SWC Delivery Call Settlement & Term Sheet

Presented to the Swan Fall Policy Group

August 12, 2015

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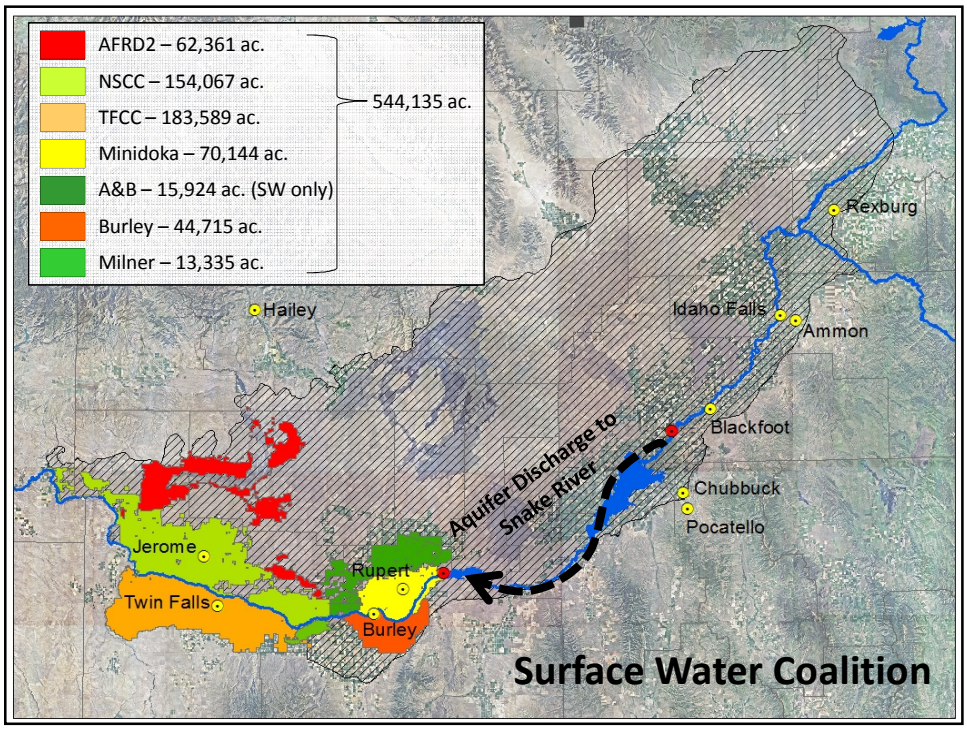
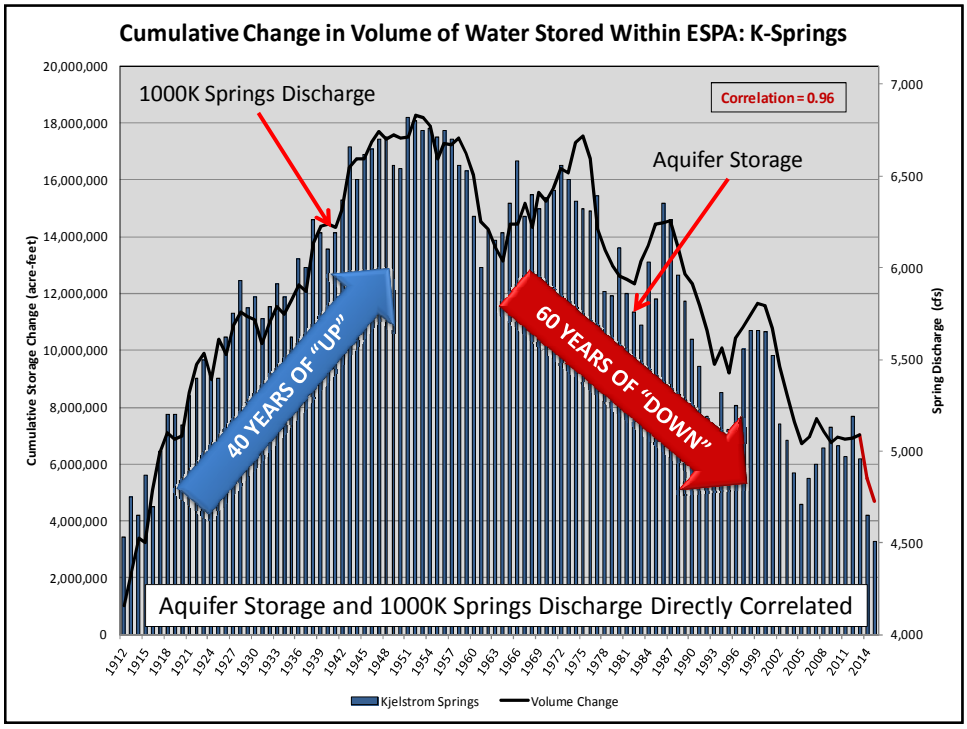
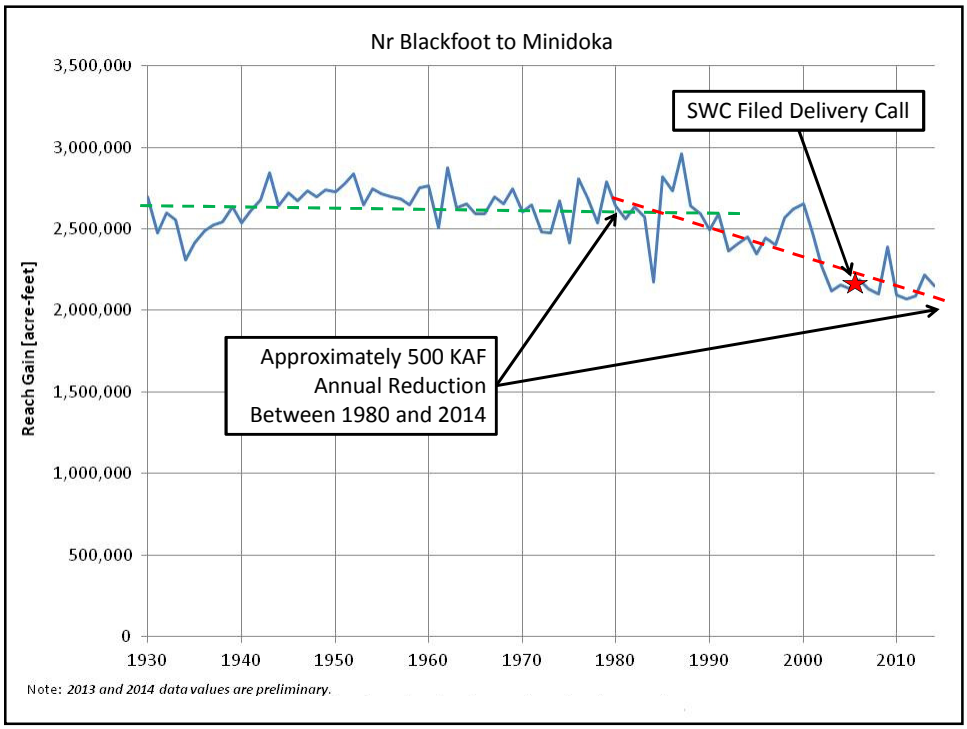



