BUREAU OF RECLAMATION

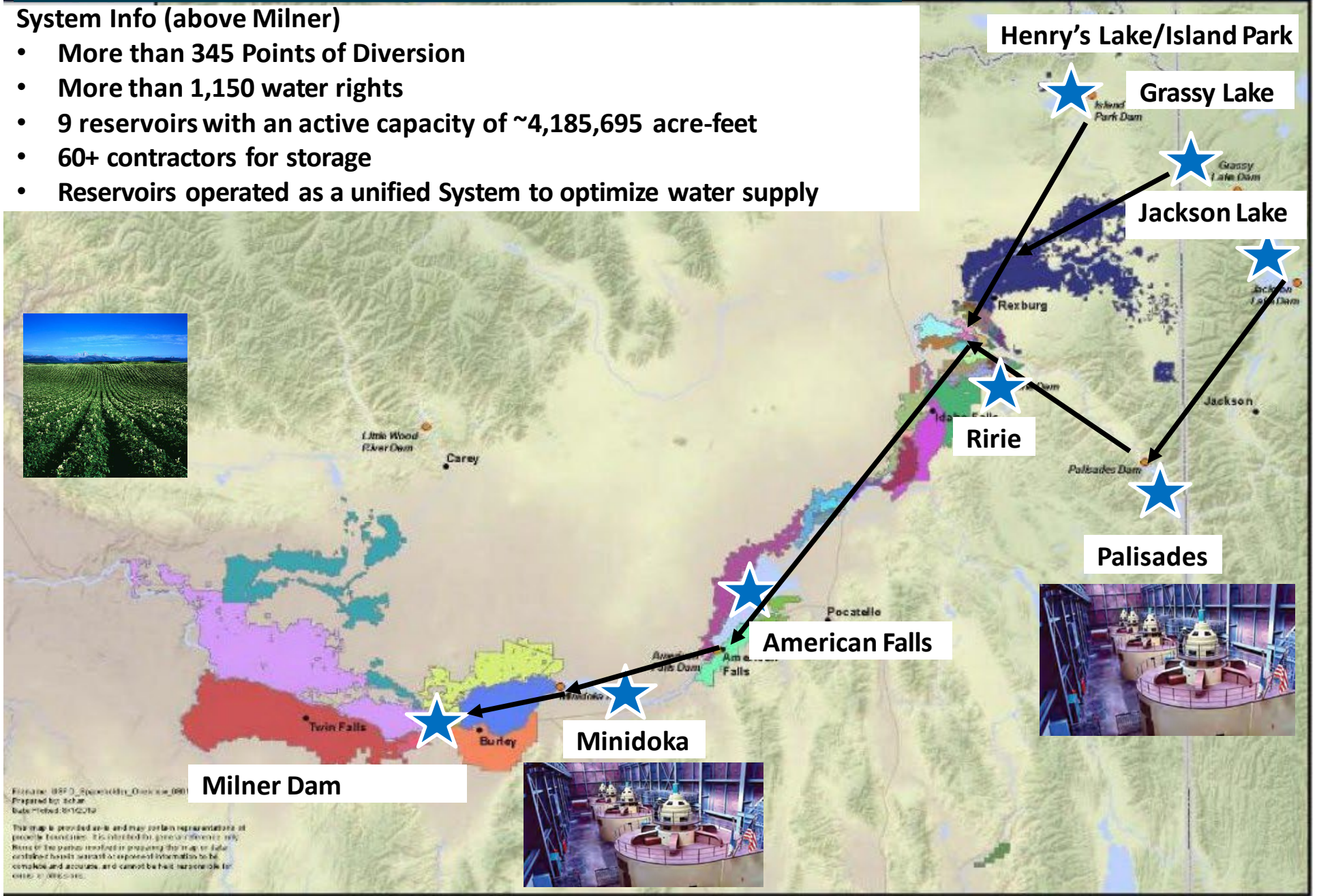
Upper Snake Water Supply

Jeremy Dalling
Upper Snake Field Office Water Operations

Upper Snake Field Office
Irrigation Organizations

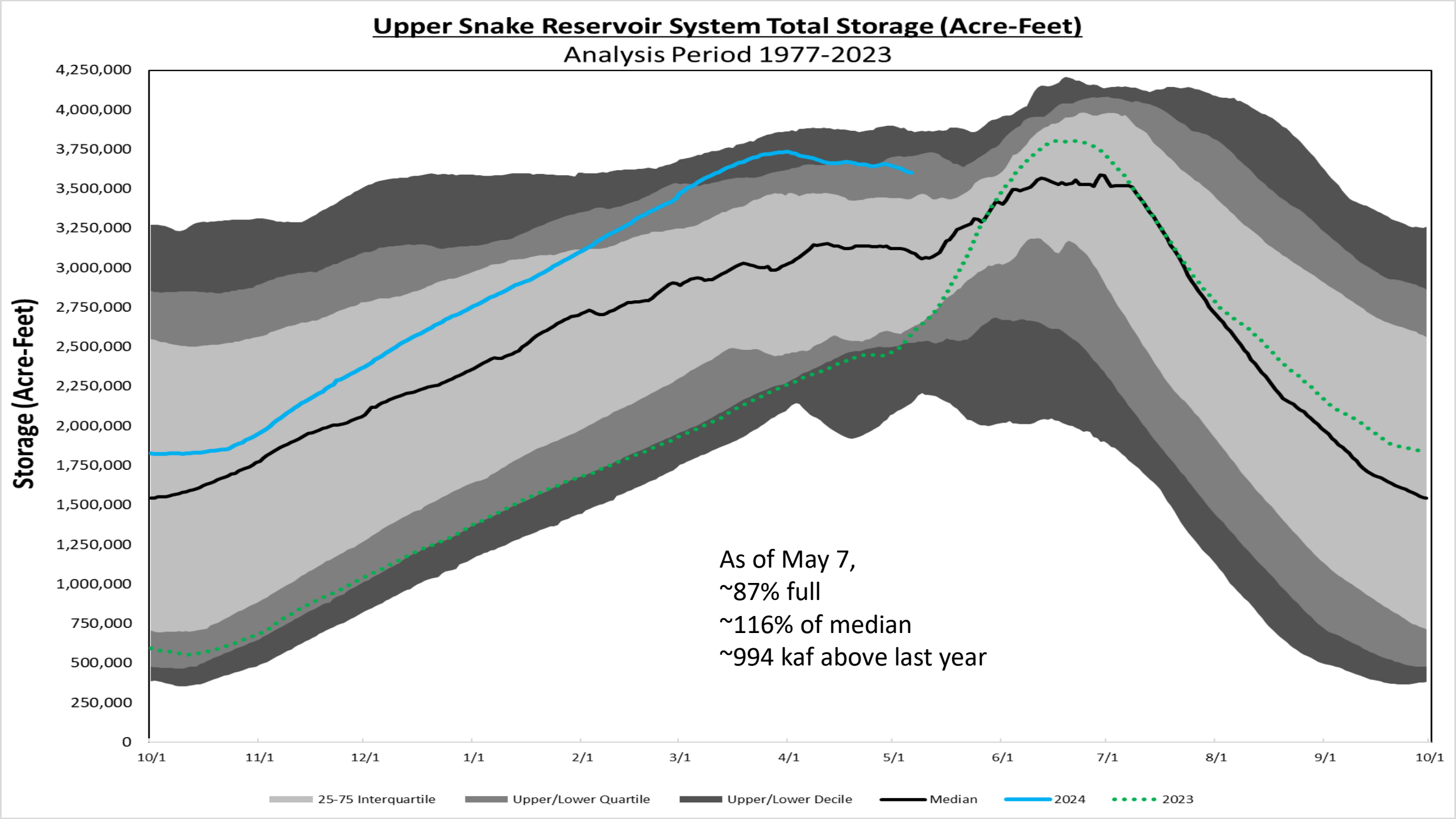
System Info (above Milner)

