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DISTRICT COURT OF THE STATE OF IDAHO
FIFTH JUDICIAL DISTRICT
TWIN FALLS COUNTY

RANGEN, INC.,

Petitioner,

vs.

IDAHO DEPARTMENT OF WATER RESOURCES, and GARY SPACKMAN in his official capacity as Director of the Idaho Department of Water Resources.

Respondent,

vs.

IDAHO GROUND WATER APPROPRIATORS, INC., FREMONT-MADISON IRRIGATION DISTRICT, A&B IRRIGATION DISTRICT, BURLEY IRRIGATION DISTRICT, MILNER IRRIGATION DISTRICT, AMERICAN FALLS RESERVOIR DISTRICT NO. 2, MINIDOKA IRRIGATION DISTRICT, NORTH SIDE CANAL COMPANY, TWIN FALLS CANAL COMPANY, and CITY OF POCATELLO.

Intervenors.

Case No. CV-2014-1338
(Consolidated Gooding County
Case No. CV-2014-179)

IGWA's Opening Brief

Idaho Ground Water Appropriators, Inc. (IGWA), acting through counsel and for and on behalf of its members, submits this opening brief pursuant to Rule 84(p) of the Idaho Rules of Civil Procedure, the *Procedural Order Governing Judicial Review of Final Order of Director of Idaho Department of Water Resources* issued in Gooding County Case No. CV-2014-179 on March 28, 2014, and the *Order Consolidating Gooding County Case No. CV-2014-179 Into Twin Falls County Case No. CV-2014-1338* issued by this Court on June 20, 2014.

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STATEMENT OF THE CASE

1. Nature of the Case.

This case presents for judicial review a water rights curtailment order issued by the Idaho Department of Water Resources (IDWR) on January 29, 2014.[1] The order, issued under the Rules for Conjunctive Management of Surface and Ground Water Resources (CM Rules),[2] shuts off all groundwater rights in the Magic Valley with priority dates junior to July 13, 1962. Collectively, these water rights provide water to 157,000 acres of farmland and dozens of cities, dairies, food processors, and other businesses.

2. Procedural History.

The curtailment order was issued in response to the second water delivery call made by Rangen, Inc. Rangen filed its first call in September of 2003. In 2004 the IDWR ordered curtailment of groundwater rights in Water District 130 with priority dates junior to July 13, 1962 (the priority of Rangen's water right no. 36-2551). However, shortly thereafter the IDWR released the Eastern Snake Plain Aquifer Model (ESPAM)—a computer model designed to predict the impacts of groundwater pumping on flows in the Snake River. Based on predictions of ESPAM, the IDWR withdrew its curtailment order, concluding the Rangen delivery call was a "futile call."[3]

Rangen filed a second delivery call on December 13, 2011, asserting that an update of ESPAM from version 1 to version 2 warranted a new call.[4] Version 2 was not yet complete, so the proceeding was stayed until that was done.

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[1] Final Order Regarding Rangen, Inc.'s, Petition for Delivery Call; Curtailing Ground Water Rights Junior to July 13, 1962 (Jan. 29, 2014) (R. Vol. 21, p. 4158).

[2] IDAPA 37.03.11.

[3] Second Amended Order ¶ 25 p. 28 (May 19, 2005) (excerpts attached as ***Appendix A***.)

[4] Petition for Delivery Call (R. Vol. 1, p. 1).

After ESPAM version 2 was completed in the summer of 2012, the IDWR resumed Rangen's delivery call proceeding, several pre-hearing motions were filed and decided, and an evidentiary hearing was held at the IDWR State Office in Boise from May 1, 2013, through May 16, 2013. The *Final Order Regarding Rangen, Inc.'s, Petition for Delivery Call; Curtailing Ground Water Rights Junior to July 13, 1962*[5] ("Final Order") was issued on January 29, 2014, followed by an *Order on Reconsideration*[6] ("Reconsideration Order") issued March 4, 2014.

IGWA filed its petition for judicial review in Gooding County Case No. CV-2014-179 on March 28, 2014.[7] Rangen also filed a petition for judicial review in Twin Falls County Case No. CV-2014-1338.[8] The Gooding case was consolidated with the Twin Falls case by this Court on June 20, 2014.

3. Statement of Facts.

3.1 Groundwater use in the Magic Valley.

The Magic Valley gets its name from the massive transformation that took place early in the 20th century when large irrigation canals were constructed to transport surface water from the Snake River out onto the Eastern Snake River Plain, bringing hundreds of thousands of acres under irrigation and "magically" turning what had been considered nearly uninhabitable area into some of the most productive farmland in the western United States.

Still, the canals could not service much of the arable land in the Valley due to location, elevation, water supply, and other factors that prevented surface water irrigation. But in the mid 1900s, pumping technology, hydropower generation, and the extension of electric lines into rural areas

[5] R. Vol. 21, p. 4158.

[6] R. Vol. 22, p. 4425.

[7] R. Vol. 22, p. 4455.

[8] R. Vol. 22, p. 4443.

combined to bring hundreds of thousands more acres under irrigation—this time with groundwater from the Eastern Snake Plain Aquifer (ESPA).

Development of the ESPA was heavily encouraged by the State of Idaho through legislation and the Idaho State Water Plan, Idaho Power, and the IDWR's determination that the water supply was sufficient to sustain these groundwater rights without injuring prior rights. As this brief later explains, the Final Order has turned these assurances into a hoax.

3.2 Final Order.

The Final Order shuts off all groundwater rights with priority dates junior to July 13, 1962, that divert from the ESPA at any location west of the "Great Rift."[9] The Great Rift is a wide swath of exposed lava rock that bisects the Snake River Plain between the cities of Burley and American Falls.[10] Thus, the Great Rift "trim line" creates a zone of curtailment that essentially encompasses the Magic Valley.

The Final Order shuts off water to 157,000 acres of irrigated farmland and numerous cities, dairies, food processors, and other businesses.[11] The objective of the curtailment is to cause more groundwater to discharge from the Curren Tunnel (the source of Rangen's water rights) at the western edge of the ESPA near the city of Hagerman.

Only a tiny fraction of the curtailed water use will benefit Rangen. Collectively, the curtailed water rights authorize the diversion and beneficial use of 3,139 cubic feet per second (cfs) from the ESPA.[12] Their curtailment is predicted to eventually increase flows from the Tunnel by 9.1 cfs (0.3 percent of the foregone beneficial use).[13] The disparity is equally stark

[9] Final Order at 42 (R. Vol. 21, p. 4199).

[10] See Final Order at 15, ¶ 71 (R. Vol.21, p. 4172).

[11] Final Order at 40, ¶ 55 (R. Vol. 21, p. 4197).

[12] Calculated by tallying the diversion rate authorized under the curtailed water rights listed in Appendix C to the Final Order (R. Vol. 21, pp. 4207-4259)

[13] Final Order at 42, ¶ 3 (R. Vol. 21, p. 4199).

when comparing acre-feet, as the Final Order eliminates beneficial use of more than 549,500 acre-feet annually, to provide only 6,588 acre-feet to Rangen (1.2 percent of the foregone beneficial use).[14]

The zone of curtailment is so expansive that it curtails wells located 70 to 80 miles east of Rangen. Wells are curtailed even if less than one percent of the water that could have been put to use by the junior is expected to accrue to the Curren Tunnel. For example, a groundwater right that authorizes the diversion of 1 cfs will be curtailed even if Rangen would receive only 0.0063 cfs as a result.

Yet even these predictions are doubtful. As explained below, they are based on computer model simulations that are subject to a great deal of uncertainty. Equally doubtful is that Rangen truly needs additional water to accomplish its beneficial use.

3.3 Curren Tunnel.

The Martin-Curren Tunnel (a/k/a Curren Tunnel) is a horizontal shaft dug into a basalt cliff band known as the "Hagerman Rim" which runs in a north-south direction a few miles east of the city of Hagerman.[15] It is not a "tunnel" in the conventional sense of connecting two points, but extends some 300 feet into the Eastern Snake Plain Aquifer (ESPA) where it captures groundwater and conveys it by gravity flow to land surface. Exhibit 2198 is a diagram depicting this.

The outer 50 feet of the Curren Tunnel is cased in metal pipe—equivalent to the "surface" casing on a vertical well.[16] About 180 feet in, it

[14] Assuming an authorized diversion volume of 3.5 acre-feet per acre for irrigation, curtailment of 157,000 acres eliminates beneficial use of 549,500 acre-feet annually. (This figure does not account for commercial, industrial, and municipal rights, which are also curtailed). The predicted 9.1 cfs benefit to Rangen equates to 6,588 acre-feet annually.

[15] Ex. 2199.

[16] Ex. 3278; Brendecke Tr. Vol. 9, p. 2039:12-20.

forks into two separate branches, with the left fork extending an additional 105 feet and the right fork extending an additional 120 feet.[17]

Groundwater enters the Tunnel beyond the end of the casing, at depths ranging from 40 to 70 vertical feet below land surface.[18] Hydraulically, the Tunnel functions like a vertical well, by creating a hydraulic gradient that causes groundwater to flows from the aquifer into the tunnel in response to that gradient. If the gradient is sufficient, a vertical well will flow without need for a pump, as the Tunnel does. The Tunnel is simply a horizontal well.[19]

The Tunnel was excavated in the late 1800's to withdraw groundwater from the ESPA at an elevation that would allow it to be transported by gravity to elevated farmland south of Rangen's hatchery.[20] To make this possible, it had to be constructed high on the Hagerman Rim, finding an elevation high enough to provide gravity flow.[21]

Because the Tunnel essentially skims water off the top of the ESPA, it is very responsive to small changes in the elevation of the water table.[22] Exhibit 2201 shows the high volatility of water flow from the Tunnel compared to the natural springs located approximately 50 feet lower in elevation at the head of Billingsley Creek.[23] Like the Tunnel, these lower springs discharge groundwater from the ESPA and are subject to variations in aquifer water levels, but since they have access to a greater saturated thickness of the ESPA they are much less sensitive to changes in the elevation of the water table.[24]

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[17] Ex. 2328.

[18] Hinckley Report, Ex. 2247 at 20-21.

[19] Hinckley Report, Ex. 2247 at 21; Hinckley Tr. Vol. 9, p. 2224:14-21, p. 2225:6-11.

[20] Brendecke Report, Ex. 2401, pp. 3-2, 3-3; Hinckley Report. Ex. 2247 at 20.

[21] Hinckley Report. Ex. 2247 at pp. 21, 22

[22] Hinckley Report, Ex. 2247 at 34; Hinckley, Tr. Vol. 9, p. 2227:22-25, 2230:13-16.

[23] Ex. 2201; Hinckley Report, Ex. 2247 at 25, Hinckley, Tr. Vol. 9, p. 2230:2-16.

[24] Hinckley, Tr. Vol. 9, pp. 2229:9-2230:16; Exs. 2201, 2247.

Had the Tunnel been constructed at a lower elevation, or if Rangen were to lower the elevation of the Tunnel, it would produce more water and be less vulnerable to the small changes in ESPA groundwater levels that accompany groundwater development across the aquifer.[25]

3.4 Eastern Snake Plain Aquifer (ESPA).

The Curren Tunnel is located at the western edge of the ESPA. The ESPA is one of the largest and most productive aquifers in the world, stretching across the Eastern Snake River Plain from Ashton to King Hill, roughly 10,800 square miles. It is comparable in size to Lake Erie, and is estimated to contain 1 billion acre-feet of water.[26]

Prior to the construction of large irrigation canals in the Magic Valley in the early 1900s, the amount of groundwater that discharged from the ESPA in the Milner to King Hill reach of the Snake River was approximately 4,000 cfs.[27] Spring flows to this reach increased dramatically over the first half of the twentieth century in response to flood irrigation on the Snake River Plain, peaking at nearly 7,000 cfs in the early 1950s.[28] Since then, the amount of groundwater stored in, and discharging to springs from, the ESPA has declined in response to four factors: 1) reduced incidental recharge due to reduced diversions into irrigation canals, including the elimination of winter time diversions; 2) reduced incidental recharge due to the lining and piping of irrigation canals and ditches; 3) reduced incidental recharge due to conversions from flood to sprinkler irrigation; and 4) groundwater pumping from the ESPA.[29]

The discharge of groundwater from springs and tunnels in the Hagerman area in particular is closely related to incidental recharge from surface

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[25] Hinckley, Tr. Vol. 9, pp. 2227:22-25, 2228:20-2229:24.

[26] Ex. 2401 at 2-1.

[27] Ex. 2401 at 2-4.

[28] Ex. 2401 at 2-5.

[29] Ex. 2401 at 2-3, 2-5, and 2-6; Brendecke, Tr., Vol. 11, p. 2591:12-19.

water irrigation in the North Side Canal Company (NSCC) service area, which has declined significantly. The Winter Water Savings Program alone reduced incidental recharge to the ESPA by roughly 150,000 acre feet per year beginning in 1961.[30] Sprinkler usage within the NSCC service area also grew from nearly zero percent in 1982 to nearly 100 percent by 2008.[31]

Of special significance to Rangen, approximately 24,000 linear feet of laterals off the W-canal in the area west of Wendell, near Rangen, has been lined or placed in pipe since the 1990s, primarily to reduce seepage losses.[32] Changes in irrigation practices by NSCC lining its canals directly correlate with decreased flow from the Curren Tunnel.[33]

As expected, the amount of groundwater that discharges from the ESPA into the Curren Tunnel has declined substantially, but only a small part of the decline is attributable to groundwater pumping. As explained above, ESPAM predicts that curtailing every groundwater right in the Magic Valley junior to 1962 will increase flows from the Tunnel by only 9.1 cfs.[34]

It is significant that while the amount of groundwater stored in the ESPA (and corresponding spring flows) has declined from peak levels, average annual spring discharge in the Milner to King Hill reach for the 10-year period ending in 2011 is about 4,800-5,000 cfs, which is still substantially above the natural, pre-irrigation levels.[35] East of Rangen specifically, groundwater levels have been stable over the last several years, with water levels in some wells having risen following the record drought in the early 2000s.[36]

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[30] Ex. 2401 at 1-3.

[31] Ex. 2401 at 1-4.

[32] *Id.*

[33] Ex. 2396.

[34] Final Order at 28, ¶ 109, (R. Vol. 21, p. 4185).

[35] Brendecke, Tr., Vol. 11, p. 2570:7-23.

[36] Ex. 1250; Carlquist, Tr. 1683:18-25.

Contrary to some assertions, groundwater pumping is not outpacing recharge to the ESPA.[37] The ESPA receives approximately 7.7 million acre feet of recharge annually, whereas groundwater irrigation consumes approximately 2.5 million acre-feet.[38] While the amount of groundwater stored in the ESPA has declined from peak levels of the 1950s, it remains today substantially above the natural, pre-irrigation levels.[39]

This, combined with stable groundwater levels, demonstrates that the Final Order eliminates sustainable groundwater use from the ESPA.

3.5 Local hydrogeology.

The Hagerman Rim is the western terminus of the ESPA, and groundwater exits the ESPA from a series of springs and tunnels along the Rim, including the Curren Tunnel and natural springs near Rangen's hatchery.[40] In this area the ESPA, which is composed primarily of basalt, is underlain by a much less permeable sedimentary formation called the Glenns Ferry Formation. Although locally saturated, the Glenns Ferry Formation does not provide a useful aquifer.[41]

The contact between the ESPA and the underlying Glenns Ferry Formation, and the topography of that contact, are the major controls on the location and elevation of natural groundwater discharge from the ESPA along the Hagerman Rim.[42] At Rangen specifically, there is a trough in the Glenns Ferry Formation filled at the bottom with gravels that discharges groundwater naturally via what the parties in this case have referred to as the "Lower Springs" or "Talus Slope Springs" that form the headwaters of Billingsley Creek. This was originally depicted in a diagram prepared by

[37] Final Order, p. 16, ¶¶ 75 & 76, (R. Vol. 21, p. 4173); Brendecke, Tr. Vol. 11, p. 2568:16-2569:22 (describing Ex. 2344).

[38] Ex. 2344.

[39] Brendecke, Tr. Vol. 11, pp. 2568:16-2570:23.

[40] Hinckley, Tr. Vol. 9, p. 2170:2-19.

[41] Ex. 2223; Hinckley Tr. Vol. 9, pp. 2175:18-25, 2176: 6-23

[42] Ex. 2238, Hinckley Tr., Vol. 9, pp. 2154:22-2156:9. Ex. 2247 at 36-38.

IDWR employee Neal Farmer in 2009 (exhibit 2192), and was further developed by Bern Hinckley in this case, producing a three-dimensional diagram (exhibit 2408A) that Farmer agreed is an accurate rendition of hydrogeologic conditions at the Curren Tunnel.

This information is relevant because it demonstrates the complexity of local hydrogeology along the Hagerman Rim and its effect on groundwater discharge from the Curren Tunnel. As explained below, the construction of ESPAM ignores all of this complexity.

3.6 ESPAM 2.1.

ESPAM 2.1 is a regional groundwater model of the ESPA. It is the best science available for predicting the regional effects of hydrologic changes in the ESPA, but it is not perfect.

A. Uncertainty.

ESPAM 2.1 predictions are subject to several sources of uncertainty, including conceptual uncertainty, uncertainty in input data, and parameter uncertainty.[43]

Conceptual uncertainty arises from the fact that ESPAM 2.1 may not reflect important aspects of actual hydrologic and hydrogeologic conditions.[44] For example, observations of ESPA geology show it is highly complex, comprised of overlapping fractured basalts interspersed with sedimentary deposits, with hydraulic characteristics that can vary substantially over short distances.[45] In contrast, ESPAM 2.1 is built on a computer program (MODFLOW) that assumes only uniform, porous geologic media, all deposits subsumed into one layer, with homogenized and unchanging properties within each one mile square model "cell"[46]

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[43] Ex. 2401 at p 4-12.

