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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF WATER TO VARIOUS WATER RIGHTS HELD BY OR FOR THE BENEFIT OF A&B IRRIGATION DISTRICT, AMERICAN FALLS RESERVOIR DISTRICT #2, BURLEY IRRIGATION DISTRICT, MILNER IRRIGATION DISTRICT, MINIDOKA IRRIGATION DISTRICT, NORTH SIDE CANAL COMPANY, AND TWIN FALLS CANAL COMPANY	**Docket No. CM-DC-2010-001** **NOTICE OF COMPLIANCE WITH ORDER TO PROVIDE STAFF MEMO**

On September 3, 2025, the Director of the Idaho Department of Water Resources issued an *Order Granting A&B Irrigation District's Requests for Hearing, Consolidating Proceedings for Hearing, and Appointing Hearing Officer; Notice of Prehearing Conference*. Within those consolidated proceedings, on November 25, 2025, Hearing Officer Schroeder ordered "that the Department staff identified to testify at the hearing shall file an agency staff memorandum pursuant to IDAPA 37.01.01.602 outlining the subjects of their expected testimony." *Order Granting A&B's Mot. to Am. Deadlines; Setting Deadline to Provide Staff Memo*, at 2. Further, the memorandum deadline was set for December 30th. *Id*. at 3. In compliance with the Hearing Officer's order and attached hereto, the Department hereby submits the following staff memorandums:

1) Memorandum from Jennifer Sukow, P.E., P.G. to Gerald F. Schroeder, Hearing Officer (Dec. 30, 2025).

2) Memorandum from Brian Ragen, Analyst 4 to Gerald F. Schroeder, Hearing Officer (December 30, 2025).

Dated this 30th day of December 2025.

STATE OF IDAHO
OFFICE OF THE ATTORNEY GENERAL

GARRICK L. BAXTER
Deputy Attorney General

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on December 30, 2025, the above and foregoing, was served by the method indicated below, and addressed to the following:

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MEMO

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Date: December 30, 2025

To: Gerald F. Schroeder, Hearing Officer

From: Jennifer Sukow, P.E., P.G.

Subject: Agency staff memorandum for A&B Irrigation District hearing regarding the April 2025 and July 2025 As-Applied Orders for the Surface Water Coalition delivery call

Background and purpose

A&B Irrigation District (A&B) has contested the April[1] and July 2025[2] As-Applied Orders for the Surface Water Coalition (SWC) delivery call. Issues contested by A&B include:

- IDWR's calculation of A&B's proportionate share of the predicted in-season demand shortfall (IDS) for mitigation purposes,
- IDWR's position that historic and ongoing soft conversions do not offset A&B's proportionate share of the shortfall,
- IDWR's refusal to allow A&B to mitigate for a portion of a water right while placing the remainder of the water right on the curtailment list, and
- IDWR's implementation of the May 16, 2025 curtailment order and the effects of the implementation on the July 2025 IDS volume and July 2025 curtailment priority date.

I was identified by IDWR as a witness available to testify regarding Eastern Snake Plain Aquifer Model (ESPAM) simulations used to calculate the priority dates for curtailment and A&B's

[1] IDWR, 2025a. *Final Order Regarding April 2025 Forecast Supply (Methodology Steps 1-3)*. Docket No. CM-DC-2010-001, April 16, 2025, 6 p., https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20250416-Final-Order-Regarding-April-2025-Forecast-Supply-Methodology-Steps-1-3.pdf.

[2] IDWR, 2025b. *Order Revising April 2025 Forecast Supply and Continuing May 16, 2025 Curtailment Order Methodology Steps 5 & 6)*. Docket No. CM-DC-2010-001, July 10, 2025, 12 p., https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20250710-Order-Revising-April-2025-Forecast-Supply-Method.-Steps-5-6-July-2025-As-Applied.pdf.

proportionate share of the IDS for the April and July 2025 As-Applied Orders. I did not participate in IDWR's implementation of the May 16, 2025 curtailment order. IDWR identified Brian Ragan as a witness available to testify regarding implementation of the May 16, 2025 curtailment order. I was deposed by A&B on October 22, 2025, and identified as a witness by A&B on November 7, 2025. On November 25, 2025, Hearing Officer Gerald F. Schroeder ordered IDWR witnesses to provide "*an agency staff memorandum explaining what they anticipate testifying about at the hearing*."

This memorandum covers topics I anticipate testifying about at the hearing, based on the issues identified in A&B's hearing requests, topics addressed in my deposition on October 22, 2025, and topics addressed in expert reports filed on November 7, 2025 by LRE Water (Colvin, 2025a)[3] and Spronk Water Engineers (Sullivan and Horesh, 2025a)[4] and rebuttal expert reports filed on December 19, 2025 by LRE Water (Colvin, 2025b)[5], Spronk Water Engineers (Sullivan and Horesh, 2025b)[6], and Linker (Sigstedt, 2025)[7]. This memorandum does not cover what other agency staff may anticipate testifying about at the hearing.

Calculation of curtailment priority dates for in-season As-Applied Orders in the SWC delivery call

In-season As-Applied Orders are issued as described in the current version of the SWC Methodology Order[8] (Methodology). IDWR hydrologists calculate the predicted water supply and water demand using procedures described in the Methodology. If the predicted water supply for each member of the SWC is greater than the predicted water demand, the IDS is zero and IDWR's Director (Director) does not order a curtailment of junior groundwater use. No ESPAM modeling is needed if the IDS is zero.

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[3] Colvin, D., 2025a, *A&B Proportionate Share Expert Report, Docket No. CM-DC-2010-001*, LRE Water, prepared for A&B Irrigation District, November 2025, 14 p.

[4] Sullivan, G.K and N. Horesh, 2025a. *Expert Report for Aberdeen – American Falls Ground Water District, A&B's Requests for Hearing, SWC Delivery Call*, Spronk Water Engineers, prepared for Aberdeen – American Falls Ground Water District, November 7, 2025, 28 p.

[5] Colvin, D., 2025b, *A&B Proportionate Share Rebuttal Report, Docket No. CM-DC-2010-001, LRE Water, prepared for A&B Irrigation District*, December 2025, 6 p.

[6]Sullivan, G.K and N. Horesh, 2025b. Rebuttal *Expert Report for American Falls - Aberdeen Ground Water District, A&B's Requests for Hearing, SWC Delivery Call*, Spronk Water Engineers, prepared for American Falls - Aberdeen Ground Water District, December 19, 2025, 29 p.

[7] Sigstedt, S.C., 2025. *Review of A&B Proportionate Share Expert Report , Docket No. CM-DC-2010-001, by LRE,* Lynker, prepared on behalf of Idaho Ground Water Appropriators, Inc., December 19, 2025, p. 9.

[8] IDWR, 2023a. *Sixth Final Order Regarding Methodology for Determining Material Injury to Reasonable In-Season Demand and Reasonable Carryover*. Docket No. CM-DC-2010-001, July 19, 2023, 45 p., https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20230719-Sixth-Final-Order-Regarding-Methodology.pdf.

If the predicted water supply for any member of the SWC is less than the predicted water demand, the difference is the predicted IDS. The Methodology requires the Director to order a curtailment of junior groundwater use to remedy the predicted IDS.

Depending on the volume of the IDS and the timing of the curtailment, curtailing all junior groundwater use might not be necessary to produce the IDS volume and the Director will limit the number of junior groundwater users curtailed based on effective[9] water right priority dates. In other cases, curtailing all junior groundwater use may be insufficient to produce the full IDS volume during this irrigation season. The current version of ESPAM (ESPAM2.2) is used to calculate a priority date for curtailment. The question the Director needs the model to answer is "What subset of junior groundwater users must be curtailed to produce a volume of water equal to the IDS in the near Blackfoot to Minidoka reach by September 30 of this irrigation season?" Because the question asked of the model involves the response to a short-term action within a specific timeframe, a transient model run must be performed.

In the case of the April 2025 As-Applied Order, which predicted an IDS of approximately 63,000 acre-feet (AF) occurring over the irrigation season, curtailing all groundwater use junior to October 11, 1900, would produce more than the IDS volume and was not necessary. The Director limited the curtailment to water rights junior to August 28, 1955, based on an ESPAM2.2 calculation of how much water is predicted to accrue to the near Blackfoot to Minidoka reach between May 1 and September 30, 2025.

In the case of the July 2025 As-Applied Order, which predicted an IDS of approximately 75,300 AF occurring between July 1 and the end of the irrigation season, increasing the curtailment to include all groundwater use junior to October 11, 1900, was insufficient to produce the full IDS volume by September 30, 2025. The Director increased the curtailment to include use junior to October 11, 1900, to produce as much as possible of the July IDS volume.

Calculation of proportionate shares of the IDS for mitigation by direct delivery of storage water

As of April 2025, there were five approved mitigation plans responding to the SWC delivery call, (1) No. CM-MP-2015-003 for the benefit of A&B; (2) No. CM-MP-2010-001 for the benefit of Southwest Irrigation District and Goose Creek Irrigation District (collectively, "SWID"); (3) No. CM-MP-2024-003 for the benefit of the Ground Water Districts; (4) No. CM-MP-2019-001 for

[9] Water rights with enlargement conditions have an effective priority date of April 12, 1994 relative to non-enlargement water rights.

the benefit of the Coalition of Cities; and (5) No. CM-MP-2007-001 for the benefit of the Water Mitigation Coalition.[10]

Most plans include some aquifer enhancement projects (groundwater to surface water conversions, voluntary idling of irrigated acres, managed recharge) but recognize that these projects are insufficient to offset the full impact of groundwater use on aquifer discharge to the near Blackfoot to Minidoka reach and are insufficient to mitigate injury to the SWC's water supply in some years. Therefore, the mitigation plans also include direct delivery of storage water or monetary compensation to mitigate the injury that occurs in some years even though the aquifer enhancement projects are ongoing.

