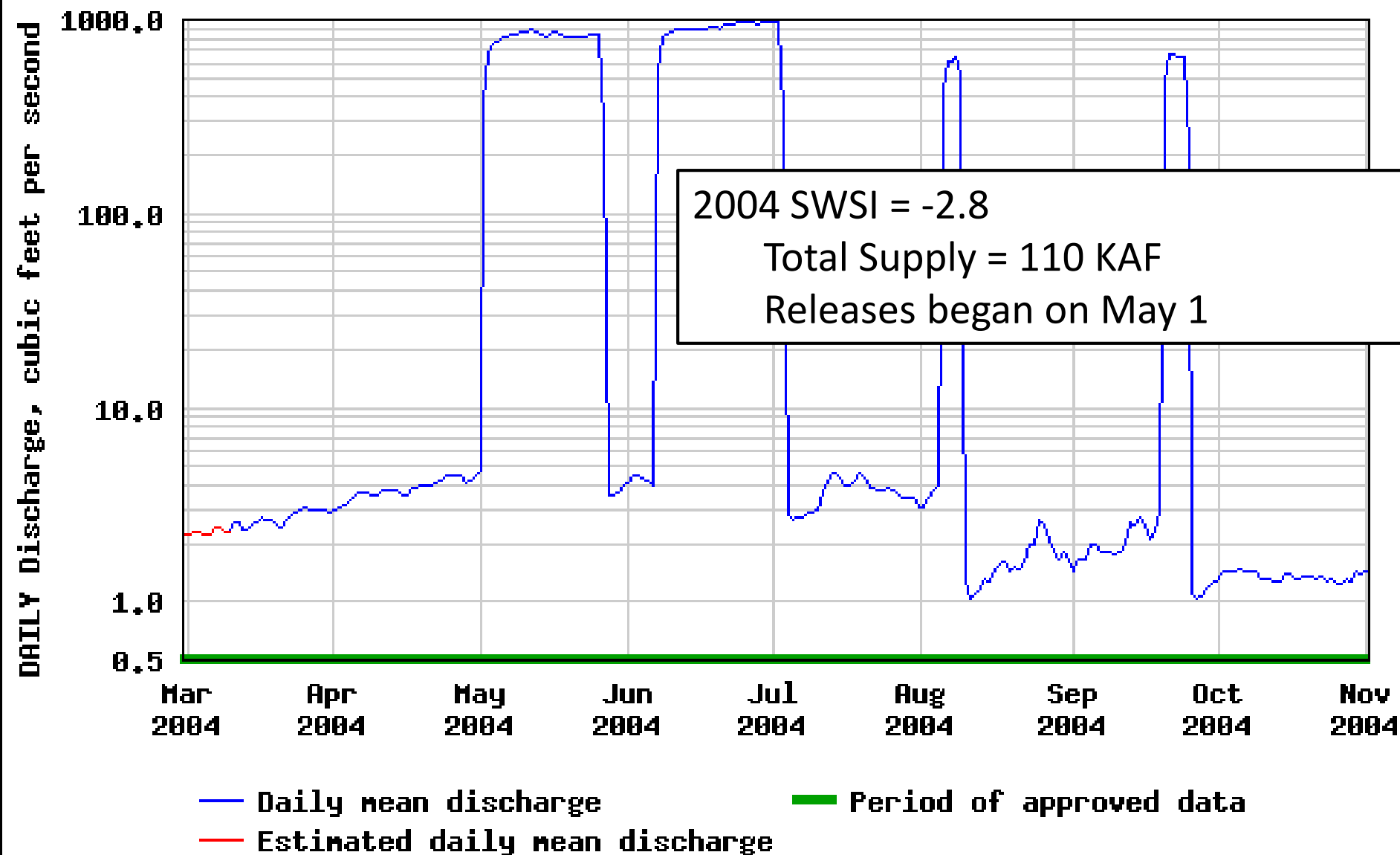


**Big Wood River Ground Water Management Area Advisory
Committee
April 15, 2021 Meeting Materials**