[44] *Id.*

[45] Ex. 2247 at pp. 36-38.

[46] Ex. 2330; Brendecke, Tr. Vol. 9, p. 2040:7-8; Ex. 2401 at 4-1, 4-2.

Conceptual uncertainty can be evaluated by developing and comparing alternative conceptual Models. To illustrate this, Dr. Brendecke prepared partial alternative conceptual Models that included selective modifications to ESPAM 2.1 to better reflect hydrogeologic reality, including illustration of some of the effects of the termination of the primary aquifer at the Hagerman Rim, the multiple elevations of ESPA discharge within the Rangen Model cell, and the absence of the primary aquifer west of the Hagerman Rim.[47] These adjustments to ESPAM 2.1 produced results that differed by 20 percent from ESPAM 2.1 as presently configured.[48] This illustrative analysis of select features did not constitute an overhaul or comprehensive examination of ESPAM2.1, and was not performed to prove ESPAM 2.1 is off by 20 percent, but to demonstrate the significant effect conceptual uncertainty can have on Model predictions.

A second category of Model uncertainty is due to errors in the input data. Much of the data used in developing ESPAM 2.1 had to be estimated or has inherent measurement uncertainty. For example, water budget factors such as precipitation recharge, canal seepage, and irrigation efficiency are estimated. Similarly, the Model is calibrated to imperfect measurements of groundwater levels and surface water flows. Uncertainty in input data introduces uncertainty into Model predictions.[49]

A third category of uncertainty, parameter uncertainty, arises because multiple combinations of calibrated model parameter values may lead to the same or very similar Model calibration results.[50] The ESPAM 2.1 uncertainty analysis performed by the IDWR addressed only parameter uncertainty.[51] It did not address conceptual or input data uncertainty.

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[47] Brendecke, Tr. Vol. 11, pp. 2626:14-2629:1, 2707:24-2708:6.

[48] Ex. 2403 at 12; Brendecke, Tr. Vol. 11, p. 2642:1-11.

[49] Contor, Tr. Vol. 12, pp. 2860:16-2861:19.

[50] Ex. 1277 at 6-7; Ex. 2401 at 1-5.

[51] Ex. 1277 at 3; Wylie, Tr. Vol. 12, p. 2922:3-16.

The uncertainties and errors discussed above and below are not meant to suggest ESPAM 2.1 is entirely unreliable and should not be used to evaluate the regional effects of groundwater pumping, but to highlight uncertainty in the accuracy of ESPAM 2.1 predictions for the Rangen model cell, which IGWA contends the Final Order does not adequately account for.

B. Hagerman Rim.

ESPAM 2.1 represents the complex geology along the Hagerman Rim in highly simplified form, omitting key features and that could make substantial differences in the predicted effects of curtailment.[52]

The Model is constructed as a single layer of model cells of uniform vertical and horizontal dimensions, while in reality the depth of the ESPA varies greatly.[53] This becomes important when looking at localized areas along the Hagerman Rim where geologic barriers and pathways significantly affect groundwater flow.[54] ESPAM 2.1 recognizes no such thinning and provides no representation of the geologic contact between the ESPA and the Glenns Ferry Formation, compromising its ability to accurately predict localized groundwater flow conditions.[55]

ESPAM 2.1 also assumes constant water budget inputs, such as seepage from canals and laterals.[56] Some of these inputs have changed systematically over time, including seepage from the NSCC, as discussed above. The constant seepage percentage assumed in ESPAM 2.1 is a source of error.[57]

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[52] Ex. 2247 at 30; Ex. 2401 at 4-14.

[53] Hinckley Report, Ex. 2247, p. 12. .

[54] Brendecke, Tr. Vol. 11, pp. 2606:1-2607:10, Ex. 2401 at 4-9; Ex. 2226.

[55] ; Ex. 2247 at 2, 33; Hinckley, Tr. Vol. 10, p. 2432:19-24.

[56] Ex. 2401 at 4-4.

[57] Contor, Tr. Vol. 12, p. 2913:16-19.

Uncertainty in the water budget translates to uncertainty in calibrated transmissivity (the ability of water to move through geologic materials).[58] Transmissivity is the product of the hydraulic conductivity of the geologic material and the saturated thickness of the aquifer.[59] The ESPA thins along the Hagerman Rim, and would therefore be expected to have a lower transmissivity, yet ESPAM 2.1 represents transmissivity increasing in magnitude closer to the Rim.[60]

ESPAM 2.1's inability to reflect important hydrogeologic characteristics of the Hagerman Rim adds uncertainty to its predictions for individual springs along the Rim and for the Curren Tunnel.[61]

C. Rangen Model cell.

ESPAM was developed as a regional model, requiring many simplifying assumptions and generalizations, some of which compromise its ability to predict the impacts of curtailment on the discharge of groundwater at specific, local discharge points like the Curren Tunnel.[62]

The Curren Tunnel is located within the Rangen Model cell. The Rangen cell is represented in ESPAM 2.1 as a single, homogenous geologic structure, as depicted in exhibit 2330, making no distinctions between the different strata and groundwater discharge elements within that one mile square model cell, when in reality the hydrogeology is far more complex, as depicted in Exhibit 2223.

It does not distinguish between groundwater discharge from the Curren Tunnel (elev. 3,150 ft.) versus the natural springs (elev. 3,100 ft.). Rather, the Model represents a single drain at elevation 3138 ft.[63]

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[58] Contor, Tr. Vol. 12, pp. 2882:15-2883:8.

[59] Ex. 2247 at 34; Ex. 2401 at 4-3.

[60] Brendecke Tr., Vol. 11, pp. 2576:16-2577:24; Ex. 2247, pp. 14-14; Ex. 2401 at 1-5.

[61] Ex. 2401 at 1-5.

[62] Ex 2401 at 4-13, 4-14.

[63] Ex. 2408B.

The single-drain representation limits ESPAM 2.1 to a single groundwater discharge output.[64] In addition, the MODFLOW computer program requires the drain to have a linear response to changes in groundwater levels.[65] In reality, the response to groundwater changes is non-linear, with the Curren Tunnel and lower springs responding very differently to hydraulic changes in the ESPA.[66] This adds uncertainty to the ability of ESPAM 2.1 to accurately predict the effect of curtailing a particular groundwater right on the groundwater flow from the Curren Tunnel.[67]

D. Errors.

In consequence of the above-described conceptual and structure limitations of ESPAM 2.1, the predictions it generates for the Rangen Model cell and surrounding Model cells contain a number of errors, including:

a) ESPAM 2.1 simulates groundwater levels west of the Hagerman Rim that are above the actual land surface.[68]

b) ESPAM 2.1 simulates groundwater levels east of the Hagerman Rim that are systematically lower than measured groundwater levels. This under-prediction is approximately 20 ft in the ESPAM 2.1 calibration well nearest to Rangen.[69]

c) ESPAM 2.1 simulates groundwater flow in the Model cells immediately west and south of Rangen that is the opposite of the observed flow direction.[70]

d) ESPAM 2.1 simulates Snake River reach gains in the Rangen area that reflect very little of the observed, large seasonal fluctuations in those gains.[71]

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[64] Ex. 2247 at 39; Ex. 2401 at 4-5.

[65] Ex. 2401 at 4-9; Ex. 2247 at 44-45.

[66] Ex. 2201.

[67] Ex. 2247 at 40-41.

[68] Exs. 2213.

[69] Ex. 2247 at 68; Exs. 2301 and 2302.

[70] Ex. 2247 at 38 (Bates No. 76); Hinckley, Tr. Vol. 10, p. 2456:11-25.

e) ESPAM 2.1 simulates a clear, linear relationship between groundwater levels west of Rangen and the discharge from the Rangen Model cell, whereas actual measurements show no relationship at all between Rangen discharge and the disconnected water-bearing zones to the west.[72]

f) ESPAM 2.1 systematically simulates the seasonal low flow as occurring three months earlier than it actually occurs.[73]

g) The ESPA actually terminates at the Hagerman Rim, yet ESPAM 2.1 represents it continuing westward another 1.7 miles.[74]

These errors add uncertainty to ESPAM 2.1's predictions of the effect of groundwater pumping on flow from the Curren Tunnel.[75]

E. Bias.

Some sources of uncertainty are likely to produce random errors in the predicted impacts, but others create a bias toward over-predicting the impact of groundwater pumping on the Rangen Model cell.[76] This is evident in the errors (or "residuals") between simulated and observed hydrologic conditions.[77]

Exhibit 2300 shows that ESPAM 2.1's predicted discharge from the Rangen cell is consistently smaller than was measured through the 1980s, and consistently larger than was measured since 2000.[78] This systematic error is apparent in most of the spring discharges represented in ESPAM

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[71] Hinckley, Tr. Vol. 10, p. 2485:5-23, Ex. 2247 at Bates No. 84.

[72] Ex. 2247 pp. 30-34.

[73] Ex. 2219; Hinckley Tr. Vol. 10, p. 2482:8-11.

[74] Ex. 2213.

[75] Ex. 2247 at 42.

[76] Hinckley, Tr. Vol. 10, pp. 2447:8-14, 2477:2-22, 2481:22-2483:3, 2486:11-2487:8.

[77] Ex. 2300.

[78] Ex. 2300.

2.1 along the western edge of the ESPA.[79] It was acknowledged by several experts at hearing, including Rangen's experts.[80]

The systematic error in predictions for the Rangen Model cell ranges from an average under-prediction of 6.1 cfs in the first eight years of the calibration period to an average over-prediction of 4.7 cfs in the last 10 years of the calibration period.[81] This error indicates ESPAM 2.1 predicts a larger impact of groundwater pumping on flows from the Curren Tunnel than actually exists.[82]

A likely explanation for this systematic error is the improvements in NSCC laterals in the late 1980s and again in the late 1990s which reduced seepage of surface water from canals and ditches off of the "W Lateral" immediately east of Rangen.[83] The distinct changes in prediction error correspond to episodes of conveyance system improvement by NSCC as found by IDWR Director Dreher in his 2005 Order: "decreases in the springs supplying the Rangen hatchery facilities can be correlated with repairs made to the facilities of the North Side Canal Company to reduce losses of surface water to ground water from the canal company's facilities above those springs in 1987, 1998, and 2000."[84] IDWR modelling expert Dr. Wylie confirmed that ESPAM 2.1 assumes constant seepage percentages over the Modeling period, and that a change in the local water budget could in fact contribute to the systematic over-prediction of flows at Rangen.[85]

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[79] Ex. 1273E, 1273F.

[80] Brockway, Tr. Vol. 10, pp. 2369:8-2370:20.

[81] Ex. 2424.

[82] Ex. 2401 at 10; Brendecke, Tr. Vol. 11, pp. 2587:21-2588:1; 2646:3-7.

[83] Brendecke, Tr. Vol. 10, pp. 2584:5-2585:17, 2595:15-2597:20; Ex. 1416 at 54:6-12; Ex. 2396.

[84] In The Matter of Distribution of Water to Water Rights Nos. 36-15501, 36-02551, and 36-07694, Second Amended Order at 6, ¶ 23 (May 19, 2005), excerpts attached as ***Appendix A***.

[85] Wylie, Tr. Vol. 12, p. 2913:3-25; Ex. 1416 at 53:21-54:18.

This would also partially account for ESPAM 2.1 reflecting higher transmissivity closer to the Hagerman Rim, when in reality the aquifer transmissivity should decrease. Where Modeled water levels are too low relative to the measured values, as occurs in the Rangen area, Model calibration requires that transmissivities and drain conductances be correspondingly higher to achieve the desired discharge. This causes ESPAM 2.1 to exaggerate the effects of groundwater pumping on the amount of discharge from the Rangen Model cell.[86]

Not surprisingly, comparing measured water flows at Rangen with measured groundwater levels in nearby wells shows groundwater discharge to be less sensitive to changes in ESPA groundwater levels than ESPAM 2.1 predicts.[87] The MODFLOW computer program requires ESPAM 2.1 to represent drain output (i.e. groundwater discharge) as the product of the drain conductance and the difference between the drain elevation and the elevation of the surrounding groundwater table.[88] Exhibit 2197 shows the relationship in ESPAM2.1 between groundwater elevation and Rangen "drain" (springs plus Curren Tunnel). The slope of this line shows that, for every one foot increase in the elevation of the water table, ESPAM 2.1 predicts an additional 4.85 cfs will discharge from the Rangen drain.

However, exhibit 2247 compares measured water flows in Billingsley Creek (representing the cumulative amount of ESPA discharge from the Rangen Model cell) with measured groundwater levels in nearby wells, which shows that, for every one foot rise in the elevation of the water table, an additional 3 cfs will discharge at Rangen—38 percent less than what ESPAM 2.1 predicts.[89]

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[86] Brendecke, Tr. Vol. 11, pp. 2647:17, 2648:15; Ex. 2401 at 31.

[87] Exs. 1284 Appx. C; Ex. 2248 at Bates 10; Exs. 2204, 2205.

[88] Ex. 2401 at 4-3; Ex. 2296.

[89] Ex. 2247 at Bates 70; Ex. 2248 at Bates 10.

This bias is even more pronounced when comparing discharge from the Curren Tunnel to measured groundwater levels. ESPAM2.1 can only predict the impact of pumping on the total groundwater discharge within a Model cell. In reality, a single model cells often contain multiple spring outlets, each with varying hydraulic controls that will each have unique responses as the ESPA water level changes, as occurs in the Rangen cell with the Curren Tunnel and the lower springs. To accommodate this limitation, the Final Order attributes 63 percent of the impact predicted by ESPAM2.1 to the Curren Tunnel, and the remaining percent to the lower springs.[90]

For example, if a one foot change in water level produces a 4.85 cfs change in total Rangen flow, the change in flow of the Curren Tunnel is assumed to be 63 percent of that value, or 3.06 cfs. However, the actual, measured response between Curren Tunnel flows and water levels in the nearby Rangen Monitoring Well is much smaller, with a one foot change in water level increasing Tunnel discharge by only 1.37 cfs.[91] This further indicates ESPAM 2.1 significantly over-predicts the effects of groundwater pumping on flows from the Curren Tunnel.

3.7 Curren Tunnel water rights.

Exhibit 2315 is a list of water rights with the Curren Tunnel as the source. Rangen owns the three most junior rights: 36-15501 (1957 priority date /1.46 cfs), 36-2551 (1962 priority date /48.54 cfs), and 36-7694 (1977 priority date /26 cfs).[92] The Final Order found material injury to the two most junior rights.[93]

There are nine irrigation water rights from the Tunnel that are senior in priority to Rangen's water rights. They collectively authorize the diversion

[90] Final Order at 33, 39, 41 (R. Vol. 21, pp. 4190, 4196, 4198).

[91] Ex. 2247 at 28; Ex. 2205; Brendecke, Tr. Vol. 11, pp. 2605:19-2606:2.

[92] Final Order at 4162 (R. Vol. 21, p. 4162).

[93] Final Order at 41 (R. Vol. 21, p. 4198).

of 10-12 cfs.[94] However, little if any water from the Curren Tunnel has been diverted for irrigation since 2003 when North Snake Ground Water District constructed the Sandy Pipe to deliver surface water from NSCC to farmland south of Rangen that was previously irrigated with water from the Tunnel.[95] Because of the Sandy Pipe, Rangen has since 2003 received water from the Tunnel that would have otherwise been delivered to senior rights for irrigation purposes.[96]

3.8 Rangen.

A. Diversion and conveyance system.

Rangen conveys water from the Curren Tunnel through two separate pipe systems. A white PVC pipe (the "White Pipe") resting on the floor of the Tunnel, shown in exhibit 1452, collects water inside the Tunnel and transports it to Rangen's Greenhouse, Hatch House, and residential buildings at the hatchery.[97]

Water not collected into the White Pipe discharges from the mouth of the Tunnel into a concrete collection box commonly known as the "Farmer's Box" where it can be diverted into any of three steel pipes running to the farmland south of Rangen.[98] Water that isn't diverted into the irrigation pipes is conveyed through two larger pipes to a second concrete collection box several feet downhill commonly known as the "Rangen Box."[99] Water in the Rangen Box is conveyed through a 14-inch steel pipe to Rangen's "Small Raceways," from there to the "Large Raceways," and finally to the "CTR Raceways," as shown on exhibit 2286.

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[94] Brendecke, Tr. Vol. 9, pp. 2033:13-16, 2035:14-18; Ex. 2315.

[95] Carlquist Tr. Vol. 7, pp. 1706:3 – 1707:20, Brendecke Tr. Vol. 9, pp. 2081:2 – 2082:4.

[96] Erwin, Tr. Vol. 1, p. 247:17-23; Brendecke Tr. Vol. 9, p. 2081:13-20.

[97] Courtney, Tr. Vol. 2, pp. 384:24-385:3; Sullivan, Tr. Vol. 6, p. 1340:11-14; Rogers, Tr. Vol. 8, p. 1798:14-17.

[98] Ex. 2401 at 3-3.

[99] Exs. 3651, 3652, & 3653.

Water not delivered through the 14-inch pipe is discharged out the side of the Rangen Box onto the basalt rock field below it, and eventually makes its way to Billingsley Creek.

