

**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

**ORDER REVISING JULY 2022
FORECAST SUPPLY**

(METHODOLOGY STEPS 7-8)

The Director of the Idaho Department of Water Resources (“Department”) finds, concludes, and orders as follows:

FINDINGS OF FACT

A. Background

1. On April 19, 2016, the Director issued the *Fourth Amended Final Order Regarding Methodology for Determining Material Injury to Reasonable In-Season Demand and Reasonable Carryover* (“Methodology Order”). The Methodology Order established nine steps for determining material injury to members of the Surface Water Coalition (“SWC”). This order applies Steps 7 and 8 of the Methodology Order.

2. On April 20, 2022, the Director issued the *Final Order Regarding April 2022 Forecast Supply (Methodology Steps 1-3)* (“April Forecast Supply Order”). The April Forecast Supply Order predicted a demand shortfall to the SWC of 162,600 acre-feet for the 2022 irrigation season. *April Forecast Supply Order* at 3. At that time, the only members of the SWC predicted to experience material injury during the 2022 irrigation season were the American Falls Reservoir District No. 2 (“AFRD2”) and Twin Falls Canal Company (“TFCC”). The Director ordered that, by May 1, 2022, ground water users with consumptive water rights “junior to December 25, 1979, within the Eastern Snake Plain Aquifer area of common ground water supply shall establish, to the satisfaction of the Director, that they can mitigate for their proportionate share of the predicted [demand shortfall] of 162,600 acre-feet in accordance with an approved mitigation plan.” *Id.* at 6. The Director also ordered that, “if a junior ground water user cannot establish . . . that they can mitigate for their proportionate share of the predicted [demand shortfall] in accordance with an approved mitigation plan, the Director will issue an order curtailing the junior-priority ground water user.” *Id.*

3. On May 5, 2022, the Director issued a *Final Order Curtailing Ground Water Rights Junior to December 25, 1979* (“First Curtailment Order”). The Director ordered that:

[A]t 12:01 a.m. on or before May 20, 2022, ground water users holding water rights bearing priority dates junior to December 25, 1979, within the [Eastern Snake Plain Aquifer area of common ground water supply] listed in Attachment A to this order shall curtail/refrain from diversion and use of ground water pursuant to those water rights unless notified by the Department that the order of curtailment has been modified or rescinded as to their water rights.

First Curtailment Order at 3.

4. On July 20, 2022, the Director issued the *Order Revising April 2022 Forecast Supply and Amending Curtailment Order (Methodology Steps 5 & 6)* (“July Forecast Supply Order”), revising the in-season demand shortfall (DS) to 52,600 acre-feet. *July Forecast Supply Order* at 8. The Director ordered that:

Effective immediately, all ground water users holding water rights listed in Attachment A to the May 5, 2022 Curtailment Order bearing priority dates senior or equal to March 12, 1989, are no longer curtailed. However, all ground water users holding water rights listed in Attachment A to the May 5, 2022 Curtailment Order bearing priority dates junior to March 12, 1989, shall continue to be curtailed from diversion and use of ground water pursuant to those water rights unless they are mitigating in accordance with an approved mitigation plan or are notified by the Department that the order of curtailment has been modified or rescinded as to their water rights.

Id. at 10. The July Forecast Supply Order kept the First Curtailment Order in effect for water users holding water rights bearing priority dates junior to March 12, 1989. *Id.*

5. Step 7 of the Methodology Order requires:

Shortly before the estimated Time of Need, but following the events described in Steps 5 and 6, the Director will, for each member of the SWC: (1) recalculate RISD [(reasonable in-season demand)]; (2) issue a revised FS [(forecast supply)]; and (3) establish the Time of Need. The revised FS for each SWC entity is the sum of the year-to-date actual natural flow diversions, the forecasted natural flow supply for the remainder of the season, and the storage allocation for each member of the SWC. The forecasted natural flow supply for the remainder of the season will be based on analogous year(s) with similar Blackfoot to Milner reach gains. The storage allocation will be based on the actual preliminary storage allocations issued by the BOR [(United States Bureau of Reclamation)] and Water district 01.

This information will be used to recalculate RISD and adjust the projected DS for each member of the SWC. RISD will be calculated utilizing the project efficiency, BD [(baseline year demand)], and the cumulative actual CWN [(crop water need)]

determined up to that point in the irrigation season. The Director will then issue revised RISD and DS values.

Methodology Order at 38.

6. Step 8 of the Methodology Order requires:

At the Time of Need, junior ground water users are required to deliver to each injured member of the SWC the Step 7 revised DS calculated at the Time of Need. Alternatively, any additional mitigation obligation calculated in Step 6 and Step 7 can be satisfied from the each [*sic*] SWC member's reasonable carryover if (a) the reasonable carryover exceeds the additional mitigation obligation, and (b) the junior ground water users secure sufficient water to replace the reasonable carryover pursuant to an approved mitigation plan.