Because the effects of historic and ongoing aquifer enhancement projects are included in the data used in the Methodology to calculate the SWC members' Forecast Supply (FS), the IDS is a calculation of the predicted injury to the SWC's water supply that remains to be mitigated by direct delivery of storage water or other means.[11] The benefit of aquifer enhancement projects is that they reduce the frequency of shortfalls and the volume of the IDS. If the aquifer enhancement projects had not been implemented, the IDS (the remaining mitigation required) in the April and July 2025 As-Applied Orders would have been larger.

Because the groundwater users are mitigating under separate plans, IDWR needs to apportion the IDS among the mitigation plans to identify the proportionate share of the IDS for plans that include direct delivery of storage water to the SWC in an amount based on IDWR's calculation of injury. As of the 2025 irrigation season, A&B's mitigation plan is the only plan that includes actions that are dependent on IDWR's calculation of their proportionate share of the injury to the SWC. Other mitigation plans include negotiated terms that make the volume and timing of storage water delivery or monetary compensation independent of IDWR's calculation of their proportionate share of the IDS.

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[10] IDWR, 2025a. *Final Order Regarding April 2025 Forecast Supply (Methodology Steps 1-3)*. Docket No. CM-DC-2010-001, April 16, 2025, 6 p., https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20250416-Final-Order-Regarding-April-2025-Forecast-Supply-Methodology-Steps-1-3.pdf.

[11] IDWR, 2024a, *Final Order Denying IGWA's Request for Mitigation Credit for Aquifer Enhancement Activities (2024)*. CM-DC-2010-001, CM-MP-2009-006, May 15, 2024, p. 4-6, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20240515-Final-Order-Denying-IGWAs-Request-for-Mitigation-Credit-for-Aquifer-Enhancement-Activities-2024.pdf.

The IDS is an injury resulting from reduced aquifer discharge to the near Blackfoot to Minidoka reach caused by the cumulative impacts of decades of groundwater use. The long-term response at the near Blackfoot to Minidoka reach to groundwater withdrawals at locations across the ESPA is shown in Figure 1 as a fraction of the annual average volume of groundwater withdrawn. While users closer to the reach generally have a higher percentage of impact to the reach, users more distant from the reach also have significant impacts. The modeled cumulative long-term impact on aquifer discharge to the near Blackfoot to Minidoka reach resulting from groundwater withdrawals at the locations of A&B's points of diversion ranges from 36 to 53% of the volume withdrawn (Figure 1), averaging 48%.

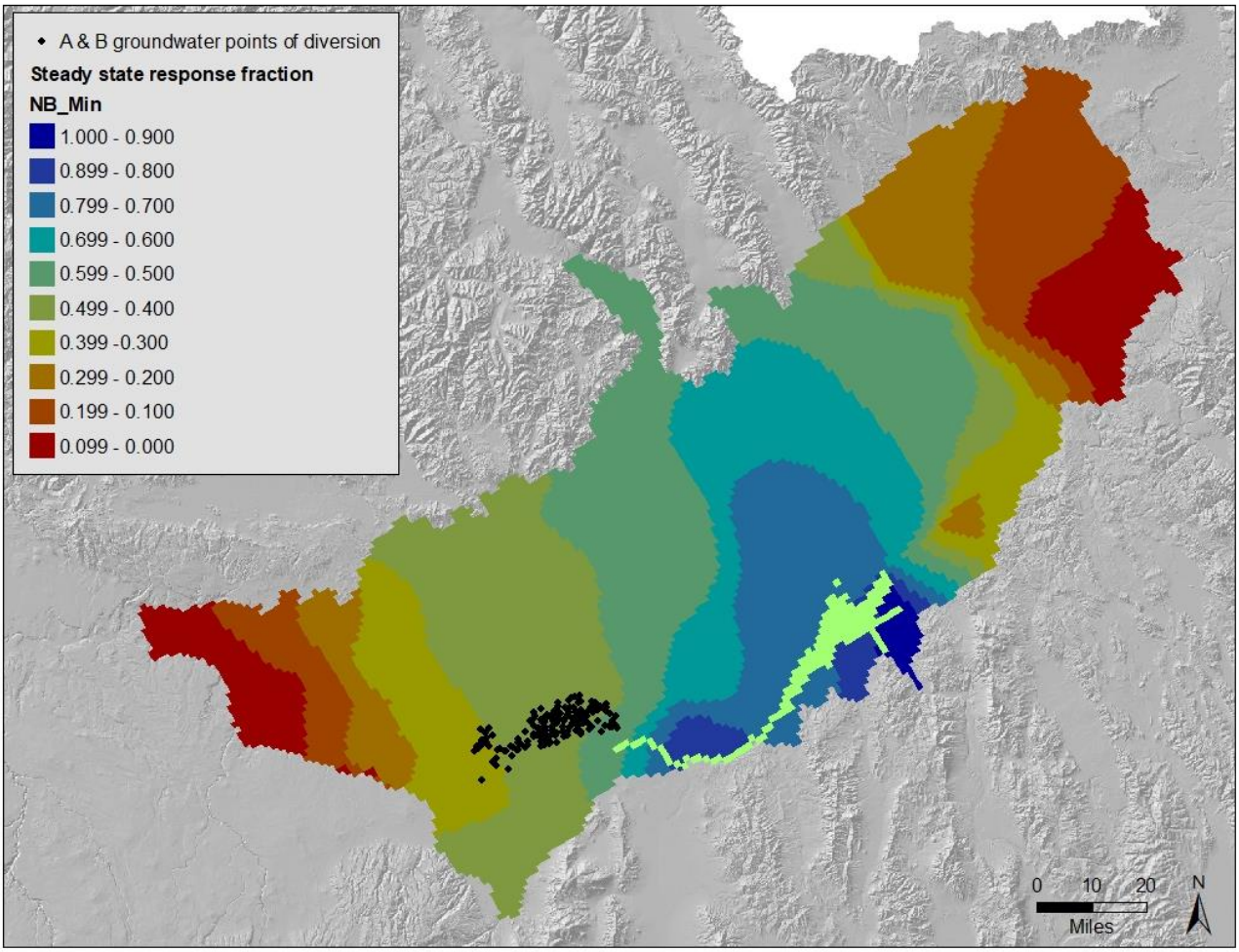

Figure 1. Long-term response at the near Blackfoot to Minidoka reach

Figure 2 illustrates the timing of the cumulative impacts of groundwater withdrawals within A&B as a percentage of the long-term average annual impact. Based on water right priority dates, A&B's water rights were developed between approximately 40 and 75 years ago. ESPAM2.2 simulations indicate after 40 years of pumping, the cumulative impact has reached approximately 93% of the long-term impact rate and after 75 years of pumping, the cumulative impact has reached approximately 98% of the long-term impact rate. The cumulative impacts of decades of A&B's groundwater use contributed to reduced aquifer discharge to the near Blackfoot to Minidoka reach during 2025. This reduced aquifer discharge results in a reduction of natural flow available for delivery to senior surface water rights.

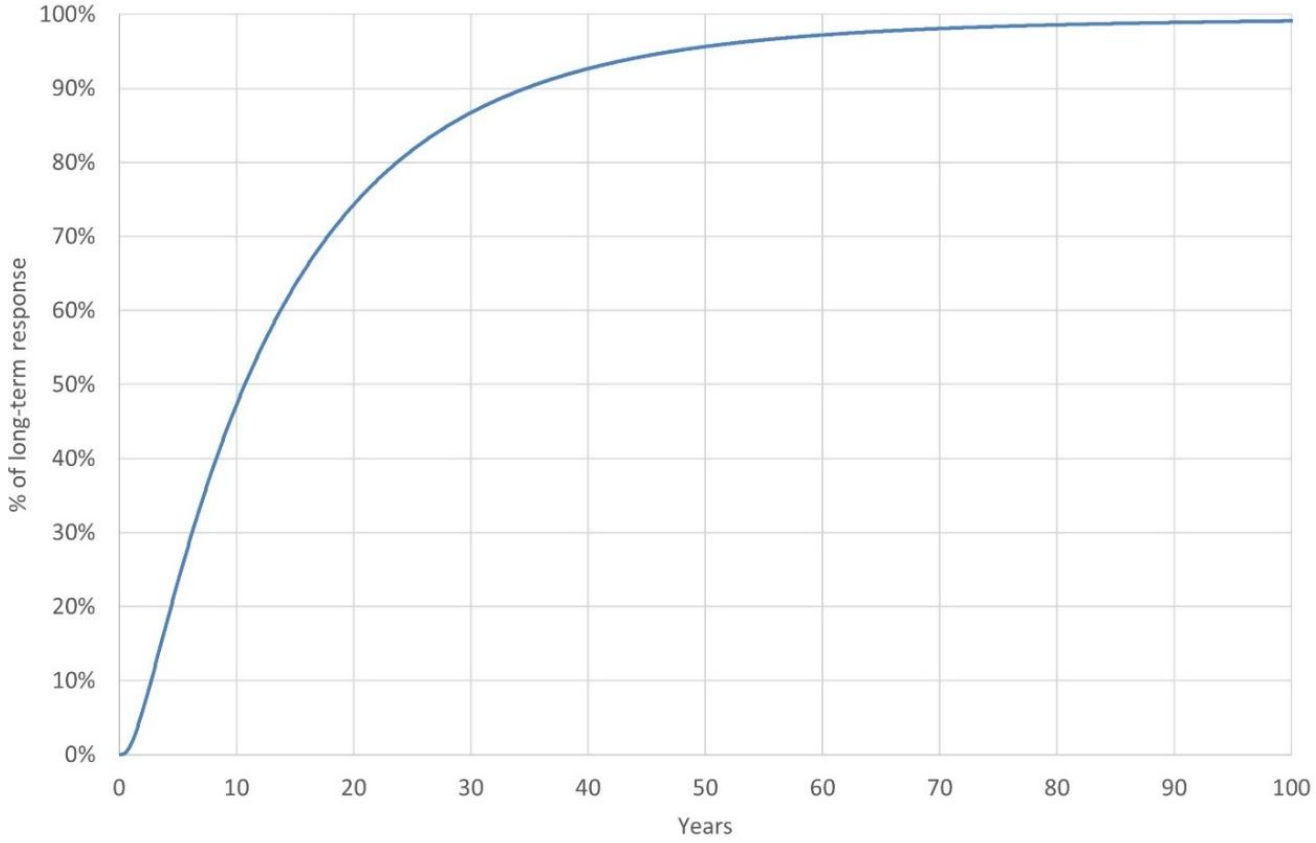

Figure 2. Years of A&B pumping required to reach long-term response rate at the near Blackfoot to Minidoka reach