Rangen also has a headgate on Billingsley Creek from which water has been diverted into its Large Raceways. However, since none of Rangen's water rights identify Billingsley Creek as a source, and Range does not have an authorized point of diversion at that location, the Director ruled Rangen does not have a valid right to divert water from Billingsley Creek.[100]

B. Fish rearing facilities.

As its name suggests, the Hatch House is used to hatch fish eggs and rear them to about 2 ½ - 3 inches.[101] Rangen receives sufficient water from the Curren Tunnel to fully operate the Hatch House.[102]

Rangen added the Greenhouse in 1992 as a dedicated research facility to provide a more controlled environment for research.[103] It is not used in Rangen's fish-rearing cycle, but it can be used to rear fish of all sizes.[104] Rangen receives sufficient water to fully operate the Greenhouse.[105]

The Small Raceways are used to rear fish for approximately 6 to 8 weeks to a length of 2.5 to 5 inches.[106] The Small Raceways were enlarged in the early 1980s.[107] Rangen receives sufficient water from the Curren Tunnel to fill the Small Raceways, but not enough to provide the desired

[100] Final Order at 32, ¶ 15 (R. Vol. 21, p. 4189).

[101] Smith, Tr. Vol. 3, p. 772:5-9.

[102] Ramsey, Tr. Vol. 3, p. 701:8-14; Tate, Tr. Vol. 4, p. 894:16-23, Ex. 2423.

[103] Courtney, Tr. Vol. 1, p. 61:15-22.

[104] Tate, Tr. Vol. 4, pp. 893:17-23, 24-894:3.

[105] Ramsey, Tr. Vol. 3, p. 711:14-17.

[106] Maxwell, Tr. Vol. 2, pp. 318:22-25, 319:12-15; Ex. 2423.

[107] Babington, Tr. Vol. 1, pp. 203:21-204:5.

rate of flow through them.[108] Rangen does not rear fish in the Small Raceways continuously.[109]

The Large Raceways and the CTR Raceways are used to grow fish out to 11 inches. Rangen does not currently receive sufficient water to provide the desired rate of flow through the Large Raceways and CTR Raceways.

C. Beneficial use of water.

Rangen is in the business of producing and selling various types of animal feed, including fish feed.[110] The Rangen hatchery was originally constructed to conduct trout-related research in support of its aquaculture feed business.[111]

Rangen performed a great deal of research during the first few decades of the hatchery's operation. While some research is still conducted, fish feed formulae have advanced to the point that little more is to be gained. Rangen asserted it needs more water to conduct additional research in its outdoor raceways,[112] yet Rangen has done very little research outdoors in the past, and any research that could be done outdoors could be done more accurately in the Greenhouse.[113] The Greenhouse is the best facility for research on fish of all sizes at Rangen,[114] the vast majority of the research performed at Rangen has occurred in the Greenhouse,[115] and Rangen's research documentation does not evidence a need to conduct research outdoors.[116] Rangen has always received and continues to receive enough wa-

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[108] Ramsey, Tr. Vol. 3, pp. 662:16-663:13, 711:18-712:6.

[109] Maxwell, Tr. Vol. 2, p. 324:2-16.

[110] Courtney, Tr. Vol. 1, p. 54:4-14, Ex. 2128 at 7.

[111] Ex. 2384; Ex. 1015 at Rangen Bates No. 1590.

[112] Kinyon, Tr. Vol. 3, pp. 529:21-530:16; Ramsey, Tr. Vol. 6, p. 1203:9-21.

[113] Woodling, Tr. Vol. 6, pp. 1254:11-19, 1240:20-1241:9; Ramsey, Tr. Vol. 6, p. 1203:9-21.

[114] Woodling, Tr. Vol. 6, pp. 1236:25-1238:19, 1247:22-1249:3, 1254:11-16; Ramsey, Tr. Vol. 6, p. 1203:13-21.

[115] Ramsey, Tr. Vol. 3, pp. 715:2-7, 717:8.

[116] Ramsey, Tr. Vol. 3, pp. 716:8-717:8.

ter from the Curren Tunnel to operate the Greenhouse,[117] yet Rangen no longer uses the Greenhouse and has not used it for some time.[118] Moreover, any fish studies Rangen does want to do can be conducted in other facilities, as is common in the industry.[119] All of this indicates the hatchery simply does not hold the same research value to Rangen as it once did.

Compounding matters is that Rangen does not wish to use the hatchery to produce fish commercially. More than 95 percent of the income from Rangen's aquaculture division comes from the sale of fish feed.[120] To avoid alienating its fish feed customers, Rangen has made a business decision to not produce fish commercially,[121] going so far as to not lease other fish production facilities in order to avoid impairing relations with commercial producers who buy Rangen fish feed.[122]

Instead, Rangen has since 2004 used its facility to raise "conservation fish" for Idaho Power to stock in lakes and rivers.[123] The Idaho Power contract requires Rangen to deliver fish to Idaho Power three times annually: 125,000 in March, 125,000 in August, and 60,000 in November.[124]

Raising conservation fish requires a lower fish density (fish aren't packed as tightly in the raceways) and a higher flow index (more water flow per fish) than raising commercial fish, so Rangen would not be expected to raise as many fish as a commercial producer would with the same amount of water and raceway space.[125] However, the Idaho Power contract pays

[117] Ramsey, Tr. Vol. 3, p. 711:14-17; Tate, Tr. Vol. 4, p. 894:16-23.
[118] Woodling, Tr. Vol. 6, pp. 1238:20-1239:2.
[119] Woodling, Tr. Vol. 6, p. 1254:1-10.
[120] Courtney, Tr. Vol. 1, p. 128:7-10.
[121] Kinyon, Tr. Vol. 2, pp. 512:12 – 513:1.
[122] Kinyon, Tr. Vol. 2, p. 512:6-11.
[123] Tate, Tr. Vol. 4, p. 901:1-5.
[124] Tate, Tr. Vol. 4, pp. 855:16-21, 860:6-862:14; Courtney, Tr. Vol. 2, p. 316:18-20.
[125] Kinyon, Tr. Vol. 2, p. 482:9-14.

more than raising fish for commercial purposes.[126] And Rangen has always received and currently receives sufficient water to meet its obligations to Idaho Power.[127]

Rangen claims it needs more water so it can raise more fish, yet it could not put on any evidence of how much more water it needs, how many more fish it would raise, and what it would do with them.[128] Rangen's aquaculture expert did not review production records and could not offer an opinion on how much more water Rangen needed to raise more fish,[129] nor has Rangen employed a hatchery manager or performed a formal analysis of fish production since 2003 when their last hatchery manager left.[130]

What's remarkable is that Rangen claims to need more water to raise fish, yet it has for years raised far fewer fish than it is capable of with its current water supply. Tom Rogers, the Idaho Department of Fish & Game's hatchery program manager for 37 years, reviewed Rangen's fish production records and discovered that Rangen could raise 137,000 more fish annually with its current water supply—within the density and flow requirements required by Idaho Power—simply by ordering fish eggs more often and more carefully managing its water supply.[131] If Rangen was truly interested in raising more fish, it has a number of options available to substantially increase production with its current water supply, including:

a) Ordering more fish eggs. Rangen orders three lots of eggs to satisfy the Idaho Power contract: two lots of 125,000 eggs and one lot of

[126] Kinyon, Tr. Vol. 3, p. 527:16-17; Tate, Tr. Vol. 4, p. 901:11-14.

[127] Courtney, Tr. Vol. 2, pp. 531:18-23, 532:9-13; Kinyon, Tr. Vol. 2, p. 507:3-10; Ramsey, Tr. Vol. 3, p. 701:8-14.

[128] Kinyon, Tr. Vol. 2, pp. 498:12-17, 504:22-506:11.

[129] Smith, Tr. Vol. 4, pp. 831:17-835:1.

[130] Kinyon, Tr. Vol. 2, p. 491:11-16.

[131] Rogers, Tr. Vol. 8, pp. 1825:13 – 1826:1.

60,000 eggs.[132] The 60,000 egg lot is far below the carrying capacity of Rangen's facility and water supply.[133]

b) Rearing more cycles of fish annually. Rangen has in the past reared up to seven cycles of fish annually.[134] Rangen presently rears only three cycles of fish because that is all that is necessary to meet its obligation to Idaho Power, though it could raise more cycles.[135]

c) Moving fish between rearing facilities at different times.[136] Doing this would allow Rangen to raise 38,000 more fish in the Small Raceways and stay within the Idaho Power contract flow and density restrictions.[137]

d) Timing fish cycles to take advantage of peak flows, which is a standard practice in the industry.[138]

e) Carefully managing its water supply. Most aquaculture facilities carefully measure and track water flows through each rearing facility,[139] and carefully monitor oxygen and ammonia in the water supply,[140] in order to maximize production. Rangen does neither.

f) Recirculating water through the Rangen facility. Brockway Engineering evaluated the possibility of recirculating water through the Rangen facility in 1995 and deemed it a feasible way of putting more water in Rangen's raceways.[141]

In sum, Rangen's allegations that it would raise more fish and conduct more research if it had more water are contradicted by its actions. As a matter of practice, Rangen operates its facility simply to satisfy its lucrative

[132] Tate, Tr. Vol. 4, pp. 860:7-861:16.

[133] Woodling, Tr. Vol. 6, p. 1302:5-18.

[134] Maxwell, Tr. Vol. 2, p. 323:13-15.

[135] Woodling, Tr. Vol. 6, p. 1302:5-18; Rogers, Tr. Vol. 8, pp. 1833:14-23, 1863:20-25.

[136] Rogers, Tr. Vol. 8, p. 1824:13-24.

[137] Rogers, Tr. Vol. 8, p. 1826:2-6.

[138] Ex. 3333; Roger, Tr. Vol. 8, pp. 1829:22-1830:15; Woodling, Tr. Vol. 6, pp. 1295:22-1296:6.

[139] Rogers, Tr. Vol. 8, pp. 1834:14-20, 1836:6-1838:25, 1844:17-19, 1847:17-21.

[140] Rogers, Tr. Vol. 8, pp. 1839:4-17, 1940:23-1941:4.

[141] Ex. 1203.

contract with Idaho Power.[142] Idaho Power needs a limited number of fish, Rangen has enough water to raise those fish with its current water supply, and Rangen manages its facility to meet that number. While Rangen orders extra eggs to provide a cushion for fish mortality, selling the excess directly to random buyers in small quantities, the unavoidable fact is that Rangen raises far less fish than it is capable of with its current water supply, even within the density and flow constraints imposed by Idaho Power.

D. Water measurement.

Accurate water measurements are necessary to maintain a proper flow index, which is a measure of the adequacy of flow to meet fish production criteria, making it vitally important to fish rearing and research purposes.[143] Not surprisingly, Rangen's water measurement practices reflect its overall lack of effort to maximize fish production.

Rangen does not measure flow from the Curren Tunnel, Farmer's Box, Rangen Box, White Pipe, 14-inch pipe to the Small Raceways, or the pipe from the Small Raceways to the Large Raceways.[144] In fact, prior to this proceeding, Rangen did not know the flow capacities of the White Pipe or the 14-inch steel pipe. [145] Rangen still does not know the size or capacity of the pipe between the Small Raceways and Large Raceways.[146] The lack of measured flow through Rangen's fish rearing facilities makes it difficult to analyze the extent of beneficial use or waste of water.[147]

Rangen took water measurements mainly in the CTR Raceways and in Billingsley Creek at the Lodge Dam (adjacent to the CTR Raceways down-

[142] Tate, Tr. Vol. 4, pp. 875:17 – 877:3.

[143] Woodling, Tr. Vol. 6, p. 1249:4-18; Rogers, Tr. Vol. 8, pp. 1844:17-19, 1834:14-20; 1847:17-24.

[144] Maxwell, Tr. Vol. 2, p. 322:5-19.

[145] Tate, Tr. Vol. 4, pp. 884:21-885:7, 889:7-14.

[146] Tate, Tr. Vol. 4, pp. 891:9-13.

[147] Sullivan, Tr. Vol. 7, p. 1560:17-24.

stream from the Bridge Diversion),[148] then combined these measurements to calculate the total flow through its property.[149] However, the Billingsley Creek measurement point includes water that does not flow through any of Rangen's fish rearing facilities; thus, Rangen's water measurements are not definitive of water actually put to beneficial use in its hatchery.[150]

Rangen's water measurements were made using a nonstandard and uncalibrated measuring practice called "sticking the weir" that does not comply with IDWR requirements,[151] and were proven to have systematically under-measured actual flow by 15.9 percent for many years.[152]

4. Standard of Review

The Final Order is subject to review under the Idaho Administrative Procedure Act.[153] It must be affirmed unless the Court determines the findings, inferences, conclusions, or decisions of the Order are:

(a) in violation of constitutional or statutory provisions;
(b) in excess of the statutory authority of the agency;
(c) made upon unlawful procedure;
(d) not supported by substantial evidence on the record as a whole; or,
(e) arbitrary, capricious, or an abuse of discretion.[154]

The Court must also find that, as a result of the error, "substantial rights of the appellant have been prejudiced."[155]

Review of issues of fact must be confined to the record, and the Court should not substitute its judgment for that of the Director as to the weight

[148] Ex. 1290; Courtney, Tr. Vol. 1, pp. 138:25-140:8; Maxwell, Tr. Vol. 1, p. 277:10-22.
[149] Maxwell, Tr. Vol. 1, pp. 281:7-14, Vol. 2, pp. 329:23-330:1; Ex. 1094.
[150] Courtney, Tr. Vol. 1, pp. 142:20-144:5.
[151] Luke, Tr. Vol. 5, p. 1113:2-7.
[152] Ex. 3358; Sullivan, Tr. Vo. 6, pp. 1428:22-1430:2.
[153] Idaho Code § 42-1701A(4).
[154] Idaho Code § 67-5279(3).
[155] Idaho Code § 67-5279(4).

of the evidence on issues of fact.[156] If the evidence in the record is conflicting, the Court must sustain the agency action so long as it is based on substantial evidence in the record.[157] With respect to discretionary matters, courts defer to the agency decision unless the agency "acted without a reasonable basis in fact or law."[158]

If the agency's action is not affirmed, it should be set aside in whole or in part, and remanded for further proceedings as necessary.[159]

ISSUES PRESENTED

1. The Idaho Ground Water Act governs administration of the State's groundwater resources.[160] The Curren Tunnel meets the statutory definition of a groundwater well under the Act. Did the IDWR violate the Act by treating the Tunnel as a surface water source?

2. Idaho's version of the prior appropriation doctrine requires reasonable beneficial use of water resources, which prohibits excessive waste or hoarding of water. Does the Final Order inadequately apply the law of reasonable use by allowing Rangen to command more than 100 times more water than it can put to beneficial use?

    2.1 Did the Director misinterpret the law by ruling he has "limited discretion" to apply the law of reasonable beneficial use?

    2.2 Does the Final Order violate Idaho Code § 67-5248 by not making findings of fact or conclusions of law concerning reasonable use of the ESPA as set forth in CM Rules 20.03 and 40.03?

    2.3 Did the IDWR abuse its discretion by not assigning any degree of uncertainty to ESPAM 2.1 predictions for Rangen?

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[156] Idaho Code §§ 67-5277 and 67-5279(1).

[157] *Barron v. Idaho Dep't of Water Resources*, 135 Idaho 414, 417 (2001).

[158] *Lane Ranch Partnership v. City of Sun Valley*, 145 Idaho 87, 88 (2007).

[159] Idaho Code § 67-5279(3).

[160] Idaho Code § 42-229.

2.4 Did the Director abuse his discretion by curtailing beneficial water use where less than one percent of the curtailed water will ever reach Rangen?

2.5 Is the Director's application of a different trim line that increases the number of curtailed water rights more than two hundred fold, without a rational, reasonable, and factually grounded explanation for the change, arbitrary, capricious, or an abuse of discretion?

2.6 Does the Final Order violate Idaho Code § 67-5248 by not making any conclusions of law concerning IGWA's argument that Rangen should be required to implement a recirculation system before seeking to curtail juniors? If not, is the Director's failure to require Rangen to improve its conveyance facilities an abuse of discretion?

3. CM Rule 20.04 authorizes the IDWR to phase in curtailment over five years to lessen the impacts of curtailment. Did the Director misinterpret the rule by phasing in mitigation as opposed to curtailment, and requiring junior water users to deliver more mitigation water to Rangen than it would receive from curtailment?

SUMMARY OF THE ARGUMENT

For decades the State of Idaho encouraged groundwater development in the Magic Valley by passing legislation and adopting policies to protect sustainable groundwater use, and by issuing thousands of groundwater rights after determining they would not injure existing (senior) water uses. The Final Order reverses all of that in one fell swoop, shutting down more than half of the groundwater rights in the Magic Valley and laying the foundation to shut down the remainder. The judiciary must provide corrective guidance to preserve meaningful application of the law of reasonable water use, and prevent excessive waste and hoarding of the ESPA.

The Final Order overreaches in three key respects. First, it mistakenly excuses Rangen from the Ground Water Act by administering the Curren

Tunnel as a surface water source even though it meets the definition of a groundwater well under the Act. This freed Rangen from its obligation under the Act to deepen the Tunnel to access the abundant groundwater supply available at lower elevations.

Second, the Final Order fails to adequately apply the law of reasonable water use. This failing is fundamentally the result of a mistaken assumption by the Director that he has "limited discretion" to prevent unreasonable waste and hoarding of water, but it is also manifest by the Director's refusal to assign a level of uncertainty to ESPAM predictions, expansive curtailment of every junior groundwater right in the Magic Valley, and refusal to require Rangen to improve its diversion and conveyance facilities before seeking to curtail junior water use.