The Director will review, at the end of the season, the volume and efficiencies of application of surface water, the amount of mitigation water delivered by junior ground water users, and may, in the exercise of his professional judgment, readjust the reasonable carryover shortfalls to reflect these considerations.

Id.

B. Climate

7. The April 2022 Joint Forecast prepared by the United States Army Corps of Engineers and the United States Bureau of Reclamation ("BOR") predicted 2,150,000 acre-feet of natural flow at the Heise gage for the period April–July 2022. *April Forecast Supply Order* at 2. The Joint Forecast "is generally as accurate a forecast as is possible given current data gathering and forecasting techniques." *Methodology Order* at 17.

8. The months of April and May were relatively cool and wet, whereas the months of June and July were relatively warm and dry. According to data measured at the Natural Resources Conservation Service's SNOTEL sites in the Upper Snake River Basin, the basin received 137%, 117%, 90%, and 23% of average precipitation in April, May, June, and July, respectively. The National Weather Service's Twin Falls weather station reported 106%, 116%, 23%, and 42% of normal precipitation in April, May, June, and July, respectively. Twin Falls temperatures were 3.1 degrees below normal for April, 3.8 degrees above normal for May, 0.1 degrees below normal for June, and 5.9 degrees above normal for July.¹

C. Reasonable In-Season Demand

9. RISD is the volume of water that would be required to be diverted at the point of diversion during the year of evaluation to grow the specific crops within the service area of the entity. In April, the demand from the 2006/2008/2012 baseline year (BLY) represents the RISD.

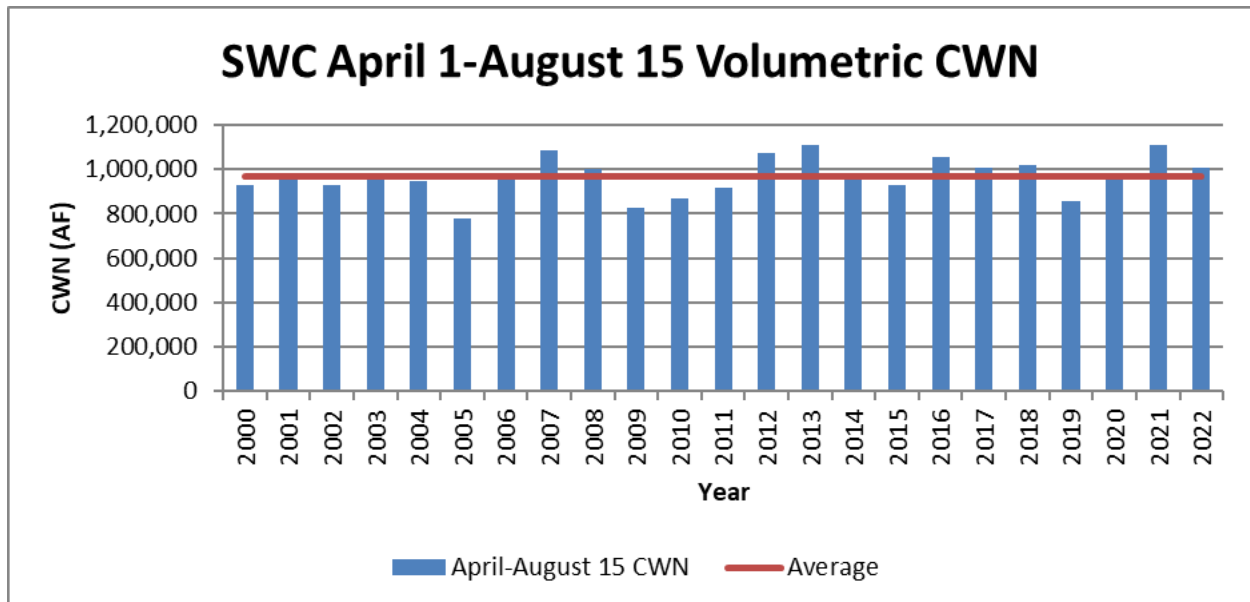
¹ Precipitation and temperature data obtained from the NOAA National Weather Service Preliminary Monthly Climate Data for the Twin Falls weather station (Twin Falls Airport).

During the irrigation season, the RISD for the already expired portion of the irrigation season is recalculated by dividing the actual crop water need (CWN) for each entity by the project efficiency for that entity. For the future remainder of the irrigation season, the RISD is the demand predicted from the July–October 2006/2008/2012 BLY. RISD is calculated on a monthly timestep.