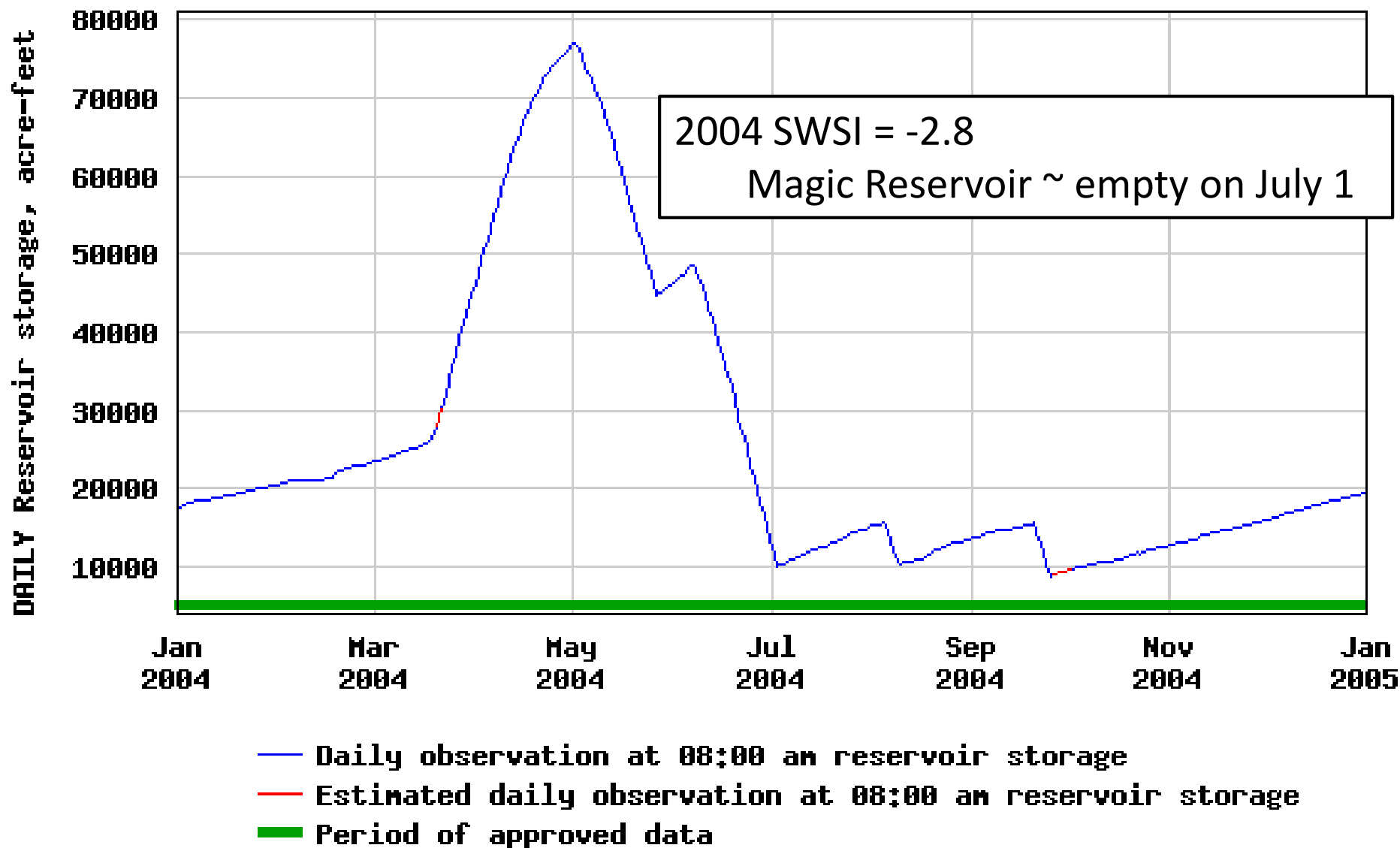
1. Water Supply Update April 15, 2021
2. Estimated 2021 Cumulative Streamflow System Impacts by Month from Junior Groundwater Pumpers

