032
S-B	917318	10.6	7,692
N-M	912248.7	10.6	7,649
B-N	3197516	37.0	26,811
sum	24,195,923	280	202,882

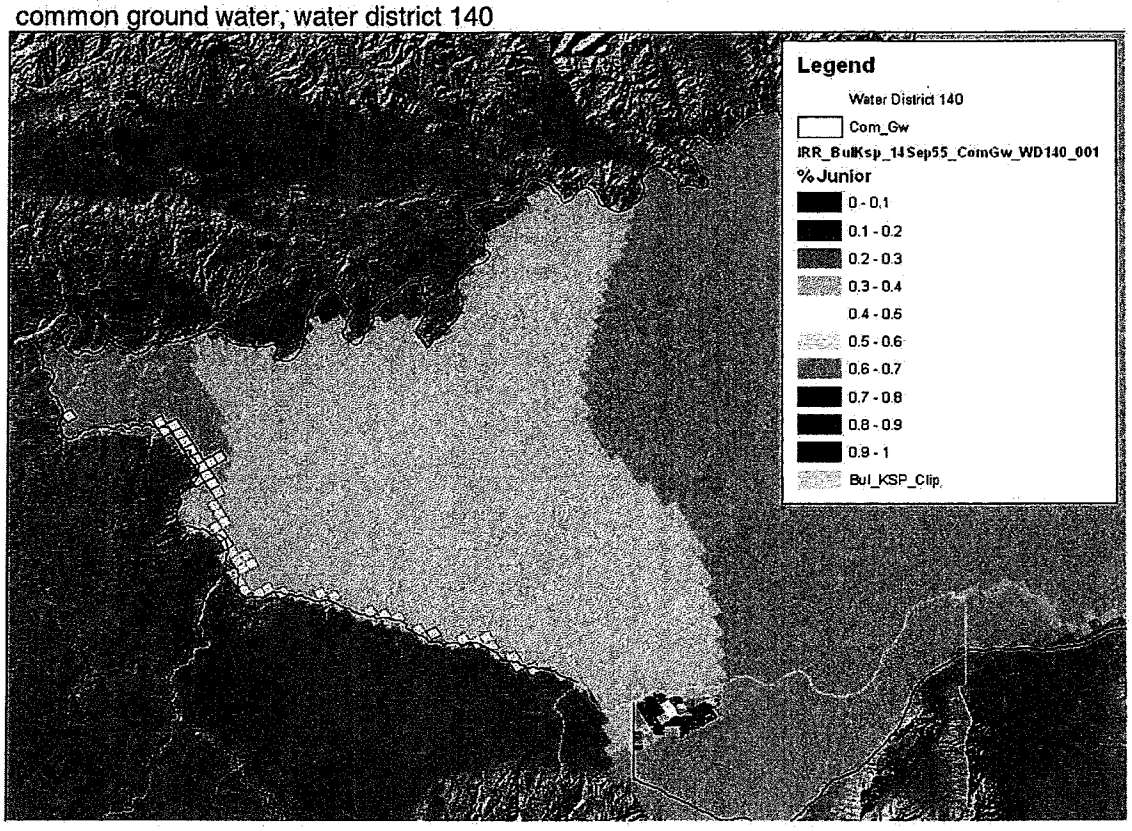
15-Sep-55 clip to greater than 10% of steady state response for Buhl to Thousand Springs reach, common ground water, water district 130



irr_area		Depleation		ft/ac/yr
313851013	m^2	22,210,324	ft^3/d	2.401328
77,554	ac	186,233	ac-ft/y	

reach	cf/d gain	cfs reach	ac-ft/y
MLD-BAN	88913.77	1.0	746
MLD	2360510	27.3	19,793
KSP-MLD	378045	4.4	3,170
KSP	3186512	37	26,719
BUL-KSP	4718463	55	39,564
DWB-BUL	7091632	82	59,463
A-R	90182.77	1.0	756
H-S	103393.4	1.2	867
S-B	770443	8.9	6,460
N-M	737845.1	8.5	6,187
B-N	2684382	31.1	22,508
sum	22,210,322	257	186,233