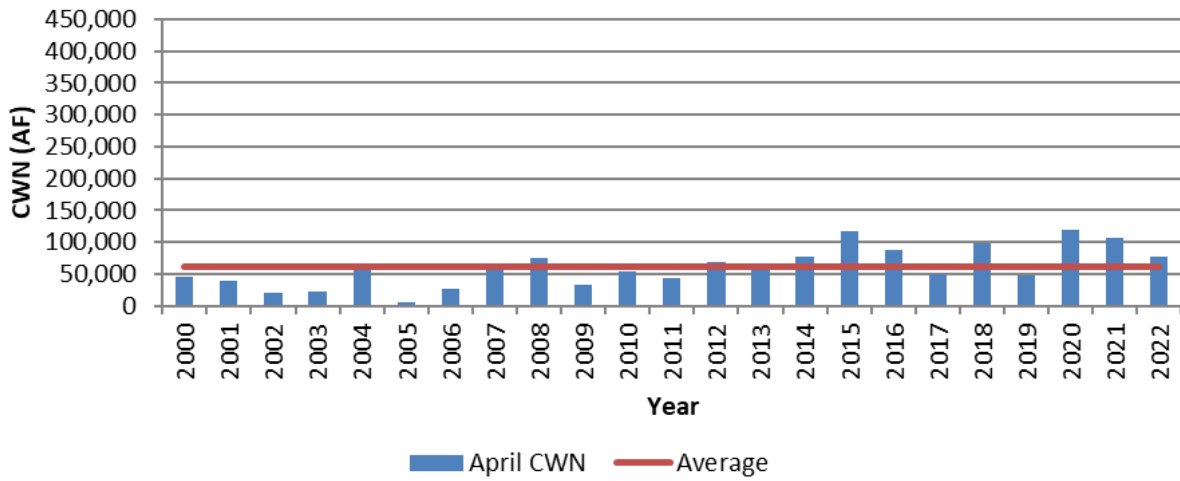
i. Crop Water Need

10. CWN is the project wide volume of irrigation water required for crop growth so crop development is not limited by water availability. CWN is the difference between the fully realized consumptive use associated with crop development, or evapotranspiration, and effective precipitation. CWN is an input variable for calculating RISD for those months of the irrigation season that are complete. Actual RISD for the completed portion of the irrigation season is combined with monthly predicted baseline demands for the remaining months of the irrigation season to calculate a season-total RISD volume. Demand shortfall is then calculated as the difference between the adjusted forecast supply and the RISD. For specifics regarding determination of CWN, see page 14 of the Methodology Order.

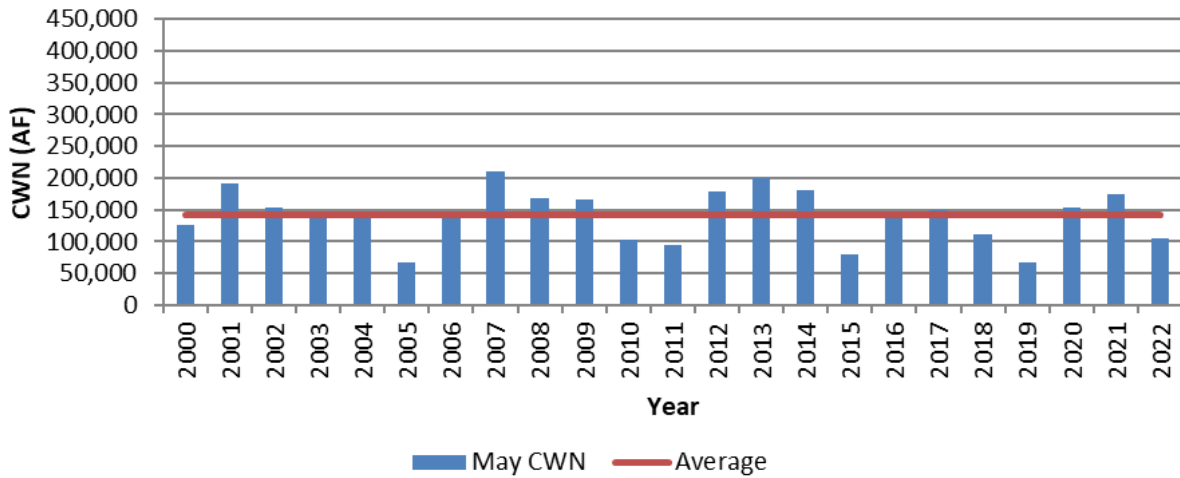
11. As calculated from the beginning of the irrigation season (April 1), the SWC’s volumetric CWN for the current water year through August 15 is 1,005,223 acre-feet. This volume is 99% of the April 1 through August 15 ten-year average CWN (2012-2021) and 99% of the CWN for the (2006/2008/2012) BLY. As calculated from April 1 through August 15, from the year 2000 to now, 2022 has the eighth largest CWN volume of any irrigation season. The following graphs summarize monthly volumetric CWN values.