Third, the Final Order misapplies CM Rule 20.05 by phasing in mitigation (as opposed to phasing in curtailment) in a manner that requires junior users to provide more mitigation water to Rangen than it would receive from curtailment.

Therefore, IGWA asks this Court to set aside the Final Order and remand it to the IDWR with the following instructions:

1. Apply the reasonable pumping level requirement of the Act to the Curren Tunnel.

2. Apply the law of reasonable water use, without assuming limited discretion, by deciding the point at which the exercise of priority results in unreasonable use of the ESPA, and provide a reasoned statement in support of the decision, with reference to underlying facts and inferences, sufficient to provide meaningful judicial review.

3. Assign a margin of error or uncertainty to ESPAM 2.1 predictions for Rangen, and explain how it is taken into account in the remand decision.

4. Allowing a senior to command 100 times more water than it will put to beneficial use is unreasonable as a matter of law, and an abuse of discretion.

5. If disparate trim lines are applied, provide a reasonable, rational, and factually grounded explanation to support the disparity.

6. Decide whether Rangen should be required to improve its diversion and conveyance system by implementing a recirculation system before seeking to curtail juniors.

7. Curtailment may be phased in over five years, but juniors should not be required to provide substantially more mitigation than Rangen would receive from curtailment.

ARGUMENT

1. The Curren Tunnel meets the statutory definition of a groundwater well, and must be administered as such.

The foundational tenet of Idaho water law is that "first in time is first in right."[161] It applies to all of the State's water resources, but the manner in which it applies differs between surface and ground water.

Allocating surface water by priority is relatively straight-forward. Since surface water flows through defined channels where it can be observed and measured, the IDWR can shuttle water from one surface water user to another simply by opening and closing headgates and shepherding it through creeks, rivers, canals, and ditches. When a junior surface water right is curtailed, usually nearly all of the water that could have been used by the junior is delivered to the senior in a matter of hours or, at most, a few days.

Administration by priority in this manner facilitated maximum development of Idaho's surface water resources. Water users could analyze water delivery records, determine the amount of water available under a given priority date, and develop projects suited to available water supplies. For example, once the earliest and most reliable river flows were fully developed, farmers utilized more ephemeral flows under later-priority rights to raise crops such as wheat and barley that have shorter irrigation seasons.

[161] Idaho Code § 42-106; see also Idaho Const. Art. 15, § 3.

And after natural summertime flows were fully developed, they built reservoirs to capture winter flows and spring runoff for use later in the summer.

In this way, the priority system has accomplished its objective. Priority system is not an end unto itself, but a means to an end: "the entire water distribution system under Title 42 of the Idaho Code is to further the state policy of securing the maximum use and benefit of its water resources."[162]

Direct delivery of water between senior and junior water users through defined channels works very well to maximize beneficial use of surface water resources.

Groundwater is different. It does not flow in defined channels, is not readily observed or measured, and cannot be shepherded from one water user to another. If a junior priority water right is curtailed, water that could have been used by the junior does not simply flow downstream to the senior water user. Rather, the effect of curtailment radiates outward in all directions through the aquifer, with only a fraction of the water benefitting the senior, and it often takes years or even decades to be fully realized.

When pump technology, cheap hydropower, a rapidly expanding electric grid, and the discovery of a gigantic aquifer combined to make extensive groundwater development feasible in Idaho, the State desperately wanted to seize the opportunity. But there was one formidable obstacle. The Idaho Supreme Court had in 1933 ruled in *Noh v. Stoner* that holders of junior groundwater rights cannot withdraw groundwater if it will cause any injury to senior water users.[163] This ruling enabled the most senior water rights to effectively control Idaho's aquifers by demanding that the

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[162] *Nettleton v. Higginson*, 98 Idaho 87, 91 (1977); see also *Poole v. Olaveson*, 82 Idaho 496, 502 (1960) ("The policy of the law of this State is to secure the maximum use and benefit, and least wasteful use, of its water resources.") and *Parker v. Wallentine*, 103 Idaho 506, 513 (1982) ("it is clearly state policy that water be put to its maximum use and benefit.").

[163] *Noh v. Stoner*, 53 Idaho 651 (1933); see also *Baker v. Ore-Idaho Foods, Inc.*, 95 Idaho 575, 581 (1973) (explaining that under *Noh*, "the only way that a junior can draw on the same aquifer is to hold the senior harmless for any loss incurred as a result of the junior's pumping.")

groundwater table be maintained at peak level. A single, shallow well could block all subsequent groundwater use. Naturally, the *Noh* decision had a chilling effect on groundwater development.

The Idaho Legislature recognized that groundwater exists in a very different hydrologic environment than surface water, and that the doctrine of priority must be adapted to that environment if there was to be significant development of Idaho's aquifers. Accordingly, the Legislature passed the Ground Water Act in 1951, and amended it substantially in 1953, to provide a distinct framework for administering groundwater.

Instead of treating groundwater as if it can be channeled from one water user to another, the Act provides for management of aquifers based on reasonable groundwater levels. In response to *Noh*, the Act declares:

> The traditional policy of the state of Idaho, requiring the water resources of this state to be devoted to beneficial use in reasonable amounts through appropriation, is affirmed with respect to the ground water resources of this state as said term is hereinafter defined and, while the doctrine of "first in time is first in right" is recognized, a reasonable exercise of this right shall not block full economic development of underground water resources. Prior appropriators of underground water shall be protected in the maintenance of reasonable ground water pumping levels as may be established by the director of the department of water resources as herein provided.[164]

Under the Act, a senior cannot curtail juniors simply because the water table drops. Rather, the Act authorizes curtailment only if the junior diversion would (1) "affect, contrary to the declared policy of this act, the present or future use of any prior surface or ground water right," or (2) "result in the withdrawing of the ground water supply at a rate beyond the reasonably anticipated average rate of future natural recharge."[165]

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[164] Idaho Code § 42-226.

[165] Idaho Code § 42-237a(g).

The Act's prohibition of over-drafting an aquifer is obvious, since that would exhaust the groundwater supply and minimize beneficial use of the resource. As to a junior diversion affecting a senior in a manner "contrary to the declared policy of [the Act]," the Idaho Supreme Court explained in *Baker v. Ore Idaho Foods* this means seniors may curtail juniors "to the extent that pumping by the juniors may force seniors to go below the 'reasonable pumping levels' set by the IDWA."[166]

The Act does not define what constitutes a reasonable pumping level, but instead leaves it to the discretion of the Director in light of the directive that "a reasonable exercise of [priority] shall not block full economic development of underground water resources."[167] The IDWR has since defined a reasonable pumping level as:

> A level established by the Director pursuant to Sections 42-226, and 42-237a.g., Idaho Code, either generally for an area or aquifer or for individual water rights on a case-by-case basis, for the purpose of protecting the holders of senior-priority ground water rights against unreasonable lowering of ground water levels caused by diversion and use of surface or ground water by the holders of junior-priority surface or ground water rights under Idaho law.[168]

The practical effect of administering groundwater based on pumping levels is that "senior appropriators are not entitled to relief if the junior appropriators, by pumping from their wells, force seniors to lower their pumps from historic levels to reasonable pumping levels."[169] Under the Act, a senior "is not absolutely protected in either his historic water level or his historic means of diversion."[170] Rather,

> Our Ground Water Act contemplates that in some situations senior appropriators may have to accept some modification

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[166] *Baker v. Ore-Ida Foods, Inc.*, 95 Idaho 575, 585 (1973).

[167] Idaho Code § 42-226.

[168] IDAPA 37.03.11.010.18.

[169] *Baker*, 95 Idaho at 585.

[170] *Baker*, 95 Idaho at 584 (internal cites omitted).

> of their rights in order to achieve the goal of full economic development. . . . Priority rights in ground water are and will be protected insofar as they comply with reasonable pumping levels. Put otherwise, although a senior may have a prior right to ground water, if his means of appropriation demands an unreasonable pumping level his historic means of appropriation will not be protected.[171]

The Idaho Supreme Court interpreted the Act in *Clear Springs Foods, Inc. v. Spackman* to require only appropriations of groundwater to comply with the reasonable pumping level requirement.[172] Consequently, a significant issue in this case is whether Rangen's Curren Tunnel water rights appropriate groundwater. If so, the Director has a duty to evaluate whether the Curren Tunnel is at a reasonable level, and, if not, require Rangen to deepen its diversion structure, as many of IGWA's members have been required to do for their own groundwater diversions.

IGWA presented uncontested evidence that the Curren Tunnel qualifies as a groundwater well under the Act. The Act defines "well" as "an artificial excavation or opening in the ground more than eighteen (18) feet in vertical depth below land surface by which ground water of any temperature is sought or obtained."[173] It defines "groundwater" as "all water under the surface of the ground whatever may be the geological structure in which it is standing or moving."[174]

The Curren Tunnel clearly meets the definition of a groundwater well. As explained in the Statement of Facts, it is an artificial excavation in the ground, 40 to 70 vertical feet below land surface, constructed to withdraw groundwater from the ESPA.[175] Nonetheless, the Director declined to administer it as such, contending the "plain language of Rangen's partial de-

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[171] *Id.*

[172] *Clear Springs Foods, Inc. v. Spackman*, 150 Idaho 790, 804 (2011).

[173] Idaho Code § 42-230(b).

[174] Idaho Code § 42-230(a).

[175] Brendecke Report at 1-1 (Ex. 2401).

crees from the SRBA show that Martin-Curren Tunnel is unambiguously surface water."[176] This ruling is in error for three reasons.

First, the partial decrees contain no remark, condition, or other statement that the Curren Tunnel is surface water. Rather, the Director interprets the decrees, based on an IDWR agency rule, to conclude he must administer the Tunnel as surface water.

IDWR Adjudication Rule 60[177] provides that adjudication claim forms should identify surface water sources by their official or common name, and groundwater sources as "ground water."[178] Because "Curren Tunnel" is a common name, the Director reached the conclusion that Rangen's partial decrees amount to a judicial declaration that Rangen's water rights are not subject to the Ground Water Act.[179]

The Director over-reads the effect of the name of a water source. The purpose of the name is simply to identify the source from which the water user is authorized to divert. Since SRBA decrees describe the point of diversion to only the nearest 40- or 10-acre tract of land, and since many 40- and 10- acre tracts have multiple water sources within them, the name of the source serves to identify which source water can be diverted from. It prevents people from switching from one source to another, without filing a transfer application with the IDWR.

While the naming constructs in Adjudication Rule 60 generally facilitated uniformity in naming water sources, the name of the senior's source is not conclusive of how water rights will be administered in response to a delivery call. As the Idaho Supreme Court pointed out in *American Falls*

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[176] Order Granting in Part and Denying in Part Rangen's Motion for Partial Summary Judgment Re: Source, p. 4 ¶ 2 (Apr. 22, 2013) (R. Vol. 15, p. 3144).

[177] IDAPA 37.03.01.060.02.c.

[178] *Id.*

[179] Order Granting in Part and Denying in Part Rangen's Motion for Partial Summary Judgment Re: Source, p. 4 ¶ 2 (Apr. 22, 2013) (R. Vol. 15, p. 3144).

Reservoir District No. 2 v. IDWR ("*AFRD2*"), "water rights adjudications neither address, nor answer, the questions presented in delivery calls."[180]

Second, the applicability of the Ground Water Act is not dependent upon the name of the water source on the senior's water right license or decree. The Act explicitly governs "all rights to the use of ground water, whenever or however acquired."[181] And it defines "groundwater" based on hydrologic fact ("all water under the surface of the ground whatever may be the geological structure in which it is standing or moving"), not by the source listed on a water right license or decree.

Since the Curren Tunnel meets the statutory definition of a groundwater well under the Act, it is subject to the Act, irrespective of the fact most groundwater diversion do not have unique names.

Third, to the extent Adjudication Rule 60 conflicts with the Ground Water Act, the Act controls. While administrative rules may be given the force and effect of law, they do not rise to the level of statutory law.[182] Consequently, "administrative rules are invalid which do not carry into effect the legislature's intent as revealed by existing statutory law."[183] Thus, Adjudication Rule 60 cannot be construed in a manner that forces the Director to fallaciously administer a groundwater diversion as if it is a surface water diversion structure, contrary to the plain language of the Act.

Because the Director mistakenly treated the Curren Tunnel as a surface water diversion, he did not did not evaluate whether junior diversions had caused the water table to drop below a reasonable level at Rangen, or whether Rangen is required to lower its diversion point to access the abundant groundwater supply at a lower elevation.

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[180] *AFRD2*, 143 Idaho 862, 876 (2007).

[181] Idaho Code § 42-229.

[182] *Mead v. Arnell*, 117 Idaho 660 (1990).

[183] *Holly Care Ctr. v. Dep't of Employment*, 110 Idaho 76, 78 (1986).

This omission is significant because groundwater levels in the Hagerman area are stable,[184] and Rangen could readily access more water simply by deepening or lowering the Curren Tunnel.[185] Rangen's own engineers concluded that substantially more water could be obtained by lowering the elevation of Curren Tunnel.[186]

Therefore, IGWA asks this Court to remand this matter with an instruction to apply the reasonable pumping level requirement of the Act to the Curren Tunnel.

2. The Final Order inadequately applies the law of reasonable use, allowing excessive waste and hoarding of the ESPA.

As discussed above, priority is a fundamental tenet of Idaho water law. But it "is not an absolute rule without exception."[187] Juxtaposed against the doctrine of priority is the doctrine of reasonable beneficial use. In Idaho, as in other prior appropriation states, "beneficial use acts as the measure and limit upon the extent of a water right."[188]

The Final Order errs in its application (or lack thereof) of the law of reasonable beneficial use in multiple respects. Before addressing each error, a brief review of the law and its implications is necessary.

Usually, administration by priority is in harmony with the policy of the law to secure the maximum use and benefit, and least wasteful use, of the State's water resources.[189] Occasionally, however, it may have the opposite effect, by enabling a senior water user to command far more water than he needs to accomplish his beneficial use (referred to as "hoarding"), or by causing water to be wasted. When this occurs, the senior's means of appro-

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[184] Final Order, p. 16, ¶ 74 (R. Vol. 21, p. 4173); Carlquist, Tr. Vol. 7, p. 1683:18-25; Ex.1250.

[185] Hinkley Tr. Vol. 9, pp. 2237:18 – 2243:3.

[186] Ex. 2040.

[187] *AFRD2*, 143 Idaho at 880.

[188] *A& B Irrigation Dist. v. Spackman*, 155 Idaho 640, 650 (2013).

[189] *Poole*, 82 Idaho at 502; see also *Clear Springs Foods*, 150 Idaho at 808.

priation or diversion is deemed unreasonable, and the senior is precluded from curtailing junior water use.

For example, in *Van Camp v. Emery* a senior water user sought to occupy the entire flow of a stream, even though only a small portion of it was needed to irrigate his crops, depriving juniors of the ability to use the rest.[190] The Idaho Supreme Court found this to be unreasonable, holding:

> In this arid country where the largest duty and the greatest use must be had from every inch of water in the interest of agriculture and home-building, it will not do to say that a stream may be dammed so as to cause sub-irrigation of a few acres at a loss of enough water to surface-irrigate ten times as much by proper application.[191]

Similarly, the United States Supreme Court (applying Idaho law) relied on *Van Camp* to essentially deny a water call in *Schodde v. Twin Falls Land & Water Company*.[192] There, a senior water user (Schodde) sought to recover damages caused by junior priority diversions that interfered with his water supply. Schodde had at great expense constructed a series of water wheels to divert water from the Snake River for use on his adjacent farm.[193] A dam was later constructed downstream to divert water into the Twin Falls Canal under junior rights.[194] The dam "destroyed the current in the river by means of which plaintiff's water wheels were driven," making it impossible for Schodde to divert water from the River.[195] He suffered damages totaling $56,650 (more than $1.3 million in today's dollars) as a direct result of junior water use.[196]

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[190] *Van Camp v. Emery*, 13 Idaho 202 (1907).

[191] *Id.* at 208.

[192] *Schodde v. Twin Falls Land & Water Co.*, 224 U.S. 107 (1912).

[193] *Id.* at 114-116.

[194] *Id.*

[195] *Id.* at 116.

[196] *Id.*

This created quite a conundrum. On one hand, the Court "recognized fully the right of the plaintiff to the volume of water actually appropriated for a beneficial purpose."[197] On the other hand, it understood that protecting Schodde's means of diversion would severely inhibit full development of the River. The Court noted the Twin Falls Canal was constructed "for the purpose of supplying water for irrigation and domestic purposes to the settlers on about 300,000 acres of arable and arid lands," for many landowners "there is no other supply available for irrigation, stock, domestic, or manufacturing purposes except the water from said canal," and "without the dam the Twin Falls scheme with all its present great promise fails."[198]

The answer to this problem laid in the law of reasonable use, which the Court recognized has constitutional underpinnings:

> As by Art. 15, Sec. 3, Constitution of Idaho, all unappropriated waters are subject to appropriation, it follows that all water that plaintiff has legally appropriated belongs to him, but all other is subject to appropriation. It is unquestioned that what he has actually diverted and used upon his land, he has appropriated, but can it be said that all the water he uses or needs to operate his wheels is an appropriation? As before suggested, there is neither statutory nor judicial authority that such a use is an appropriation. Such use also lacks one of the essential attributes of an appropriation; it is not reasonable.[199]

The Court reasoned further that "to uphold as an appropriation the use of the current of the river to the extent required to work the plaintiff's [sic] wheels would amount to saying that a limited taking of water from the river by appropriation for a limited beneficial use, justified the appropriation of all the water in the river as incident to the limited benefit resulting from the use of the water actually appropriated."[200] The Court rejected this notion,

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[197] *Id.* at 117.

