BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF
WATER TO WATER RIGHTS NOS.
36-02356A, 36-07210, AND 36-07427
(BLUE LAKES DELIVERY CALL)

This matter is before the Director of the Department of Water Resources ("Director" or "Department") as a result of the *Ground Water Districts' Plan for Providing Replacement Water (Blue Lakes Delivery Call)*, submitted to the Department on May 27, 2005, by the Idaho Ground Water Appropriators' ("IGWA") on behalf of its members, which include Aberdeen-American Falls Ground Water District, Bingham Ground Water District, Bonneville-Jefferson Ground Water District, Madison Ground Water District, Magic Valley Ground Water District, Southwest Irrigation District, and North Snake Ground Water District (collectively referred to as the "Districts").

On May 19, 2005, the Director issued his order ("May 19 Order") in the above-captioned matter, finding that the diversion and consumptive use of ground water under junior priority water rights are materially injuring a prior water right held by the Blue Lakes Trout Farm, Inc ("Blue Lakes"). As part of the Order, the Director required that no later than May 30, 2005, the irrigation district or ground water districts representing certain holders of junior priority ground water rights submit a plan or plans to either: (1) offset the entirety of the depletion to the Eastern Snake Plain Aquifer ("ESPA"); (2) provide replacement water (direct water delivery to Blue Lakes); or (3) provide substitute curtailment (reduction in ground water depletions resulting in gains to the Devil's Washbowl to Buhl Gage spring reach equivalent to involuntary curtailment). If an acceptable plan or plans was not submitted, then involuntary curtailment of junior priority ground water rights for consumptive purposes was to begin after May 30, 2005.

On May 27, 2005, IGWA, on behalf of the Districts, submitted a plan to the Director for his review. *Ground Water Districts' Plan for Providing Replacement Water (Blue Lakes Delivery Call)* ("IGWA Plan"). The IGWA Plan proposed substitute curtailment, although termed replacement water, for 2005 as required by the May 19 Order. The IGWA Plan proposed acquisition and use of surface water for irrigation of certain lands in lieu of ground water irrigation ("conversions") in the North Snake Ground Water District and voluntary curtailment of ground water irrigation of lands in the Magic Valley Ground Water District and the North Snake Ground Water District. The IGWA Plan did not identify the lands that would no longer be irrigated with ground water.

On June 7, 2005, the Director issued an *Order Regarding IGWA Replacement Water Plan (Blue Lakes Call)* ("June 7 Order"). The June 7 Order concluded that IGWA had proposed actions in its plan that if ongoing as required, would provide 5.3 cfs steady state gain to the Devil's Washbowl to Buhl reach for conversions from ground water irrigation to surface water

irrigation. The June 7 Order also stated that "the 5.3 cfs of replacement credit granted for conversions is not sufficient replacement water to satisfy the 2005 requirement of 10.0 cfs flow in the Devil's Washbowl to Buhl reach."

Simulations using the Department's ground water model for the ESPA of the increase in reach gains from Devil's Washbowl to Buhl Gage from conversions assumed full conversion of equivalent acres¹ from ground water irrigation to surface water irrigation. To insure actual full conversion in the field, the June 7 Order stated that the "wells that once provided ground water to the conversion acres must be disabled so water cannot be diverted from the wells or, alternatively, a means of accounting employed, as approved by the Watermaster of Water District 130 and the Department that will prevent diversion of the ground water replaced by surface water and to prevent delivery of ground water to the conversion acres."

The Districts and IGWA were "granted until June 14, 2005 to provide specifically identifiable steady state replacement water in addition to the steady state replacement water provided by the existing ground water to surface water conversions to provide the full 10.0 cfs of steady state replacement water in 2005." The June 7 Order also stated that, alternatively, "the Districts and IGWA can provide direct replacement water of 10.0 cfs to Blue Lakes during 2005 as set forth in the Order." Finally, the June 7 Order stated that "failure to provide (a) the 10.0 cfs of steady state replacement water, or (b) 10.0 cfs of direct replacement water by June 14, 2005 will result in curtailment of ground water rights bearing a priority date later than, and including, June 1, 1993."

