



— BUREAU OF —  
RECLAMATION

# Upper Snake Storage Operations

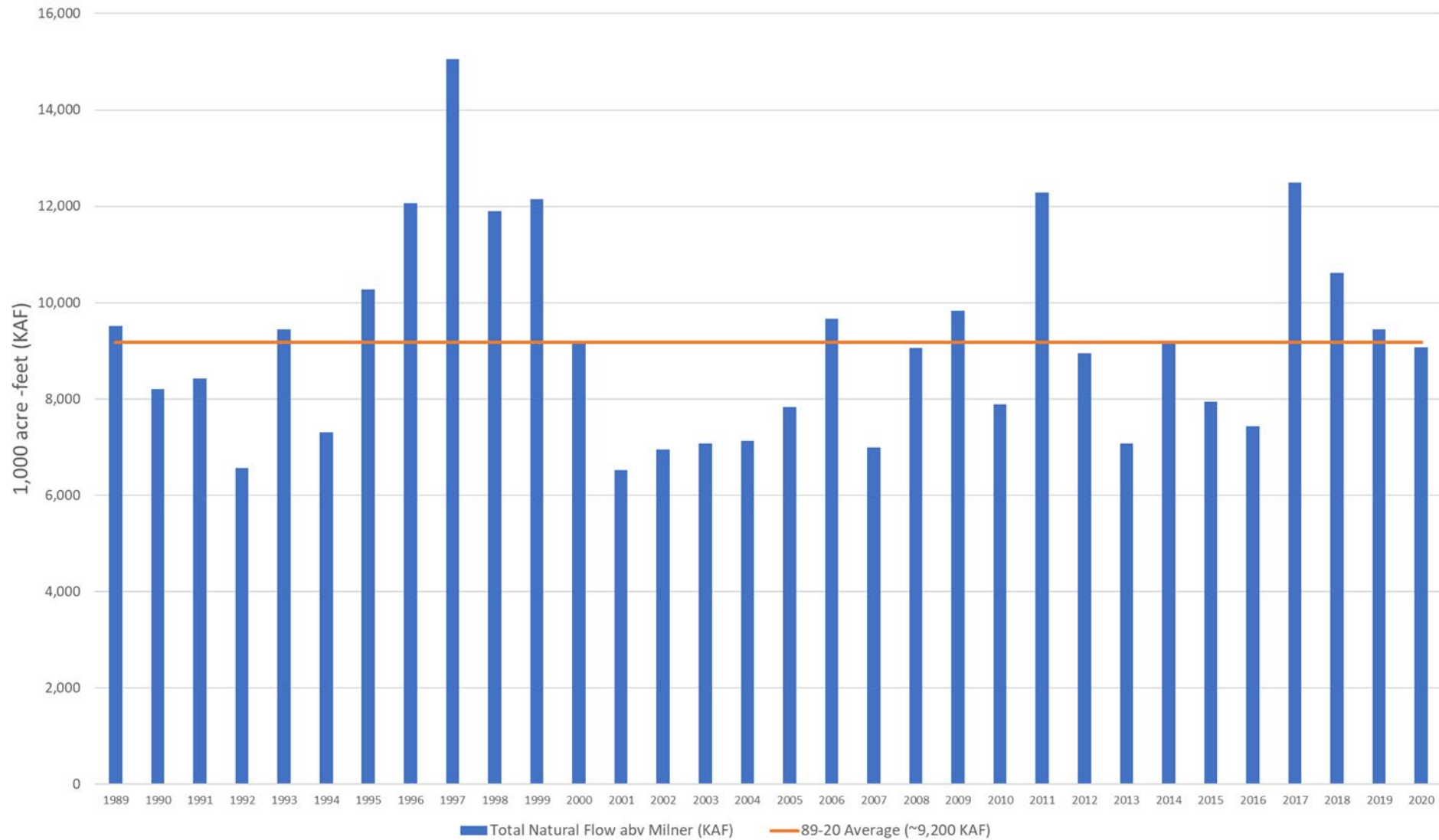
Idaho Water User Association

January 28, 2021

Upper Snake Water Operations Group

Brian Stevens and Jeremy Dalling

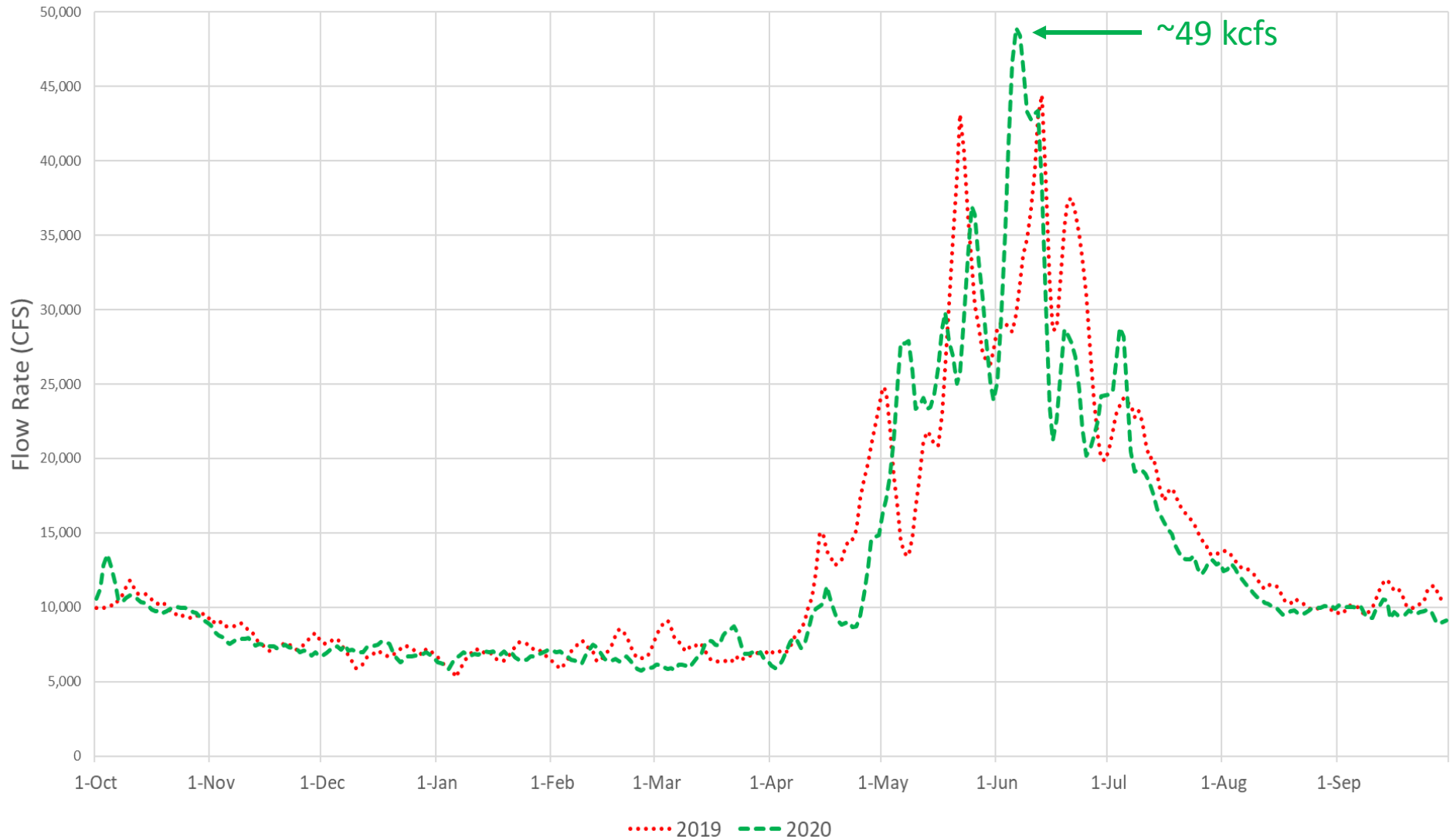
Water Year Total Natural Flow abv Milner  
1,000's acre-feet (KAF)



Water Year 2020: 9,067,360 acre-feet, which is 99% of average  
Water Year 2019: 9,447,599 acre-feet, which is 104% of average  
91-20 average is ~ 9,189,777 acre-feet