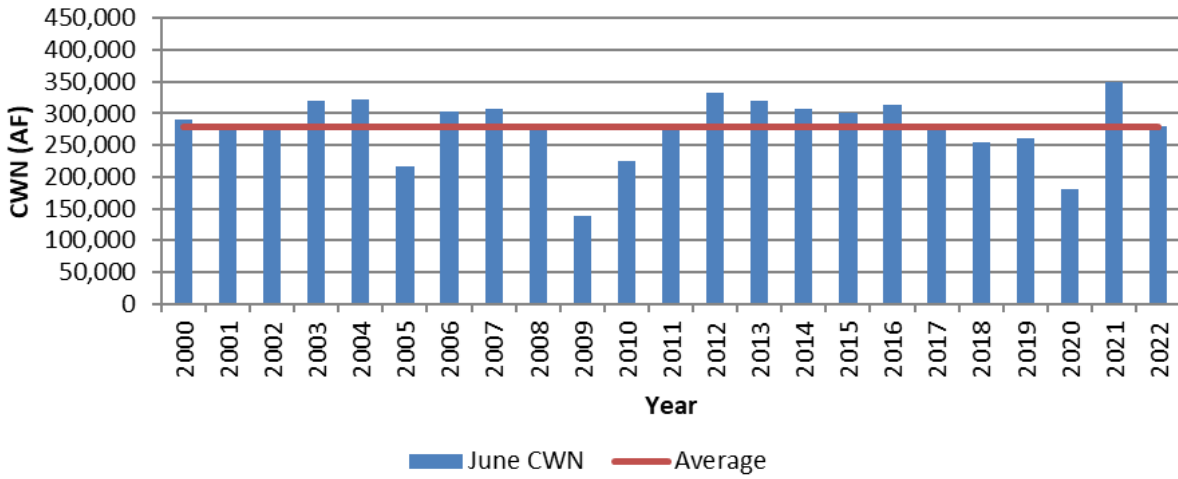
SWC April Volumetric CWN



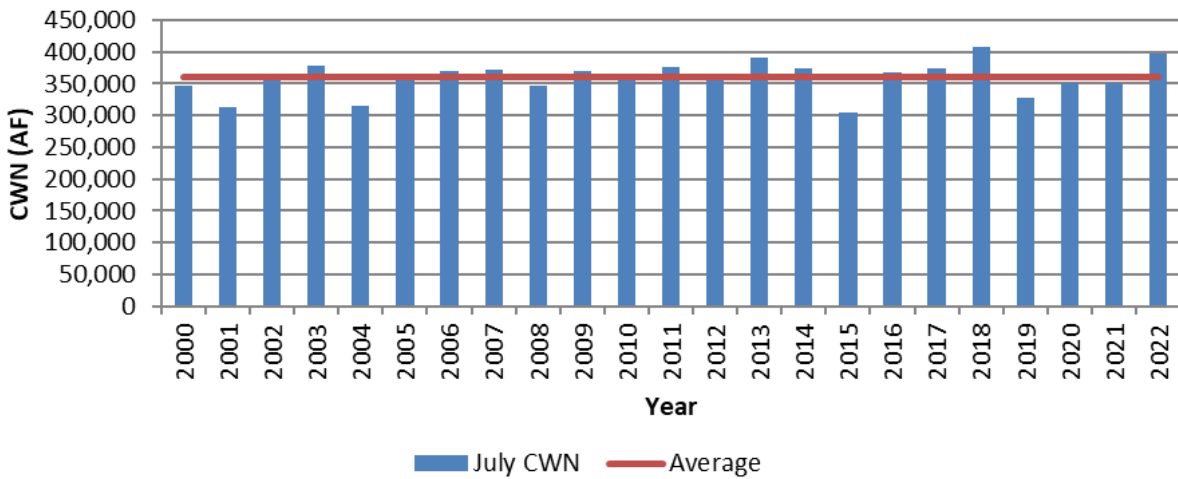
SWC May Volumetric CWN

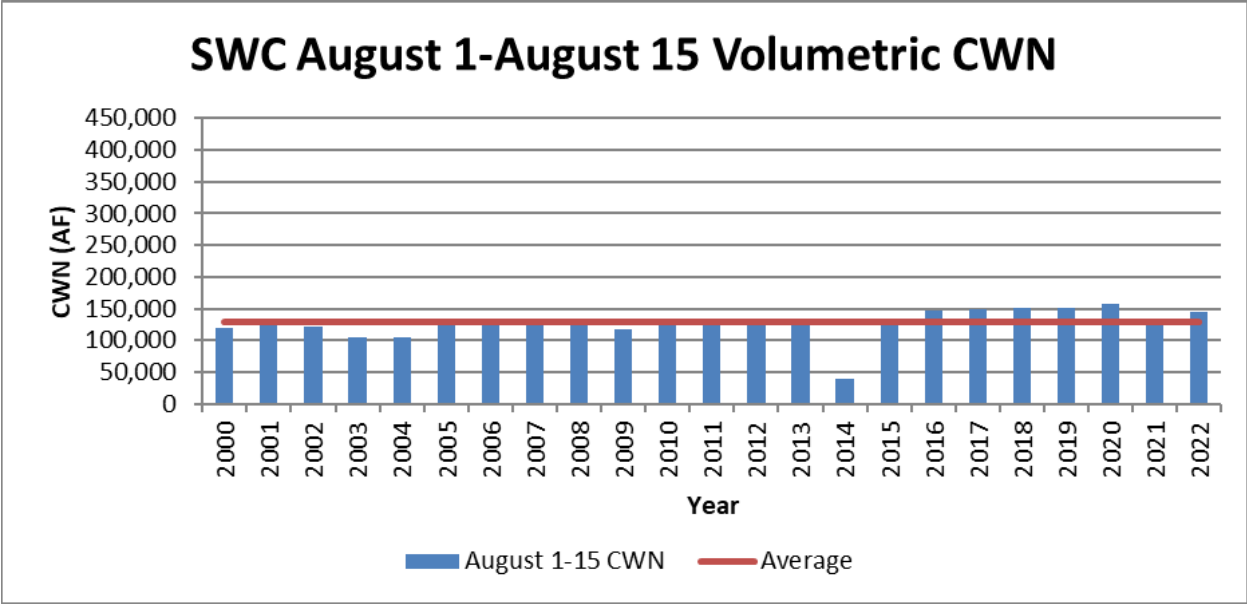


SWC June Volumetric CWN



SWC July Volumetric CWN





ii. *Extension of BLY*

12. The RISD for the future portion of the irrigation season is the August 16–October 31 demand for (2006/2008/2012) BLY. The numeric August 16–October 31 demand values are shown in the table in Finding of Fact 13 below.

iii. *Calculation of RISD*

13. As calculated from the beginning of the irrigation season (April 1), the SWC’s volumetric RISD for 2022 through August 15 is 2,596,457 acre-feet. This volume is 109% of the April 1–August 15 ten-year average RISD (2012-2021) and 113% of the April 1–August 15 demand for the (2006/2008/2012) BLY. As calculated from April 1 to August 15, from the year 2000 until this year, 2022 has the fifth largest RISD volume of any irrigation season. The recalculated RISD on August 15 of the 2022 irrigation season by entity is summarized in column six of the following table:

	April 1– August 15 CWN (AF)	Range of April 1– August 15 Monthly Project Efficiencies	April 1– August 15 RISD (AF)	August 16– October 31 Demand for 06/08/12 BLY (AF)	Recalculated RISD (AF)
A&B	28,374	0.46-0.91	44,026	14,470	58,495
AFRD2	113,339	0.20-0.43	309,242	126,252	435,494
BID	79,878	0.30-0.53	176,428	57,979	234,407
Milner	23,878	0.33-0.83	44,124	11,567	55,691
Minidoka	142,985	0.38-0.66	256,443	85,183	341,626
NSCC	269,018	0.21-0.46	716,760	274,983	991,743
TFCC	347,751	0.29-0.58	744,785	324,646	1,069,430

D. Forecast Supply

14. When determined during the irrigation season, the forecast supply (FS) is the sum of the actual natural flow supply from April 1 through August 15, the predicted natural flow supply from August 16 through October 31, and the actual storage allocations. *Methodology Order* at 38. Actual natural flow diversions for the already expired portion of the irrigation season are extracted from the Department’s water rights accounting program. The natural flow diversions for the remainder of the irrigation season are based on the selection of an analogue year with similar Blackfoot to Milner reach gains. *Id.* at 18, 38. Storage allocations are established by the BOR and Water District 01 (“WD1”) on the day of allocation. *Id.* at 38.

i. Sum of Actual Natural Flow Diverted

15. Actual natural flow diverted for the period April 1 through August 15 for each SWC member are summarized in the table contained within the Summary of Forecast Supply section in Finding of Fact 20.