Because the IDS is the result of the long-term cumulative impact of decades of pumping, ESPAM2.2 simulations used to calculate proportionate shares of the IDS for mitigation purposes are designed to answer the question, "What is the proportionate long-term impact of the junior groundwater use subject to curtailment and covered by this mitigation plan on aquifer discharge to the near Blackfoot to Minidoka reach?" Because the answer sought is based on long-term average annual impacts, either steady-state or transient model simulations could be employed to answer this question. In cases where either type of simulation is capable of answering the question, a steady-state model simulation is more efficient because model run times are faster and model file sizes are smaller.

For the April and July 2025 As-Applied Orders, A&B's proportionate share of the IDS was calculated by:

1. simulating the long-term average annual impact of groundwater use junior to the curtailment priority date within the ESPA area of common groundwater supply,
2. simulating the long-term average annual impact of A&B's water rights junior to the curtailment priority date,
3. calculating A&B's impact as a percentage of the total impact, and
4. multiplying A&B's percentage by the IDS volume.

Response to LRE Water expert report

The expert report prepared by LRE Water on behalf of A&B includes nine opinions from David Colvin, P.G., regarding the A&B proportionate share analysis.

Colvin Opinion 1 – "A&B's mitigation plan specifies that storage water is only required to cover the in-season demand shortfall (IDS) beyond the benefits of other mitigation measures."

The *"other mitigation measure"* specified in A&B's 2023 stipulated mitigation plan is soft conversion of irrigation water supply from groundwater to surface water.[12] A&B reported soft conversion of 1,378 acres in their 2015 mitigation plan. A&B has increased its capacity to deliver surface water to lands historically irrigated with groundwater and currently reports 3,573.6 acres of soft conversions. Soft conversions benefit the Eastern Snake Plain Aquifer water budget by reducing groundwater withdrawals to meet the consumptive demand of irrigated crops.

[12] A&B Irrigation District, 2023, *Stipulation Regarding A&B irrigation District's Amended Rule 43 Mitigation Plan*. CM-MP-2015-003, December 27, 2023, p. 3, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-MP-2015-003/CM-MP-2015-003-20231227-Stipulation-Regarding-AB-Irrigation-Districts-Amended-Rule-43-Mitigation-Plan.pdf.

To the extent that historic and ongoing soft conversions benefit the ESPA water budget and the current year's water supply for SWC members, these benefits are included in the Forecast Supply (FS)[13] in the April 2025 and July 2025 AS-Applied Orders. Because the in-season demand shortfall (IDS) is calculated as the difference between the reasonable in-season demand (RISD) and the FS, the IDS is not mitigated by the soft conversions. The predicted IDS is a shortfall that is predicted to occur even after the effects of the soft conversions. The benefits of the soft conversions to near Blackfoot to Minidoka reach gains result in a larger FS and a smaller predicted IDS. The predicted IDS would be larger without the benefits of the soft conversions.

The Director has previously responded to this question regarding the benefits of aquifer enhancement mitigation projects and the predicted IDS for the Surface Water Coalition (SWC) delivery call. In 2016, the Director concluded,

> "*The predicted DS is the shortfall predicted after the benefits of ongoing aquifer enhancement activities performed by A&B and other entities have already been realized. In other words, the predicted DS already accounts for the benefits of ongoing aquifer enhancement activities performed by A&B and other entities. At this time, the Director will not reduce the predicted DS, or any entity's proportionate share thereof, because of the effects of aquifer enhancement activities. However, the Director will construe A&B's request to account for predicted responses to the Near Blackfoot to Minidoka reaches of the Snake River resulting from its aquifer enhancement activities and to reduce its proportionate share accordingly as a motion pursuant to the Department's Rule of Procedure 260 requesting the agency to take action in a contested case."*[14]

In 2024, the Director provided the following analysis describing how the regression models used to predict the IDS already account for the benefits of aquifer enhancement activities included in mitigation plans.

> *"The current methodology uses updated predictive models to forecast natural flow supply for the SWC. Because the Eastern Snake Plain Aquifer provides reach gains to the Snake River that sustain natural flow during late summer, the prediction of*

[13]The FS in the April 2025 order includes the predicted natural flow supply and the predicted storage allocation for each SWC member. The FS includes natural flow diverted through June 30, the predicted natural flow supply for the remainder of the irrigation season, and the preliminary storage allocation for each SWC member.

[14] IDWR, 2016. *Order Determining Deficiency in A&B Irrigation District's Notice of Mitigation*, CM-DC-2010-001, CM-MP-2015-003, May 11, 2016, p. 3, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20160511-Order-Determining-Deficiency-in-AB-Irrigation-Districts-Notice-of-Mitigation.pdf.

natural flow supply for some of the SWC members was improved by incorporating parameters representing the status of the aquifer into the predictive models. See Third Amended Methodology Order, at 16–18. The parameters selected included flows at Box Canyon, flows at Spring Creek, and depth to water at Well 05S2E27ABA1 [05S 31E 27ABA1]. *See id.; Sixth Amended Methodology Order, at 19–21.*

The April Forecast Supply prediction for five of the SWC members, including TFCC, incorporates November-March flows at Box Canyon into a multi-linear regression to predict natural flow diversions during the upcoming irrigation season. Third Amended Methodology Order, at 16. The current Sixth Amended Methodology Order continues this practice. April 2024 As-Applied Order, at 3. The multi-linear regressions used to predict natural flow supply are updated yearly to include recent data.

The July Forecast Supply prediction for TFCC incorporates January–May flows at Spring Creek into a multi-linear regression to predict natural flow diversions during the remainder of the irrigation season. Third Amended Methodology Order, at 18. The July Forecast Supply prediction for three other members of the SWC incorporates depth to water at Well 05S2E27ABA1 [05S 31E 27ABA1] *into a multi-linear regression to predict natural flow diversions during the remainder of the irrigation season. Id. The current Sixth Amended Methodology Order continues this practice. Sixth Amended Methodology Order, at 21. The multi-linear regressions used to predict natural flow supply are updated yearly to include recent data.*

Because the parameters representing the aquifer's ability to sustain natural flow during late summer are included in the improved predictions of natural flow supply for several members of the SWC, the predicted IDS already accounts for the impacts of mitigation activities. Mitigation activities benefit the ground water users by reducing the predicted shortfall volume calculated by the current methodology. In the 2024 April Forecast Supply calculation, every 1,000 acre-feet of additional flow at Box Canyon increased the predicted natural flow supply for the SWC members by a total of 21,506 acre-feet, including an increase of 7,027 acre-feet per 1,000 acre-feet in the predicted natural flow supply for TFCC. See April 2024 As-Applied Order, Attach. A. The benefits of mitigation activities are accounted for in the predicted natural flow supply, which was subtracted from the baseline demand to calculate the IDS. Awarding the additional mitigation credit request by IGWA would double-count the benefits of mitigation.

The benefits of ongoing mitigation will also be accounted for in the July Forecast Supply prediction. Any benefits of mitigation to reach gains occurring between April and June will be accounted for in the natural flow diverted. Benefits of mitigation yet to accrue to reach gains will be accounted for in the predicted natural flow diversions for the remainder of the irrigation season. In the 2023 July Forecast Supply, every 1,000 acre-feet of additional flow at Spring Creek increased the predicted natural flow diversions for TFCC by 3,214 acre-feet. See Order Revising April 2023 Forecast Supply and Amending Curtailment Order (Methodology Steps 5 & 6), No. CM-DC-2010-001 (July 19, 2023) (Supp. 2023 July Background Information). Every foot of increase in water level at Well 05S2E27ABA1 [05S 31E 27ABA1] *increased the predicted natural flow diversions for three other members of the SWC by a total of 45,065 acrefeet. Id. Regression coefficients for the July 2024 Forecast Supply will be updated to account for recent data but are expected to be similar."*[15]

In 2024, the Director found,

"The regression models used to predict in-season demand shortfall already account for the benefits of the enhancement activities performed by IGWA…. The predicted IDS is the shortfall predicted after the benefits of ongoing aquifer enhancement activities performed by the ground water Districts have already been realized. In other words, the predicted IDS already accounts for the benefits of ongoing aquifer enhancement activities performed by the Districts. Essentially, the predicted IDS would be higher if the aquifer enhancement activities had not occurred…. Therefore, the Director will not reduce the predicted demand shortfall, or any entity's proportionate share thereof, because the models used to predict in-season demand shortfall already account for the benefits of the enhancement activities performed by IGWA."[15]

[15]IDWR, 2024a, *Final Order Denying IGWA's Request for Mitigation Credit for Aquifer Enhancement Activities (2024)*. CM-DC-2010-001, CM-MP-2009-006, May 15, 2024, p. 4-6, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20240515-Final-Order-Denying-IGWAs-Request-for-Mitigation-Credit-for-Aquifer-Enhancement-Activities-2024.pdf.

