

**BEFORE THE DEPARTMENT OF WATER RESOURCES  
OF THE STATE OF IDAHO**

IN THE MATTER OF DISTRIBUTION OF WATER )	Docket No. CM-DC-2010-001
TO VARIOUS WATER RIGHTS HELD BY OR FOR )	
THE BENEFIT OF A&B IRRIGATION DISTRICT, )	<b>ORDER REVISING APRIL 2018</b>
AMERICAN FALLS RESERVOIR DISTRICT #2, )	<b>FORECAST SUPPLY</b>
BURLEY IRRIGATION DISTRICT, MILNER )	
IRRIGATION DISTRICT, MINIDOKA IRRIGATION )	<b>(METHODOLOGY STEPS 5 &amp; 6)</b>
DISTRICT, NORTH SIDE CANAL COMPANY, )	
AND TWIN FALLS CANAL COMPANY )	
_____ )	

The Director (“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 5 and 6 to the 2018 irrigation season.

2. On November 30, 2017, the Director issued the *Final Order Establishing 2017 Reasonable Carryover – Methodology Step 9* (“November Carryover Order”) establishing no member of the SWC is owed reasonable carryover in 2017 for use in 2018. *November Carryover Order* at 6.

3. On April 17, 2018, the Director issued the *Final Order Regarding April 2018 Forecast Supply (Methodology Steps 1 – 3)* (“April Forecast Supply Order”) projecting no demand shortfall to the SWC members for the 2018 irrigation season. *April Forecast Supply Order* at 5.

4. Step 4 of the Methodology Order requires that the Director issue an order curtailing applicable junior ground water users in years in which application of Steps 1 and 2

results in a projected demand shortfall to one or more members of the SWC. *Methodology Order* at 36. Because the Director projected no demand shortfall to the SWC members for the 2018 irrigation season in the April Forecast Supply Order, the Department did not execute Step 4.

5. Step 5 of the *Methodology Order* addresses the final injury determination to reasonable carryover for members of the SWC. Step 5 states, in part:

If the storage allocations held by members of the SWC fill, there is no reasonable carryover shortfall. If the storage allocations held by members of the SWC do not fill, within fourteen (14) days following the publication of Water District 01's initial storage report . . . the volume of water secured by junior ground water users to fulfill the reasonable carryover shortfall shall be made available to injured members of the SWC.

*Methodology Order* at 37. Because there was no reasonable carryover shortfall in 2017, the Department did not execute the reasonable carryover provision of Step 5.

6. Step 5 also states: "If water is owed in addition to the reasonable carryover shortfall volume, this water shall be delivered or assigned to members of the SWC at the Time of Need . . ." *Id.* Step 6 states:

Approximately halfway through the irrigation season, but following the events described in Step 5, the Director will, for each member of the SWC: (1) recalculate [Reasonable In-Season Demand ("RISD")]; (2) issue a revised [Forecast Supply ("FS")]; and (3) estimate the Time of Need date.

*Id.* at 37 (footnote omitted).

## **B. April – June Climate**

7. The April 2018 Joint Forecast prepared by the United States Army Corps of Engineers and the United States Bureau of Reclamation predicted 3,700,000 acre-feet of natural flow at the Heise gage for the period of April through July 2018. *April Forecast Supply Order* at 2. The Joint Forecast "is generally as accurate a forecast as is possible using current data gathering and forecasting techniques." *Methodology Order* at 17.

8. Spring precipitation (April- June) was highly variable. According to Natural Resource Conservation Service SNOTEL sites, the Upper Snake received 143%, 96%, and 100% of average precipitation in April, May and June, respectively. The National Weather Service's Twin Falls weather station reported 47%, 110%, 52% of normal precipitation in April, May and June, respectively. Twin Falls temperatures were 0 degrees below normal for April, 2.0 degrees below normal for May, and 0.7 degrees above normal for June.<sup>1</sup>

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<sup>1</sup> Precipitation and temperature data obtained from the NOAA National Weather Service Preliminary Monthly Climate Data for the Twin Falls 3SE weather station (Twin Falls Airport).