Cumulative Change in Volume of Water Stored Within ESPA: K-Springs
1000K Springs Discharge
Correlation = 0.96
Aquifer Storage
40 YEARS OF "UP"
60 YEARS OF "DOWN"
Aquifer Storage and 1000K Springs Discharge Directly Correlated
Cumulative Storage Change (acre-feet)
Spring Discharge (cfs)
Kjelstrom Springs
Volume Change


Nr Blackfoot to Minidoka
SWC Filed Delivery Call
Approximately 500 KAF
Annual Reduction
Between 1980 and 2014
Reach Gain [acre-feet]
Note: 2013 and 2014 data values are preliminary.

Surface Water Coalition Delivery Call

- Delivery Call Filed in 01/14/2005
- Final Order 09/05/2008
- Second Amended Methodology Order 06/23/2010
- Third Amended Methodology Order 04/16/2015
- Delivery Call Injury Based on Water Supply for Current Year
- Injury: (1) in-season; and (2) "reasonable carryover"
- Because the Water Supply changes from year to year, so does the injury obligation
- Uncertainty is the great frustration of the Junior…and the Senior

How Does the Methodology Work

IN-SEASON INJURY

- April – forecast the SWC's water supply
- April - forecast the SWC's demand (i.e. crop need)
- April – if demand > supply, in-season injury to the SWC exists and Juniors must mitigate or curtail
- July - repeat water supply/demand/injury analysis
- Aug/Sep - repeat water supply/demand/injury analysis at the "time of need"

CARRYOVER INJURY

- November - determine injury, if any, to SWC's "reasonable carryover" (up to 125,000 acre-feet)
- If injury to "reasonable carryover" exists, Juniors must mitigate or curtail

What Has Changed with the Third Amendment?

- No finality for the Junior until the "time of need"
- Full obligation from the Area of Common Ground Water Supply
- New Prediction Models Tied to Aquifer Levels
- New Crop Distribution Data
- No "phased curtailment" of injury to "reasonable carryover"
- New Baseline Years, based on hotter and drier years

- New Methodology provides more certainty to the Senior
- New Methodology determines larger injuries

Under the New Methodology the April Injury Determination was 89,000 acre-feet

Approximately 1982 Priority Date

Approximately 86,000 acres

But for the Stipulation, there Would be Curtailment Right Now!