Station ID	Station Name	Period	Data Type	Years	# of Years		
13142500	Big Wood R blw Magic Reservoir	Apr-Sep	strm	1991-2020	30 Units KAF		
13142000	Magic Reservoir	31-Mar	resv	1991-2020	30 Units KAF		
ENSO Classification							
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina							
Rank	Year	Enso	Stream Flow Apr- Sep	Reservoir 31-Mar	Streamflow + Reservoir Sum	Non- Exceedance Probability	SWSI
1	2017	LN	710	186	896	97%	3.9
2	1997	N	605	118	724	94%	3.6
3	2006	N	636	78	714	90%	3.4
4	1998	SE	427	170	597	87%	3.1
5	1995	SE	518	77	595	84%	2.8
6	1999	SL	420	102	522	81%	2.6
7	1996	N	351	161	512	77%	2.3
8	2019	N	424	83	507	74%	2.0
9	2011	SL	322	107	429	71%	1.7
10	2012	LN	238	185	423	68%	1.5
11	1993	EN	355	38	393	65%	1.2
12	2018	LN	204	185	388	61%	0.9
13	2000	N	165	132	298	58%	0.7
14	2016	SE	187	88	275	55%	0.4
15	2009	N	219	42	261	52%	0.1
16	2010	EN	167	92	259	48%	-0.1
17	2005	EN	194	36	230	45%	-0.4
18	2007	EN	60	151	211	42%	-0.7
19	2008	N	178	28	206	39%	-0.9
20	2020	?	56	150	205	35%	-1.2
2021 10% Chance Exceedance Forecast		?	163	32	195	34%	-1.3
21	2003	EN	140	36	176	32%	-1.5
22	2015	EN	79	80	159	29%	-1.7
23	2014	N	84	73	157	26%	-2.0
24	2002	N	120	26	146	23%	-2.3
2021 30% Chance Exceedance Forecast		?	113	32	145	21%	-2.4
25	1994	SE	31	94	125	19%	-2.6
2021 50% Chance Exceedance Forecast		?	84	32	116	18%	-2.7
26	2004	N	66	45	110	16%	-2.8
27	2013	N	66	40	106	13%	-3.1
28	2001	LN	38	65	104	10%	-3.4
29	1991	N	76	27	103	6%	-3.6
2021 70% Chance Exceedance Forecast		?	59	32	91	5%	-3.7
2021 90% Chance Exceedance Forecast		?	31	32	63	4%	-3.8
30	1992	EN	24	34	58	3%	-3.9