**C. Reasonable In-Season Demand**

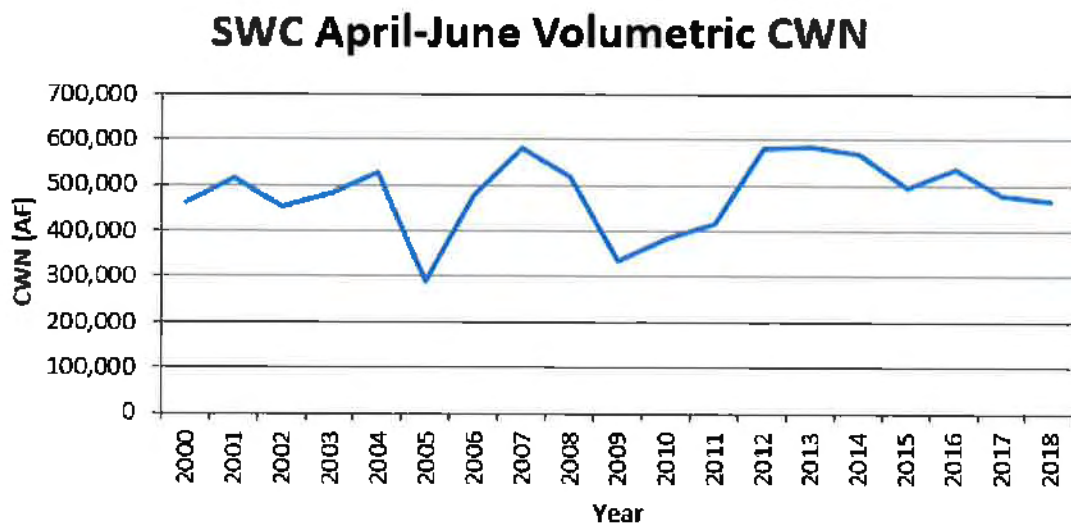
9. RISD “is the projected annual diversion volume for each SWC entity during the year of evaluation that is attributable to the beneficial use of growing crops within the service area of the entity.” *Methodology Order* at 12. In April, the demand from the 06/08/12 BLY defines the RISD. *Id.* at 16. During the irrigation season, the RISD for the completed 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. *Id.* at 16, 37. For the remainder of the irrigation season, the RISD is the demand defined by the July-October 06/08/12 BLY. *Id.* RISD is calculated on a monthly time step.

**i. Crop Water Need**

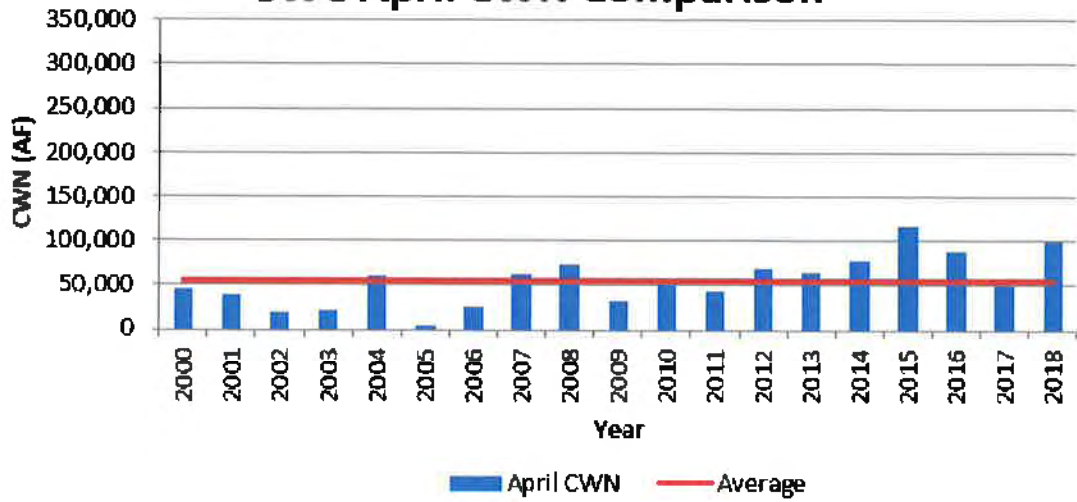
10. “CWN is the volume of irrigation water required for crop growth within a SWC entity boundary, such that crop growth is not limited by water availability.” *Methodology Order* at 14. CWN is the difference between the fully realized consumptive use associated with crop growth, or [evapotranspiration], and effective precipitation . . .” *Id.*

11. CWN is an input variable for calculating RISD for the completed portion of the irrigation season. *Id.* at 16. 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. *Id.* at 16-17. Demand shortfall is then calculated as the difference between the adjusted FS and the RISD. *Id.* at 21.