15-Sep-55 clip to greater than 10% of steady state response for Buhl to Thousand Springs reach, common ground water, water district 140



irr_area		Depleation		ft/ac/yr
32356808	m^2	1,985,600	ft^3/d	2.082315
7,996	ac	16,649	ac-ft/y	

reach	cf/d gain	cfs reach	ac-ft/y
MLD-BAN	4041.499	0.0	34
MLD	106605	1.2	894
KSP-MLD	13321.56	0.2	112
KSP	126842.7	1.5	1,064
BUL-KSP	206233.9	2.4	1,729
DWB-BUL	657272.1	7.6	5,511
A-R	17175.71	0.2	144
H-S	19696.2	0.2	165
S-B	146875	1.7	1,232
N-M	174403.5	2.0	1,462
B-N	513133.3	5.9	4,303
sum	1,985,600	23	16,649

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 19th day of July 2010, the above and foregoing, was served by the method indicated below, and addressed to the following:

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Administrative Assistant to the Director
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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. 36-02356A, 36-07210, AND 36-07427 **(Blue Lakes Delivery Call)** IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHTS NOS. 36-04013A, 36-04013B, AND 36-07148. **(Clear Springs Delivery Call)**	**PETITION REQUESTING HEARING ON JULY 19, 2010 FINAL ORDER**

Blue Lakes Trout Farm, Inc. (Blue Lakes), by and through its counsel, files this *Petition Requesting Hearing on July 19, 2010 Final Order* ("*Petition*") in the above-captioned matter.

This *Petition* states the initial grounds Blue Lakes has identified to date for contesting the *July 19, 2010 Final Order ("2010 Order").* Blue Lakes reserves its rights to amend these grounds, and present additional grounds, for contesting the *2010 Order* during the course of this proceeding. Blue Lakes reserves the right to file with a district court an original action or actions to contest the *2010 Order.*

INTRODUCTION

As stated in the *2010 Order*, this matter is before the Director as a result of the District Court's *Order on Petitions for Judicial Review*, issued on June 19, 2009 and *Order on Petitions for Rehearing*, issued on December 4, 2009, by Judge Melanson remanding the question of material injury to Blue Lakes' water right no. 36-7210 and Clear Springs Foods, Inc.'s (Clear Springs) water right no. 36-4013A. In the *2010 Order,* the Director found material injury to Blue Lakes' and Clear Springs' water rights, but committed errors of law and fact which allow continued injury to Blue Lakes' water right caused by junior ground water diversions.

Initial Grounds For Contesting the 2010 Order

1. The Director's redetermination of the quantity of water Blue Lakes' diverted at the time Blue Lakes' appropriated water right no. 36-7210 is contrary to law, is speculative, and impermissibly shifts the burden of proof.

2. The Director's exclusion of junior ground water rights that cause injury to water right no. 36-7210 is contrary to law, based upon erroneous analysis, and impermissibly shifts the burden of proof.

3. The Director has underestimated the impact of junior ground water diversions on water right no. 36-7210 and the quantity of water required to mitigate Blue Lakes' injury.

4. The Director failed to use the most current and best available data/information to identify hydraulically-connected junior ground water diversions causing injury water right no. 36-7210, and inappropriately relies on insufficient and outdated data/information referenced in Rule 50 of the Conjunctive Management Rules.

5. The Director has no authority to delay administration of junior ground water rights causing injury to water right no. 36-7210 until 2011.

6. Phasing administration of junior ground water rights that cause injury to water right no. 36-7210 is an abuse of discretion.

Dated this 29th day of July, 2010.

RINGERT LAW, CHTD.

Daniel V. Steenson
Attorneys for Blue Lakes Trout Farm, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of July, 2010, I served a true and correct copy of the foregoing **PETITION REQUESTING HEARING ON JULY 19, 2010 FINAL ORDER** by delivering it to the following individuals by the method indicated below, addressed as stated.