On June 14, 2005, IGWA submitted *IGWA's Response to Director's June 7, 2005 Order Regarding Replacement Water Plan (Blue Lakes Delivery Call)* ("IGWA's Response"). On June 17, 2005, IGWA submitted *IGWA's First Supplemental Response to Director's June 7, 2005 Order Regarding Replacement Water Plan (Blue Lakes Delivery Call)* (IGWA's Supplemental Response").

The documents submitted by IGWA again propose additional substitute curtailment activities in two areas: (1) conversions from ground water irrigation to surface water irrigation; and (2) reductions in ground water irrigation and idling of lands, also referred to as voluntary curtailments, within the Magic Valley Ground Water District and the North Snake Ground Water District. Each of these proposed activities are discussed in the following Findings of Fact under a title heading for the activity. The Findings of Fact also discuss the Department's analysis of the proposal and the determinations resulting from the analysis. This order will refer hereafter to actions proposed by the IGWA Plan, IGWA's Response, and IGWA's Supplemental Response as "substitute curtailment," and will also refer to the combined proposal of the three submittals as "the substitute curtailment plan."

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

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

FINDINGS OF FACT

Ground Water to Surface Water Conversions

1. In the June 7 Order, the Director determined that IGWA had proposed ongoing actions in its substitute curtailment plan that would provide 5.3 cfs steady state gain to the Devil's Washbowl to Buhl reach for conversions from ground water irrigation to surface water irrigation.

2. In IGWA's Response, filed on June 14, 2005, IGWA identified additional acreage converted from ground water irrigation to surface water irrigation. In IGWA's Response, IGWA asserted that "a total of 6,896 acres of converted land that had originally been served only with ground water qualify as Conversions under the June 7th Order." In the documentation of IGWA's Supplemental Response, filed June 17, 2005, IGWA stated that the water supply for the conversions was "reduced by a factor of 0.736 to reflect a total of 6,896 acres of conversions rather than 9,369 acres as originally claimed in IGWA's May 27, 2005 Replacement Water Plan." In contrast, three spreadsheets attached to IGWA Response show a total of 9,169 acres, not 9,369 acres.

3. In Finding 43 of the June 7 Order, the Director determined that IGWA had submitted information about conversions for 4,771.7 acres. Some of the 4,771.7 acres were equivalent acres representing lands already irrigated with surface water from the North Side Canal Company ("NSCC") before the conversion. The equivalent acres were derived by multiplying the original number of acres by 0.30, a modeling number deemed to represent the maximum estimated contribution of ground water to the full supply of water.

4. Rather than use the information in Finding 43 of the June 7 Order as a baseline to determine additional acres that should be recognized for conversions, IGWA started with information from IGWA's Plan filed May 27, 2005. The Department cannot reconcile the acreages that IGWA used in its computations with the acreages listed in the conversion spreadsheets attached to IGWA's Response as Attachment No. 1. The Department does not know how a reduction factor of 0.736 was determined. Finally, the conversion of ground water irrigaton shown in Finding 43 of the June 7 Order to be supplemental to existing NSCC surface water use does not coincide with supplemental ground water uses identified in Attachment No. 1.

5. Department staff analyzed the additional water rights identified in the Attachment No. 1 spreadsheets. The following is a revision of the table contained in Finding 43 of the June 7 Order. Based on the additional information received from IGWA, the Department limited acreage for overlapping water rights and reduced acreage to equivalent acres for supplemental ground water irrigation.