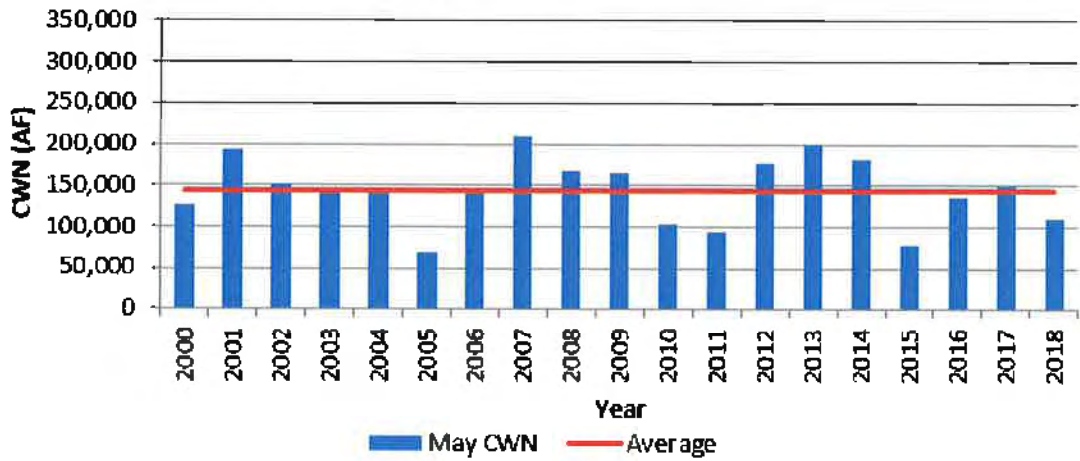
12. As calculated from the beginning of the irrigation season (April 1), the SWC’s volumetric CWN for the current water year through the month of June is 464,126 acre-feet. This volume is 95% of the April 1 – June 30 ten-year average CWN (2008 – 2017) and 88% of the April 1 – June 30 CWN for the 06/08/12 BLY. The following graphs summarize monthly volumetric CWN values:



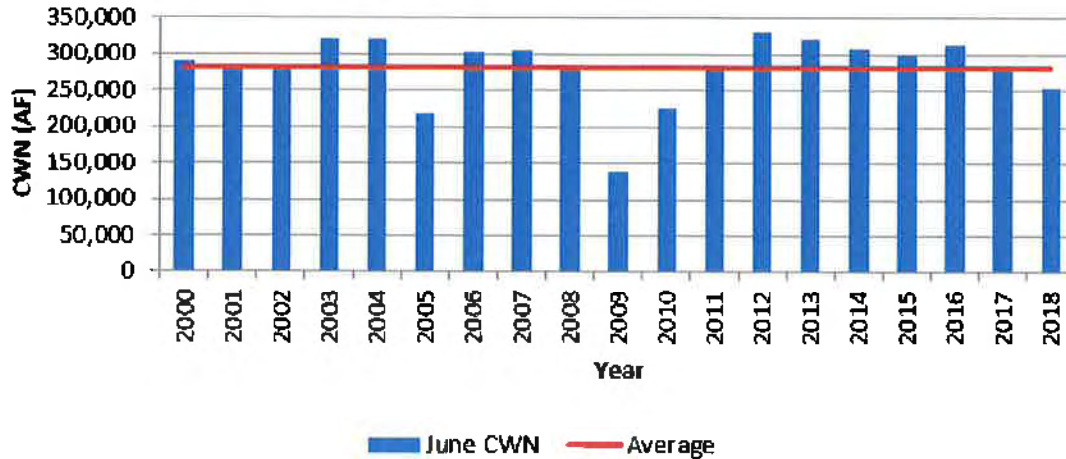
### SWC April CWN Comparison



### SWC May CWN Comparison



## SWC June CWN Comparison



### ii. Extension of BLY

13. The RISD for the remaining portion of the irrigation season (July –October) is the July-October demand for 06/08/12 BLY. The numeric values are shown in the table in Finding of Fact 14 below.

### iii. Calculation of RISD

14. As calculated from the beginning of the irrigation season (April 1), the SWC’s volumetric RISD for 2018 through the month of June is 1,210,249 acre-feet. This volume is 89% of the April 1 – June 30 ten-year average RISD (2008 – 2017) and 92% of the April-June demand for the 06/08/12 BLY. The recalculated RISD at this point of the 2018 irrigation season by entity is:

	April-June CWN (AF)	$E_p$ (April - June)	April-June RISD (AF)	July-October Demand for 06/08/12 BLY (AF)	Recalculated RISD (AF)
A&B	14,390	0.46 – 0.86	23,290	36,126	59,417
AFRD2	49,930	0.24 – 0.40	149,172	261,723	410,895
BID	42,041	0.35 – 0.52	95,439	138,089	233,528
Milner	10,492	0.43 – 0.80	17,481	28,438	45,919
Minidoka	79,264	0.35 – 0.56	180,643	204,567	385,210
NSCC	109,536	0.24 – 0.42	336,196	588,735	924,931
TFCC	158,474	0.30 – 0.51	408,028	633,715	1,041,742

## **D. Forecast Supply**

15. When determined during the irrigation season, the FS is the sum of the actual natural flow supply from April through June, the predicted natural flow supply from July through October, and the actual storage allocations. *Methodology Order* at 37. Actual natural flow diversions for the completed 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 estimated by a regression analysis. *Id.* at 18, 37. Storage allocations are determined by Water District 01 on the Day of Allocation. *Id.* at 37.