ii. Selection of an Analogous Year to Predict Remaining Natural Flow

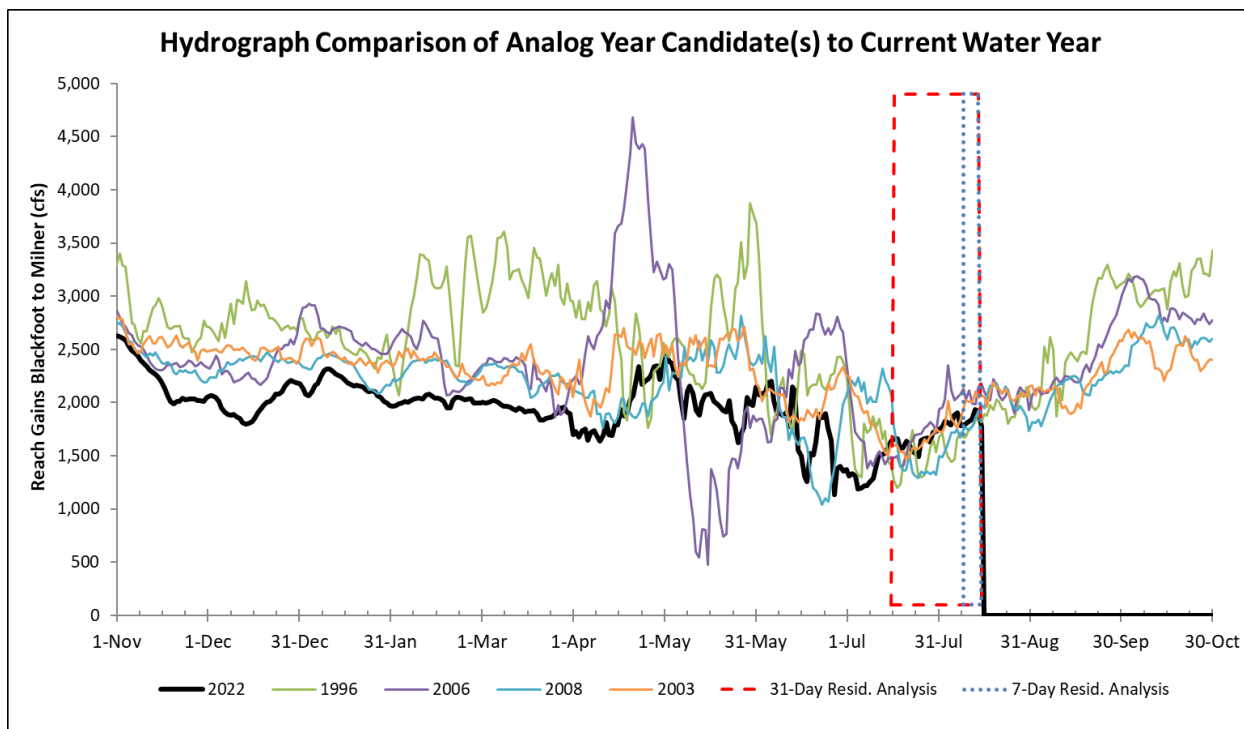
16. Natural flow diversions for the remainder of the irrigation season were predicted by choosing an analogue year. The Department used a residual analysis² carried out on a daily time step to compare the reach gains from July 16 to August 15 for the current water year to historical reach gains for the same period for the 1991–2021 water years. Based on its residual analysis and a qualitative review, the Department selected four candidate years: 1996, 2003, 2006, and 2008. These years represent the four years with the most similar reach gains (i.e., the lowest average residual value over a specified range) over the analysis period and the residuals are summarized in the following table:

Summary of Residual Analysis of Candidate Years

Time Period	1996	2003	2006	2008
7-Day (8/09–8/15)	3.3%	-10.3%	-13.4%	0.6%
31-Day (7/16–8/15)	9.6%	-1.6%	-6.7%	8.6%

17. The following hydrograph compares the current water year to the four candidate years with the most similar reach gains as determined by the residual analysis and qualitative review. The Department examined natural flow diversions for each of the candidate years and selected 2003 as the analogue year used to predict natural flow diversions for the remainder of the irrigation season. The Department chose 2003 because the residual analysis and qualitative review demonstrated 2003 was most like 2022 conditions when considering the reach gains for the most recent 7-day and 31-day period.

² The daily residual is expressed as a percentage and defined as the difference between the current water year reach gain (CY) and the historical reach gain (HY) divided by the current water year reach gain: $R = (CY - HY)/CY$.



iii. Storage Allocations

18. Preliminary storage allocation values for each member of the SWC were established by the BOR and WD1 and published in WD1’s preliminary Storage Report on July 12, 2022.³ Storage allocation values for each SWC member are summarized in the table in Finding of Fact 20 below.

iv. Adjustments to Total Supply

19. The natural flow and storage water supplies were both adjusted as shown in the table in Finding of Fact 20 below. Adjustments to natural flow include water delivered to Southwest Irrigation District by BID and Milner, 3,714 acre-feet and 3,011 acre-feet, respectively. Adjustments to natural flow also included, 2,425 acre-feet and 139 acre-feet of recharge water, delivered by the TFCC and AFRD2 respectively, for the Idaho Water Resource Board. The only adjustments made to the stored water supply were for the Minidoka Return Flow Credit⁴. The Department did not adjust SWC water supplies for wheeled storage water published in WD1’s weekly reports because wheeled water does not increase the amount of water available for use by the SWC. The Department did not adjust SWC water supplies to