Director Gary Spackman. c/o Victoria Wigle Idaho Department of Water Resources 322 East Front Street P.O. Box 83720 Boise, ID 83720-0098 victoria.wigle@idwr.idaho.gov	( ) U.S. Mail, Postage Prepaid ( ) Facsimile (x) Hand Delivery (x) E-Mail
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Daniel V. Steenson

ATTACHMENT F

0001

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHTS NOS. 36-04013A, 36-04013B, AND 36-07148 (SNAKE RIVER FARM) (Water District Nos. 130 and 140) Third Mitigation Plan	Docket No. CM-MP-2009-004

DEPOSITION OF ALLAN HAINES WYLIE, PH.D.
NOVEMBER 13, 2009

REPORTED BY:
JEFF LaMAR, C.S.R. No. 640
Notary Public

0002

THE DEPOSITION OF ALLAN HAINES WYLIE, PH.D., was taken on behalf of Clear Springs Foods, Inc., at the offices of Barker, Rosholt & Simpson, 1010 West Jefferson Street, Suite 102, Boise, Idaho, commencing at 10:35 a.m. on November 13, 2009, before Jeff LaMar, Certified Shorthand Reporter and Notary Public within and for the State of Idaho, in the above-entitled matter.

APPEARANCES:

For Clear Springs Foods, Inc.:
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BY MR. JOHN K. SIMPSON
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P.O. Box 2139
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For North Snake Ground Water District and Magic Valley Ground Water District:
RACINE, OLSON, NYE, BUDGE & BAILEY, CHTD.
BY MS. CANDICE M. McHUGH
101 Capitol Boulevard, Suite 208
Boise, Idaho 83702

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///
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0003

APPEARANCES (Continued)

For Blue Lakes Trout Farm:
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BY MR. DANIEL V. STEENSON
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P.O. Box 2773
Boise, Idaho 83701

For Idaho Department of Water Resources:
OFFICE OF ATTORNEY GENERAL

BY MR. CHRIS M. BROMLEY
322 East Front Street
P.O. Box 83720
Boise, Idaho 83720-0098
Also Present:
John Koreny
Charles E. Brockway

I N D E X

TESTIMONY OF ALLAN HAINES WYLIE, PH.D.	PAGE
Examination by Mr. Simpson	6,141
Examination by Mr. Steenson	93,146
Examination by Mr. Bromley	129,148
Examination by Ms. McHugh	135

EXHIBITS

39 - Notice of Taking Deposition of Allan Wylie, no Bates numbers	6
40 - White Paper Technical Evaluation of Trim Line, dated 06/05/2009, no Bates numbers	77
41 - Administrator's Memorandum from G. Spackman to Water Management Division Staff, dated 01/21/2009, no Bates numbers	90
42 - Model uncertainty outline, Bates No. SRF 475	94
43 - Definition of scientific method, no Bates numbers	94
44 - Blue Lakes discharge graph, no Bates number	112

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I N D E X (Continued)

EXHIBITS

	PAGE
45 - Various discharge graphs, no Bates numbers	120
46 - ESHMC Calibration Targets, dated September 21-22, 2009, no Bates numbers	123

ALLAN HAINES WYLIE, PH.D.,
first duly sworn to tell the truth relating to said cause, testified as follows:

EXAMINATION

BY MR. SIMPSON:

Q. Good morning, Mr. Wylie.

A. Good morning.

Q. My name is John Simpson, and I'm here today representing Clear Springs Foods in regards to the third mitigation plan filed by the ground water districts.

And we're going to mark as an exhibit, the notice, if we could. I believe that will be 39.

(Exhibit 39 marked.)

Q. (BY MR. SIMPSON): And for the record, Mr. Wylie, can you spell your last name for the record, please.

A. W-y-l-i-e.

Q. And, Mr. Wylie, you've had your deposition taken in a number of proceedings regarding the delivery calls in the Thousand Springs reach; correct?

A. That's correct.

Q. Okay. And you're still an employee of the Department of Water Resources today?

A. That's correct.

Q. Okay. And have been continuously since your last deposition?

A. That's correct.

Q. Okay. And you recall your last deposition was taken October of 2008? Does that sound right?

A. That's plausible, yes. I didn't look it up.

Q. Okay. But last year you recall having your deposition taken?

A. That's correct.

Q. Okay. And that was in regards to another mitigation plan filed in the delivery calls in the Thousand Springs reach; correct?