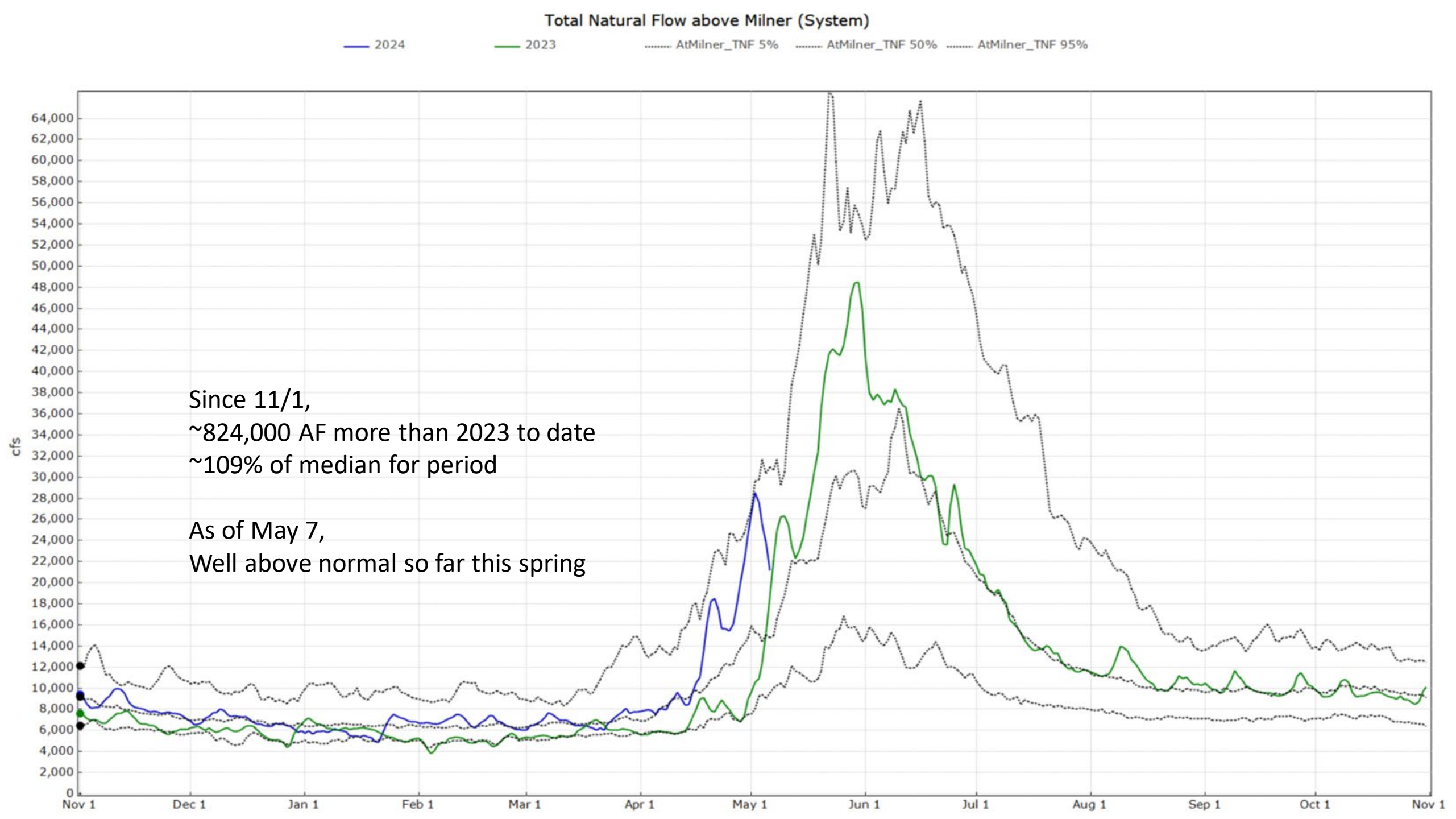
- More than 345 Points of Diversion
- More than 1,150 water rights
- 9 reservoirs with an active capacity of ~4,185,695 acre-feet
- 60+ contractors for storage
- Reservoirs operated as a unified System to optimize water supply