Colvin Opinion 2 – "According to the terms and conditions of the A&B mitigation plan, they should only have to mitigate for groundwater use on the acres currently being diverted (e.g., approximately 508.3 acres of water right 36-15127A)."

While the LRE Water expert report asserts A&B "*intends to continue delivering surface water to approximately 3,573.6 acres formerly irrigation with groundwater*"[16], A&B describes these acres as "*soft conversions*"[17] which means that A&B retains the physical ability and the legal right to deliver groundwater to these acres (in the absence of a curtailment order). A&B has not provided evidence showing it has relinquished the physical ability to deliver groundwater to these acres, nor has it transferred the nature of use of any portion of its groundwater rights from irrigation to mitigation. Because these acres are soft conversions, the Director has required any of A&B's groundwater rights authorizing irrigation of the converted acres to be either fully mitigated or be included on the curtailment list so the Watermaster has the authority to curtail delivery of groundwater to the converted acres.

The LRE Water expert report also comments, "*IDWR has not demonstrated why it cannot calculate a partial mitigation obligation for only partial use of a groundwater right*".[18] In 2024 and 2025, the Director allowed A&B to provide less than the full volume of A&B's proportionate share and select which water rights to mitigate for and which to leave on the curtailment list. The Director decided not to allow A&B to mitigate for a partial water right while leaving a partial water right on the curtailment list. This was an administrative decision that is independent from the ability to "*calculate a partial mitigation obligation for only partial use of a groundwater right.*"

Colvin Opinion 3 – "An ESPA Groundwater Management Plan (GMP) could provide coordination of mitigation actions and curtailment, balancing in-season demands with the decades of historical junior groundwater pumping. A GMP could be structured to allow for transient modeling of the long-term mitigation obligations/actions and the in-season mitigation action benefits to reach gains."

Development of a GMP is outside the scope of this proceeding.

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[16]Colvin, D., 2025a, *A&B Proportionate Share Expert Report, Docket No. CM-DC-2010-001*, LRE Water, prepared for A&B Irrigation District, November 2025, p. 5.

[17] A&B Irrigation District, 2023, *Stipulation Regarding A&B irrigation District's Amended Rule 43 Mitigation Plan*. CM-MP-2015-003, December 27, 2023, p. 2, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-MP-2015-003/CM-MP-2015-003-20231227-Stipulation-Regarding-AB-Irrigation-Districts-Amended-Rule-43-Mitigation-Plan.pdf.

[18] Colvin, D., 2025a, *A&B Proportionate Share Expert Report, Docket No. CM-DC-2010-001*, LRE Water, prepared for A&B Irrigation District, November 2025, p. 5.

Colvin Opinion 4 – "The IDWR methodology contains logical inconsistencies rooted in problems with attempts to constrain injury determination and defining mitigation requirements within a single irrigation season. ESPA methodology calculation of IDS is caused by decades of junior groundwater pumping, and the mitigation responsibility should consider priority."

The Methodology is confined to determining injury within a single irrigation season because of high variability in the SWC members' water supply. In some years, there is an ample supply of water from snowmelt runoff and the SWC members have no water supply shortfalls. In other years, ESPA discharge to the near Blackfoot to Minidoka reach of the Snake River is a larger fraction of the SWC members' water supply and shortfalls occur because of reduced ESPA discharge. Within years with shortfalls to the SWC members' water supply, there are significant variations in the shortfall volume. The Methodology was developed to adapt the curtailment of groundwater use or alternative mitigation with replacement water to the variations in water supply and predicted shortfalls to the SWC members.

Because the Methodology responds to this variability in water supply, the volume of groundwater use that would need to be curtailed to alleviate the IDS cannot reasonably be predicted in advance of the April 1 water supply forecast and curtailment cannot be reasonably implemented before May. Thus, the Methodology specifies the priority date for curtailment of groundwater use will be determined using a transient ESPAM simulation to calculate the curtailment priority date predicted to produce a volume of water equal to the IDS in the near Blackfoot to Minidoka reach between May 1 and September 30 of the current year.

Neither transient nor steady-state ESPAM simulations inherently consider water right priority dates. Consideration of water right priority dates is implemented by including or excluding the impacts of water right use in an input file to a ESPAM simulation. Input files compiled based on water right priority dates can be input into either a transient or a steady-state simulation. In the 2025 As-Applied Orders, the relative priority of junior groundwater rights was considered when compiling the input file for the ESPAM simulation used to calculate the curtailment priority date for each As-Applied Order. All groundwater rights junior to the calculated curtailment priority date were included when compiling input files for ESPAM simulations used to calculate proportionate shares for mitigation of the IDS with replacement water.

Colvin Opinion 5 – "The Methodology order does not specify how to calculate the proportionate amount of mitigation required by each junior groundwater right covered by a mitigation plan. IDWR should calculate proportionate share consistently."

While the Methodology order does not specify how to calculate a groundwater user's proportionate share of an IDS, the method used to calculate A&B's proportionate share for the April 2025 and

July 2025 orders is consistent with guidance provided by the post-hearing order and the Methodology order. In the post-hearing order, the Director contemplated arguments requesting a futile call determination and implementation of a trim line based on the timing of response to a single-season of curtailment.

> *"If the Director were to determine that curtailment of some ground water rights would not immediately accrue water to the senior priority surface water rights, even though the cumulative impact is significant, and that the delivery call is futile because there is no immediate benefit for the surface water rights, the holders of junior priority ground water rights could recurringly avoid curtailment. Avoiding obligation because of delayed cumulative impact is contrary to the intent of the CM* [Conjunctive Management] *Rules. The Director concludes the delivery call is not futile."*[19]

> *"The spatial distribution of long-term impacts of Ground Water Users on aquifer discharge to the near Blackfoot to Minidoka reach is documented in the record. In Ms. Sigstedt's expert report, Figure 3-6 shows the steady state response function, which is the long-term impact of pumping on the near Blackfoot to Minidoka reach as a percentage of the volume of ground water used. Ex. 837 at 38. Figure 3-6 shows that Ground Water Users on both sides of the Great Rift (the boundary applied to the Rangen delivery call trim line) have significant long-term impacts on aquifer discharge to the nB-Min reach. As a result, the Director concludes that a trimline is not appropriate."*[20]

These statements provide guidance that mitigation obligations should be calculated based on the long-term cumulative impacts of groundwater use. If mitigation obligations for replacement water were determined based on the short-term response to curtailment between May 1 and September 30 of this irrigation season, it would effectively implement a trimline or futile call because groundwater users with significant long-term impacts to the near Blackfoot to Minidoka reach would have minimal mitigation obligations. Most of the burden of mitigation for the long-term impacts of groundwater users more distant from the reach would be shifted to groundwater users located closer to the reach, effectively implementing a trimline. In years with IDS volumes larger than the volume that can be delivered through the reach by in-season curtailment, the resulting total mitigation volume would be less than the shortfall volume and would fail to fully mitigate

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[19] IDWR, 2023b. *Post-Hearing Order Regarding Fifth Amended Methodology Order*, July 19, 2023, Docket No. CM-DC-2010-001, p. 26, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20230719-Post-Hearing-Order-Regarding-Fifth-Amended-Methodology-Order.pdf.

[20] IDWR, 2023b. p. 27.

the injury to the senior surface water users, effectively implementing a futile call for a portion of the seniors' shortfall.

The Methodology order clarifies that a steady-state ESPAM simulation is an appropriate analysis for evaluating the long-term cumulative impacts of groundwater use.

> *"Steady-state simulations are appropriate for evaluating the average annual impact of aquifer stresses that have been, or will be, applied for decades (i.e., ground water pumping year after year…"*[21]

The effect of calculating mitigation obligations for replacement water based on the short-term response to in-season curtailments is illustrated in Table 1, which shows the modeled long-term average annual impact of A&B's junior groundwater use on the near Blackfoot to Minidoka reach, A&B's proportionate share calculated for the April and July 2025 orders, and an alternate proportionate share calculated based on the short-term impact of curtailing A&B's junior groundwater use. If the short-term impact of curtailing A&B's junior groundwater use was used to calculate the proportionate share, A&B would avoid most of their mitigation obligation to the senior water users because of delayed cumulative impact.

Table 1. Comparison of proportionate share calculation method results

Order	Priority date	Cumulative impact on nr Blackfoot to Minidoka reach	Proportionate share of IDS	Alternate share calculation method
April 2025	junior to 8/28/1955	10,600 AF/yr	384 AF (0.6%)	1.2 AF (0.002%)
July 2025	junior to 10/11/1900	82,200 AF/yr	5,039 AF (6.7%)	1.8 AF (0.002 %)

If A&B's proportionate share were calculated using this alternate method, 383 AF of their mitigation obligation calculated for the April 2025 order would be shifted to other groundwater users located closer to the near Blackfoot to Minidoka reach and 5,037 AF of their July 2025 mitigation obligation would be shifted to a combination of other groundwater users and

[21] IDWR, 2023a. *Sixth Final Order Regarding Methodology for Determining Material Injury to Reasonable In-Season Demand and Reasonable Carryover*. Docket No. CM-DC-2010-001, July 19, 2023, p. 33, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20230719-Sixth-Final-Order-Regarding-Methodology.pdf.

unmitigated injury to the senior SWC water users.[22] This alternate method for calculating proportionate shares of the predicted shortfall was rejected because Director Spackman concluded the results of using this method would be contrary to the intent of the CM Rules.