USGS 13142500 BIG WOOD RIVER BL MAGIC DAM NR RICHFIELD ID



USGS 13142000 MAGIC RES NR RICHFIELD ID



Magic Reservoir

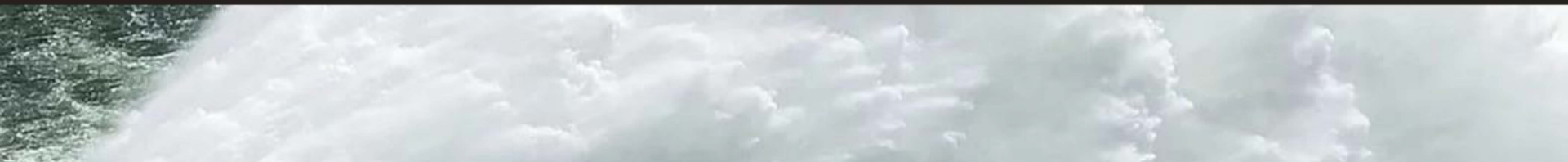
04/15/2021

Level in acre feet- 38,549

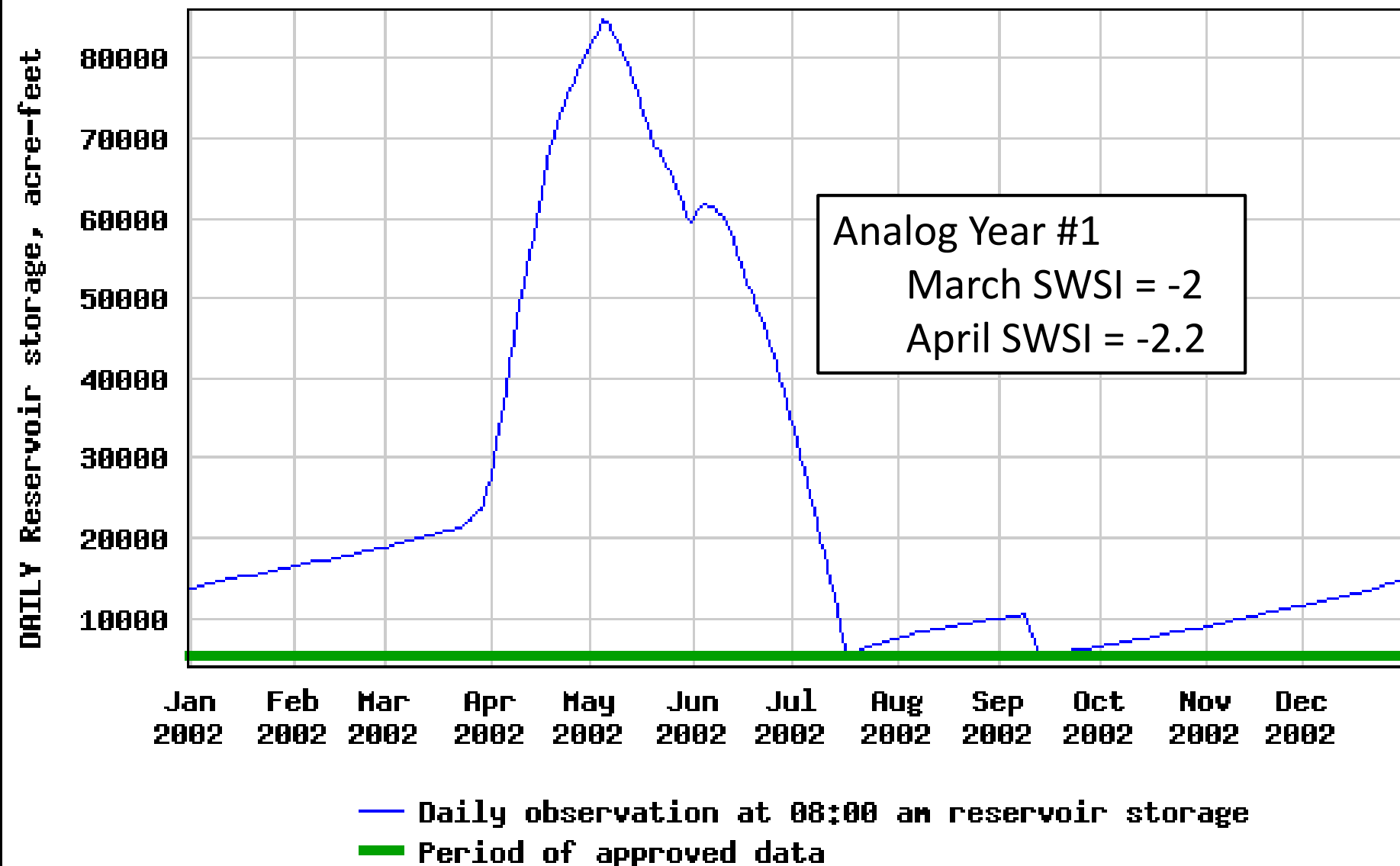
Inflow in cfs- 178.90

outflow in cfs- 1.88

According to our research and data, Magic Reservoir is currently looking at somewhere between 50-70 days of water delivery. These numbers are subject to change as snow melts and more data is available. We will be posting updated estimates each Monday as more information is gathered.