Summary of Demand Shortfall Projections as of May 3, 2015				
	April As-Applied Order (4/16/15)	April As-Applied w/ May 1 Forecast	July As-Applied w/ April Div. & BLY	July As-Applied w/ April Div. & 2012 Analog Yr.
A&B	0	0	0	0
AFRD2	-15,300	-35,464	-54,728	-67,938
BID	0	0	0	0
Milner	0	0	0	0
Minidoka	0	0	0	0
NSCC	0	0	-26,327	-184,543
TFCC	-73,700	-90,250	-170,259	-318,387
Total	**-89,000**	**-125,714**	**-251,314**	**-570,868**
Approx. Curtailment Priority Date	1982	1980	1974	1957
Approx. Curtailed Acres	86,000	121,000	259,000	594,000

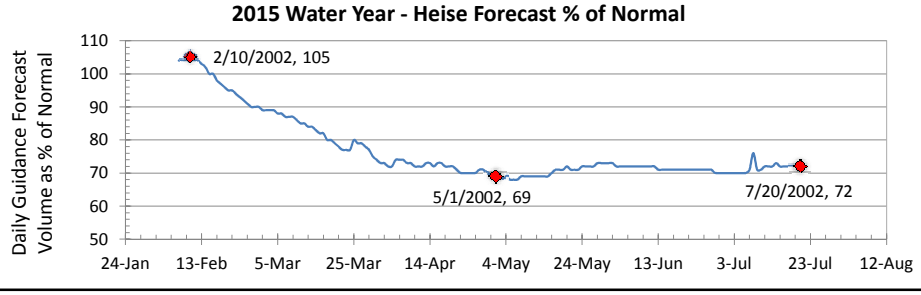
These numbers are calculated using the 3rd Amended Methodology Order for the Surface Water Coalition Delivery Call. Natural flow supplies are predicted using the NRCS's May 1 50% Exceedance Forecast of April-July Runoff Volume at the Heise Gage (i.e. 2,239,000 AF).

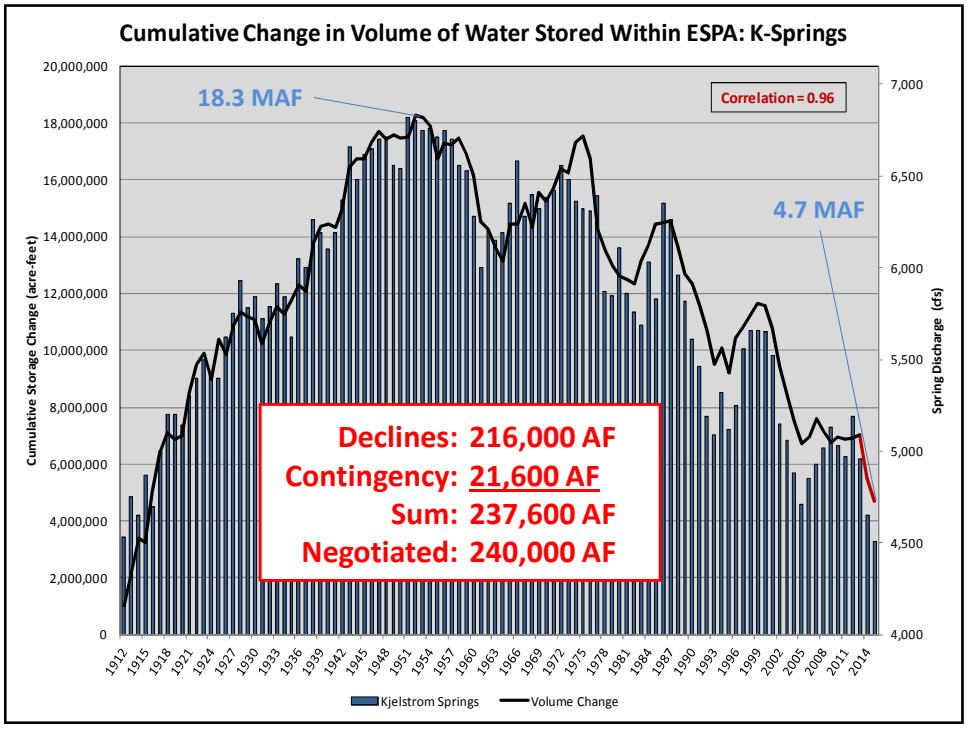
National Water and Climate Center, Natural Resources Conservation Service, USDA, Portland OR
Contact: Cara McCarthy (503) 414-3088
7/20/2015 7:07
Disclaimer: This is a completely automated product based on SNOTEL data.
SNOTEL data is often verfied and edited 1-5 days after the collection of the data and therefore the most recent forecast may be based on unedited data. This product is not meant to replace or supercede monthly forecasts produced in collaboration with the National Weather Service.
Stations used in analysis: 868,419,353,761,764,577,816,314
Forecast name: Snake River nr Heise — Units: 1000 ac-ft
Forecast ID: 13037500 — 1981-2010 Average: 3240
Forecast target: Apr-Jul Volume