### **i. Sum of Actual Natural Flow Diverted**

16. Actual natural flow diverted in April through June for each SWC member is shown in the table contained in Finding of Fact 24 below, within the "Summary of Forecast Supply" section.

### **ii. Regression Models to Predict Natural Flow (July – October)**

17. Natural flow diversions were predicted for the remainder of the irrigation season by regression analysis. The Methodology Order established the following variables as predictor variables in the regression models: natural flow in the Snake River near Heise as reported by the U.S. Bureau of Reclamation, snow water equivalent ("SWE") data at Two Oceans Plateau SNOTEL site, Spring Creek discharge, and groundwater levels near American Falls Reservoir. *Methodology Order* at 19. Unique regression models with unique predictor variable groups are established in the Methodology Order for each SWC member.

18. Either June 15 or July 1 SWE values for the Two Oceans Plateau SNOTEL site are used as input variables in each of the regression models developed in the Methodology Order. Two Oceans Plateau SWE data was selected as a predictor variable in the Methodology Order based upon step-wise statistical analysis carried out in the development of each regression model. The Two Oceans Plateau SWE data is an optimum predictor variable for several reasons including: its elevation (the site is located above 9,000 ft and typically still has snow late in the runoff season (June 15 and July 1); its location (the site is in the headwaters of the Snake River above Jackson Reservoir); and its period of record, which is sufficiently long enough to support model development.

19. The predictor variable for A&B, AFRD2, and Milner in 2018 included 0.1 inches of the SWE on July 1, 2018, at Two Oceans Plateau.

20. The predictor variables for BID, Minidoka, and NSCC in 2018 included: (1) 7 inches of the SWE on June 15, 2018, at Two Oceans Plateau; (2) 3,679,00 acre-feet of natural flow runoff at the Snake River near Heise (April – June); and (3) 25.60 feet depth to water at well 5S31E27ABA1 on March 23, 2018.

21. The multiple linear regression equation for TFCC was based on the following predictor variables: (1) the June 15, 2018, SWE value (inches) at the Two Ocean Plateau

SNOTEL site, (2) the Snake River near Heise natural flow (April – June), and (3) Spring Creek total discharge (January – May). The predictor variables for TFCC in 2018 included: (1) 7 inches of the SWE on June 15 at Two Oceans Plateau, (2) 3,679,00 acre-feet of natural flow runoff at the Snake River near Heise (April – June) , and (3) 90,551 acre-feet total discharge at Spring Creek (January – May).

**iii. Storage Allocations**

22. Preliminary storage allocation values for each member of the SWC were published in Water District 01’s *Initial Storage Report* on July 11, 2018.<sup>2</sup> Preliminary storage allocations for each of the SWC members are reported in the table in Finding of Fact 24 below.

**iv. Adjustments to Total Supply**

23. The natural flow and storage water supplies were both adjusted as shown in the table in Finding of Fact 24 below. Adjustments to natural flow include wheeled water to Southwest Irrigation District through BID and Milner, 257 acre-feet and 207 acre-feet, respectively. Adjustments to natural flow also included 62,224 acre-feet of wheeled water as a part of the Idaho Water Resource Board’s water right to AFRD2. The only adjustments to the stored water supply in the table below were for the Minidoka Credit. Water supplied to or from the rental pool was not included in the adjustments because such adjustments would artificially increase or decrease the shortfall obligation.

**v. Summary of Forecast Supply**

24. The following table contains the individual components of the FS for each of the SWC members:

	Natural Flow Diverted 4/1 to 6/30 (AF)	Predicted Natural Diversion Flow 7/1 to 10/31 (AF)	Natural Flow Adjustment (AF)	Preliminary Storage Allocation (AF)	Minidoka Credit Adjustment (AF)	FS (AF)
A&B	24,846	0	0	134,931	0	159,777
AFRD2	193,195	0	(64,224)	387,120	1,000	517,091
BID	119,670	54,353	(257)	222,594	5,130	401,490
Milner	25,971	0	(207)	87,771	0	113,535
Minidoka	166,824	73,894	0	359,962	8,370	609,050
NSCC	445,802	205,462	0	844,552	(7,750)	1,488,066
TFCC	471,139	487,286	0	241,687	(6,750)	1,193,361

<sup>2</sup> The *Initial Storage Report* can be viewed on-line at the following link:  
<http://www.waterdistrict1.com/WD01%20Storage%20Report.pdf>.