³ The preliminary Storage Report may be viewed at: <https://www.waterdistrict1.com/media/5yaf2jtc/2022.pdf>

⁴ For an explanation of the Minidoka Credit, see pages 125–26 of *Concepts, Practices, and Procedures Used to Distribute Water Within Water District #1*, which can be found at: <https://www.waterdistrict1.com/media/uabos05r/water-accounting-manual.pdf>

account for water supplied to or from the rental pool because these transactions artificially increase or decrease the shortfall obligation.

v. *Summary of Forecast Supply*

20. The table below contains the individual components of the FS for each of the SWC members.

	April 1– August 15 Natural Flow Diverted (AF)	August 16– October 31 Predicted Natural Diversions Flow (AF)	Natural Flow Adjustment (AF)	Preliminary Storage Allocation (AF)	Minidoka Credit Adjustment (AF)	Forecast Supply (AF)
A&B	0	0	0	106,072	0	106,072
AFRD2	40,611	0	(2,425)	338,245	1,000	377,431
BID	97,654	1,521	(3,714)	202,293	5,130	302,884
Milner	9,705	0	(3,011)	63,046	0	69,740
Minidoka	93,765	1,555	0	251,632	8,370	355,323
NSCC	312,089	33,294	0	762,791	(7,750)	1,100,423
TFCC	529,573	252,324	(139)	220,395	(6,750)	995,403

E. Revised Shortfall Prediction

21. Demand Shortfall is calculated as the difference between RISD and the FS.

22. Based on the methods described above, and as summarized in the following table, the Director predicts, at this time, that TFCC and AFRD2 are materially injured by junior ground water pumping.

	Forecast Supply (AF)	RISD (AF)	Shortfall (AF)
A&B	106,072	58,495	0
AFRD2	377,431	435,494	58,100
BID	302,884	234,407	0
Milner	69,740	55,691	0
Minidoka	355,323	341,626	0
NSCC	1,100,423	991,743	0
TFCC	995,403	1,069,430	74,000
		Total	132,100

23. The current, predicted shortfall to the SWC's RISD is 132,100 acre-feet.

F. Time of Need

24. The Department established the Time of Need by predicting when the remaining storage balance for TFCC was equal to their reasonable carryover volume of 25,200 acre-feet and the remaining storage balance for AFRD2 was equal to their reasonable carryover volume of 11,500 acre-feet. As described above, the Department selected 2003 as the analogue year it used to predict the storage use for TFCC and AFRD2 for the remainder of this season. Anticipating that TFCC's and AFRD2's storage use for the remainder of the 2022 season will be similar to their storage use in 2003, TFCC's Time of Need will occur on September 6, 2022, and AFRD2's Time of Need will occur on September 17, 2022.

G. Priority and Curtailment

25. In the July Forecast Supply Order, the Director predicted a demand shortfall to the SWC of 52,600 acre-feet. The Step 7 revised prediction is larger than the shortfall predicted in the July Forecast Supply Order, therefore the Department must adjust the curtailment date previously established in the July Forecast Supply Order.

26. To determine the adjusted curtailment date, the Department ran the Eastern Snake Plain Aquifer Model (ESPAM) version 2.2 to establish the junior priority water rights that must curtail diversions to produce the volume of water equal to the predicted August DS. The Department determined that ground water rights junior to March 25, 1981, must be curtailed to produce the volume of water equal to the predicted August DS.

CONCLUSIONS OF LAW

1. Based on Findings of Fact 8 through 24 above, it is reasonably certain TFCC and AFRD2 continue to be materially injured. The updated predicted DS is 132,100 acre-feet. The predicted shortfall to TFCC is 74,000 acre-feet. The predicted shortfall to AFRD2 is 58,100 acre-feet.

2. Based on current information, it is reasonably certain the Time of Need will occur on September 6, 2022, for TFCC, and will occur on September 17, 2022, for AFRD2.

3. Pursuant to Step 8, at the Time of Need, junior ground water users are required to deliver to each injured member of the SWC a volume of water equal to the Step 7 revised DS. In the alternative, any additional mitigation obligation calculated in Step 6 and Step 7 can be satisfied from each SWC member's reasonable carryover if "(a) the reasonable carryover exceeds the additional mitigation obligation, and (b) the junior ground water users secure sufficient water to replace the reasonable carryover pursuant to an approved mitigation plan." *Methodology Order* at 38.

4. The Director concludes that ground water users junior to March 25, 1981, that have not mitigated for their proportionate share of the revised DS in accordance with an approved mitigation plan should be curtailed.