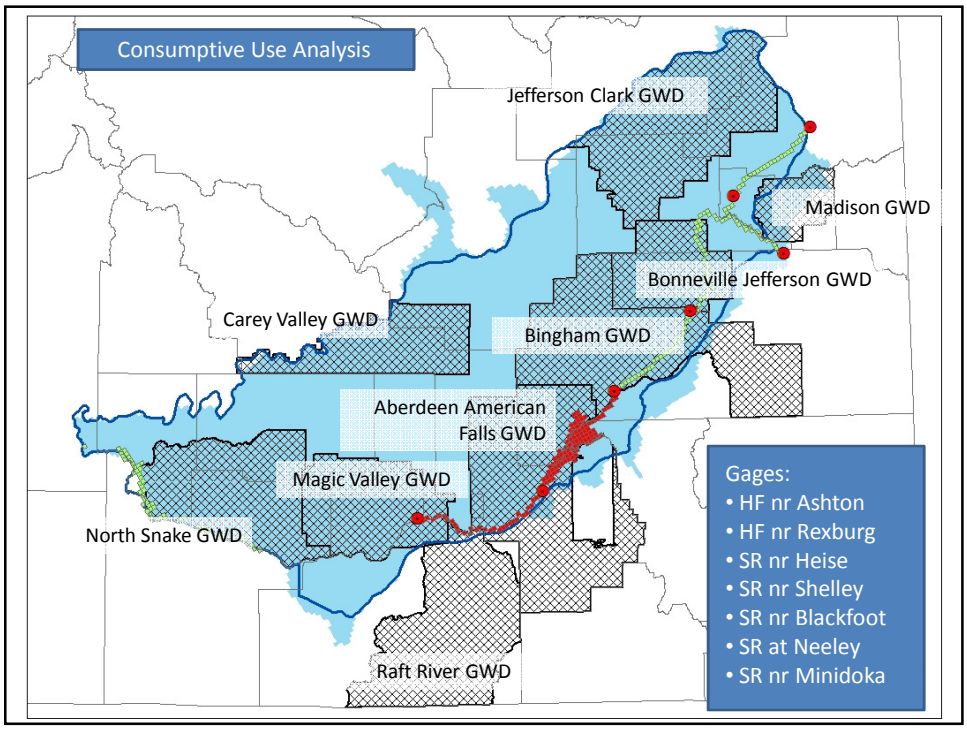
	Chances of exceeding					
Volumes	9 in 10	7 in 10	5 in 10	3 in 10	1 in 10	5 in 10 % avg
Period of	2175	2627	3326	3791	4876	103

Most recent official (none)

	9 in 10	7 in 10	5 in 10	3 in 10	1 in 10	5 in 10 % avg	Skill (r2)
20-Jul	1975	2172	2318	2470	2689	72	0.94




Cumulative Change in Volume of Water Stored Within ESPA: K-Springs
18.3 MAF
Correlation = 0.96
4.7 MAF
Declines: 216,000 AF
Contingency: 21,600 AF
Sum: 237,600 AF
Negotiated: 240,000 AF
Cumulative Storage Change (acre-feet)
Spring Discharge (cfs)
Kjelstrom Springs
Volume Change


Consumptive Use Analysis
Jefferson Clark GWD
Madison GWD
Bonneville Jefferson GWD
Carey Valley GWD
Bingham GWD
Aberdeen American Falls GWD
Magic Valley GWD
North Snake GWD
Raft River GWD
Gages:
• HF nr Ashton
• HF nr Rexburg
• SR nr Heise
• SR nr Shelley
• SR nr Blackfoot
• SR at Neeley
• SR nr Minidoka

Summary of Consumptive Losses to the ESP Aquifer - 2013

NAME	Groundwater Acres*	CIR (ft)*	Total C.L. (AF/Year)	GWD Percent Impact to Aquifer
Aberdeen-American Falls Ground Water District	146,988	2.1	310,874	16.9%
Bingham Ground Water District	134,083	2.3	308,759	16.8%
Bonneville-Jefferson Ground Water District	91,086	1.9	175,336	9.5%
Carey Valley Ground Water District	2,513	2.2	5,623	0.3%
Jefferson Clark Ground Water District	171,488	1.9	332,810	18.1%
Madison Ground Water District	739	1.7	1,284	0.1%
Magic Valley Ground Water District	189,990	2.6	500,457	27.2%
North Snake Ground Water District	84,601	2.4	204,770	11.1%
Raft River Ground Water District	11	1.8	20	0.0%
Total (or Average for CIR)	821,497	2.2	1,839,933	--