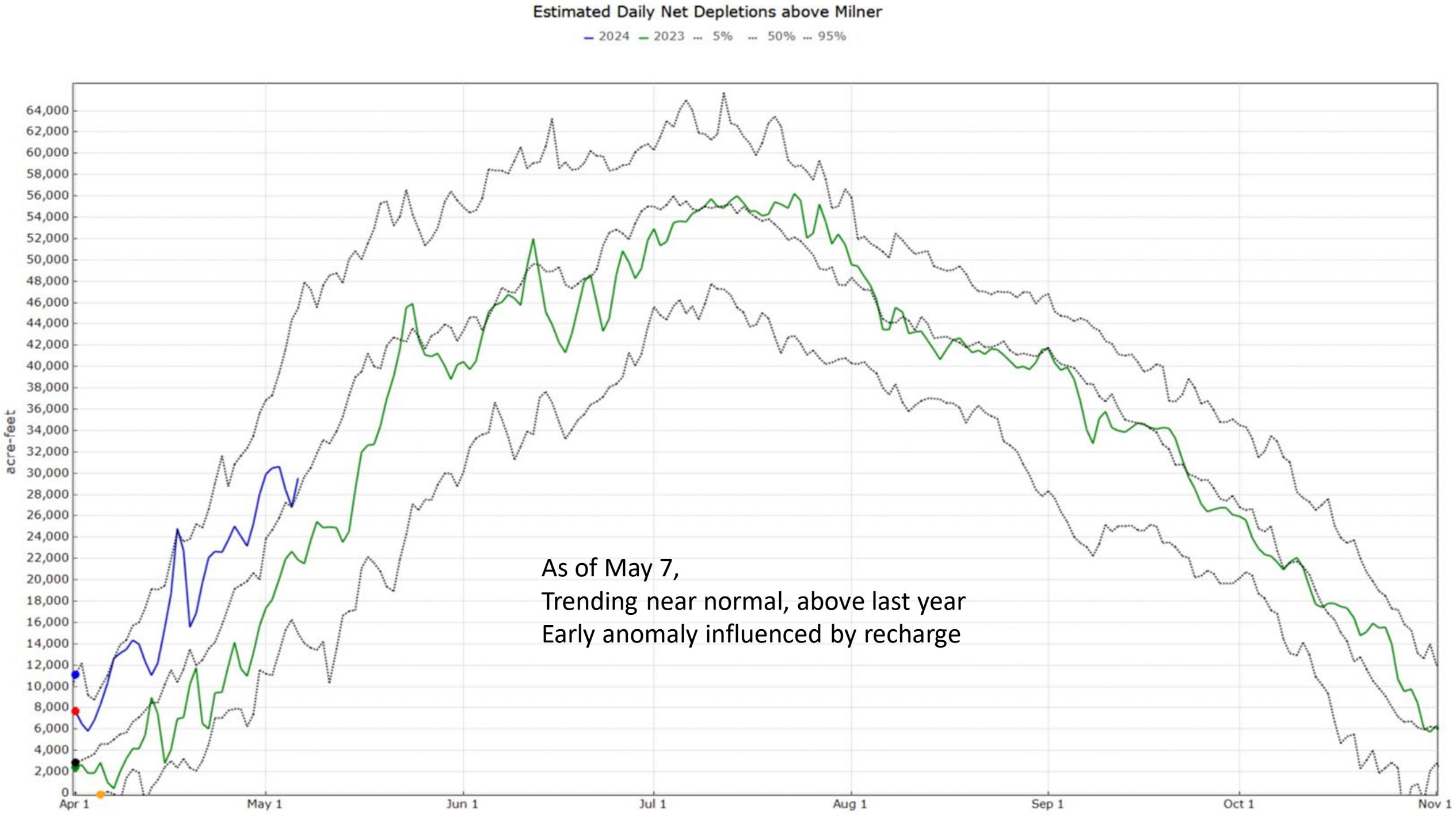


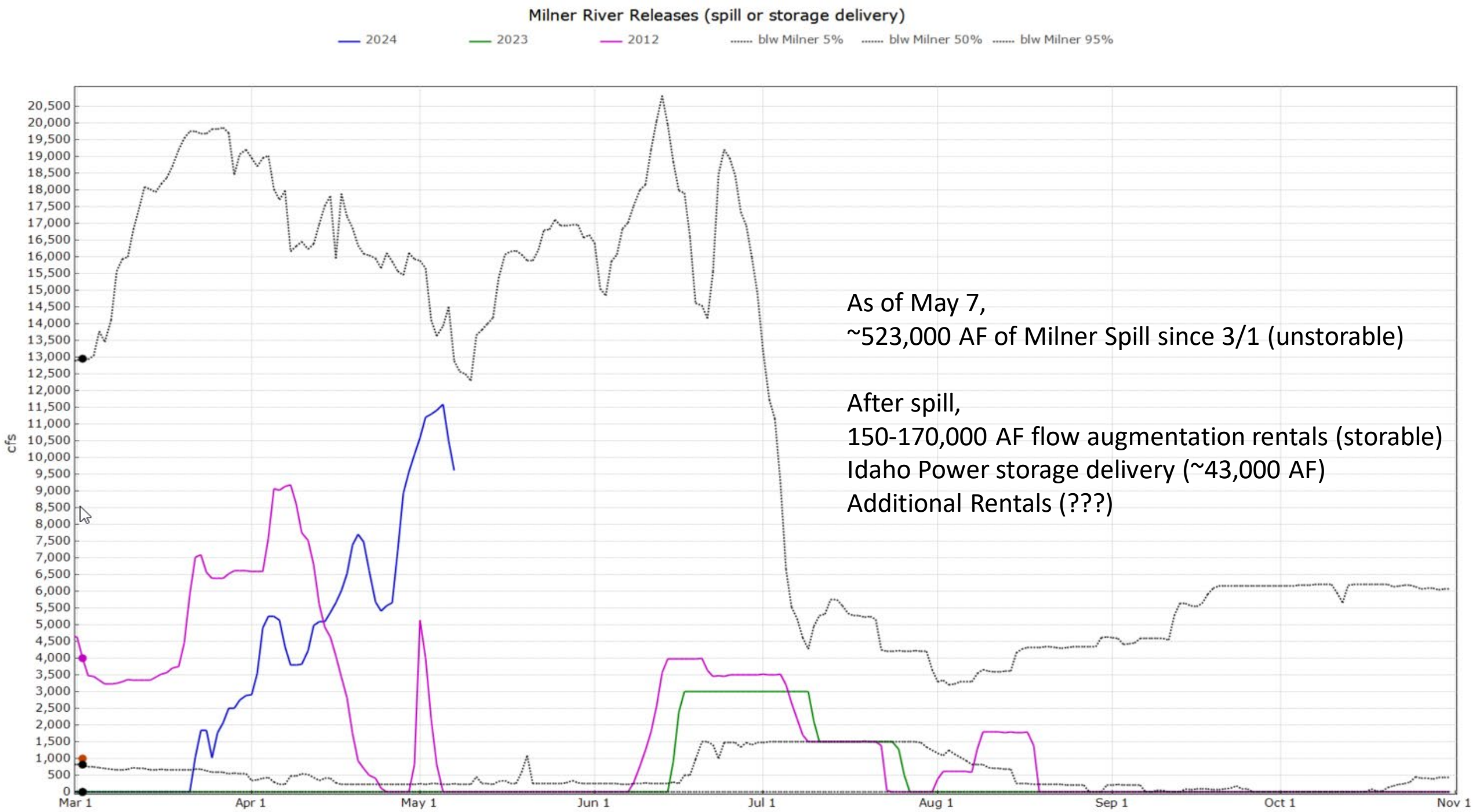
Snake above King Hill Storage (May 7)