5. Because the Step 7 revised DS prediction is larger than the previous July Forecast Supply Order DS, the Department must adjust the curtailment priority date. The new curtailment date is March 25, 1981. Because March 25, 1981, is senior to the July Forecast Supply Order curtailment date of March 12, 1989, a number of ground water right holders previously curtailed in the May 5, 2022 Curtailment Order, but released from curtailment in the July 20, 2022 Order, must resume curtailment.

6. Attachment A to this order sets forth the ground water right holders subject to curtailment by this order.

ORDER

IT IS ORDERED that effective immediately, ground water users holding water rights bearing priority dates junior to March 25, 1981, and listed in Attachment A to this order, are curtailed and must refrain from diversion and use of ground water pursuant to those water rights unless notified by the Department that the order of curtailment has been modified or rescinded as to their water rights. This order shall apply to consumptive ground water rights, including but not limited to, agricultural, commercial, industrial, and municipal uses. This order excludes 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(11), pursuant to IDAPA 37.03.11.020.11.

IT IS FURTHER ORDERED that at the Time of Need, ground water users holding water rights bearing priority dates junior to March 25, 1981, and listed in Attachment A to this order are required to deliver to each injured member of the SWC a volume of water equal to the Step 7 revised DS. In the alternative, any additional mitigation obligation calculated in Step 6 and Step 7 can be satisfied from each SWC member's reasonable carryover if (a) the reasonable carryover exceeds the additional mitigation obligation, and (b) the junior ground water users secure sufficient water to replace the reasonable carryover pursuant to an approved mitigation plan. Failure to comply with this obligation will result in continued curtailment.

Dated this 18th day of August 2022.


GARY SPACKMAN
Director

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 18th day of August 2022, a true and correct copy of the foregoing was served by the method indicated below, and addressed to the following:

<p>John K. Simpson Travis L. Thompson BARKER ROSHOLT & SIMPSON, LLP P. O. Box 63 Twin Falls, ID 83303-0063 jks@idahowaters.com flt@idahowaters.com nls@idahowaters.com jf@idahowaters.com</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>
<p>W. Kent Fletcher FLETCHER LAW OFFICE P.O. Box 248 Burley, ID 83318 wkf@pmt.org</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>
<p>Randall C. Budge Thomas J. Budge RACINE OLSON P.O. Box 1391 Pocatello, ID 83204-1391 randy@racineolson.com tj@racineolson.com</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>
<p>Kathleen Marion Carr US Dept. Interior 960 Broadway Ste 400 Boise, ID 83706 kathleenmarion.carr@sol.doi.gov</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>
<p>David W. Gehlert Natural Resources Section Environment and Natural Resources Division U.S. Department of Justice 999 18th St., South Terrace, Suite 370 Denver, CO 80202 david.gehlert@usdoj.gov</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>
<p>Matt Howard US Bureau of Reclamation 1150 N Curtis Road Boise, ID 83706-1234 mhoward@usbr.gov</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>
<p>Sarah A Klahn SOMACH SIMMONS & DUNN 2033 11th Street, Ste 5 Boulder, CO 80302 sklahn@somachlaw.com dthompson@somachlaw.com</p>	<p><input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email</p>

<p>Rich Diehl City of Pocatello P.O. Box 4169 Pocatello, ID 83205 rdiehl@pocatello.us</p>	<input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email
<p>Candice McHugh Chris Bromley MCHUGH BROMLEY, PLLC 380 South 4th Street, Suite 103 Boise, ID 83702 cbromley@mchughbromley.com cmchugh@mchughbromley.com</p>	<input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email
<p>Robert E. Williams WILLIAMS, MESERVY, & LOTHSPREICH, LLP P.O. Box 168 Jerome, ID 83338 rewilliams@wmlattys.com</p>	<input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email
<p>Robert L. Harris HOLDEN, KIDWELL, HAHN & CRAPO, PLLC P.O. Box 50130 Idaho Falls, ID 83405 rharris@holdenlegal.com</p>	<input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email
<p>Randall D. Fife City Attorney, City of Idaho Falls P.O. Box 50220 Idaho Falls, ID 83405 rfife@idahofallsidaho.gov</p>	<input checked="" type="checkbox"/> U.S. Mail, postage prepaid <input checked="" type="checkbox"/> Email
<p>Tony Olenichak IDWR—Eastern Region 900 N. Skyline Drive, Ste. A Idaho Falls, ID 83402 tony.olenichak@idwr.idaho.gov</p>	<input checked="" type="checkbox"/> Email
<p>Corey Skinner IDWR—Southern Region 1341 Fillmore St., Ste. 200 Twin Falls, ID 83301-3033 corey.skinner@idwr.idaho.gov</p>	<input checked="" type="checkbox"/> Email
<p>COURTESY COPY TO: William A. Parsons PARSONS SMITH & STONE P.O. Box 910 Burley, ID 83318 wparsons@pmt.org</p>	<input checked="" type="checkbox"/> Email

Sarah Tschohl
Legal Assistant