The discussion of Methodology steps in the LRE Water expert report states, "*Use of the steady-state model does not account for priority between junior ground water rights, and how that should be apportioned*" and, "*the transient version of the model should be consistently used for implementing the steps and apportioning mitigation obligations that occur during an irrigation season.*"[23] As discussed previous in response to Colvin Opinion 4, neither transient nor steady-state ESPAM simulations inherently consider water right priority dates. Using the transient analysis (the alternate share calculation method in Table 1) does not account for the relative priority between the junior groundwater rights subject to curtailment. This method apportions the obligation solely based on which water users have the largest short-term impact to the near Blackfoot to Minidoka reach. Using this method would result in more senior groundwater users located closer to the near Blackfoot to Minidoka reach having to mitigate for a larger fraction of their long-term impact on the reach than a more junior groundwater user located more distant from the reach.

The LRE Water expert report also proposes a modification to the alternate approach for calculating proportionate shares when the IDS exceeds the volume that can be produced in-season by a single season of curtailment.[24] The proposed method would use the same transient simulation time discretization used to calculate the priority date for curtailment to calculate proportionate shares up to the volume that would be produced in-season. The remainder of the IDS would be apportioned among water users junior to a later priority date calculated using a steady-state or long-term transient simulation to produce the remainder of the IDS. While this approach would avoid shifting the impacts of groundwater use to unmitigated injury to the senior SWC water users, there are multiple pitfalls to this approach. This approach continues to shift a significant portion of the mitigation obligation for the long-term impacts of groundwater use from users distant from the reach to users closer to the reach. This approach would also result in many water users with later priority dates being required to mitigate for a volume exceeding their long-term average annual impact. In the example provided in the LRE water report, groundwater users with rights junior to November 27, 1984 would be assigned a portion of the IDS equal to their long-term impact plus the volume of their impacts that accrue to the reach during the first irrigation season.

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[22] If this alternate method had been used in the July 2025 order to calculate proportionate shares of the IDS for all groundwater users, the total mitigation obligation of all junior groundwater users would have been 17,224 AF less than the predicted injury to the senior SWC water users.

[23] Colvin, D., 2025a. *A&B Proportionate Share Expert Report, Docket No. CM-DC-2010-001*, LRE Water, prepared for A&B Irrigation District, November 2025, p. 7.

[24] Colvin, D., 2025a. p. 9-10.

For water users located very close to the reach, the calculated mitigation volume would be substantially larger than their long-term impact. This approach would still require groundwater users with earlier priority dates located close to the reach to mitigate a substantial fraction of their long-term impacts to the reach, while groundwater users with earlier priority dates located distant from the reach would mitigate for very little of their long-term impacts to the reach.

Colvin Opinion 6 – "A&B's mitigation plan is unique and should be treated as such in how IDWR calculates proportionate shares. According to the terms of the plan, consideration should be given to all A&B's mitigation activities."

Other stipulated mitigation plans are similar to A&B's mitigation plan in that the groundwater users have agreed to undertake aquifer enhancement projects (such as soft conversions, managed recharge, idling irrigated acres) regardless of the IDS or carryover shortfall calculated in any given year. Other stipulated mitigation plans also include direct delivery of storage water or monetary compensation to the SWC as a component of their mitigation plans to mitigate for injury beyond what is mitigated by their aquifer enhancement projects. One significant difference between A&B's mitigation plan and the other mitigation plans is that the volume of storage water or monetary compensation delivered to the SWC by other groundwater users is stipulated to be independent of IDWR's calculation of a proportionate share of the IDS or carryover shortfall in the other mitigation plans, while A&B's mitigation plan stipulates,

> *"A&B also holds rights to storage water in American Falls Reservoir (46,826 at) and Palisades Reservoir (90,800 at) and has the ability to participate in Water District 01 's Rental Pool. Available storage can be delivered to injured Coalition members to mitigate for any shortfalls caused by the District's junior priority ground water that are subject to curtailment beyond what may not be covered by the "soft conversions" described above. This action would only be necessary if the benefits of the above conversions do not satisfy the injury caused by A&B's ground water rights that are found to be subject to curtailment in any given year."*[25]

Unlike the other stipulated mitigation plans, A&B's mitigation plan specifies that delivery of storage will be dependent on the Director's determination of injury in any given year.

[25] A&B Irrigation District, 2023, *Stipulation Regarding A&B irrigation District's Amended Rule 43 Mitigation Plan*. CM-MP-2015-003, December 27, 2023, p. 2-3, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-MP-2015-003/CM-MP-2015-003-20231227-Stipulation-Regarding-AB-Irrigation-Districts-Amended-Rule-43-Mitigation-Plan.pdf.

"*Unlike the SWID Mitigation Plan, the A&B Mitigation Plan does not provide safe harbor for specific activities. Instead, A&B's plan requires that A&B "mitigate for any shortfalls caused by" A&B's junior ground water diversions. A&B Mitigation Plan, at 3. Under its plan, A&B may undertake a series of different mitigation activities, and if those activities do not offset their depletive effect on the SWC, A&B has committed to provide storage water to make up the difference. Id. This has not changed in the Stipulated Mitigation Plan."*[26]

"In the SWC delivery call, the mitigation obligation owed by ground water users can vary from year to year and within an irrigation season depending on current water supply and crop need requirements. Only by applying current water supply and crop need requirements and the methodology order process can the Department determine A&B's proportionate share of any obligation, and whether A&B must provide storage water to offset the depletive effects of its pumping on the SWC."[26]

As previously noted in response to Colvin Opinion 1, to the extent that historic and ongoing soft conversions benefit the ESPA water budget and the current year's aquifer discharge to the near Blackfoot to Minidoka reach, these benefits are included in the Forecast Supply (FS)[27] in the April 2025 and July 2025 orders. Because the in-season demand shortfall (IDS) is calculated as the difference between the reasonable in-season demand (RISD) and the FS, the IDS is not mitigated by the soft conversions. The predicted IDS is a shortfall that is predicted to occur even after the effects of the soft conversions. The benefits of the soft conversions to near Blackfoot to Minidoka reach gains result in a larger FS and a smaller predicted IDS. The predicted IDS would be larger without the benefits of the soft conversions. Therefore, A&B's proportionate share of the IDS is a proportion of the calculated injury to the SWC that has not been mitigated by soft conversions or other aquifer enhancement projects. The IDS and A&B's proportionate share are already reduced as a result of the benefits of A&B's soft conversions and other aquifer enhancement activities.

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[26] IDWR, 2025c. *Final Order Approving Amended Mitigation Plan*, Docket No. CM-MP-2015-003, p. 4-5, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-MP-2015-003/CM-MP-2015-003-20250110-Final-Order-Approving-Amended-Mitigation-Plan.pdf.

[27] The FS in the April 2025 order includes the predicted natural flow supply and the predicted storage allocation for each SWC member. The FS includes natural flow diverted through June 30, the predicted natural flow supply for the remainder of the irrigation season, and the preliminary storage allocation for each SWC member.

Colvin Opinion 7 - There was a time when the ESPA was in balance and groundwater pumping was not reducing the supplies of senior surface water rights and causing in-season demand shortfalls. Because IDWR continued to approve new groundwater rights without consideration of long-term impacts on the connected surface water sources, the system became over-appropriated and junior groundwater pumping began reducing the senior surface water supplies. IDWR should explain how the groundwater rights with a priority date senior to the time of over-appropriation are equally responsible for mitigating the IDS as groundwater rights junior to that time.

I disagree with the statement, "*There was a time when the ESPA was in balance and groundwater pumping was not reducing the supplies of senior surface water rights and causing in-season demand shortfalls."* Based on water right priority dates, groundwater rights were developed beginning prior to 1900. Moratoriums on the approval of new groundwater rights for consumptive uses have been in place for the ESPA since 1992[28]. There is no evidence that the ESPA water budget was in balance during this development period. The cumulative ESPA storage change calculated by Kjelstrom (year)[29] for 1912-1980 and McVay (1980-2025)[30] indicates continual imbalances in aquifer recharge and discharge throughout the period of groundwater development (Figure 3).

Prior to about 1950, ESPA recharge generally exceeded ESPA discharge, largely because of recharge incidental to very inefficient surface water irrigation practices. Since 1950, ESPA recharge has, on average, been less than ESPA discharge, largely because increases in the efficiency of surface water conveyance and irrigation practices resulted in a decrease in ESPA recharge while the development of groundwater pumping resulted in an increase in ESPA discharge. Improvements to irrigation technology and crop changes have also resulted in an increase in crop yields and evapotranspiration for both groundwater and surface water irrigated lands, further contributing to the imbalance in ESPA recharge and discharge. In the future, continued improvement in surface water conveyance and irrigation efficiency may continue to reduce ESPA recharge.

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[28] IDWR, 2024b. *Amended Snake River Basin Moratorium Order*, July 16, 2024, p. 15-18, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/SRB-Moratorium/SRB-Moratorium-20240716-Amended-Snake-River-Basin-Moratorium-Order.pdf.

[29] Kjelstrom, L.C., 1995. *Streamflow Gains and Losses in the Snake River and Ground-Water Budgets for the Snake River Plain, Idaho and Eastern Oregon*, U.S. Geological Survey Professional Paper 1408-C., p. C33, https://pubs.usgs.gov/publication/pp1408C,.