	IGWA Water Plan Right			Adjusted Acreage
Owner	Acres		Supplemental	for model
Anderson, Kenneth C.	144	144		144
Benedictine Monks of Idaho Inc.	425	425		425
Bettencourt, Luis	168	168	NSCC	50.4
Bettencourt, Luis	113	113	NSCC	33.9
Bettencourt, Luis	154	154		154
Bolich, Rodney E. & Stanley D.	640	604		604
Borchard, John	304			91.2
Box Canyon Dairy	25	25	NSCC	7.5
Box Canyon Dairy	18			18
Brandsma Dairy	140	140	NSCC	42
Canyonside Dairy	550	550		550
Canyonside Dairy	0			0
Canyonside Dairy	0			0
Church of Jesus Christ Latter (5)	132	132	NSCC	39.6
Connor, Keith A.	124	124		124
De Kruyf Dairy	163	162.7	NSCC	48.9
Dewit, Neil & Melinda	80	80		80
Dewit, Neil & Melinda	120	188	NSCC	36
Dewit, Neil & Melinda	144	144	NSCC	43.2
Dimond, Gary B. & Ruth P.	101		NSCC	30.3
Fleming, Bill C. & Pamela	0			0
Harms, Boyd L.	22	55		22
Henry Farms	200	0		0
Henry Farms	286	286		85.8
Hirai, Jack J. or Kunie	75	75	NSCC	22.5
Hubbard, Edward & Geneva	52	51.8		51.8
Huettig Brothers	160	316		160
Jerome Cheese/Davis Family Idaho	151	151		151
Jerome Cheese/Davis Family Idaho	214	619		214
Jerome Cheese/Davis Family Idaho	405			405
Jerome Cheese/Davis Family Idaho	0 0			0
Johnson, Jr., Elmer & Judy	231	151		151
K & W Dairy	1010	1009.6		1009.6
McReits LLC (formerly Beukers)	229	229	NSCC	68.7
Ravenscroft, Bryan	90	90	NSCC	27
Richard Trail Trust	160	160	NSCC	48
Rojas, Wilma L.	17	17	NSCC	5.1
Roth, James	161	161	NSCC	48.3

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Ruby, Kenneth E.	134	134		134
Sawtooth Sheep Co. Inc.	494	494	NSCC	148.2
Smith, Ronnie D.	96			96
Smith, Ronnie D.	183	183		183
Standing Hat Ranch Inc.	120	120	NSCC	36
Standing Hat Ranch Inc.	175	175	NSCC	52.5
Strickland, Evelyn G.	41	41	NSCC	12.3
Ted Miller Dairy	130	130	NSCC	39
Vader, Orval E.	190	190		190
Veenstra, Frank	110	110		33
Veenstra, Frank	60	82	NSCC	18
Veenstra, Frank/V & L Dairy	302	302		302
Veenstra, Frank/Wellard, Larry	22	103		22
Verbree Jr., Jack	120	120	NSCC	36
Wert, Loren	40	40	NSCC	12
Wert, Wayne K.	144	144	NSCC	43.2
			Total =	6349

The Department assumed all acreage not shown as served by NSCC water to be completely irrigated by ground water prior to the conversion.

6. In IGWA's Plan, IGWA sought credit for seepage of all surface water delivered for conversions and recharge through the NSCC conveyance system. IGWA calculated the proposed credit by multiplying the total water deliveries in 2005 to conversions, the Sandy Pipeline Ponds, and recharge sites by 30 percent, the overall loss used in the NSCC delivery accounting. In the Director's June 7 Order, the Director rejected the request for replacement water credit for NSCC delivery losses, stating:

The overall seepage loss of 30% determined by the North Side Canal Company ("NSCC") delivery accounting is not the actual additional incremental loss from the NSCC canals and ditches resulting from additional deliveries of water for conversions and to the Sandy Pipeline. When the canals and ditches of NSCC are fully charged and water is already seeping into the ground, the addition of surface water on top of existing surface water flowing in the NSCC canals and ditches will not significantly increase the seepage from the canals and delivery ditches.

7. In IGWA's Response, IGWA again proposed recognition of seepage losses by seeking credit for the total volume of Snake River storage water dedicated to conversions. IGWA stated that 22,917 acre-feet (or 22,971 acre-feet in another reference) were dedicated for "6,896 acres of validated conversions." The water supply and the number of acres were "input to the spreadsheet tool developed by IWRRI for steady-state analysis of conversions." A compact disc attached to IGWA's Supplemental Response displayed the results of the spreadsheet tool analysis.

8. IGWA did not fully explain how the conversion spreadsheet tool was employed. The conversion spreadsheet was not developed to individually determine the reach gains resulting from individual conversions. The conversion spreadsheet assumes both the water used by the crop and the entire seepage loss occurs at the point of diversion where the ground water diversion was located. Finally, the IGWA analysis assumes all the water dedicated in storage for the conversions was actually delivered to the conversion acres.

9. The Department is unaware of any actual records of the quantity of water delivered to the conversion acres. In recent field visits to conversion sites, Department staff observed pumps diverting ground water to irrigate lands identified by IGWA as conversion acres. Power records for ground water pumps and motors show that ground water was pumped to conversion acreage in past years. Irrigation with ground water will reduce the amount of surface water delivered, and also reduces the seepage resulting from surface water deliveries. To receive credit for actual seepage losses, IGWA and/or its member ground water districts must measure and record actual water delivered to the conversion acres.