Summary of Consumptive Losses to ESPA by Year

Year	Groundwater Acres*	CIR (ft)*	Total C.L. (AF/Year)
2000	798,079	2.25	1,901,055
2010	792,176	2.07	1,802,237
2013	821,497	2.23	1,839,933
Avg.:	803,918	2.18	1,847,742
S.D.:	15,508	0.10	49,870
% S.D.	1.9%	4.5%	2.7%

**Groundwater irrigated acres and CIR values are provisional data based on preliminary IDWR analysis, and are subject to review and revision by settlement parties.*

240 KAF Reduction - Benefit to the Aquifer

Summary of Consumptive Loss Impacts from GW Pumping to Entire Aquifer - 2013

NAME	Ground-water Acres*	CIR (ft)*	Total C.L. (AF/Year)	Aquifer Percent	Aquifer Losses (AF/Year)	Gains (AF/Year) – 240K Reduction	GWD % Impact
Aberdeen-American Falls Ground Water District	146,988	2.1	310,874	100.0%	310,874	40,724	16.9%
Bingham Ground Water District	134,083	2.3	308,759	100.0%	308,759	40,447	16.8%
Bonneville-Jefferson Ground Water District	91,086	1.9	175,336	100.0%	175,336	22,969	9.5%
Carey Valley Ground Water District	2,513	2.2	5,623	100.0%	5,623	737	0.3%
Jefferson Clark Ground Water District	171,488	1.9	332,810	100.0%	332,810	43,598	18.1%
Madison Ground Water District	739	1.7	1,284	--	--	--	--
Magic Valley Ground Water District	189,990	2.6	500,457	100.0%	500,457	65,560	27.2%
North Snake Ground Water District	84,601	2.4	204,770	100.0%	204,770	26,825	11.1%
Raft River Ground Water District	11	1.8	20	--	--	--	--
Total (or Average for CIR)	821,497	2.2	1,839,933	--	1,838,629	240,860	100.0%

~240,860 AF Decrease in Consumptive Losses to the Aquifer

**Groundwater irrigated acres and CIR values are provisional data based on preliminary IDWR analysis, and are subject to review and revision by settlement parties.*

240 KAF Reduction - Benefit to the NBtM Reach

Summary of Consumptive Loss Impacts from GW Pumping to the Near Blackfoot to Minidoka River Reaches - 2013

NAME	Ground-water Acres*	CIR (ft)*	Total C.L. (AF/Year)	NBtM Percent	NBtM Losses (AF/Year)	Gains (AF/Year) – 240K Reduction	GWD % Impact
Aberdeen-American Falls Ground Water District	146,988	2.1	310,874	61.2%	190,324	24,932	23.0%
Bingham Ground Water District	134,083	2.3	308,759	64.3%	198,656	26,024	24.0%
Bonneville-Jefferson Ground Water District	91,086	1.9	175,336	53.0%	92,921	12,173	11.2%
Carey Valley Ground Water District	2,513	2.2	5,623	36.0%	2,026	265	0.2%
Jefferson Clark Ground Water District	171,488	1.9	332,810	32.3%	107,412	14,071	13.0%
Madison Ground Water District	739	1.7	1,284	--	--	--	--
Magic Valley Ground Water District	189,990	2.6	500,457	41.4%	206,999	27,117	25.1%
North Snake Ground Water District	84,601	2.4	204,770	13.7%	27,987	3,666	3.4%
Raft River Ground Water District	11	1.8	20	--	--	--	--
Total (or Average for CIR)	821,497	2.2	1,839,933	--	826,325	108,249	100.0%

~108,249 AF Increase in Reach Gains
to the Near Blackfoot to Minidoka Reach

**Groundwater irrigated acres and CIR values are provisional data based on preliminary IDWR analysis, and are subject to review and revision by settlement parties.*