[30] McVay, M., 2025. *Eastern Snake Plain Aquifer Storage Update*, presented to the Idaho Water Resource Board Aquifer Stabilization Committee, September 10, 2025, p. 3-40, https://idwr.idaho.gov/wp-content/uploads/sites/2/iwrb//2025a/AquiferStabilizationCommitteeMeeting2-25MATERIALS.pdf.

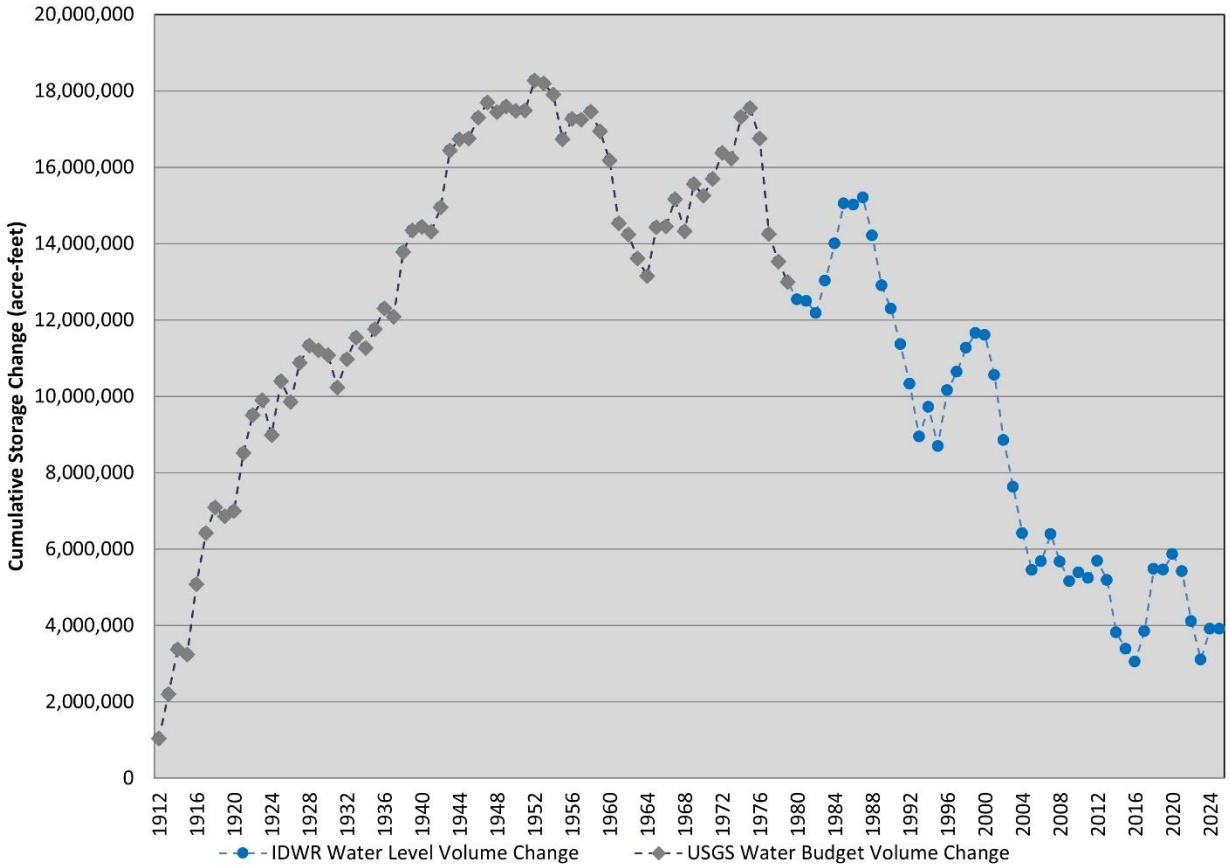


Figure 3. Cumulative change in ESPA storage volume since spring 1912

With respect to the SWC delivery call, the water supply is variable, and shortfalls do not occur every year. The Director has the authority to respond by curtailing junior water use or requiring compliance with an approved mitigation plan during times when shortfalls to the SWC members' water supply are predicted by applying the Methodology.

With respect to the SWC delivery call, all groundwater users with priority dates junior to October 11, 1900 are junior groundwater users and are potentially subject to the delivery call in years when an IDS or carryover shortfall is calculated. IDWR's Director accounts for priority date differences between the groundwater users when determining the subset of junior water users that is subject to curtailment in response to a specific IDS or carryover shortfall calculation. Once the subset of junior water users that is subject to curtailment is identified, those junior users are afforded the opportunity to continue out-of-priority diversions by participating in an approved mitigation plan. Proportionate mitigation obligations for providing replacement water pursuant to specific mitigation plans are calculated based on the long-term impacts of all junior users subject to curtailment.

Colvin Opinion 8 - When the IDS was estimated in July, IDWR recognized actual supply and demand conditions and that the May curtailment was not implemented. Partially because no May curtailment was implemented, the July IDS increased.

I disagree with the statement, "*IDWR recognized…that the May curtailment was not implemented.*" IDWR's Director issued an order on May 16, 2025, curtailing unmitigated groundwater rights junior to August 28, 1955, effective May 31, 2025. IDWR Compliance Section staff worked with ESPA Water District Watermasters to implement the May curtailment order. I do acknowledge that the May curtailment order was not effective until May 31, 2025, so any potential benefits of curtailing between May 1 and May 31 were not realized.

On July 25, 2025, the Director issued an order curtailing unmitigated groundwater rights junior to October 11, 1900, effective July 25, 2025. IDWR Compliance Section staff worked with ESPA Water District Watermasters to implement the July curtailment order.

Because unmitigated water rights represent a small fraction of ESPA groundwater use, the benefits of the curtailments are relatively small. I performed ESPAM2.2 simulations to estimate the following impacts on the near Blackfoot to Minidoka reach related to the implementation of the May and July 2025 curtailment orders. Compliance data used to generate input for the model simulations were provisional data provided by Brian Ragan on November 26, 2025. Only unmitigated water rights that do not meet the domestic exemption limits of Idaho Code 42-111 were subject to the curtailment orders. ESPAM2.2 simulations were performed to evaluate:

- impacts of groundwater use by seven entities who received notices of violation (NOVs) for continued use of junior water rights,
- potential impacts of potential continued use of junior water rights classified as "investigation ongoing,"
- benefits of curtailment of junior water rights classified as "curtailed by user" beginning in June, and
- impacts of May groundwater use by water rights junior to August 28, 1955.

Model simulation results are summarized in Table 2. The lack of curtailment during May is estimated to have contributed 7 AF to the July IDS. This is not a significant component of the 75,254 AF July IDS. If the July 2025 IDS had been 7 AF lower, the priority date for the July curtailment order would still have been junior October 11, 1900 and A&B's proportionate share would have been reduced by less than 1 AF.

Table 2. Estimated impact of 2025 curtailment implementation on near Blackfoot to Minidoka reach gains

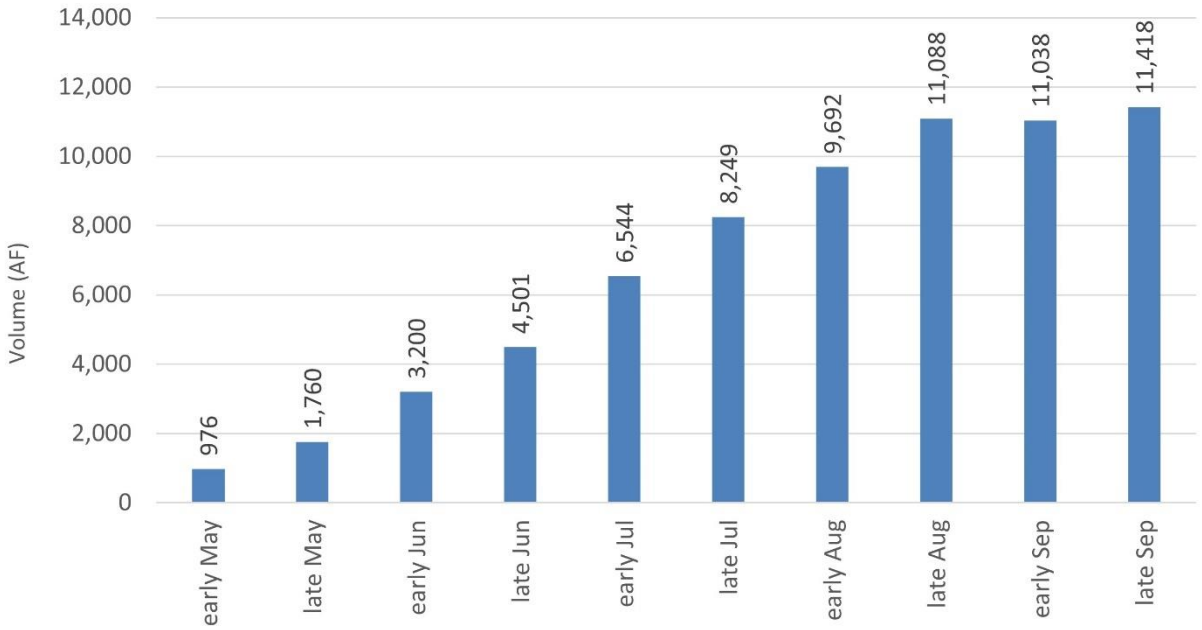
Group	Estimated acres junior to 8/28/1955	Estimated acres junior to 10/11/1900	Estimated consumptive use junior to 8/28/1955 (AF)	Estimated consumptive use junior to 10/11/1900 (AF)	Modeled impact through Jun 30 (AF)
NOVs	221	293	415	473	-20
Investigation ongoing	39	164	77	160	-3
Curtailed by user	-1,890	-4,538	-2,310	-5,901	5
May use of water rights curtailed by user	1,890	NA[31]	528	NA[31]	-7

Colvin Opinion 9 - If IDWR had implemented the May curtailment, the July IDS would have been less, and the curtailment date could have been more junior. IDWR's lack of curtailment action contributes to a reduction in the availability of groundwater rights junior to 1955.