A. That's correct.

Q. Okay. And if you could look at Exhibit No. 39, if you would, please. And that's the Notice of Deposition.

Have you seen that notice before?

A. Yes.

Q. And you've then reviewed that notice?

A. Yes.

Q. And on the second page of that notice, it identifies certain matters for which you're here today to testify on?

A. Yes.

Q. Okay. And with respect to that list of matters, are you presently able to testify as

0127

how to go about that. We've talked about various sources of uncertainty, and we've talked about two different techniques. And one possibility would be using both of the techniques, which would be a third alternative.

One alternative is that instead of coming out of the modeling process with a model, you come out with a suite of models, one of them being the favorite, and the other models are used to get a picture of what the uncertainty looks like.

So maybe you have six, one is your favorite, the others are used as -- to get a picture of what the uncertainty distribution might look like.

Another technique is to do kind of what I did before, which is to stretch the model every which way you can and see what the extremes of the predictions might look like. And by stretching it, you still force it to be calibrated.

And so it's possible to see how you can merge those two. You would stretch every one of the perhaps six models, and that would give you a broader picture of what the uncertainty might

0128

look like.

Q. What's the time frame for that work?

A. Well, version 2 is supposed to be done in July of 2009.

Q. Yeah. Okay. Beyond that facetious response, Allan, what really is your --

A. I think the uncertainty analysis would certainly take three modeling committee meetings, so that would be six months after we finish version 2.

Q. Which may be when?

A. Well, when we pushed it back in July, we were going to get done in December. But I haven't got a calibration dataset yet. So I don't think there's any hope of being done in December.

Q. So in the meantime, if your concerns about I guess what you are thinking is an incomplete dataset for the other springs in the Devil's Washbowl to Buhl reach can be resolved, then I take it you would be certainly willing to talk with Blue Lakes' expert or others about the possibility of using the model directly here, given the calibration of the model? You're a scientist?

A. Uh-huh.

0129

Q. Is that a "yes"?

A. Uh-huh.

MR. STEENSON: I think that's all I have. Thank you, Allan. I appreciate it.

MR. BROMLEY: So the question becomes, now what do we do? I've got some questions I want to ask. But Candice, I'm sure, has some questions that she wants to ask. So --

MR. STEENSON: I'm going to have to go get a daughter here, I think, pretty soon.

(Recess.)
(Mr. Simpson present.)
MR. BROMLEY: Back on.

EXAMINATION

BY MR. BROMLEY:
Q. Allan, Chris Bromley for the Department of Water Resources, I guess to start off with.
Allan, we've sat through discussions with John Simpson and Dan Steenson primarily about methods concerning the 10 percent uncertainty and then spring apportionment to Blue Lakes and Clear Springs respectively.
Was any of the information presented

0130

to you today new to you?
A. No.
Q. Was the information presented today discussed at the 2007 hearing?
A. Most of it, yes.
Q. Do you know what wasn't?
A. There were different expert reports presented, but much of the information in the expert -- the new expert reports were in previous expert reports.
Q. The information that was in Dr. Brockway's expert report concerning spring apportionment to Clear Springs that was discussed this morning, was that in an expert report or discussed at the prior hearing in 2007?
A. Yes. In Eric Harmon's report there was -- a very similar sort of analysis was presented. I believe Dr. Brockway used some different -- different wells. And my recollection is that Mr. Harmon did not use Clear Lakes Spring as one of his springs.
Q. Has anyone previously used Clear Lakes Springs with this regression analysis that was talked about?
A. I suspect that Laura Janczak did.

0131

Q. And are you aware approximately when the Janczak paper or thesis was published or known to people?
A. 2001.
Q. So that was before the hearing, then?
A. Yes.
Q. The information in the white paper -- I can't remember what exhibit it was tagged at.
MR. STEENSON: 40.
MR. BROMLEY: 40. Okay.
Q. Exhibit 40, the white paper that was submitted to the modeling committee by Koreny and Brockway, what's your opinion of the white paper?
A. I felt it was a waste of committee time. The -- in my opinion, the trim line is a policy. And I don't believe that that's committee business. Much of the material there is already presented in -- between Ms. McHugh's examination of me and Mr. Simpson's examination of me in the hearing.
(Ms. McHugh rejoins the proceedings.)