BASIN	CURRENT STORAGE (Acre-Feet)	Storage Capacity (Acre-Feet)	%Full	365-Delta (Acre-Feet)
Little Wood	***26,174***	30,000	87%	*5,322*
Upper Snake Reservoir System	***3,597,107***	4,135,695	87%	*994,334*
Above Heise (Jck & Pal)	***1,530,701***	2,047,000	75%	*668,852*
Jackson Lake (Jck)	***695,286***	847,000	82%	*441,919*
Palisades (Pal)	***835,415***	1,200,000	70%	*226,933*
Henrys Fork (Hen, Isl, Grs)	***231,593***	240,385	96%	*13,897*
Island Park (Isl)	***128,114***	135,205	95%	*10,318*
Ririe Reservoir (Rir)	***79,598***	80,540	99%	*23,610*
Lower System (American Falls and Lake Walcott)	***1,755,215***	1,767,770	99%	*287,975*


Upper Snake Reservoir System Total Storage (Acre-Feet)
Analysis Period 1977-2023
Storage (Acre-Feet)
4,250,000
4,000,000
3,750,000
3,500,000
3,250,000
3,000,000
2,750,000
2,500,000
2,250,000
2,000,000
1,750,000
1,500,000
1,250,000
1,000,000
750,000
500,000
250,000
0
10/1
11/1
12/1
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
As of May 7,
~87% full
~116% of median
~994 kaf above last year
25-75 Interquartile
Upper/Lower Quartile
Upper/Lower Decile
Median
2024
2023


Total Natural Flow above Milner (System)
2024
2023
AtMilner_TNF 5%
AtMilner_TNF 50%
AtMilner_TNF 95%
cfs
64,000
62,000
60,000
58,000
56,000
54,000
52,000
50,000
48,000
46,000
44,000
42,000
40,000
38,000
36,000
34,000
32,000
30,000
28,000
26,000
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Nov 1
Since 11/1,
~824,000 AF more than 2023 to date
~109% of median for period
As of May 7,
Well above normal so far this spring


Estimated Daily Net Depletions above Milner
2024
2023
5%
50%
95%
acre-feet
64,000
62,000
60,000
58,000
56,000
54,000
52,000
50,000
48,000
46,000
44,000
42,000
40,000
38,000
36,000
34,000
32,000
30,000
28,000
26,000
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Nov 1
As of May 7,
Trending near normal, above last year
Early anomaly influenced by recharge


Milner River Releases (spill or storage delivery)
2024
2023
2012
blw Milner 5%
blw Milner 50%
blw Milner 95%
cfs
20,500
20,000
19,500
19,000
18,500
18,000
17,500
17,000
16,500
16,000
15,500
15,000
14,500
14,000
13,500
13,000
12,500
12,000
11,500
11,000
10,500
10,000
9,500
9,000
8,500
8,000
7,500
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Nov 1
As of May 7,
~523,000 AF of Milner Spill since 3/1 (unstorable)
After spill,
150-170,000 AF flow augmentation rentals (storable)
Idaho Power storage delivery (~43,000 AF)
Additional Rentals (???)