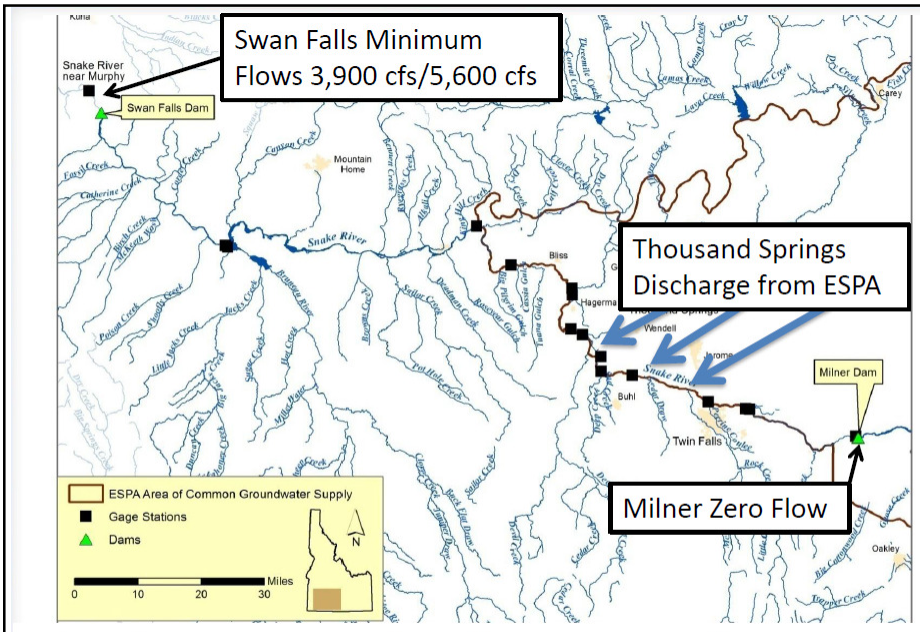
240 KAF Reduction - Benefit to the Murphy Gage

Summary of Consumptive Loss Impacts from GW Pumping to the Snake River Below Milner - 2013

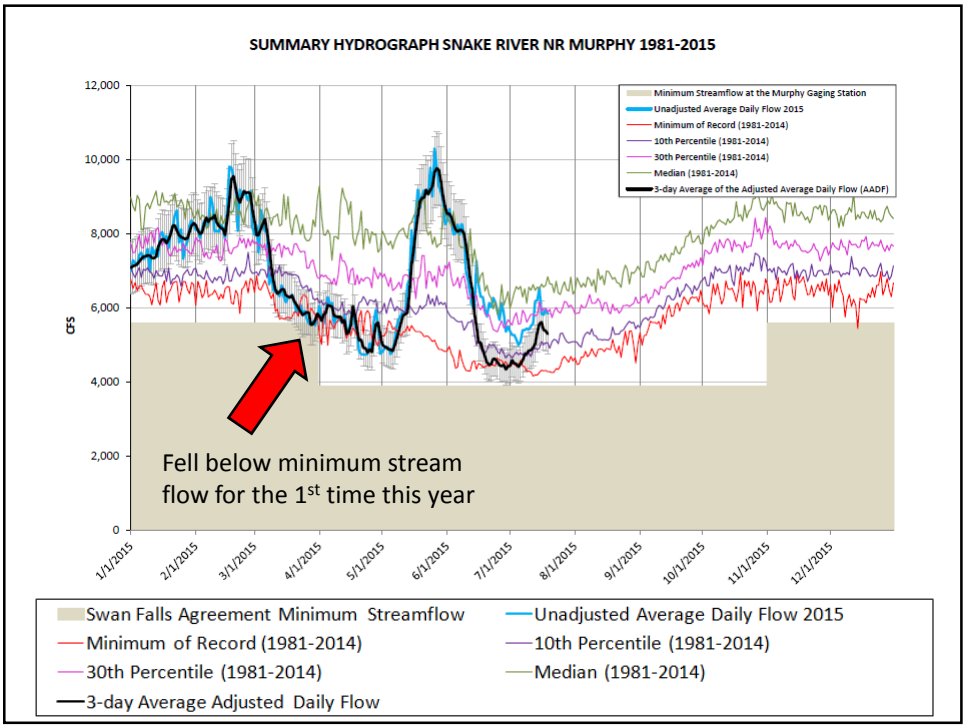
NAME	Ground-water Acres*	CIR (ft)*	Total C.L. (AF/Year)	KtKH Percent	KtKH Losses (CFS)	Gains (AF/Year) – 240K Reduction	GWD % Impact
Aberdeen-American Falls Ground Water District	146,988	2.1	310,874	13.0%	55.91	7.32	9.2%
Bingham Ground Water District	134,083	2.3	308,759	3.9%	16.73	2.19	2.8%
Bonneville-Jefferson Ground Water District	91,086	1.9	175,336	3.4%	8.24	1.08	1.4%
Carey Valley Ground Water District	2,513	2.2	5,623	48.3%	3.75	0.49	0.6%
Jefferson Clark Ground Water District	171,488	1.9	332,810	2.2%	10.13	1.33	1.7%
Madison Ground Water District	739	1.7	1,284	--	--	--	--
Magic Valley Ground Water District	189,990	2.6	500,457	40.8%	282.30	36.98	46.7%
North Snake Ground Water District	84,601	2.4	204,770	80.4%	227.45	29.80	37.6%
Raft River Ground Water District	11	1.8	20	--	--	--	--
Total (or Average for CIR)	821,497	2.2	1,839,933	--	604.51	79.19	100.0%

Up to ~80 CFS Increase in Snake River flows
at the Murphy Gage below Swan Falls Dam.