As stated in the July 2025 order, the July IDS was large enough that increasing the curtailment to include all groundwater use junior to the SWC's injured natural flow water right was insufficient to produce a modeled volume of water equal to the July IDS by September 30, 2025.

> *"In July 2025, the Department ran the ESPAM2.2 to simulate the effect of adjusting the curtailment priority date at the end of July. The ESPAM2.2 simulation calculated that the curtailment of ground water rights junior to August 28, 1955, through the end of July followed by curtailment of groundwater rights junior to October 11, 1900, will produce a volume of water of 58,000 AF in the near Blackfoot to Minidoka reach between July 1 and September 30 of this irrigation season. The following figure summarizes the results of the ESPAM2.2 simulation:*

[31] Not applicable for evaluating the impacts of the May 31, 2025 effective date of the May 2025 curtailment.



Modeled increase in ESPA discharge to near Blackfoot to Minidoka reach resulting from curtailment of ground water junior to August 28, 1955, May-July, and junior to October 11, 1900, beginning at end of July

> *The predicted July through September benefits to the near Blackfoot to Minidoka reach from curtailment of ground water rights bearing priority dates junior to August 28, 1955, through the end of July followed by curtailment of groundwater rights junior to October 11, 1900, are less than the July IDS of 75,300 acre-feet. Increasing the curtailment to include ground water rights junior to October 11, 1900, will offset as much of the July IDS as possible."*[32]

Decreasing the July IDS by the 7 AF estimated impact of the May pumping of water users who curtailed in June (Table 2) would not have changed the priority date for the July 2025 curtailment order. The July 2025 IDS would have to be reduced by more than 17,000 AF to result in calculation of a later priority date.

[32] IDWR, 2025b. *Order Revising April 2025 Forecast Supply and Continuing May 16, 2025 Curtailment Order Methodology Steps 5 & 6).* Docket No. CM-DC-2010-001, July 10, 2025, p. 9-10, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20250710-Order-Revising-April-2025-Forecast-Supply-Method.-Steps-5-6-July-2025-As-Applied.pdf.

Response to Spronk Water Engineers expert report

The expert report prepared by Spronk Water Engineers on behalf of Aberdeen – American Falls Ground Water District includes eight opinions from Gregory K. Sullivan, P.E. and Nathan Horesh, regarding the A&B proportionate share analysis.

Sullivan and Horesh Opinion 1 - Determination of the curtailment date and proportional allocation of the Shortfall to junior groundwater users are two separate issues. It is not essential that the same type of modeling (i.e., steady-state, or transient) be employed in the analyses for both processes.

I concur with this opinion. The time discretization of each ESPAM2.2 simulation is designed to answer a specific question. For determination of the curtailment priority date, the Director's question is, "What subset of junior groundwater users must be curtailed to produce a volume of water equal to the IDS in the near Blackfoot to Minidoka reach by September 30 of this irrigation season?" For determination of a proportionate share of the IDS for mitigation purposes, the Director's question is, "What is the proportionate long-term impact of the junior groundwater use subject to curtailment and covered by this mitigation plan on aquifer discharge to the near Blackfoot to Minidoka reach?" Different questions require use of different time discretization. This is reflected in the modeling approach IDWR used to answer each question.

Sullivan and Horesh Opinion 2 - There is no dispute that current depletions to the Snake River in the Near Blackfoot to Minidoka Reach from ESPA pumping result from pumping that occurred over many years and that ESPAM 2.2 is the best available tool to estimate the timing, location, and amount of Snake River depletions from ESPA pumping.

I concur with this opinion.

Sullivan and Horesh Opinion 3 - Proportionate allocation of the SWC Shortfall using ESPAM 2.2 transient runs would fail to consider the depletive effect that pumping in years prior to the current year have on Snake River flows. Transient modeling would only consider the effect that pumping during the current year is having on flows in the Near Blackfoot to Minidoka Reach.

Transient runs could be performed with a time discretization that would consider the depletive effect that pumping in years prior to the current year have on Snake River flows. Because pumping has been occurring for decades, the results would be nearly identical to the results obtained from the steady-state analysis, which provides a more efficient method for evaluating long-term impacts. Assuming this opinion is intended to pertain to a transient run with the same time discretization used to calculate the in-season response to a single-season of curtailment, I concur

with this opinion. A short-term transient simulation would fail to consider the long-term cumulative impacts of pumping on this year's streamflow and would transfer the mitigation obligations of users located more distant from the near Blackfoot to Minidoka reach to users located closer to the reach.

Sullivan and Horesh Opinion 4 - IDWR's use of steady-state runs of ESPAM 2.2 to proportionately allocate the SWC Shortfall, including the amount allocated to A&B, is appropriate because doing so acknowledges that the computed SWC Shortfalls in the current year result from impacts to Snake River flows in the Near Blackfoot to Minidoka Reach caused by present and past ESPA groundwater pumping.

I concur with this opinion.

Sullivan and Horesh Opinion 5 - Reliance on ESPAM 2.2 transient runs to proportionately allocate the SWC Shortfall would penalize groundwater users that are located in close proximity to the Near Blackfoot to Minidoka Reach of the Snake River because curtailment of their pumping would have a more immediate effect on that reach of the Snake River compared to groundwater users located more distant from the reach. Penalizing groundwater users located close the Near Blackfoot to Minidoka Reach is improper since impacts from pumping impacts to the river reach from groundwater users near and far have reached near steady-state.

I concur with this opinion, again assuming the opinion is intended to pertain to a short-term transient simulation with the same time discretization used to calculate the in-season response to a single-season of curtailment.

*Sullivan and Horesh Opinion 6 - The effect of proximity to the Near Blackfoot to Minidoka Reach is illustrated in **Figure 5.1**. The graph on the left shows the transient effect of pumping at different locations ranging from 10 miles to 45 miles from the Snake River in and near the AFA District. The inset map on the right shows the locations where pumping was simulated. The cumulative response of pumping 10 miles from the river reaches 90% of the steady-state response in approximately 12 years. At greater distances from the river, the transient response is slower with 90% of the steady-state response reached in about 25 years at a location 25 miles from the river and in about 33 years at a location 45 miles from the river.*

I have not verified the results of the model simulations presented in this opinion. The results appear to be reasonable.

Sullivan and Horesh Opinion 7 - Use of transient run results from ESPAM 2.2 from the first year of curtailment to allocate the SWC Shortfall volumes would disproportionately assign a greater portion of the SWC Shortfall to groundwater users located relatively close to the Near Blackfoot to Minidoka Reach with little or none of the SWC Shortfall assigned to groundwater users located distant from the reach.

I concur with this opinion.

Sullivan and Horesh Opinion 8 - We reserve the right to revise and supplement the foregoing opinions regarding use of transient runs of ESPAM 2.2 to apportion the SWC Shortfall among groundwater users with groundwater rights that are junior to the priority date of curtailment after A&B reveals the details of its opposition to IDWR's use of steady-state runs to apportion the SWC Shortfalls.

I have no comment on this opinion.

On page 8 of the Spronk Water Engineers' expert report, Sullivan and Horesh state, "*The J.R. Simplot Company ("Simplot") obtained approval of a mitigation plan to mitigate impacts to the TFCC from up to 704 AF of pumping under two groundwater rights during the 2025 irrigation season. The mitigation obligation will be computed based on Simplot's proportionate share of injury to the TFCC.*" I would like to clarify, that while I was asked to calculate a proportionate share of injury to the SWC during the Director's review of Simplot's mitigation plan, the plan does not state that the mitigation obligation will be computed based on a proportionate share. Simplot's 2025 mitigation plan provided storage water in considerable excess of the calculated proportionate share, in an amount equal to the maximum authorized diversion volume for the two water rights covered by the mitigation plan.

> *"To mitigate any impacts on the Snake River that may result from the applicant diverting water during the 2025 irrigation season pursuant to IDWR Water Right Nos. 29-7089 and 29-2515, 704 acre feet of groundwater stored in Palisades Reservoir will be credited to the storage accounts of the Twin Falls Canal Company for use as needed. The applicant will the divert no more than 704 acre feet during the 2025 irrigation season from the point of diversion authorized under IDWR Water Right Nos. 2-7089* [29-7089] *and 29-2515."*[33]

[33] Simplot, 2025. *Application for Approval of Mitigation Plan (J.R. Simplot Company)*. In the Matter of the Request of Administration in Water District 120 and the Request for Delivery of Water to Senior Surface Water Rights by the SWC. July 17, 2025, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal//CM-MP-2025-002/CM-MP-2025-002-20250717-Application-for-Approval-of-Mitigation-Plan.pdf.

Response to LRE Water rebuttal report

The rebuttal report prepared by LRE Water on behalf of A&B includes six opinions from David Colvin, P.G., regarding the A&B proportionate share analysis.

Colvin Rebuttal Opinion 1 – "The A&B mitigation plan is unique in that their storage water delivery requirement is reduced by the historical impacts of surface water conversion and CREP activities."