Provisional

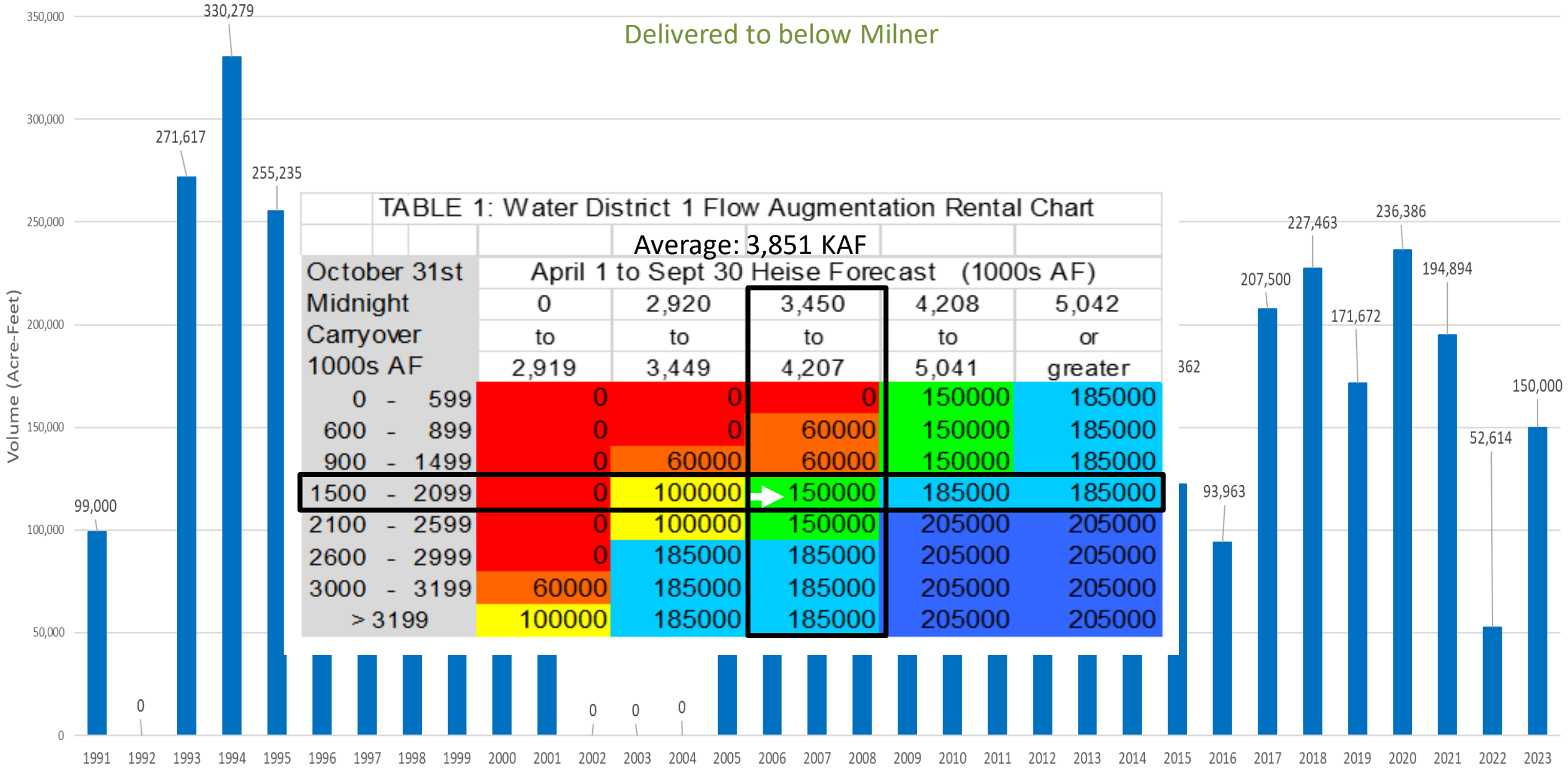


TABLE 1: Water District 1 Flow Augmentation Rental Chart

Average: 3,851 KAF

October 31st Midnight Carryover 1000s AF	April 1 to Sept 30 Heise Forecast (1000s AF)				
	0 to 2,919	2,920 to 3,449	3,450 to 4,207	4,208 to 5,041	5,042 or greater
0 - 599	0	0	0	150000	185000
600 - 899	0	0	60000	150000	185000
900 - 1499	0	60000	60000	150000	185000
1500 - 2099	0	100000	150000	185000	185000
2100 - 2599	0	100000	150000	205000	205000
2600 - 2999	0	185000	185000	205000	205000
3000 - 3199	60000	185000	185000	205000	205000