**Groundwater irrigated acres and CIR values are provisional data based on preliminary IDWR analysis, and are subject to review and revision by settlement parties.*



When flow is zero at Milner, flow at Swan Falls Dam is made up almost entirely of spring flows from the ESPA

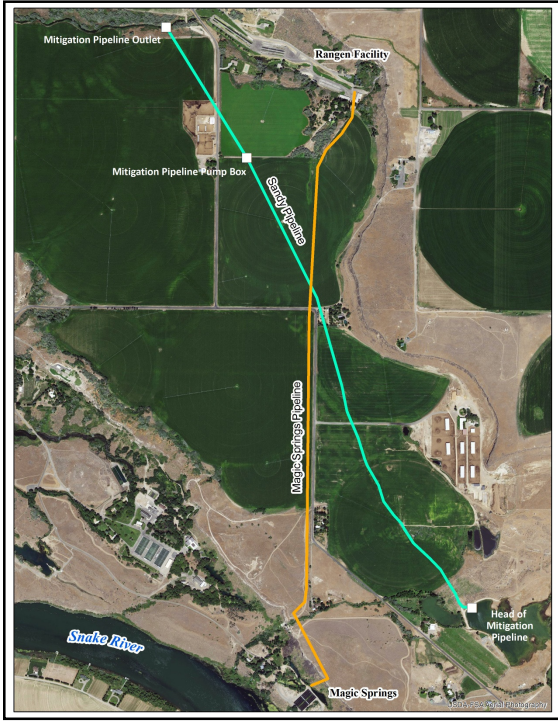


240 KAF Reduction - Benefit to Billingsley Creek

Summary of Consumptive Loss Impacts from GW Pumping to Billingsley Creek - 2013

NAME	Ground-water Acres	CIR ft	Total C.L. (AF/Year)	Billingsley Percent	Billingsley Losses (CFS)	Gains (AF/Year) - 13.1% Reduction	GWD % Impact
Aberdeen-American Falls Ground Water District	146,988	2.1	310,874	1.2%	5.14	0.67	9.1%
Bingham Ground Water District	134,083	2.3	308,759	0.4%	1.54	0.20	2.7%
Bonneville-Jefferson Ground Water District	91,086	1.9	175,336	0.3%	0.76	0.10	1.3%
Carey Valley Ground Water District	2,513	2.2	5,623	4.5%	0.35	0.05	0.6%
Jefferson Clark Ground Water District	171,488	1.9	332,810	0.2%	0.93	0.12	1.7%
Madison Ground Water District	739	1.7	1,284	--	--	--	--
Magic Valley Ground Water District	189,990	2.6	500,457	3.7%	25.53	3.34	45.3%
North Snake Ground Water District	84,601	2.4	204,770	7.8%	22.16	2.90	39.3%
Raft River Ground Water District	11	1.8	20	--	--	--	--
Total (or Average for CIR)	821,497	2.2	1,839,933	--	56.42	7.39	100.0%

~7 CFS Increase in flows of Billingsley Creek.



Finalization of the Settlement Agreement - Timeline

- May – Preliminary Agreement Reached by Parties, Stipulated to the following: withdraw Methodology; rescind as-applied, July 1 deadline
- June – IGWA held GWD Meetings to explain settlement
- June – SWC held meeting to explain settlement
- June – IGWA and SWC continued to meet to finalize settlement
- July 2 - Parties agreed to final settlement, all signatures in
- August 1 – All irrigation districts, canal companies, and ground water districts subject to the agreement submitted signatures
- September 10 – 1st Steering Committee Meeting
- September 23 – technical workshop

Final Settlement Agreement

1. Objectives
   - Mitigate for material injury to senior water users in the SWC Delivery Call
   - Provide safe harbor to participating ground water users in participating GWD
   - Minimize economic impact to water users and State economy
   - Increase reliability and enforcement of use, measurement, and reporting
   - Develop adaptive management plan to stabilize and enhance the ESPA ground water levels

Final Settlement Agreement

2. Near Term Practices
   - 110,000 AF storage water
     - Satisfied in-season mitigation obligation
     - All rental contracts in to WD01 by July 1
   - $1.1 Million dedicated to conversion projects
   - If Settlement Agreement not finalized (by August 1), Director to reinstate Methodology Order and resume implementation with year-end carryover injury analysis