10. The Department searched for information about seepage that was used to develop and support the ground water model for the ESPA. In an email from Dr. Richard G. Allen, University of Idaho, Kimberly Research Center, to Bryce Contor, dated July 2, 2004, Dr. Allen estimates seepage losses through percolation when the surface water is applied through center pivots at 18 percent of the total surface water delivered. These losses include percolation "from ponds, field ditches, spills from ponds, and over irrigation from imperfect scheduling and nonuniformity."

11. The Department added to the average evapotranspiration ("ET") for the conversion acreage an additional 18 percent of the total surface water delivered to account for additional surface water delivered to the conversion acres that percolates into the ground. The 18 percent is not the actual seepage loss, however, and may be adjusted up or down as additional data is gathered.

12. Data for the conversion acres was input into the Department's ground water model for the ESPA, and the steady state increase in reach gains for the Devils Washbowl to Buhl Gage reach was determined to be 8.5 cfs.

Reductions in Irrigated Acreage

13. In IGWA's Response, IGWA attached summaries of land that will no longer be irrigated with ground water in 2005. One summary was prepared by North Snake Ground Water District. Another summary was prepared by Magic Valley Ground Water District. To receive steady state credit for nonirrigation of the acreage identified, the acreage must be permanently taken out of production or other acres must be idled resulting in required reach gains in the future if the nonirrigated acres are brought back into production.

North Snake Ground Water District Reductions

14. North Snake Ground Water District ("North Snake") submitted a spreadsheet summarizing information about the idled acres and maps associated with each of the spreadsheet entries. The Department reviewed the information submitted and compared it to aerial imagery and water right information.

15. After reviewing the information, the Department determined that approximately 1,417 acres identified by North Snake are eligible for reach gain credit resulting from nonirrigation. Modeling of nonirrigation of the identified acres resulted in a projected steady state reach gain in the Devil's Washbowl to Buhl Gage reach of 0.8 cfs.

16. Actual nonirrigation during the irrigation season must be documented and verified.

Magic Valley Ground Water District Reductions

17. Magic Valley Ground Water District ("Magic Valley") submitted a summary report completed by each ground water user. Each summary sheet contained a blank table grid within which the ground water user could describe the location of the acres that would not be irrigated. Water right numbers associated with the lands were generally written somewhere on the summary report. Magic Valley did not submit any maps depicting the location of the acres that would be idled. Magic Valley also did not provide maps or sufficient detail of the location of acres idled in 2004 as part of the district's interim mitigation commitments.

18. The Department reviewed the information submitted and compared it to aerial imagery and water right information. Most of the 2005 proposed curtailment acres are pivot corners. The Department found a number of problems associated with the proposed reductions, including but not limited to identification of pivot corners not covered by water rights, lands not irrigated in 2004 and not identified as being included in an existing mitigation plan, and lack of specific location of both 2004 reductions and proposed 2005 reductions. After reviewing the information, the Department determined that approximately 4,728 acres identified by Magic Valley are eligible for reach gain credit resulting from nonirrigation. Modeling of these nonirrigated acres resulted in a projected steady state reach gain in the Devil's Washbowl to Buhl Gage reach of 2.9 cfs.

19. Actual nonirrigation during the irrigation season must be documented and verified. The acres that will not be irrigated must be specifically identified on maps for future reference during verification.

Total Increase in Devil's Washbowl to Buhl Gage Reach Gain

20. Using the Department's ground water model for the ESPA, the total simulated reach gain increase for the Devil's Washbowl to Buhl Gage reach from ongoing irrigation conversions and reductions in ground water irrigation implemented in 2005 is 12.2 cfs.

CONCLUSIONS OF LAW

1. The Director recognizes the importance under Idaho law of protecting the holder of a senior priority water right against interference by a junior priority right holder from a tributary or interconnected water source. Art. XV, § 3, Idaho Const.; Idaho Code §§ 42-106, 42-237a(g), and 42-607.

2. Idaho Code § 42-602 states:

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

3. A change in the source of irrigation supply from ground water to surface water will reduce the depletions to the ESPA. Reach gain credit can only be granted for the reduction in ground water irrigation and credible seepage losses for surface water delivered to the conversion acres.