> 3199	100000	185000	185000	205000	205000

CURRENT MONTHLY FORECAST SUMMARY
MAY 1, 2024

FORECAST POINT	FORECAST PERIOD	1991-2020 AVERAGE (KAF)	FORECAST (KAF)	PERCENT NORMAL
*** HEISE	MAY-JUL	2898	2700	93%
JACKSON LAKE	MAY-JUL	701	595	85%
ISLAND PARK	MAY-JUL	158	136	86%
TETON	MAY-JUL	303	305	101%
*** RIRIE	MAY-JUN	35	42	122%
*** LITTLE WOOD	MAY-JUL	52	38	74%

* Coordinated with USACE

April 1 Forecast Residuals

JCK: 671 KAF, HEII: 2,848 KAF, ISLI: 142 KAF, RIR: 35 KAF, WODI: 52 KAF

Snake R nr Heise Streamflow 5,015 ft.

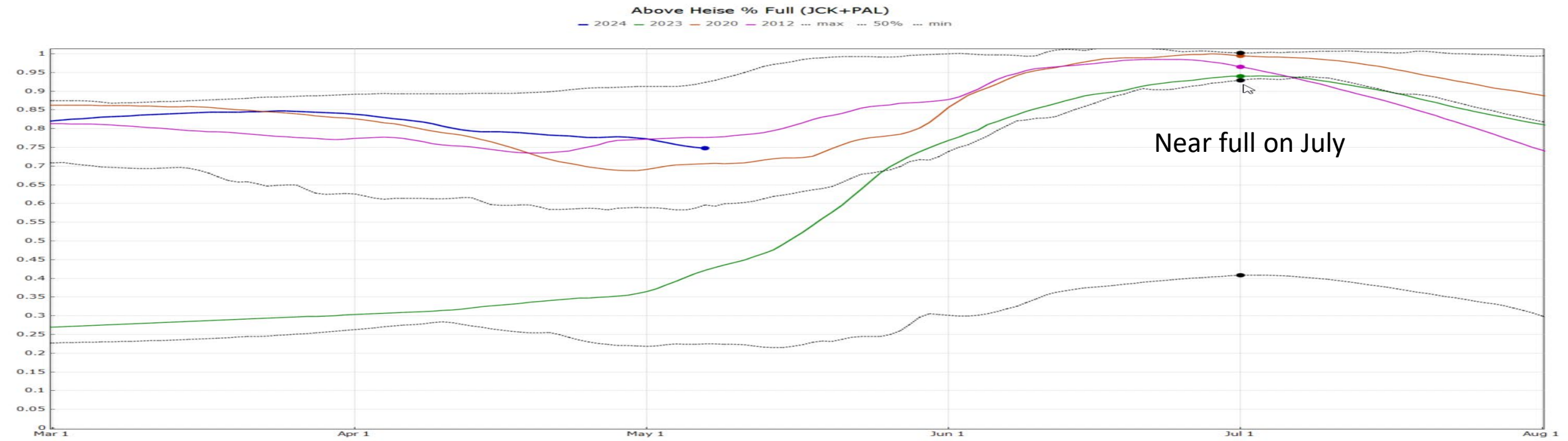
Forecast Volume, 50% Exceedance Probability