Final Settlement Agreement

3. Long Term Practices
   - Consumptive use reduction of 240,000 AF
   - Annual storage water delivery of 50,000 AF
   - Irrigation season reduction: April 1 – October 31
   - Mandatory Measurement Devices by 2018
   - Ground Water Level Goal and Benchmarks
   - Recharge: support state sponsored recharge of 250 KAF

Final Settlement Agreement – Goal and Benchmarks

Goal

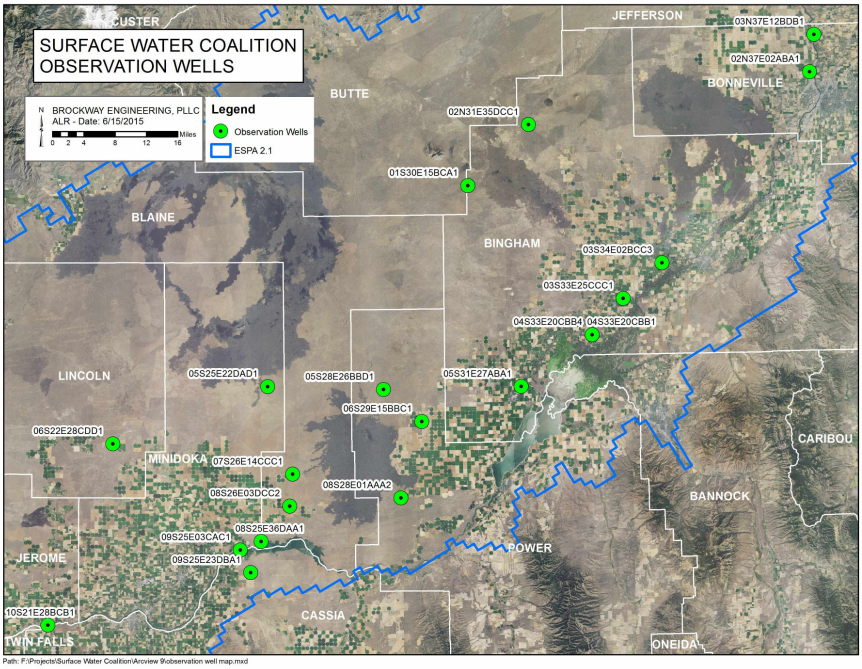
Stabilize and ultimately reverse the trend of declining ground water levels and return ground water levels to a level equal to the average of the aquifer levels from 1991 – 2001

Benchmarks

- 2020: ground water levels equal to 2015 levels
- 2023: ground water levels equal to halfway between 2015 levels and goal
- 2026: ground water levels equal to or exceeding 1991 – 2001 average

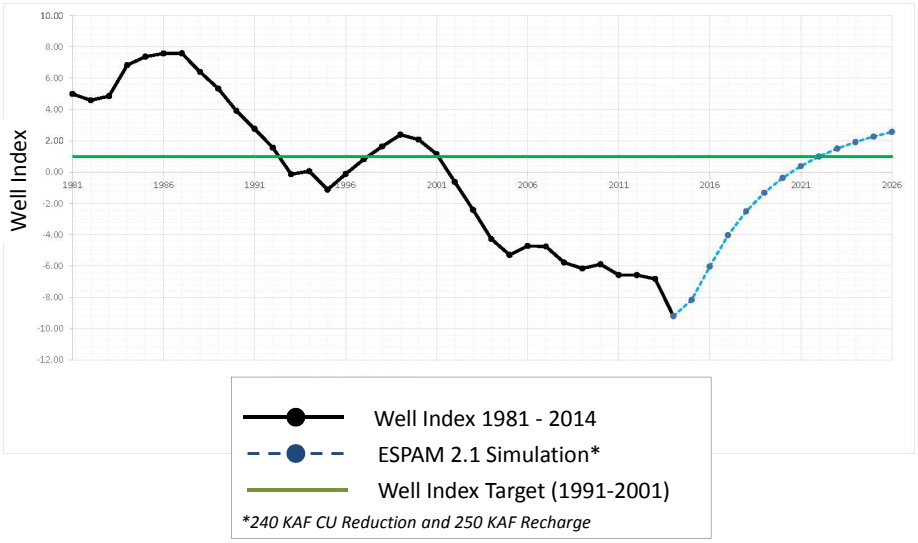
Metric

19 mutually agreed to sentinel wells (subset of synoptic measurement)



7/15/2015

Figure 1: IGWA-SWC Well Index with ESPAM2 Simulated Benefit from 240K AF of Consumptive Use Reduction & 250K AF Recharge



Final Settlement Agreement

4. Adaptive Water Management Measures

   If any of the benchmarks or the ground water level goal is not met, additional recharge, consumptive use reduction, or other measures as recommended by the Steering Committee shall be implemented by the participating ground water parties to meet the benchmarks or ground water level goal


The End?