4. Credit for reductions in ground water irrigation when NSCC has primarily supplied the irrigation water in the past is limited to the reach gain resulting from replaced historical supplemental supply from ground water. The best method of determining the portion of the water supply from ground water for these mixed-use acres is the value used in the ESPA Ground Water Model of three-tenths of the total water supply.

5. For the conversion acres, the substitute curtailment plan identified a water right, a point of diversion, and other components of the water rights. When inconsistencies in the information are found, the Department can only grant credit for the most limiting of the related pieces of information.

6. Seepage into the ground from surface water irrigation of lands once irrigated from ground water are estimated at 18 percent of the total water delivered.

7. IGWA should receive credit for steady state reach gains of 8.5 cfs to the Devil's Washbowl to Buhl reach as a result of ground water to surface water conversions.

8. IGWA should receive credit for steady state reach gains of 3.7 cfs to the Devil's Washbowl to Buhl reach as a result of reductions in ground water diversion and associated irrigation.

9. Lands within the North Snake and Magic Valley that will be idled from irrigation must be precisely identified and monitored to insure nonirrigation of the idled land.

10. IGWA should receive credit for steady state reach gains of 12.2 cfs to the Devil's Washbowl to Buhl reach as a result of its proposed substitute curtailment plan.

11. All wells serving conversion acres must be curtailed for the remainder of the season unless the Watermaster allows ground water irrigation of the conversion acres as set forth in the Order below.

ORDER

The Director enters the following Order for the reasons stated in the foregoing Findings of Fact and Conclusions of Law:

IT IS HEREBY ORDERED that the IGWA's substitute curtailment plan is approved as follows:

- (1) IGWA and its member ground water districts receive credit for 12.2 cfs steady state gain to the Devil's Washbowl to Buhl reach for conversions from ground water irrigation to surface water irrigation, and voluntary curtailment of ground water irrigation and idling of other lands.
- (2) Owners of wells that once provided ground water to the conversion acres must: (a) disable the main power supply so water cannot be diverted from the well(s): (b) install or construct a means of control or regulating works on the water delivery works, as approved by the Watermaster of Water District No. 130 and the Department, that is closed, locked, or otherwise disabled by the Watermaster to prevent diversion of the ground water replaced by surface water and/or to prevent delivery of ground water to the conversion acres; or (c) if an irrigator of conversion acres does not have an adequate supply of surface water for irrigation, the irrigator and the ground water district within which his ground water point of diversion is located may request that the Watermaster allow continued irrigation with ground water. The Watermaster may allow the diversion of ground water only if (i) the irrigator employs a means of measuring both ground water and surface water delivered to the conversion acres acceptable to the Watermaster and the Department, and (ii) the ground water district within which the ground water point of diversion is located agrees to measure, record, and report the diversion of ground water and surface water to the Watermaster and the Department. All joint requests from irrigators and Districts must be filed with the Watermaster on or before July 15, 2005. The request must be accompanied by a detailed explanation of how water will be measured and an expedited schedule for installation/construction of measuring devices and controlling works. Diversion of ground water for conversion acres will be subtracted proportionally from the total water supply for the irrigator's conversion acres. Post season reach gain credits will be recomputed to account for the additional ground water diversion. Failure by the ground water district to

accurately measure and report the surface water and ground water diversions will result in total disqualification of the conversion acres for replacement credits.

(3) IGWA and/or Magic Valley Ground Water District must provide maps of a type approved by the Department depicting precisely the boundaries around previously irrigated land that will be idled during 2005 within the Magic Valley Ground Water District. The maps should also contain or be accompanied by additional information identifying the water rights authorizing irrigation of the lands, whether surface water rights are appurtenant to the lands, when the lands were last irrigated, whether the lands were not irrigated in previous years because of ongoing mitigation plans, and whether the lands will continue to be irrigated with surface water. Failure to provide the information by July 29, 2005, will result in immediate disqualification of the reduction acres and and associated reduction of the reach gains for the disqualified acres. After receiving the above information, the Department will review the voluntary curtailment acreage recognized by this order and will readjust the idled acreage and the associated reach gains.

DATED this $\underline{\mathcal{L}^{tn}}$ day of July, 2005.

KARL J DREHER Director

CERTIFICATE OF SERVICE

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