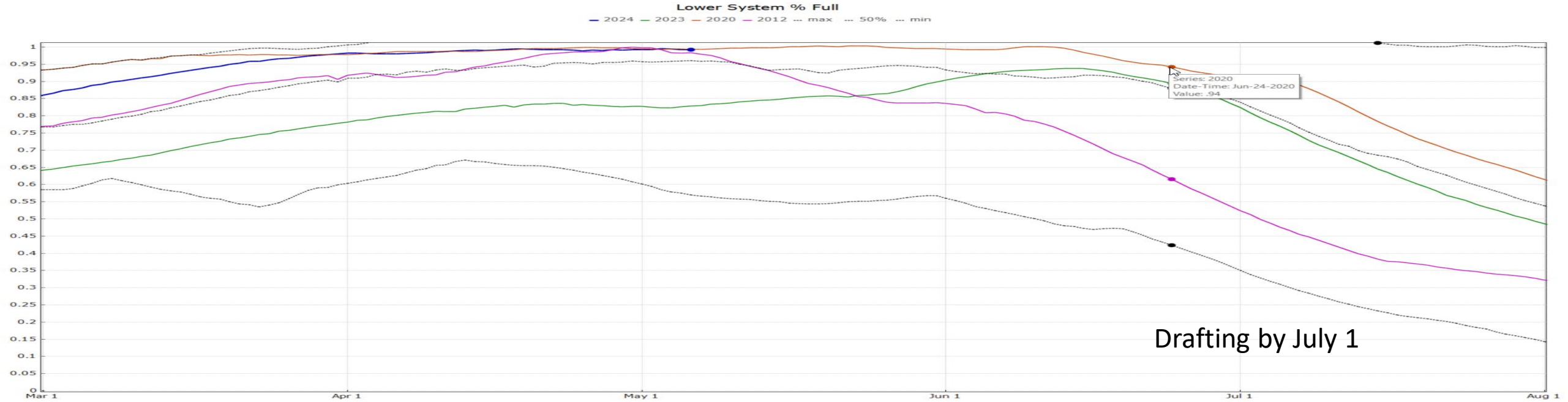
85% of NRCS 1991-2020 Average

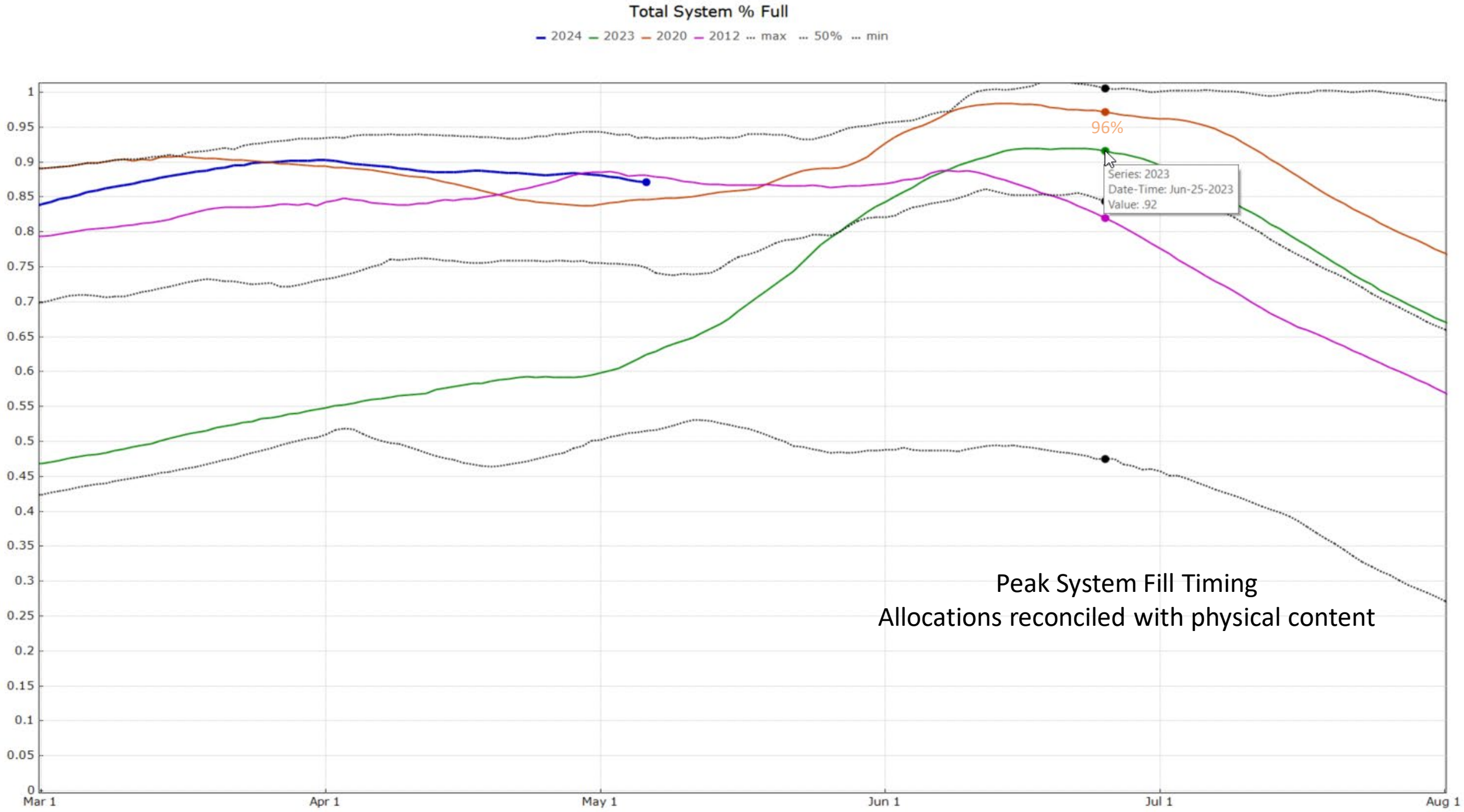
Primary Period, May 1, 2024

Parameters

Forecast Volume (50% Exceedance Probability, kac-ft.), May - July, May 1, 2024			
Value:	2,460	Anomaly (POR):	-409.172
POR Median:	2,869.172	NRCS 1991-2020 Median:	2,730
% of POR Median:	86%	% of NRCS 1991-2020 Median:	90%
POR Average:	2,912.868	NRCS 1991-2020 Average:	2,900
% of POR Average:	84%	% of NRCS 1991-2020 Average:	85%


Above Heise % Full (JCK+PAL)
2024 2023 2020 2012 max 50% min
Near full on July
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1


Lower System % Full
2024 2023 2020 2012 max 50% min
Series: 2020
Date-Time: Jun-24-2020
Value: .94
Drafting by July 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1


Total System % Full
2024
2023
2020
2012
max
50%
min
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
96%
Series: 2023
Date-Time: Jun-25-2023
Value: .92
Peak System Fill Timing
Allocations reconciled with physical content

Summary

- Storage in the System is 116% of normal, 994 kaf greater than 2023