Q. (BY MR. BROMLEY): The 2007 hearing?
A. The 2007 hearing, much of that information was covered there. The new thing in there is the -- that they present the results of a

0132

1 percent, the -- Mr. Simpson and I discussed the errors in there, so if we exclude those errors of trimming the data to the Water District 130, then -- and we exclude what was covered in the 2007 hearing, then the 1 percent information is what is new.
Q. This is the 1 percent uncertainty that the white paper assigns to the model?
A. Well, the 1 percent trim line.
Q. The 1 percent trim line. Is that getting at what a de minimis impact would be; is that your understanding?
A. It could be. I -- I'm uncomfortable with what a true definition of "de minimis" might be.
Q. Do you have any opinion as to where that 1 percent may have come from?
A. I believe that what Mr. Koreny was trying to do was split the difference between the 10 percent and what's used in Colorado.
Q. And do you know what's used in Colorado?
A. No. I did read Dr. Scheüder's expert report, but I don't remember.
Q. Somewhere in the neighborhood of

0133

1 percent?
A. It's less than 1 percent.
Q. Okay. Mr. Steenson provided you with Exhibit 43, which was a definition of the scientific method.
A. Yes.
Q. And I believe you read that and agreed with what it stated.
Was the information presented to you in Exhibits 44 and 45 consistent with the scientific method as Mr. Steenson was asking you to apply them?
A. Exhibit 44 and 45 were taken from the report, the final report that IWRRI published on calibration of version 1.1 of the model. And we tried to be very scientific and rigorous in calibration of the model.
What Mr. Steenson was trying to drive at was using the model to calculate what the -- directly determined the flux at Blue Lakes Springs. That may or may not be scientifically defensible. I will -- I would want to look at quite a bit more data, much more carefully.
Q. For what reasons would it not be defensible?

0134

A. I would want to make sure that enough of the flux in that reach is accounted for with viable calibration targets before I would be comfortable using the model to predict flow at the Blue Lakes Spring. Without sufficient data, the model could be stealing water from up or

downstream springs to help it match Blue Lakes so shockingly well.

Q. By that do you mean that there aren't any other parameters that these other springs that the model tries to replicate what's measured at Blue Lakes Spring, and could take water from a different location that doesn't necessarily match reality?

A. That's right. It could be doing unspeakable things to match this so well. And the fact that it matches it so shockingly well, it's seductive to a nonmodeler. To modelers, it makes you suspicious that you're joining the liar's club.

Q. The measurements in Exhibits 44 and 45, did you say that these were from IWRRI?

A. IWRRI's report on the -- final report on the model calibration.

Q. Okay. And that, again, was available

0135

prior to the 2007 hearing?

A. That's correct.

Q. And was any of this information presented at the 2007 hearing?

A. The final report is in the record. I don't recall talking about these graphs.

MR. BROMLEY: Okay. I have nothing further.

MS. MCHUGH: Okay.

EXAMINATION

BY MS. MCHUGH:

Q. I just have a few questions for you, Dr. Wylie. I'm Candice McHugh, representing the ground water districts.

Could I have you look at Exhibit 41, I believe it is. It would be the transfer guideline.

A. Yes.

Q. Okay. And if you'd turn to page 12, paragraph 12.

A. Okay. I'm there.

Q. And it deals with changing the points of diversion, is that correct, on a proposed transfer?

0136

A. Yes.

Q. And --

A. Within the Eastern Snake Plain Aquifer.

Q. Right. If a transfer proposed to not actually move a point of diversion, would paragraph 12 be applicable?

A. Could you ask that again, please?

Q. If the transfer was only proposing to change the season of use or the nature of use but not to actually change points of diversion, would paragraph 12 be applicable?

A. I don't know. I know a lot about the model. I don't know anything about transfers, really.

Q. Okay. And you may have covered some of this with Mr. Bromley. I apologize for walking