USGS 13142000 MAGIC RES NR RICHFIELD ID



USGS 13142000 MAGIC RES NR RICHFIELD ID

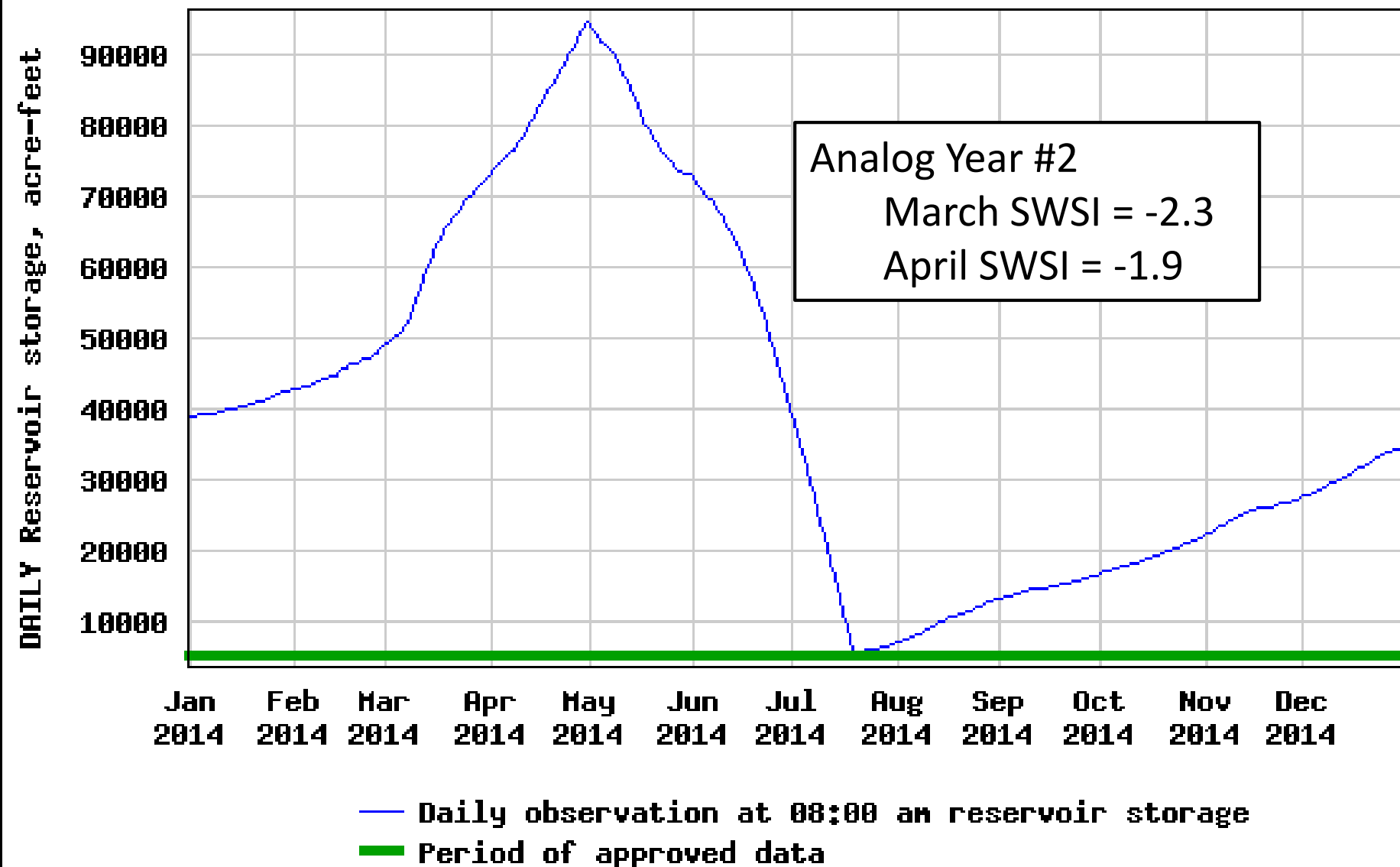


Table 10 – Estimated 2021^{1,4} Cumulative Streamflow System Impacts by Month from Junior Groundwater Pumpers

MONTH	TOTAL SILVER CREEK IMPACTS		TOTAL BIG WOOD RIVER IMPACTS		BELOW HEART ROCK RANCH IMPACTS ²
	(AC-FT)	(CFS)	(AC-FT)	(CFS)	(AC-FT)
Jan	1,042	16.94	883	14.35	309
Feb	783	14.09	660	11.89	231
Mar	740	12.03	819	13.32	286
Apr	766	12.87	726	12.20	254
May	1,476	23.99	1,476	23.99	516
Jun	1,847	31.05	1,916	32.20	670
Jul	2,969	48.29	2,222	36.00	774
Aug	3,069	49.91	2,512	40.85	879
Sep	2,731	45.90	2,101	35.31	735
Oct	2,371	38.57	1,884	30.65	659
Nov	1,733	29.12	1,457	24.47	510
Dec	1,451	23.60	1,216	19.78	425
Total	20,978 (AC-FT)		17,872 (AC-FT)		6,248
Total Irrigation Season ³	12,858 (AC-FT)		10,953 (AC-FT)		3,828
Total Non-Irrigation Season ³	8,120 (AC-FT)		6,919 (AC-FT)		2,420

Notes:

1 – assumes consumptive Use is 85% and 2021 impacts are cumulative effects of 2019, 2020 & 2021 (estimated) pumping withdrawals of 37,377 ac-ft., 47,715 ac-ft., and 47,715 ac-ft. respectively.

2 - Irrigation season for Silver Creek and Big Wood River is considered to run from April 1 – September 30

3 – Non-Irrigation season for Silver Creek and Big Wood River is considered to run from October 1 – March 31

4 – Temporal and spatial impacts are scaled estimated based on IDWR Curtailment results (Sukow 2019) for 2007