- Healthy natural flow is enhancing early fill, improved from 2023
- Lagging snowpack accumulations, particularly in headwater basins
- Expecting shift in conditions next week, which will inform Milner spill outlook
- The System is full on paper, but the day of allocation (peak content) is not expected until June when there may be a hole in the System physically (shortfall)
- Shortfall reductions generally apply to Palisades and Jackson spaceholders (25/75)
- Healthy natural flow (baseflows) expected to continue after snowmelt

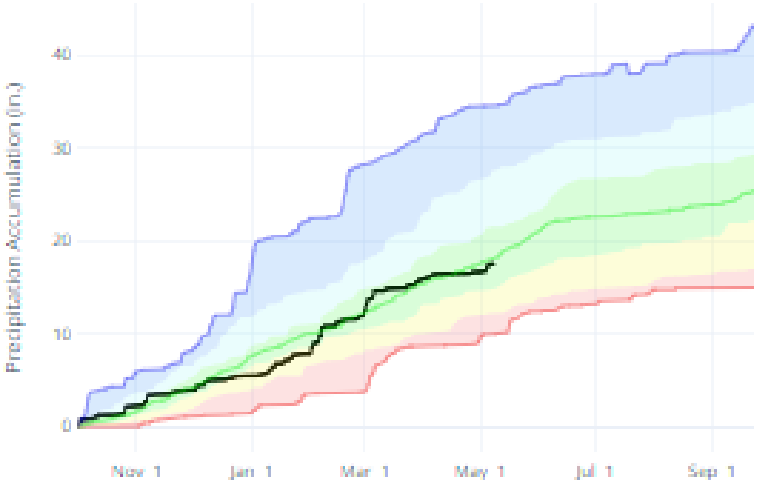
Little Wood

1 month Precipitation

31% of NRCS 1991-2020 Average

April 1, 2024 - April 30, 2024

Current Water Year



Stations (5 / 8 used)

Station	Network	Elev. (ft.)	Obs	NRCS Average	% NRCS Average
Bear Canyon	SNOTEL	7,900	0.8	2.3	35%
Fish Ck	SNOTEL	6,330	*0.4*		
Garfield R.S.	SNOTEL	6,560	0.3	1.9	16%
Picabo	ACIS	4,880		*1.09*	
Richfield	ACIS	4,310	0.11	0.88	12%
Shoshone 1 WNW	ACIS	3,950		*0.81*	
Smiley Mountain	SNOTEL	9,520	1.5	3.2	47%
Swede Peak	SNOTEL	7,640	0.5	2.2	23%
Basin Index					31%

For More Information

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