[198] *Id.* at 116, 118.

[199] *Schodde*, 224 U.S. at 117-18.

[200] *Id.* at 117.

concluding "there was no right under the constitution and laws of the State of Idaho to appropriate the current of the river so as to render it impossible for others to apply the otherwise unappropriated waters of the river to beneficial uses."[201]

Significantly, the ruling that Schodde's means of appropriation was unreasonable was not dependent upon the availability of alternative means of diverting water. Junior diversions had made it "impossible for plaintiff to so arrange or change his said dams or water wheels or flumes, or to build or construct other dams or water wheels or flumes that will raise any water whatever from said stream that can be used upon the plaintiff's lands."[202] As a result, Schodde had "not been able to irrigate said lands or any part thereof or to raise profitable crops thereon or to use the same as pasture lands, and will not in the future be able to irrigate said lands or to raise profitable crops or any crops thereon, as long as [the junior]'s dam is maintained."[203] Yet, that did not prevent the Court from ruling he "cannot divert it by the means he first adopted for taking water from the river."[204] While Schodde retained the right to divert and use water from the Snake River (should he find a way to do it), he was not permitted to obstruct full development of the resource.

The Idaho Supreme Court has used similar reasoning to deny delivery calls where the senior is not using water efficiently. In *Clark v. Hansen*, the Court refused to allow a senior to have his full water right delivered to the end of his ditch because it would require diverting ten times as much water

[201] *Id.*

[202] *Schodde*, 224 U.S. at 116.

[203] *Id.*

[204] *Id.* at 119.

at the head.[205] The Court denied the senior's right to call for additional water, finding ninety percent conveyance loss to be "against public policy."[206]

Similarly, in *Basinger v. Taylor* the Court held a conveyance loss of fifty percent to be "unreasonable, excessive and against public policy," explaining a water user "is entitled allowance for only a reasonable loss in conducting water from the point of diversion to the place of use."[207]

These decisions demonstrate that what makes an appropriation or diversion unreasonable is its effect on beneficial use of the resource as a whole. Commanding large amounts of water to support beneficial use of only a small portion of it, as occurred in *Van Camp* and *Schodde*, is prohibited not because it harms the senior, but because it impedes maximum use of the resource by junior water users. Likewise, wasting water, as occurred in *Clark* and *Basinger*, is not prohibited because it harms the senior, but because it prevents juniors from putting that water to beneficial use.

To illustrate, the ruling that Schodde's means of diversion was unreasonable had nothing to do with the efficiency of his water delivery system. By all indications his water wheels and flumes were an effective and efficient means of diverting and transporting water to his property. Nothing in the decision suggests otherwise. Yet, the Court declared the appropriation "not reasonable" because it would have unreasonably impeded full development of the resource by juniors.[208] Despite real harm from junior diversions, the Court denied any relief to Schodde, explaining "the right of appropriation must be exercised with some regard to the rights of the public."[209] "It is not an unrestricted right," the Court stated, but "must be exercised with reference to the general condition of the country and the neces-

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[205] *Clark v. Hansen*, 35 Idaho 449, 455 (1922).

[206] *Id.*

[207] *Basinger v. Taylor*, 36 Idaho 591, 597 (1922).

[208] *Schodde*, 224 U.S. at 118.

[209] *Id.* at 120.

sities of the people, and not so to deprive a whole neighborhood or community of its use and vest an absolute monopoly in a single individual."[210]

As explained above, the doctrine of reasonable use is the lynchpin of the Ground Water Act and its directive that "a reasonable exercise of [priority] shall not block full economic development of underground water resources" applies to all "ground water resources of this state."[211] While the *Clear Springs Foods* decision ruled that provisions relating to pumping levels apply to well users specifically, the Act's objective optimize beneficial use applies to all "ground water resources of this sate."[212] As such, any senior who claims a right to groundwater must realize that "in some situations senior appropriators may have to accept some modification of their rights in order to achieve the goal of full economic development."[213]

With this background, it is not surprising the law of reasonable use is a central feature of the CM Rules. The "General Statements of Purpose and Policies" include the following:

> **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. . . . 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.[214]

The CM Rules reinforce the doctrine by explicitly requiring the Director to consider reasonable use when responding to a water call:

> **Reasonable Exercise of Rights.** In determining whether diversion and use of water under rights will be regulated under Rule Subsection 040.01.a. or 040.01.b., the Director

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[210] *Id.* at 121 (quoting *Basey v. Gallagher*, 87 U.S. 670, 683 (1874)).

[211] Idaho Code § 42-226.

[212] *Id.*

[213] *Clear Springs Foods*, 150 Idaho at 802 (quoting *Baker*, 95 Idaho at 544).

[214] CM Rule 20.03 (IDAPA 37.03.11.020.03).

> shall consider whether the petitioner making the delivery call is suffering material injury to a senior-priority water right and is diverting and using water efficiently and without waste, and in a manner consistent with the goal of reasonable use of surface and ground waters as described in Rule 42.[215]

CM Rule 42 then lists a number of factors the Director may consider when "determining material injury and reasonableness of water diversions,"[216] the first of which is: "The amount of water available in the source from which the water right is diverted"[217]—a clear reference to the policy reflected in *Van Camp*, *Schodde*, *Clark*, *Basinger*, the Ground Water Act, and CM Rule 20.03 that a senior water user is not entitled to command large volumes of water to support his beneficial use of only a fraction thereof.

The Idaho Supreme Court recently reaffirmed the relevance and materiality of the doctrine of reasonable use in its recent *AFRD2*, *Clear Springs Foods*, and *A& B Irrigation District* decisions.

In *AFRD2* the Court held the Director has a duty, when responding to a delivery call under the CM Rules, to consider "reasonableness of the senior water right diversion; whether a senior right can be satisfied using alternate points and/or means of diversion; full economic development; compelling a surface user to convert his point of diversion to a ground water source; and reasonableness of use," acknowledging that proper application of these rules may "have unintended or unfortunate consequences."[218]

In *Clear Springs Foods* the Court reaffirmed the "policy of securing the maximum use and benefit, and least wasteful use, of the State's water resources applies to both surface and underground waters, and it requires that they be managed conjunctively,"[219] and that "[a]n appropriator is not entitled to command the entirety of large volumes of water in a surface or

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[215] CM Rule 40.03 (IDAPA 37.03.11.040.03).

[216] CM Rule 42 (IDAPA 37.03.11.042).

[217] CM Rule 42.01.a (IDAPA 37.03.11.042.01.a).

[218] *AFRD2*, 143 Idaho at 869-870.

[219] *Clear Springs Foods*, 150 Idaho at 808.

ground water source to support his appropriation contrary to the public policy of reasonable use of water . . . ."[220]

And in *A& B Irrigation District* the Court acknowledged "the tension between the first in time and beneficial use aspects of the prior appropriation doctrine,"[221] and again held that Idaho law does not allow "water right holders to waste water or unnecessarily hoard it without putting it to some beneficial use,"[222] and that a senior "is only entitled to the amount of water he actually puts to beneficial use . . . ."[223]

The Final Order inadequately applies the doctrine of reasonable use. After the State of Idaho encouraged groundwater development by assuring would-be appropriators that "a reasonable exercise of [priority] shall not block full economic development of underground water resources;"[224] and issuing thousands of groundwater rights from the ESPA after concluding the water supply is sufficient to support them;[225] and assuring groundwater users that spring flows in the Hagerman area would be deemed adequate as long as the minimum Snake River flows under the Swan Falls Agreement are maintained;[226] the Final Order shuts off every groundwater right in the Magic Valley junior to July 13, 1962, as if the ESPA can no longer sustain them. The fact is, it can.

North Snake Ground Water District hired a consultant in 2006 to take monthly groundwater measurements in 20 wells scattered across the District. Following the record drought of the early 2000s, and in response to actions taken by IGWA to improve ESPA water levels (including groundwater recharge, conversions of farmland from ground to surface water irriga-

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[220] *Id.* at 809 (quoting CM Rule 20.03).

[221] *A& B Irr. Dist. v. Spackman*, 155 Idaho 640, 650 (2013).

[222] *Id.* (quoting *AFRD2*, 143 Idaho at 880).

[223] *Id.* (quoting *Conant v. Jones*, 3 Idaho 606, 612-13 (1893)).

[224] Idaho Code § 42-226.

[225] Idaho Code § 42-203A(5)(b).

[226] *See* 1986 State Water Plan policy 5G (excerpt attached hereto as ***Appendix B***).

tion, and drying up irrigated farmland), groundwater levels in the western part of the ESPA have stabilized and in some wells increased since 2010.[227]

When IGWA's members appropriated their water rights, they, unlike surface water users, could not simply review water delivery records to determine the available water supply. Instead, they relied on the IDWR's determination that the groundwater supply was sufficient, the fact that senior water users who now seek to curtail them did not protest their appropriations, and the Legislature's assurance the ESPA would be managed to maximize beneficial use of the resource. To the dozens of cities, dairies, food processors, and farmers whose water rights are now curtailed, the idea that the State would curtail 3,139 cubic feet per second (cfs) worth of sustainable groundwater use from the ESPA,[228] in an attempt to increase overflow from a single aquifer outlet by 9.1 cfs,[229] was unfathomable. To many, it is perceived as an act of deception.

In regard to the law of reasonable beneficial use of water, the Final Order contains seven reversible errors: (1) it mistakenly concludes the Director has "limited discretion" to apply the law of reasonable use; (2) it does not provide a reasoned statement concerning waste and hoarding of the resource, in violation of Idaho Code § 67-5248; (3) it fails to assign any degree of uncertainty to ESPAM 2.1's predictions for Rangen; (4) it expands the zone of curtailment to the extreme, such that groundwater use is curtailed even if less than one percent of that water will ever accrue to Rangen; (5) it capriciously and in an abuse of discretion applies a trim line standard that has drastically different effects than prior trim lines, providing no reliability or certainty for juniors; (6) in an abuse of discretion it fails to require

[227] Ex. 1250; Carlquist, Tr. Vol. 7, p. 1683:18-25.

[228] Calculated by tallying the diversion rate authorized under the curtailed water rights listed in Appendix C to the Final Order (R. Vol. 21, pp. 4207-4259)

[229] Final Order at 42, ¶ 3 (R. Vol. 21, p. 4199).

Rangen to improve its diversion and conveyance facilities and water use efficiency before seeking to curtail junior water users.

2.1 The Director misinterpreted Idaho law by concluding he has "limited discretion" to apply the law of reasonable use.

The errors related to the law of reasonable use appear to stem from the Director's mistaken perception that he has "limited discretion" to evaluate whether a means of appropriation is reasonable.[230] This statement is made in the Final Order in reference to the ruling in *AFRD2* that, "Given the nature of the decisions which must be made in determining how to respond to a delivery call, there must be some exercise of discretion by the Director,"[231] and in context of the trim line (discussed in section 2.3 below) and the CM Rule that "[a]n 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."[232]

The Director's perception that he has limited discretion to apply the law of reasonable use is mistaken. There is no statute or case law stating this, and all judicial precedent indicates otherwise.

In *AFRD2*, senior water users argued the CM Rules are unconstitutional because they permit the Director to limit or refuse curtailment based on a standard of reasonableness.[233] They complained that allowing the Director to evaluate reasonable use of the resource fails to give effect to their water right decrees.[234] But the Idaho Supreme Court disagreed, ruling that determinations required under the CM Rules "of necessity, require some determination of 'reasonableness,'" holding "there must be some exercise of

[230] Final Order p. 39 ¶ 52 (R. Vol. 21, p. 4196).

[231] *AFRD2*, 143 Idaho at 875.

[232] Final Order p. 40 ¶ 53 (quoting CM Rule 20.03) (R. Vol. 21, p.4197).

[233] *AFRD2*, 143 Idaho at 875.

[234] *Id.* at 875.

discretion by the Director."[235] The Court explained that these inquiries do not undermine the senior's water right decrees because "water rights adjudications neither address, nor answer, the questions presented in delivery calls."[236] In particular, the Court noted that "reasonableness is not an element of a water right; thus, evaluation of whether a diversion is reasonable in the administration context should not be deemed a re-adjudication."[237] The Court added that "determining whether waste is taking place is not a re-adjudication because clearly that too, is not a decreed element of the right."[238] Nowhere does the decision state the Director's duty to evaluate reasonable use and waste of the resource is subject to "limited discretion."

The Court reaffirmed this in its recent *A& B Irrigation District* decision, quoting the above rulings from *AFRD2* to explain "the Director has discretionary authority in a water management case that is not available to him in a water rights case."[239] The Court acknowledged the "tension between the first in time and beneficial use aspects of the prior appropriation doctrine," and reaffirmed that "[s]omewhere between the absolute right to use a decreed water right and an obligation not to waste it and to protect the public's interest in this valuable commodity, lies an area for the exercise of direction by the Director."[240] Again, there is nothing in this decision stating the Director's duty to evaluate reasonable use of the resource being subject to "limited discretion."

While the doctrine of priority certainly carries great weight under Idaho law, the doctrine of reasonable use is no less valid. The Court made this clear in *AFRD2*:

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[235] *AFRD2*, 143 Idaho at 875.

[236] *Id.*

[237] *Id.* at 877.

[238] *Id.*

[239] *A& B Irrigation v. Spackman (In re A& B Irrigation Dist.)*, 155 Idaho 640, 652 (2013) (quoting AFRD2, 143 Idaho at 877).

[240] *A& B Irrigation*, 155 Idaho 640, 651 (2013) (quoting *AFRD2*, 143 Idaho at 880).

> While the prior appropriation doctrine certainly gives preeminent rights to those who put water to beneficial use first in time, this is not an absolute rule without exception. As previously discussed, the Idaho Constitution and statutes do not permit waste and require water to be put to beneficial use or be lost. Somewhere between the absolute right to use a decreed water right and an obligation not to waste it and to protect the public's interest in this valuable commodity, lies an area for the exercise of discretion by the Director.[241]

The Director's assumption that his discretion is limited in this regard is mistaken, and it wrongly stacked the deck against groundwater users with respect to various issues in this case, including those addressed in sections 2.2 through 2.6 below. Therefore, IGWA asks this Court to remand this matter with an instruction to apply the law of reasonable water use, without assuming limited discretion.

2.2 The Final Order violates Idaho Code § 67-5248 because it lacks a reasoned statement applying the law of reasonable use.

Idaho Code § 67-5248 requires agency orders to include "[a] reasoned statement in support of the decision," and "a concise and explicit statement of the underlying facts of record supporting the findings." The reasoned statement should include "inferences drawn from the facts upon the application of its expertise and judgment, which underlie its decision," as such information is "essential to meaningful judicial review."[242]

A dominant issue in this case is whether Rangen's means of appropriation is reasonable. IGWA put on substantial evidence that Rangen's means of appropriating overflow via a horizontal well that skims water off the top of the ESPA is unreasonable because: (i) the amount of water stored in the ESPA, and corresponding spring flows in the Milner to King Hill reach of

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[241] *AFRD2*, 143 Idaho at 880.

[242] *Woodfield v. Bd. of Prof'l Discipline of the Idaho State Bd. of Med.*, 127 Idaho 738, 746 (Ct. App. 1995).

the Snake River, is substantially above natural levels;[243] (ii) groundwater levels in the vicinity of Rangen have been stable, and in some areas have risen, since 2010;[244] (iii) the regional aquifer is not being "mined" by junior-priority groundwater pumping (i.e. withdrawals are not outpacing recharge);[245] (iv) the Curren Tunnel is akin to a shallow well in that it skims water off the top of the ESPA, making it very susceptible to small changes in the water table;[246] (v) there is an abundant supply of groundwater available to Rangen at lower elevations,[247] and (vi) the only way to protect Rangen's means of diversion via the Curren Tunnel is to maintain a large supply of groundwater that cannot be appropriated in order to keep overflow from the ESPA at peak levels."[248] IGWA also demonstrated that while ESPAM 2.1 is the best science available for evaluating effects of groundwater pumping from the ESPA, its predictions for Rangen contain errors that over-estimate the effect of pumping on ESPA discharges from the Curren Tunnel.[249]

Paraphrasing *Schodde*, IGWA argued:

> To uphold Rangen's appropriation of the entire storage of the ESPA would amount to saying that a limited taking of water from the ESPA by appropriation for a limited beneficial use, justifies the appropriation of all of the water in the ESPA incident to the limited benefit resulting from the water actually appropriated. It is unquestioned that what Rangen has actually diverted and used in its facility, it has appropriated, but can it be said that Rangen has made an appropriation of all of the water in the ESPA needed to maintain peak overflow from its spring outlet? There is neither statutory nor judicial authority that such a use is an appropriation. Such use also lacks one of

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[243] Brendecke, Tr. Vol. 11, p. 2570:7-23; Ex. 2266.

[244] Ex. 1250; Carlquist, Tr. Vol. 7, p. 1683:18-25.

[245] Brendecke, Tr. Vol. 11, pp. 2568:16-2569:22.

[246] *See* Statement of Facts, section 3.3, *supra*.

[247] Hinkley Tr. Vol. 9, pp. 2237:18 – 2243:3.

[248] IGWA's Post-Hearing Br. at 28 (R. Vol. 19, p. 3841).