**E. Revised Shortfall Projection**

25. Demand shortfall is calculated as the difference between RISD and the FS.

26. Based on the above, and as summarized in the table below, the Director projects no mid-season demand shortfall to the SWC for 2018.

	FS (AF)	RISD (AF)	Shortfall (AF)
A&B	159,777	59,417	0
AFRD2	517,091	410,895	0
BID	401,490	233,528	0
Milner	113,535	45,919	0
Minidoka	609,050	385,210	0
NSCC	1,488,066	924,931	0
TFCC	1,193,361	1,041,742	0
		Total	0

**F. Time of Need**

27. Step 5 of the Methodology Order requires that the Director estimate the Time of Need if there is water owed to SWC members that is in addition to the reasonable carryover shortfall volume. *Methodology Order* at 37. As stated above, there was no reasonable carryover shortfall in 2017. Execution of Step 6 demonstrates there is no mid-season demand shortfall to the SWC for 2018. With no additional water owed to SWC members, there is no need to establish a Time of Need as described in Step 6.

**CONCLUSIONS OF LAW**

1. Idaho Code § 42-602 authorizes the Director to supervise water distribution within water districts:

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

2. Idaho Code § 42-607 provides the watermaster, under the direction of the Director, shall regulate diversions “when in times of scarcity of water it is necessary so to do in order to supply the prior rights of others in such stream or water supply ... .”



3. Step 5 of the Methodology Order requires that the Director estimate the Time of Need if there is water owed to the SWC members that is in addition to the reasonable carryover shortfall volume. *Methodology Order* at 37. No member of the SWC is owed reasonable carryover in 2017 for use in 2018. *November Carryover Order* at 6. Execution of Step 6 of the Methodology Order demonstrates there is no mid-season demand shortfall to the SWC for 2018. With no additional water owed to SWC members, there is no need to establish a Time of Need as described in Step 6.

4. Because there is no mid-season demand shortfall and because there will be no Time of Need this year, it is unnecessary to execute Step 7 of the Methodology Order. At the end of the irrigation season, the Director will issue an order applying Step 9 of the Methodology Order.

### ORDER

Based upon and consistent with the foregoing, IT IS HEREBY ORDERED that there is no demand shortfall for the SWC members in 2018.

Dated this 23<sup>rd</sup> day of July 2018.

  
GARY SPACKMAN  
Director

## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 23<sup>rd</sup> day of July 2018, the above and foregoing was served on the following by the method(s) indicated below:

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Kimi White

## **EXPLANATORY INFORMATION TO ACCOMPANY A FINAL ORDER**

(To be used in connection with actions when a hearing was **not** held)

(Required by Rule of Procedure 740.02)

The accompanying order is a "Final Order" issued by the department pursuant to section 67-5246, Idaho Code.

### **PETITION FOR RECONSIDERATION**

Any party may file a petition for reconsideration of a final order within fourteen (14) days of the service date of this order as shown on the certificate of service. **Note: The petition must be received by the Department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5246(4), Idaho Code.

### **REQUEST FOR HEARING**

Unless the right to a hearing before the director or the water resource board is otherwise provided by statute, any person who is aggrieved by the action of the director, and who has not previously been afforded an opportunity for a hearing on the matter shall be entitled to a hearing before the director to contest the action. The person shall file with the director, within fifteen (15) days after receipt of written notice of the action issued by the director, or receipt of actual notice, a written petition stating the grounds for contesting the action by the director and requesting a hearing. See section 42-1701A(3), Idaho Code. **Note: The request must be received by the Department within this fifteen (15) day period.**

### **APPEAL OF FINAL ORDER TO DISTRICT COURT**

Pursuant to sections 67-5270 and 67-5272, Idaho Code, any party aggrieved by a final order or orders previously issued in a matter before the department may appeal the final order and all previously issued orders in the matter to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of: a) the service date of the final order, b) the service date of an order denying petition for reconsideration, or c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration, whichever is later. See section 67-5273, Idaho Code. The filing of an appeal to district court does not in itself stay the effectiveness or enforcement of the order under appeal.