As discussed previously in response to Colvin Opinions 1 and 6 from the first LRE Water expert report, the benefits of historic and ongoing surface water conversion and CREP activities are already included in the Forecast Supply (FS) and the IDS is the predicted injury that has not been mitigated by aquifer enhancement activities. A&B's proportionate share of the IDS is the remaining injury to be mitigated by A&B's delivery of storage water. Reducing A&B's storage delivery requirement by the impacts of surface water conversions and CREP would double-count the benefits of those mitigation actions.

Colvin Rebuttal Opinion 2 – "Surface water conversion and CREP are changes to the "equilibrium assumption" of groundwater pumping in the ESPA, which is cited as justification of steady state modeling. A&B's conversion and CREP changes to the equilibrium simplification need to be evaluated with a transient model."

Because the impacts of conversions and CREP are already accounted for in the calculation of the predicted FS and IDS, it is not necessary to evaluate the benefits of these activities with ESPAM. Reducing A&B's proportionate share of the IDS by the impacts of surface water conversions and CREP would double-count the benefits of those mitigation actions.

Colvin Rebuttal Opinion 3 – "IDWR should evaluate the A&B stipulated mitigation plan consistent with the terms of the plan."

As discussed previously in response to Colvin Opinion 6 from the first LRE Water expert report, IDWR's calculation of a proportionate share for A&B is consistent with the Director's evaluation of the plan's terms as described in the Final Order Approving Mitigation Plan.

Colvin Rebuttal Opinion 4 – "Mitigation plans should ideally address short-term in-season demand shortfalls (IDS) and long-term increases in aquifer storage."

CM Rule 43 includes factors to be considered by the Director in the evaluation of mitigation plans. The Director applied CM Rule 43 when reviewing and approving mitigation plans for the SWC

delivery call. Which factors mitigation plans *"should ideally address"* is not within the scope of this proceeding.

Colvin Rebuttal Opinion 5 – "Administering mitigation plans and curtailment to address IDS faces challenges, including the fair treatment and coordination of differences between stipulated mitigation plans. A Groundwater Management Plan (GMP) could be developed to coordinate consistent aquifer conservation standards that address short-term IDS and long-term aquifer storage recovery that will help mitigate future IDS."

Development of a GMP is outside the scope of this proceeding.

Colvin Rebuttal Opinion 6 – "If the proportionate share calculation is not changed, the benefits of A&B's mitigation actions (conversions, CREP) should reduce their proportionate share, consistent with their mitigation plan. A transient run of their mitigation actions is the appropriate method for calculating the mitigation action benefits. Our modeling calculations show that according to the terms of the A&B mitigation plan, their proportionate share should be reduced by 1,118.4 acre-feet (af), the impact of their conversion acres in the 2025 irrigation season."

As discussed previously in response to Colvin Opinions 1 and 6 from the first LRE Water expert report, the benefits of historic and ongoing surface water conversion and CREP activities are already included in the Forecast Supply (FS) and the IDS is the predicted injury that has not been mitigated by aquifer enhancement activities. A&B's proportionate share of the IDS is the remaining injury to be mitigated by A&B's delivery of storage water. Reducing A&B's proportionate share by the impacts of surface water conversions and CREP would double-count the benefits of those mitigation actions.

Response to Spronk Water Engineers rebuttal report

The Spronk Water Engineers rebuttal report responds to opinions offered in the LRE Water expert report. I disagree with the comments on page 10 and 13 which suggest that ESPAM modeling should be used for "*identification of which groundwater users are causing the projected shortage(s) to the SWC member(s)*" and state, *"the first 40,000 AF of shortage is caused by groundwater rights junior to 1990, the next 120,000 AF of shortage by groundwater rights between 1990 and 1980, the next 270,000 AF of shortage by groundwater rights between 1980 and 1970, etc".*

The Methodology requires the Director to evaluate whether there is a predicted shortfall to the senior SWC members' surface water supply for the current season and to curtail junior

groundwater rights as needed to address the predicted shortfall for the current season. In years where there is not a predicted shortfall, the Director does not curtail junior groundwater users. Use of ESPAM modeling to calculate a priority date for which the junior long-term average annual impacts are equal to the IDS was rejected by Director Spackman in the 2023 Post-Hearing Order[34] and is not part of the Methodology for addressing the SWC delivery call.

Response to Lynker rebuttal report

The Lynker rebuttal report responds to opinions offered in the LRE Water expert report. I have no comments on the Lynker rebuttal report.

Summary of IDWR staff opinions

In conclusion, I offer the following opinions regarding the calculation of proportionate shares of IDS and carryover shortfall volumes for As-Applied Orders in the SWC Delivery Call and other issues raised by A&B.

1. ESPAM2.2 simulations performed for the As-Applied Orders are designed to answer specific questions. Simulations used to calculate a priority date for curtailment are designed to answer the question, "What subset of junior groundwater users must be curtailed to produce a volume of water equal to the IDS in the near Blackfoot to Minidoka reach by September 30 of this irrigation season?" Simulations used to calculate proportionate shares of the IDS for mitigation by direct delivery of storage water are designed to answer the question, "What is the proportionate long-term impact of the junior groundwater use subject to curtailment and covered by this mitigation plan on aquifer discharge to the near Blackfoot to Minidoka reach?"

2. Steady-state ESPAM2.2 simulations are the most efficient method for calculating proportionate shares based on the cumulative impacts to the near Blackfoot to Minidoka reach resulting from long-term groundwater use pursuant to groundwater rights determined to be subject to curtailment.

[34] IDWR, 2023b. *Post-Hearing Order Regarding Fifth Amended Methodology Order*, July 19, 2023, Docket No. CM-DC-2010-001, p. 25, https://idwr.idaho.gov/wp-content/uploads/sites/2/legal/CM-DC-2010-001/CM-DC-2010-001-20230719-Post-Hearing-Order-Regarding-Fifth-Amended-Methodology-Order.pdf.

3. Calculating proportionate shares based on the long-term impacts of groundwater use pursuant to groundwater rights determined to be subject to curtailment is consistent with Director Spackman's conclusions that avoiding obligation because of delayed impact is contrary to the CM rules, the delivery call is not futile, and a trimline is not appropriate.

4. Calculating proportionate shares based on the short-term impacts of a single in-season curtailment would shift much of the burden of mitigation for the long-term impacts of groundwater use at locations distant from the reach to water users located closer to the reach. This approach does not account for relative water right priority between the juniors.

5. The alternative method for calculating proportionate shares suggested in the LRE Water expert report would shift much of the burden of mitigation for the long-term impacts of groundwater use at locations distant from the reach to water users located closer to the reach and would at times require some junior users located close to the reach to provide a mitigation volume greater than their average annual impact on the reach.

6. The apportionment of storage acquisition obligations between AFAGWD and other participants (GWDs) in the 2024 Ground Water District Mitigation Plan is a negotiated apportionment that was not prescribed by IDWR. However, the GWDs apparently agreed to apportion the storage acquisition based on their long-term impacts to the near Blackfoot to Minidoka reach calculated using steady-state ESPAM2.2 simulations. If the GWDs were to decide to apportion the storage acquisition based on the short-term impacts of a single-season curtailment, it is my opinion that AFAGWD would bear more than their fair share of the mitigation obligation while other GWDs would avoid some portion of their mitigation obligations because of delayed impact. This would be counter to Director Spackman's conclusion that avoiding obligation because of delayed impact is contrary to the CM rules.

7. The effects of historic and ongoing aquifer enhancement projects, including A&B's soft conversions, are accounted for in the calculation of the FS and IDS. The effects of the historic and ongoing aquifer enhancement projects are not sufficient to mitigate the injury to the SWC in some years. The IDS is a calculation of the remaining unmitigated injury.

8. The benefit of historic and ongoing aquifer enhancement projects, including A&B's soft conversions, is a reduction in the frequency and volume of IDS and carryover shortfalls. If the aquifer enhancement projects had not been implemented, the 2025 IDS volumes would have been higher.

9. The impact on the July 2025 IDS resulting from junior groundwater use not being curtailed until May 31, 2025, is estimated to be approximately seven acre-feet. A seven acre-foot decrease in the July 2025 IDS would not have changed the priority date for the July 2025 curtailment and would have reduced A&B's proportionate share by less than one acre-foot.

Staff Memorandum

To: Hearing Officer Gerald F. Schroeder
From: Brian Ragan, Analyst 4
Re: Request for Staff Memorandum
Date: December 30, 2025

Background

In your November 25, 2025 *Order Granting A&B's Motion to Amend Deadlines; Setting Deadline to Provide Staff Memo*, you asked Department staff "identified to testify at the hearing" to "file an agency staff memorandum … outlining the subjects of their expected testimony." The one issue identified in A&B's request for hearing which I have knowledge of relates to the Department's implementation of the May 16, 2025 curtailment order.

Subjects of Expected Testimony from Brian Ragan

1. Explain the Department's implementation of the May 16, 2025 curtailment order. This may include the following topics:
    a. How the Department created the list of ground water rights subject to the May curtailment order.
    b. How the Department's water rights database and data fields show inclusion in a water district, administration of that right by the water district, and mitigation plan affiliation for each water right.
    c. How the Department obtained information about mitigation plan affiliation for water rights subject to the May curtailment order.
    d. How the Department informed the water district watermasters of the May curtailment order.
    e. How the watermasters were instructed to initiate the curtailment process and tracked and reported their efforts to curtail ground water rights subject to the May curtailment order.
    f. How the Department generates a bi-weekly curtailment status summary report for posting to the Department's website.
    g. The Department's implementation efforts related to other curtailment orders.
    h. Internal coordination and implementation efforts of the May/July 2025 curtailment orders.

Brian Ragan

Brian W. Ragan, PG
IDWR Water Administration Bureau