[249] *See* Statement of Facts section 3.6(E), *supra*.

> the essential attributes of an appropriation; it is not reasonable.[250]

Accordingly, IGWA argued that Rangen's delivery call should be denied,[251] or, at a minimum, a 10 percent trim line should be implemented to avoid excessive waste and hoarding of the ESPA.[252]

Given this argument, and the rule that "[a]n 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,"[253] IGWA expected a direct ruling as to how much waste or hoarding of water is too much—*i.e.*, at what point does the exercise of priority unreasonably impede the policy of Idaho law to secure the maximum beneficial use, and least wasteful use, of the ESPA.[254]

The Final Order recites the law of reasonable use, but does not apply it. While the Order acknowledges errors and bias in ESPAM 2.1, it does not assign any uncertainty factor to the Model's predictions for Rangen, as has been done in every prior conjunctive management case. The Order cites CM Rule 20.03, but does not answer the question of how much waste or hoarding is acceptable under the facts of this case.

The parties are left to assume that the curtailment ordered, shutting off wells where as little as 0.63 percent of the water is predicted to accrue to the Curren Tunnel at steady state, must mean the Director made the determination that this is reasonable. Then again, the Director's mistaken perception that he has "limited discretion" to apply the law of reasonable use suggests he simply did not address this issue head-on.

Either way, Idaho Code § 67-5248 is intended to prevent parties and reviewing judges from having to make assumptions and inferences about

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[250] *Cf. Schodde*, 224 U.S. at 117.

[251] IGWA's Post-Hearing Br. at 21-29 (R. Vol. 19, pp. 3834 - 3842).

[252] IGWA's Post-Hearing Br. at 29-32 (R. Vol. 19, p.3842 - 3845).

[253] CM Rule 20.03 (IDAPA 37.03.11.020.03).

[254] *See* IGWA's Post-Hearing Br. at 30-31 (R. Vol. 19, pp. 3843 - 3844).

the agency decision. Therefore, IGWA asks the Court to remand this matter with an instruction to directly decide the point at which the exercise of priority becomes unreasonable, and provide a reasoned statement in support of the decision, a concise and explicit statement of the underlying facts of record supporting the findings, and any inferences that underlie his decision, sufficient to provide meaningful judicial review.

2.3 The Director abused discretion by failing to account for uncertainty in ESPAM 2.1 predictions for Rangen.

The IDWR must, before undertaking to curtail junior water rights, have reasonable certainty that the curtailment will in fact benefit the senior water user. Curtailing beneficial use without such certainty would violate the futile call doctrine, the doctrine of reasonable use, and would constitute an abuse of discretion and violation of due process.

Accordingly, in every prior case where the IDWR has relied upon ESPAM to make curtailment decisions, the Director has assigned a margin of error or uncertainty to ESPAM predictions, and implemented a trim line to exclude from curtailment junior groundwater diversions for which the predicted benefit of curtailment to the senior is smaller than the margin of error.[255] The Idaho Supreme Court has upheld this practice.[256]

As explained above in section 3.6 of the Statement of Facts, ESPAM 2.1 is programmed to predict impacts from groundwater use in every Model cell (including cells outside the Area of Common Ground Water Supply), even if there is no measureable impact. There is uncertainty in ESPAM 2.1 input data generally, and specific errors relative to the Rangen Model cell, some of which cause ESPAM 2.1 to over-predict the effect of groundwater pumping on water flows the Curren Tunnel. In light of this, IGWA argued

[255] The "trim line" demarcates the geographic zone of curtailment. Junior groundwater rights within the trim line are exposed to curtailment; junior rights outside the line are not.

[256] *Clear Springs Foods*, 150 Idaho at 812-817.

that a minimum uncertainty factor of 10 percent should be applied in this case, as has been done previously.[257]

The Final Order acknowledges uncertainty in ESPAM 2.1, but does not assign any margin of uncertainty to its predictions for Rangen. While the Director may have some discretion in how he deals with Model uncertainty, it is a violation of due process and an abuse of discretion to treat Model predictions as if they are perfect, while acknowledging they are not.

Therefore, IGWA asks the Court to remand this matter with an instruction to assign a margin of error or uncertainty to ESPAM 2.1 predictions for Rangen, and explain how it is taken into account in the Director's remand decision.

2.4 Curtailing junior users from which less than one percent of the curtailed water will ever reach Rangen is not a reasonable use of the resource, and violates the prohibition of excessive hoarding of water under Idaho law.

As discussed above, it is unclear from the Final Order whether the Director considered the point at which the exercise of priority by Rangen results in unreasonable use of the resource or an unreasonable means of appropriation or diversion, but based on the magnitude of the curtailment ordered, we are left to assume the Director found it reasonable to curtail beneficial use of water if as little as 0.63 percent will reach the senior water user at steady state conditions. This is an abuse of discretion.

The *Van Camp*, *Schodde*, and *Clark* decisions cited above uniformly found it patently unreasonable and against public policy to allow a senior water user to curtail juniors if only 10 percent of the curtailed water would be put to use by the senior. The *Basinger* decision deemed 50 percent unacceptable.

Recently, the Idaho Supreme Court accepted the Director's use of a 10 percent trim line for the Surface Water Coalition.[258] However, the Court

[257] IGWA's Post-Hearing Br. at 31-33 (R. Vol. 19, pp. 3844 - 3846).

has not been willing to sanction anything less. In the *Clear Springs Foods* case, the IDWR using ESPAM 1.1 to curtail groundwater pumping in order to increase spring flows to Clear Springs Foods and Blue Lakes Trout. Because ESPAM 1.1 was calibrated only to reaches of the Snake River, making it incapable of predicting impacts to specific springs, the IDWR applied a 10 percent trim line to the river reaches to which the target springs were tributary, resulting in Clear Springs Foods and Blue Lakes Trout receiving significantly less than 10 percent of the curtailed water. When the Supreme Court was faced with this issue, it declined to address it, ruling that it goes to the reasonableness of the senior's means of diversion, which, the Court asserted, was not an issue on appeal.[259]

If the *Clear Springs Foods* decision provides any guidance, it is that the Court was unwilling to find it reasonable to curtail a junior right if as little as one percent of the curtailed water will reach the senior. Had the Court believed that to be reasonable, it could have simply affirmed the Director's decision on this point. The Court was clearly unwilling to go that far.

The only binding precedent comes from the *Van Camp*, *Schodde*, *Clark* and *A& B Irrigation District* decisions which draw the line at 10 percent. While a 10 percent trim line still results in a significant amount of waste and hoarding of the resource, the Idaho Supreme court has determined it strikes a reasonable balance between the doctrines of priority and reasonable use of water.

The Final Order allows Rangen to command 100 times more water than it will put to beneficial use, contrary to a century of jurisprudence. If the Final Order is upheld, the doctrine of reasonable use will be rendered meaningless and relegated it to the dust bin of legal precedent.

It is imperative this Court draw the line and provide corrective guidance to the Director on this fundamental component of conjunctive water

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[258] *A& B Irr. Dist.*, 155 Idaho 640.

[259] *Clear Springs Foods*, 150 Idaho at 810.

administration. Therefore, IGWA asks this Court to remand this matter with an instruction that allowing a senior to command 100 times more water than it will put to beneficial use is unreasonable as a matter of law, and an abuse of discretion.

2.5 The Director's application of different trim line standards, producing drastically different results, is arbitrary, capricious, and an abuse of discretion.

The most startling aspect of the Final Order is how far the Great Rift trim line departs from prior trim line the IDWR applied to the Rangen call. Previously, the IDWR applied a 10 percent trim line, which exposed 735 acres to curtailment.[260] Junior groundwater users cannot fathom, nor does the Final Order adequately explain, how an upgrade of ESPAM caused the IDWR to rationalize skyrocketing the curtailment to 157,000 acres.

The drastic change in curtailment is the result of the Director adopting different trim lines. The "trim line" demarcates the geographic zone of curtailment. Junior groundwater rights within the trim line are exposed to curtailment; junior rights outside the line are not.

The trim line is a product of both Model uncertainty and the doctrine of reasonable use of water, by defining the zone of curtailment to encompass junior groundwater diversions that the Director is reasonably certain have a material impact on the senior's water supply, and that can be curtailed without resulting in unreasonable hoarding or waste of the resource.

The Idaho Administrative Procedure Act requires the IDWR to make trim line decisions that are not arbitrary, capricious, or an abuse of discretion.[261] A decision is arbitrary "if it was done in disregard of the facts and circumstances presented or without adequate determining principles."[262]

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[260] Second Amended Order ¶ 22, p. 6, May 19, 2005, excerpts attached as ***Appendix A***.

[261] Idaho Code § 67-5279(3)(e).

[262] *In re Delivery Call of A& B Irrigation Dist.*, 153 Idaho 500, 511 (2011) (citing *Am. Lung Ass'n of Idaho/Nevada v. State, Dept. of Agric.*, 142 Idaho 544, 547 (2006)).

It is capricious if "done without a rational basis."[263] An abuse of discretion occurs if the action is "arbitrary, capricious, or unreasonable."[264] Thus, trim line decisions must be rational, reasonable, and based on facts in the record and adequate determining principles.

These standards are clearly intended to produce consistency and reliability in agency decision-making. Unfortunately, the trim line decisions of the IDWR have proven to be anything but that.

Every curtailment order the IDWR has issued under the CM Rules has had a different effect in terms of defining which junior groundwater users are deemed to cause material injury to the senior. The IDWR applies a 10 percent trim line to the Surface Water Coalition call, excluding junior users from curtailment if ESPAM does not predict at least 10 percent of the foregone junior water use will accrue to the Coalition. The IDWR purported to apply a 10 percent trim line to Blue Lakes and Clear Springs delivery calls, but because ESPAM 1.1 was incapable of predicting impacts to specific springs (it could only predict impacts to Snake River reaches), the orders curtailed juniors for which far less than 10 percent of the curtailed water reached Blue Lakes (2 percent) and Clear Springs (0.69 percent).[265]

As mentioned above, the Idaho Supreme Court has affirmed the use of a 10 percent trim line, but not the lesser percentages applied to Blue Lakes and Clear Springs.

The major improvement of ESPAM 2.1 is its ability to predict impacts to specific springs, enabling the 10 percent trim line to apply uniformly to all delivery calls and provide water users with much needed predictability. Unfortunately, the Final Order went an entirely different direction, abandoning trim lines based on the Modeled effect of groundwater pumping on

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[263] *Id.*

[264] *Lane Ranch P'ship v. City of Sun Valley*, 145 Idaho 87, 91 (2007).

[265] Final Order at 17 (R. Vol. 21, p. 4174).

the senior water user, and instead using a geographic feature to demarcate the zone of curtailment.

This caused a colossal change in the number of acres curtailed. When the IDWR applied a 10 percent trim line to the Rangen call, it exposed 735 acres to curtailment. The Great Rift trim line expands curtailment more than two hundred fold, to 157,000 acres.

This created a nine-bell fire alarm for the cities, dairies, businesses, and farmers who were given less than three months to provide mitigation or have their wells shut off, not to mention other dependent businesses.

Rangen likes to argue that IGWA should have planned for curtailment and had mitigation in place. The fact is, IGWA did. It had already taken actions to mitigate for curtailment of far more than 735 acres. IGWA conceived of the curtailed acres doubling, tripling, maybe increasing as much as ten fold. But there was no reason to think a computer model upgrade that enabled the IDWR to apply the 10 percent trim line consistently across delivery calls would instead cause the IDWR to abandon the 10 percent trim line altogether.

And therein lies the problem. The Great Rift trim line is so far removed from the 10 percent trim line that junior users are left with no predictability as to how trim lines may be implemented in the future, in this case or others. In fact, the IDWR has assured juniors they better not assume any consistency. When IGWA asserted that the Great Rift trim line exposes every groundwater right in the Magic Valley to curtailment, the IDWR dismissed this argument as speculative, arguing there is no reason to expect the Director will apply the Great Rift trim line to other calls.[266]

After a decade of conjunctive management, there is no reliable standard or rationale from the IDWR concerning trim lines. Groundwater users are presently operating under a 10 percent trim line in the Surface Water

[266] IDWR's *Response in Opposition to Augment Record* at 5 (June 26, 2014).

Coalition case, a trim line based on a geographic feature (as opposed to the Modeled impact to the senior) in the Rangen case, and a representation by the IDWR that IGWA cannot assume any consistent application of trim lines in the future.

If it was previously unreasonable for Rangen to curtail juniors beyond a 10 percent trim line, and if it is still unreasonable for the Surface Water Coalition to curtail juniors beyond a 10 percent trim line, then the IDWR must provide a rational, reasonable, and factually grounded explanation as to why Rangen is now being permitted to curtail juniors if less than one percent of the curtailed water is expected to ever reach the Curren Tunnel. The Final Order does not meet this threshold, and, as a result, is arbitrary, capricious, and/or an abuse of discretion.

Therefore, IGWA asks the Court to remand this matter with an instruction that if disparate trim lines are applied in the same delivery call case or between cases, the Director must provide a reasonable, rational, and factually grounded explanation to support the disparity.

2.6 The Final Order does not adequately address IGWA's argument that Rangen should be required to construct a recirculation system.

The Director has authority under CM Rule 42 to deny a delivery call if the senior's water needs "could be met with the user's existing facilities and water supplies by employing reasonable diversion and conveyance efficiency and conservation practices,"[267] or "could be met using alternate reasonable means of diversion or alternate points of diversion . . . ."[268]

If ever requiring a senior to use water more efficiently before seeking to curtail juniors, this is the case. As explained above, Rangen could raise far more fish with its current water supply simply by ordering fish eggs

[267] CM Rule 42.01.g (IDAPA 37.03.11.042.01.g).

[268] CM Rule 42.01.h (IDAPA 37.03.11.042.01.h); see also *AFRD2*, 143 Idaho at 870 (affirming the Director's authority to "compel[]a surface user to convert his point of diversion to a ground water source").

more often and more carefully managing its water.[269] Rangen's own engineer also determined that Rangen could significantly increase its available water supply by constructing a recirculation system.[270]

IGWA argued the Director should require Rangen to install a recirculation system before looking to curtail juniors. The Final Order contains findings of fact noting IGWA's argument and Rangen's objections to it, but does not contain any conclusions of law applying the facts to CM Rule 42. As such, the Final Order does not meet the threshold required by Idaho Code § 67-5248 of a reasoned statement supporting the decision. Therefore, IGWA asks that the remand include an instruction to thoroughly address this argument.

Alternatively, if the Court finds the Final Order does adequately decide the recirculation issue, the Court should remand the decision as an abuse of discretion. The Director suggested he found Rangen's objection to the cost of a recirculation to be reasonable, but this is not enough. Of course any senior will object to the cost of making improvements, but this is part of the deal. The costs of a recirculation system is on par with costs incurred by IGWA's members to operating irrigation wells, and fish farmers have been on notice since the first State Water Plan in 1977 that they would be required to improve their diversion systems as the ESPA is developed and spring flows decline. It is unreasonable and an abuse of discretion to curtail all junior water users across the Magic Valley to afford a single senior user the luxury of not having to pump water from the ESPA.

As to Rangen's objection to risks associated with pumping water, the IDWR has approved the use of pump systems to mitigate delivery calls at Clear Springs Foods and, recently, at Rangen, concluding in both cases that the risks can be reasonably mitigated.

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[269] Statement of Facts § 1.3.c, *supra*.

[270] Ex. 1203.

Therefore, if this finds the Final Order does adequately address the recirculation, it should nonetheless set aside the Director's decision to not require recirculation as an abuse of discretion.

3. The Director misapplied CM Rules 40.01 and 20.04 by not phasing in curtailment, but instead phasing in mitigation in a way that requires juniors to deliver more mitigation water to Rangen than it would receive from curtailment.

If curtailment is ordered, the CM Rules allow junior users to avoid being shut off by providing mitigation to the senior under an approved mitigation plan.[271] The Rules define mitigation as "actions and measures to prevent, or compensate holders of senior-priority water rights for, material injury caused by the diversion and use of water by the holders of junior-priority ground water rights."[272]

CM Rule 43 sets forth the process for obtaining approval of a mitigation plan.[273] Of primary consideration is whether the plan will "provide replacement water, at the time and place required by the senior-priority water right, sufficient to offset the depletive effect of ground water withdrawal on the water available in the surface or ground water source."[274] In other words, juniors can avoid curtailment by using alternative means to "offset" or replace the amount of water the senior would receive from curtailment.

Because the anticipated benefit of curtailment to the senior is not realized immediately, but accrues over time, the amount of replacement water juniors must provide ramps up over time accordingly. The Final Order does this by requiring juniors to provide 3.4 cfs of replacement water in the first year of curtailment, 5.2 cfs the second, 6.0 cfs the third, 6.6 cfs the fourth,

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[271] CM Rules 40.02.c (IDAPA 37.03.11.040.02.c) and 42.02 (IDAPA 37.03.11.042.02)..

[272] IDAPA 37.03.11.010.15.

[273] IDAPA 37.03.11.043.

[274] IDAPA 37.03.11.043.03.b.

and 9.1 cfs every year thereafter.[275] The replacement water required in years one through four is equal to the average amount of water Rangen would receive from curtailment those years.[276] The year five requirement, however, requires significantly more.

After five years of curtailment, ESPAM 2.1 predicts an additional 7.1 cfs will accrue to the Curren Tunnel.[277] Yet, the Final Order requires juniors to provide 9.1 cfs, which Rangen would not receive from curtailment for another 45 years.