Estimated 2021 Material Injury to Magic Reservoir Impoundment Rights

For Calendar Year 2021 the estimated Material Injury to Magic Reservoir Impoundments rights is a combination of:

- 1) Total Non-Irrigation Season water in the Big Wood River that otherwise would have ended up in Magic Reservoir - 6,919 ac-ft.
- 2) That portion of Irrigation Season water in the Big Wood River below Heart Rock Ranch that otherwise would have ended up in Magic Reservoir – 3,828 ac-ft.
- 3) An estimated 10% of Irrigation Season water in the Big Wood River above Heart Rock Ranch (i.e., 7,125 ac-ft) that otherwise would have ended up in Magic Reservoir – 713 ac-ft. The estimate of 10% is roughly estimated to be the percent of water rights above Heart Rock Ranch that are junior to the oldest Magic Reservoir impoundment water right (i.e., 11/16/1905)

Total 2021 Material Injury – **11,460 ac-ft.**

Note: Analysis of material injury to Magic Reservoir resulting from groundwater pumping on the Camas Prairie is ongoing. Preliminary estimates indicate that the material injury is approximately 50% of the yearly consumptive use (e.g., 4,600 ac-ft for 2021) under steady-state conditions. Given the current lack of understanding of the timing of pumping/curtailment impacts, this material injury is not included in the material injury claim for 2021. Magic Reservoir reserves the right to claim material injury from pumping on the Camas Prairie in the future.