The Director reached this conclusion based on a mistaken interpretation of CM Rule 40.01.a, which states: "regulation of junior-priority ground water diversion . . . may, by order of the Director, be phased-in over not more than a five-year (5) period to lessen the economic impact of immediate and complete curtailment."[278] In prior cases, the Director properly applied this rule by phasing in curtailment over five years, drying up 20 percent of irrigated acres the first year, 40 percent the second, and so on until the fifth year when full curtailment was reached.[279] In this case, he ordered complete and immediate curtailment, and phased in *mitigation* in a way that requires juniors to provide, beginning in year five, substantially more replacement water than Rangen would receive from curtailment.

The Director interpreted the phase-in verbiage of CM Rule 40.01.a as a restriction on mitigation, but this contradicts the plain language of the rule. The rule authorizes "regulation of junior-priority ground water diversion" to be phased in over five years. It says nothing of mitigation, and certainly does not require juniors to provide more replacement water to seniors than they would receive from curtailment.

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[275] Final Order at 42 (R. Vol. 21, p. 4199).

[276] Order on Reconsideration p. 5-6 (R. Vol. 22, p. 4429-4430).

[277] *Id.*

[278] IDAPA 37.03.11.043.01.a.

[279] *See, e.g.*, Clear Springs Order, excerpt attached hereto as ***Appendix C***.

Moreover, the Director's new interpretation of CM Rule 40.01.a contravenes the rule's express purpose to "lessen the economic impact of immediate and complete curtailment."[280] Phasing in curtailment would have this effect. Complete and immediate curtailment, and requiring juniors to provide more replacement water than Rangen would get from curtailment, does not.

While the CM Rules certainly provide the Director some latitude in approving mitigation plans, requiring juniors to provide substantially more replacement water than Rangen would receive from curtailment is contrary to the plain language of CM Rules 43.03.b and 40.01a, and inconsistent with due process of law. Therefore, IGWA respectfully asks this Court to remand this case with an instruction that the extent of curtailment may be phased in over five years, but juniors should not be required to provide substantially more mitigation than Rangen would receive from curtailment.

CONCLUSION

Based on the foregoing, IGWA respectfully asks this Court to set aside the Final Order and remand it to the IDWR with the following instructions:

1. Apply the reasonable pumping level requirement of the Act to the Curren Tunnel.
2. Apply the law of reasonable water use, without assuming limited discretion, by deciding the point at which the exercise of priority results in unreasonable use of the ESPA, and provide a reasoned statement in support of the decision, with reference to underlying facts and inferences, sufficient to provide meaningful judicial review.
3. Assign a margin of error or uncertainty to ESPAM 2.1 predictions for Rangen, and explain how it is taken into account in the remand decision.

[280] IDAPA 37.03.11.040.01.a.

4. Allowing a senior to command 100 times more water than it will put to beneficial use is unreasonable as a matter of law, and an abuse of discretion.

5. If disparate trim lines are applied, provide a reasonable, rational, and factually grounded explanation to support the disparity.

6. Decide whether Rangen should be required to improve its diversion and conveyance system by implementing a re-circulation system before seeking to curtail juniors.

7. Curtailment may be phased in over five years, but juniors should not be required to provide substantially more mitigation than Rangen would receive from curtailment.

RACINE OLSON NYE BUDGE
& BAILEY, CHARTERED

July 11, 2014

Randall C. Budge
Thomas J. Budge

Date

CERTIFICATE OF SERVICE

I hereby certify that on this 11th day of July, 2014, a true and correct copy of the foregoing document was served on the persons listed below by the method(s) indicated.

Randall C. Budge
Thomas J. Budge

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APPENDIX A

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHTS NOS. 36-15501, 36-02551, AND 36-07694	))))	**SECOND AMENDED ORDER**

This matter is before the Director of the Department of Water Resources ("Director" or "Department") as a result of a letter dated September 23, 2003, and a subsequent letter dated October 6, 2003. Both letters were from J. Dee May ("May"), an attorney representing Rangen, Inc. The September 23 letter sought administration of "the diversion of water in District 36A in such a way that [Rangen] receives its full appropriation of the above referenced water rights" for use at hatchery facilities owned and operated by Rangen near Hagerman, Idaho. Because there are no water rights in Water District No. 36A that are junior in priority to the water rights listed above and divert from the same sources as the listed rights, the Director requested additional clarification concerning the nature of the administration of water rights sought by Rangen. In his October 6 letter, May described the administration sought by Rangen to be the administration of "all water right diversions junior to [Rangen's] that are interfering with and impacting [Rangen's] water rights under the water right numbers referenced above."

In response to the May letter of October 6, 2003, the Director issued an Order on February 25, 2004, and replaced it with an Amended Order on March 10, 2004. The Amended Order of March 10, 2004, was rescinded on March 14, 2005. Based upon the Director's further consideration of this matter, the Director enters the following Findings of Fact, Conclusions of Law, and Second Amended Order.

FINDINGS OF FACT

Procedural History

1. In addition to the letters from May dated September 23, 2003, and October 6, 2003, hereinafter referred to as the "*Rangen Call*," and in addition to the Orders of February 25, 2004, and March 10, 2004, the State of Idaho and parties to the *Rangen Call* signed an agreement titled "The Eastern Snake Plain Aquifer Mitigation, Recovery, and Restoration Agreement for 2004" on or about March 20, 2004. That agreement is hereinafter referred to as the *"ESPA Agreement."*

2. The ESPA Agreement included the provision that: "All pending delivery calls against the aquifer and conjunctive management litigation are stayed and no further delivery calls

74. Based on the Department's water rights data base and simulations using the Department's ground water model for the ESPA described in Findings 19 and 20, the diversion and consumptive use of ground water under water rights having priority dates later than the priority date for water right no. 36-02551 (July 13, 1962), and which at steady-state conditions reduce spring discharge in the Thousand Springs to Malad Gorge spring reach by more than 10 percent of the amount of depletion to the ESPA resulting from those ground water diversions (10 percent is the uncertainty in model simulations, *see* Finding 22), has insignificant effects on the quantity and timing of water available from springs discharging in the Thousand Springs to Malad Gorge spring reach, which includes the Curran Spring from which Rangen diverts surface water. *See* IDAPA 37.03.11.042.01.c.

75. Based on the records of flow measurements submitted by May on behalf of Rangen that are representative of the total supply of water available to the Rangen hatchery facilities for the years 1981 through part of 2003 and annual reports submitted by Rangen to the Department for the years 1995 through 2004, as well as field investigations conducted on November 25, 2003, by the watermaster for Water District No. 130 and Brian Patton, a registered professional civil engineer, Rangen is currently diverting and using surface water within the authorized diversion rate for water rights nos. 36-15501 and 36-02551 (50 cfs total). *See* IDAPA 37.03.11.042.01.e.

76. Based on the field investigations on November 25, 2003, described in Finding 75, the Rangen hatchery facilities have marginally adequate water measuring and recording devices. The watermaster for Water District No. 130 reports that the amounts of water diverted to domestic and irrigation uses are not measured, and the measurements of flows through hatchery raceways reported by Rangen may be systematically about 10 percent lower than actual flows. *See* IDAPA 37.03.11.042.01.f.

77. Based on the results from the field inspection on November 25, 2003, described in Finding 75, two potential modifications to the existing Rangen hatchery facilities were identified that could increase the supply of water to the Rangen hatchery facilities during times that water right no. 36-02551 is not satisfied. However, the combined additional flow that could be diverted is estimated to be 0.64 cfs, which is not significant given the shortages in water supply shown and described in Findings 68 and 69. *See* IDAPA 37.03.11.042.01.g.

78. Based on subsequent findings and conclusions, it is unnecessary to determine whether there are actions that potentially could provide alternate means of diversion or alternate points of diversion to increase the supply of water to the Rangen hatchery facilities during times that water right no. 36-02551 is not satisfied. *See* IDAPA 37.03.11.042.01.h.

Effects of Curtailing Ground Water Diversions Under Rights Junior to Water Right No. 36-02551

79. The following water rights authorize the diversion and use of ground water for consumptive uses from the area of common ground water supply described in Finding 7, have priority dates later than the priority date for water right no. 36-02551 (July 13, 1962), and based on model simulations reduce spring discharge in the Thousand Springs to Malad Gorge spring reach by more than 10 percent of the amount of depletion to the ESPA resulting from those ground water diversions (10 percent is the uncertainty in model simulations, *see* Finding 22):

Water Right No.	Priority Date	Diversion Rate	Authorized Use	Water Right Holder of Record
37-02733	04/12/1966	0.57 cfs	Irrigation of 32 acres	Scott & Sandi Luttmer
36-07156	02/08/1971	2.56	Irrigation of 190 acres	Orval & Bonnie Vader
36-07376	09/29/1973	2.75	Irrigation of 185 acres	Len Riddle & Frank Veenstra
36-07666A	01/05/1977	1.64	Irrigation of 82 acres	Frank Veenstra
36-07666B	01/05/1977	0.66	Commercial/Stock	Frank Veenstra
36-16146	11/25/1977	0.08	Irrigation of 4 acres	Larry & Lauri Nielson
36-07995	07/17/1981	0.20	Commercial/Domestic	Leo & Judith Ray
36-08100	07/13/1982	0.15	Irrigation of 5 acres	Lavar Jackson
36-08101	07/13/1982	0.80	Irrigation of 40 acres	Lavar Jackson
36-08268A	03/26/1985	0.04	Irrigation of 1 acre	Richard & Shelly Regnier
36-08333	08/25/1987	3.66	Irrigation of 183 acres	Ronnie & Sharlene Smith
36-08561	08/24/1990	0.18	Irrigation of 6 acres	Walter & Margaret Candy
36-08652	04/27/1992	0.24	Irrigation of 4½ acres	Valley View Homeowners
36-08662	05/26/1992	0.24	Commercial/Stock	Harry & Flora Bokma
36-08715	07/02/1993	2.00	Municipal	City of Hagerman
36-08747	02/02/1996	0.35	Irrigation of 8 acres	Northview Water Assoc.
36-16204	02/09/2004	0.18	Irrigation of 9 acres	Northview Water Assoc.

80. The Department's ground water model for the ESPA, described in Findings 19 and 20, was used to simulate the effects of permanently curtailing the diversion and use of ground water for the irrigation of 735 equivalent[1] acres under the water rights listed in Finding 79 for irrigation purposes. The results of the simulation show that permanently curtailing the diversion and use of ground water for the irrigation of these lands would increase the discharge of springs in the Thousand Springs to Malad Gorge spring reach, which includes the Curran Spring from which Rangen diverts surface water, by an average amount of 0.4 cfs at steady state conditions.

[1] For the ESPA ground water model, an algorithm is used to simulate the effects of supplemental ground water irrigation where surface water is deliverable for some portion of the irrigation of those lands. For each model cell, acreages simulated to be irrigated with both surface water and supplemental ground water are replaced with acreages simulated to be irrigated using all ground water such that the simulated consumptive use on the replacement acreage equals the consumptive use on the acreage with supplemental ground water irrigation. The equivalent acreage consists of the sum of acreages irrigated solely with ground water and the replacement acreages for acreages irrigated with both surface water and ground water.

surface water source as right no. 36-02551. There are also no surface water rights in Water District No. 120.

21. There are no ground water rights subject to administration included within Water District No. 36A.

22. Rules 40 and 42 of the Conjunctive Management Rules require the Director to make determinations regarding "material injury" and the "reasonableness of water diversions" in responding to a delivery call against junior priority ground water rights in Water Districts No. 120 and No. 130.

23. The reductions in the quantity of water discharging from springs in the Thousand Springs area attributable to depletions to the ESPA from the diversion and use of ground water in Water Districts No. 120 and No. 130 do not automatically constitute material injury to surface water rights diverting from springs or dependent on sources formed by springs even when the diversion and use of ground water occur under water rights that are junior in priority to such surface water rights. Whether reductions in the quantity of water discharging from springs caused by the diversion and use of ground water under junior priority rights in Water Districts No. 120 and No. 130 constitute material injury is dependent on the factors enumerated in Rule 42 of the Conjunctive Management Rules.

24. Since the records of flow measurements submitted by May on behalf of Rangen and the records maintained by the Department since 1995 show that the quantity of water available at the Rangen hatchery facilities has been sufficient to continuously fill water right no. 36-15501 at the authorized diversion rate of 1.46 cfs, the exercise of junior priority ground water rights have not reduced the quantity of water available for water right no. 36-15501. Therefore, there is no material injury to water right no. 36-15501.

25. Based on simulations using the Department's reformulated and recalibrated ground water model, permanently curtailing the diversion and use of ground water under rights for agricultural irrigation that (1) are in the area of common ground water supply described in Finding 7, (2) have priority dates later than the priority date for water right no. 36-02551 (July 13, 1962), and (3) reduce spring discharge in the Thousand Springs to Malad Gorge spring reach by more than 10 percent of the amount of depletion to the ESPA resulting from those ground water diversions (10 percent is the uncertainty in model simulations, see Finding 22), would increase the discharge of springs in the Thousand Springs to Malad Gorge spring reach, which includes the Curran Spring from which Rangen diverts surface water, by a total average amount of 0.4 cfs at steady state conditions. Therefore, the delivery call against ground water rights junior in priority to July 13, 1962, to supply water right no. 36-02551 is futile because an insignificant quantity of water would accrue to the entirety of the Thousand Springs to Malad Gorge spring reach (*see* IDAPA 37.03.11.010.08), and since the diversion and use of ground water under rights junior in priority to July 13, 1962, do not significantly affect the quantity of water available for water right no. 36-02551, there is no material injury to water right no. 36-02551 (*see* IDAPA 37.03.11.042.01.c).

ORDER

In response to the water delivery call made by Rangen, Inc., and for the reasons stated in the foregoing Findings of Fact and Conclusions of Law, the Director orders as follows:

IT IS HEREBY ORDERED that the delivery call made by Rangen through the letters filed with the Director by J. Dee May on September 23, 2003, and October 6, 2003 is hereby DENIED.

IT IS FURTHER ORDERED that this is a final order of the agency. Any party may file a petition for reconsideration of this final order within fourteen (14) days of the service date of this order. The agency will dispose of the petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law pursuant to Idaho Code § 67-5246.

IT IS FURTHER ORDERED that any person aggrieved by this decision shall be entitled to a hearing before the Director to contest the action taken provided the person files with the Director, within fifteen (15) days after receipt of written notice of the order, or receipt of actual notice, a written petition stating the grounds for contesting the action and requesting a hearing. Any hearing conducted shall be in accordance with the provisions of chapter 52, title 67, Idaho Code, and the Rules of Procedure of the Department, IDAPA 37.01.01. Judicial review of any final order of the Director issued following the hearing may be had pursuant to Idaho Code § 42-1701A(4).

DATED this 19th day of May 2005.

KARL J. DREHER
Director

APPENDIX B

IDAHO STATE WATER PLAN

ADOPTED BY THE

IDAHO WATER RESOURCE BOARD

DECEMBER 12, 1986

State of Idaho

THE STATE WATER PLAN

Cecil D. Andrus, Governor

Idaho Water Resource Board
July 1, 1987

Gene M. Gray
Chairman

Richard W. Wagner
Vice-Chairman

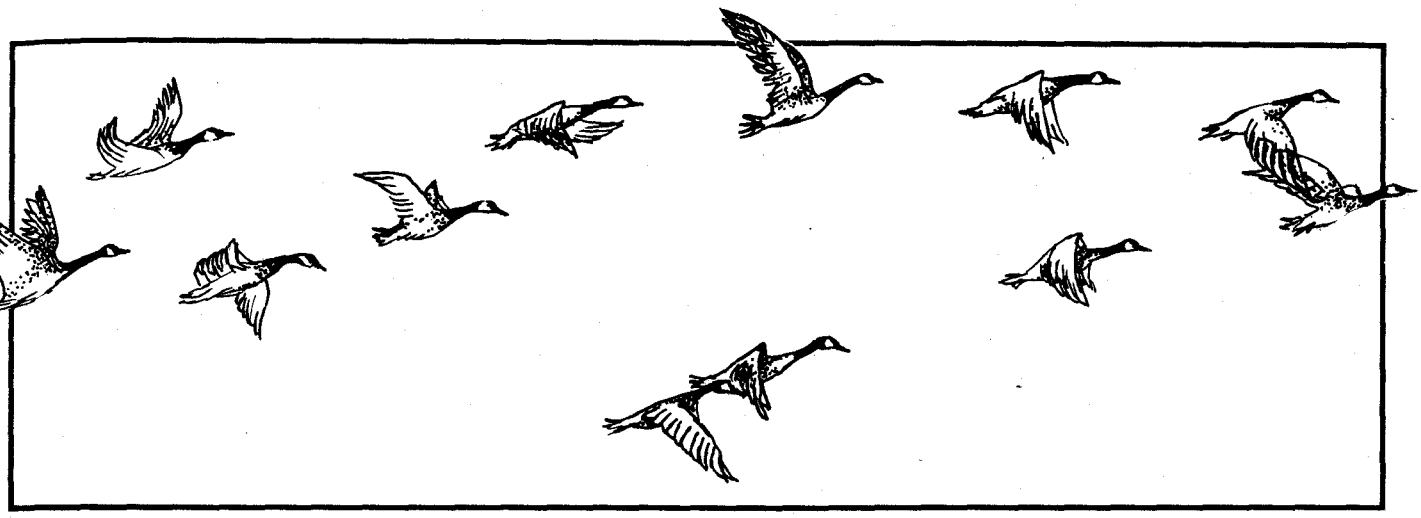
F. Dave Rydalch
Secretary

Mary T. Brooks
Kenneth E. Hungerford
Wm. J. Lanting
Clarence Parr
J.D. Williams

Adopted
December, 1986

Approved by the Idaho State Legislature
March, 1987

R. Keith Higginson
Director
Idaho Department of Water Resources
Statehouse
Boise, Idaho 83720



River Basins Group

POLICY 5A - Snake River Basin

IT IS THE POLICY OF IDAHO THAT THE GROUND WATER AND SURFACE WATER OF THE BASIN BE MANAGED TO MEET OR EXCEED A MINIMUM AVERAGE DAILY FLOW OF ZERO MEASURED AT THE MILNER GAUGING STATION, 3,900 CFS FROM APRIL 1 TO OCTOBER 31 AND 5,600 CFS FROM NOVEMBER 1 TO MARCH 31 MEASURED AT THE MURPHY GAUGING STATION, AND 4,750 CFS MEASURED AT WEISER GAUGING STATION. A MINIMUM AVERAGE DAILY FLOW OF 5,000 CFS AT JOHNSON'S BAR SHALL BE MAINTAINED AND AN AVERAGE DAILY FLOW OF 13,000 CFS SHALL BE MAINTAINED AT LIME POINT (RIVER MILE 172) A MINIMUM OF 95 PERCENT OF THE TIME. LOWER FLOWS MAY BE PERMITTED AT LIME POINT ONLY DURING THE MONTHS OF JULY, AUGUST, AND SEPTEMBER.

The minimum flows established for the Snake River at the Murphy and Weiser gauging stations are management constraints; they further insure that minimum flow levels of Snake River water will be available for hydropower, fish, wildlife and recreational purposes. The establishment of a zero minimum flow at the Milner gauging station allows for existing uses to be continued and for some new uses above Milner. It also means that river flows downstream from that point to Swan Falls Dam may consist almost entirely of ground-water discharge during portions of low-water years. The Snake River Plain aquifer which provides this water must therefore be managed as an integral part of the river system.

The minimum flows established for Johnson's Bar and Lime Point are contained in the original Federal Power Commission license for the Hells Canyon hydropower complex. By adopting these flows, the Idaho Water Resource Board recognizes the importance of minimum flows to downstream uses and makes their maintenance a matter of state water policy. Article 43 of the power license provides that:

"The project shall be operated in the interest of navigation to maintain 13,000 cfs flow in the Snake River at Lime Point (river mile 172) a minimum of 95 percent of the time, when determined by the Chief of Engineers to be necessary for navigation. Regulated flows of less than 13,000 cfs will be limited to the months of July, August, and September,

during which time operation of the project would be in the best interest of power and navigation as mutually agreed to by the Licensee and the Corps' of Engineers. The minimum flow during periods of low flow or normal minimum plant operations will be 5,000 cfs at Johnson's Bar . . . ."

Snake River flows above the hydropower right at any Idaho Power facility are considered unappropriated and therefore are not held in trust by the state. This distinction is further addressed in Policy 5B.

POLICY 5B - *Snake River Trust Water*

IT IS THE POLICY OF IDAHO THAT WATER HELD IN TRUST BY THE STATE PURSUANT TO IDAHO CODE 42-203B BE REALLOCATED TO NEW USES IN ACCORDANCE WITH THE CRITERIA ESTABLISHED BY IDAHO CODE 42-203A AND 42-203C.

The agreement between the state of Idaho and Idaho Power Company dated October 25, 1984 provides that Idaho Power's claimed water right of 8,400 cubic feet per second (cfs) at the Swan Falls Dam may be reduced to either 3,900 cfs or 5,600 cfs during set periods of the year. The claimed water right of 8,400 cfs is deemed appropriated and the amount above the minimum flow established in Policy 5A up to the 8,400 cfs is held in trust by the state. The agreement further provides that Idaho Power's claimed water rights at facilities upstream from Swan Falls shall be considered satisfied when the company receives the minimum flow specified in Policy 5A at the Murphy gauging station. The 8,400 cfs claim of the power company has not historically been available during summer months.

The 8,400 cfs claimed right is reduced by the agreement to that flow available after satisfying all applications or claims that demonstrate water was beneficially used prior to Oct. 1, 1984, even if such uses would violate the minimum flows established in Policy 5A. Any remaining water above these minimum flows may be reallocated to new uses by the state providing such use satisfies existing Idaho law. The criteria in Idaho Code 42-203C supplement Policy 1B of the Water Plan which urges that conformance with the State Water Plan be considered evidence of the public interest. The Idaho Water Resource Board recognizes that the specific criteria for defining public interest established by Idaho Code 42-203C are to be used in addition to the criteria set forth in Policy 1B for the reallocation of hydropower rights. Exempted from the public interest criteria in Idaho Code 42-203C are permitted uses for which beneficial use prior to July 1, 1985 can be proved.

POLICY 5C - *Snake River DCMI (Domestic, Commercial, Municipal and Industrial)*

IT IS THE POLICY OF IDAHO THAT 150 CFS OF WATER FOR CONSUMPTIVE PURPOSES HELD IN TRUST BY THE STATE PURSUANT TO POLICY 5B BE REALLOCATED TO MEET FUTURE DCMI USES IN ACCORDANCE WITH STATE LAW.

While most DCMI uses are nonconsumptive or only partially consumptive, future growth in Idaho's population and commercial and industrial expansion will require an assured supply of water.

A continuous flow of 150 cfs provides approximately 108,600 acre-feet of water per year. This volume of water is assigned to consumptive uses within the basin for domestic, commercial, municipal, and other industrial purposes. Industrial purposes include processing, manufacturing, research and development, and cooling.

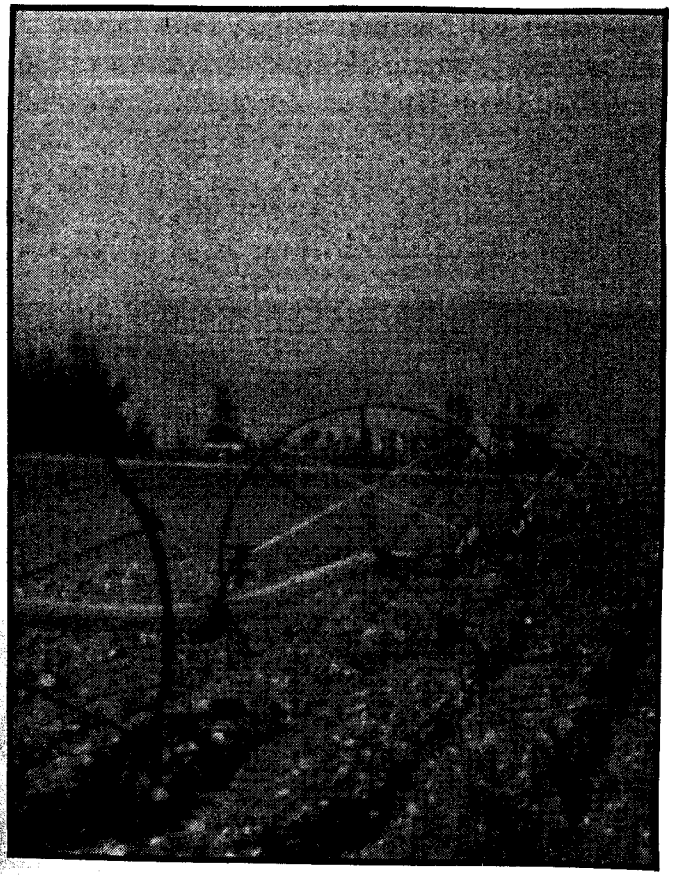
Adequate records should be kept and reviewed so that this reallocation can be modified as necessary. Increases in the DCMI allocation, if necessary, will reduce the amount of water available for agricultural uses. The allocation

will be reviewed as part of every Water Plan update.

POLICY 5D - *Snake River Agriculture*

IT IS THE POLICY OF IDAHO THAT APPROPRIATED WATER HELD IN TRUST BY THE STATE PURSUANT TO POLICY 5B, LESS THE AMOUNT OF WATER NECESSARY TO PROVIDE FOR PRESENT AND FUTURE DCMI USES AS SET FORTH IN POLICY 5C, SHALL BE AVAILABLE FOR REALLOCATION TO MEET NEW AND SUPPLEMENTAL IRRIGATION REQUIREMENTS WHICH CONFORM TO IDAHO CODE 42-203A, 203B, 203C, AND 203D.

This policy allows for new and supplemental agricultural development through the reallocation of water held in trust by the state. The 1982 State Water Plan allocated water for a minimum level of new irrigation development of 850,000 acres plus supplemental water for 225,000 acres by the year 2020 over that which existed in 1975. This policy rescinds the 1982 allocations since there are no acres specified in that the type, location, and amount of use is unknown as is the effect of the evaluation called for in Policy 5B prior to reallocation.



During the eight-year period from 1975 to 1983, about 140,000 acres of new development occurred within the basin. While the amount of new acreage varied significantly from year to year, the average was approximately 17,500 acres. Data are not available to estimate the number of acres that received supplemental water during this period.

Idaho Code Section 42-203C limits the rate of new development in the basin above Murphy gauging station to 80,000 acres in any four year period. Therefore, the maximum development to the year 2020 above Murphy gauging station assuming no water supply constraint is 700,000 acres. Criteria placed on the reallocation of hydropower rights, limits on the rate of new development, plus the requirement that approval of new storage projects that divert water between November 1 and April 1 from the Snake River between Milner Dam and Murphy gauging station must mitigate the impact of diversions on hydropower generation (Policy 5I), will undoubtedly limit development to less than 700,000 acres.

POLICY 5E - *Snake River Hydropower*

IT IS THE POLICY OF IDAHO THAT HYDROPOWER USE BE RECOGNIZED AS A BENEFICIAL USE OF WATER, AND THAT DEPLETION OF FLOWS BELOW THE MINIMUM AVERAGE DAILY FLOWS SET FORTH IN POLICY 5A IS NOT IN THE PUBLIC INTEREST.

The 1982 State Water Plan allocated 170,000 acre-feet for consumptive use in cooling thermal power plants. By establishing a minimum daily

flow of 3,300 cfs at Murphy and 4,750 cfs at Weiser, stabilized flows were guaranteed for hydropower generation. The minimum daily flows for hydropower generation are now increased as stated in Policy 5A. In addition, this policy specifically recognizes hydropower generation as a beneficial use of water and acknowledges the public interest in maintaining the minimum river flow at key points. Any water depletion for thermal power generation would now come from block of water allocated to DCMI uses.

POLICY 5F - *Snake River Navigation*

IT IS THE POLICY OF IDAHO THAT WATER SUFFICIENT FOR COMMERCIAL AND RECREATIONAL NAVIGATION IS PROVIDED BY THE MINIMUM FLOWS ESTABLISHED FOR THE SNAKE RIVER.

Commercial navigation enroute to Lewiston via the Columbia River and Lower Snake River can be accommodated with the flows leaving Idaho in the Snake River at Lewiston. Above Lewiston, commercial and recreational navigation should be accommodated within the protected flows on the Snake River and tributary streams.

POLICY 5G - *Snake River Aquaculture*

IT IS THE POLICY OF IDAHO THAT WATER NECESSARY TO PROCESS AQUACULTURE PRODUCTS BE INCLUDED AS A COMPONENT OF DCMI AS PROVIDED IN POLICY 5C. THE MINIMUM FLOWS ESTABLISHED FOR THE MURPHY GAUGING STATION SHOULD PROVIDE AN ADEQUATE WATER SUPPLY FOR AQUACULTURE. IT MUST BE RECOGNIZED THAT WHILE EXISTING WATER RIGHTS ARE PROTECTED, IT MAY BE NECESSARY TO CONSTRUCT DIFFERENT DIVERSION FACILITIES THAN PRESENTLY EXIST.

Aquaculture can expand when and where water supplies are available and where such uses do not conflict with other beneficial uses. It is recognized, however, that future management and development of the Snake River Plain aquifer may reduce the present flow of springs tributary to the Snake River, necessitating changes in diversion facilities.

POLICY 5H - *Snake River Fish, Wildlife, and Recreation*

IT IS THE POLICY OF IDAHO THAT THE MINIMUM FLOWS ESTABLISHED UNDER POLICY 5A ARE SUFFICIENT AND NECESSARY TO MEET THE MINIMUM REQUIREMENTS FOR AQUATIC LIFE, FISH, AND WILDLIFE, AND TO PROVIDE WATER FOR RECREATION IN THE SNAKE RIVER BELOW MILNER DAM. STREAMFLOW DEPLETION BELOW THE MINIMUM FLOWS IS NOT IN THE PUBLIC INTEREST.

The policy reiterates the view that the minimum flows established in Policy 5A will protect fish, wildlife, aquatic life and recreation within the Snake River Basin at acceptable levels and that this is in the public interest. State law provides for the Water Resource Board to apply for a water right for unappropriated water for minimum flows necessary "for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, and water quality." The minimum stream flow legislation, where appropriate, can be used on the Snake River and tributary streams to enhance these values.

APPENDIX C

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); AND TO WATER RIGHTS NOS. 36-07083 AND 36-07568 (CRYSTAL SPRINGS FARM)	**ORDER**

This matter is before the Director of the Department of Water Resources ("Director" or "Department") as a result of two letters dated May 2, 2005 ("Letters"), from Larry Cope of Clear Springs Foods, Inc ("Clear Springs"). The Letters request water rights administration in Water District No. 130 pursuant to Idaho Code § 42-607 in order to effectuate the distribution of water to the water rights identified in the above caption that are held by Clear Springs for the diversion and use of water at its Snake River Farm and Crystal Springs Farm.

Based upon the Director's consideration of this matter, the Director enters the following Findings of Fact, Conclusions of Law, and Order.

FINDINGS OF FACT

The Eastern Snake River Plain Aquifer and the Department's Ground Water Model

1. The Eastern Snake River Plain Aquifer ("ESPA") is defined as the aquifer underlying an area of the Eastern Snake River Plain that is about 170 miles long and 60 miles wide as delineated in the report "Hydrology and Digital Simulation of the Regional Aquifer System, Eastern Snake River Plain, Idaho," U. S. Geological Survey ("USGS") Professional Paper 1408-F, 1992, excluding areas lying both south of the Snake River and west of the line separating Sections 34 and 35, Township 10 South, Range 20 East, Boise Meridian. The ESPA is also defined as an area having a common ground water supply. *See* IDAPA 37.03.11.050.

2. The ESPA is predominately in fractured Quaternary basalt having an aggregate thickness that may, at some locations, exceed several thousand feet, decreasing to shallow depths in the Thousand Springs area. The ESPA fractured basalt is characterized by high hydraulic conductivities, typically 1,000 feet/day but ranging from 0.1 feet/day to 100,000 feet/day.

3. Based on averages for the time period from May of 1980 through April of 2002, the ESPA receives approximately 7.5 million acre-feet of recharge on an average annual basis from the following: incidental recharge associated with surface water irrigation on the plain (3.4

the watermaster shall immediately curtail diversions by the Association under water right no. 36-08329 as necessary to distribute water to Clear Springs' prior rights.

IT IS FURTHER ORDERED that when repair of the western-most spring collection box for the 54-inch diameter pipeline to the Snake River Farm is made to the satisfaction of the Director, ground water diversions under certain rights for consumptive uses later in priority than February 4, 1964, determined by the Director to cause material injury to water rights nos. 36-04013B and 36-07148 held by Clear Springs for its Snake River Farm, are subject to ongoing curtailment, until further order of the Director, as follows:

(1) Ground water rights for consumptive uses subject to curtailment include rights for agricultural, commercial, industrial, municipal, or other consumptive uses, excluding ground water rights used for de minimis domestic purposes where such domestic use is within the limits of the definition set forth in Idaho Code § 42-111 and ground water rights used for de minimis stock watering where such stock watering use is within the limits of the definitions set forth in Idaho Code § 42-1401A(12), pursuant to IDAPA 37.03.11.020.11.

(2) Involuntary curtailment will be phased-in over a five-year period, offset by substitute curtailment (conversions and voluntary curtailment) provided through the ground water district(s) or irrigation district through which mitigation can be provided and verified by the Department. Involuntary curtailment and substitute curtailment together must be implemented in 2005, 2006, 2007, 2008, and 2009, such that based on simulations using the Department's ground water model for the ESPA, phased curtailment will result in simulated cumulative increases to the average discharge of springs in the Buhl Gage to Thousand Springs spring reach, which includes the springs that provide the source of water for the water rights held by Clear Springs for its Snake River Farm, at steady state conditions of at least 8 cfs, 16 cfs, 23 cfs, 31 cfs, and 38 cfs, for each year respectively.

(3) The actions taken by the Idaho Ground Water Appropriators in 2005 on behalf of its members, consisting of acquisition and use of surface water for irrigation of certain lands in lieu of irrigation using ground water ("conversions") in the North Snake Ground Water District and voluntary curtailment of ground water irrigation of certain lands in the Magic Valley Ground Water District, and thus far approved by the Director as ongoing, are recognized as increasing spring discharge in the Devil's Washbowl to Buhl Gage spring reach by an average of 7.8 cfs at steady state conditions based on simulations using the Department's ground water model for the ESPA. Once Clear Springs has completed repair of the western-most spring collection box for the 54-inch diameter pipeline to the Snake River Farm, additional ongoing voluntary curtailment within the North Snake and Magic Valley ground water districts must be identified to increase the simulated spring