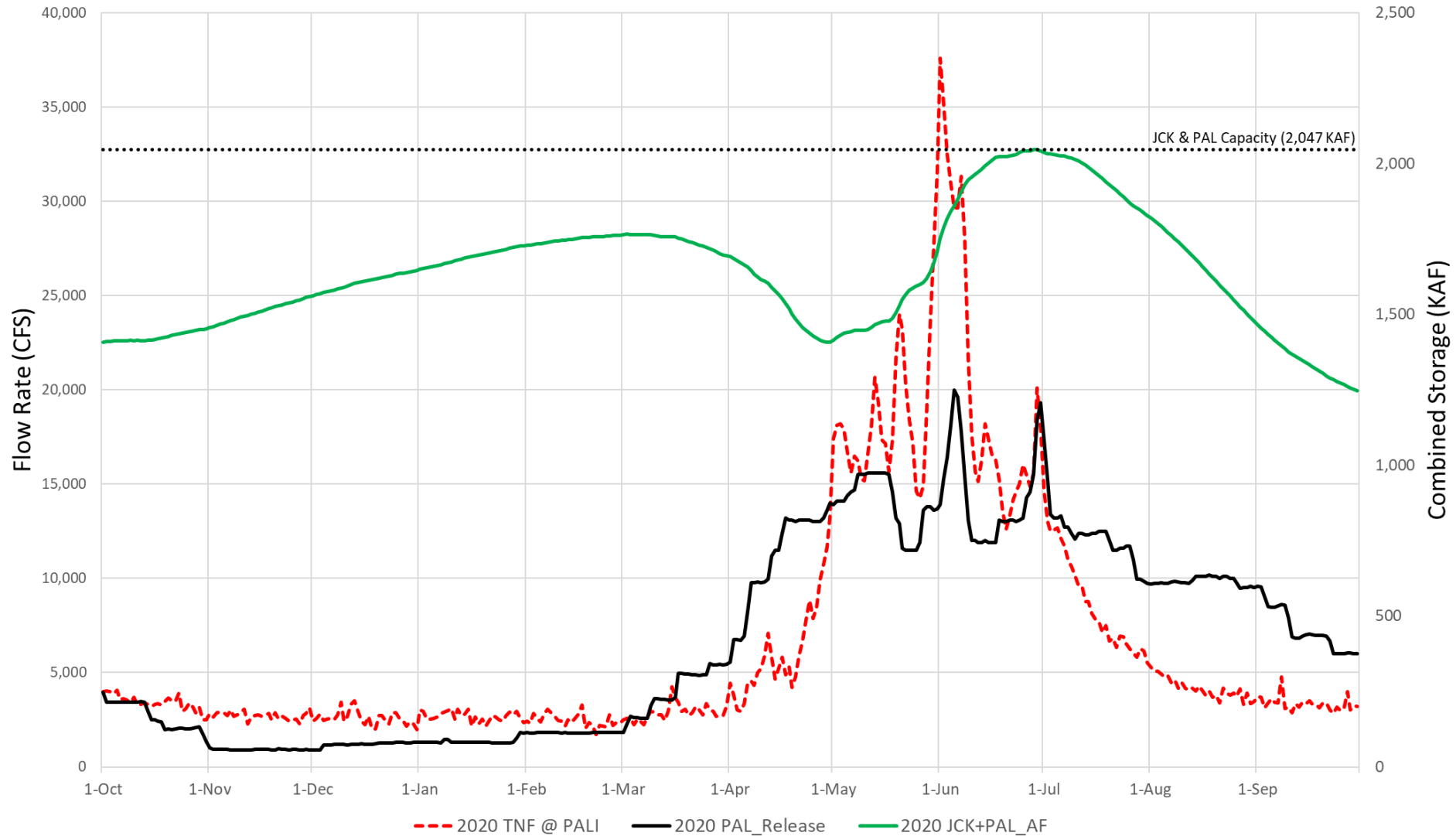
# Total Natural Flow at Milner Dam (Accounting)



Water Year 2020: 9,067,360 acre-feet, which is 99% of average  
Water Year 2019: 9,447,599 acre-feet, which is 104% of average



# Jackson and Palisades Regulation Water Year 2020

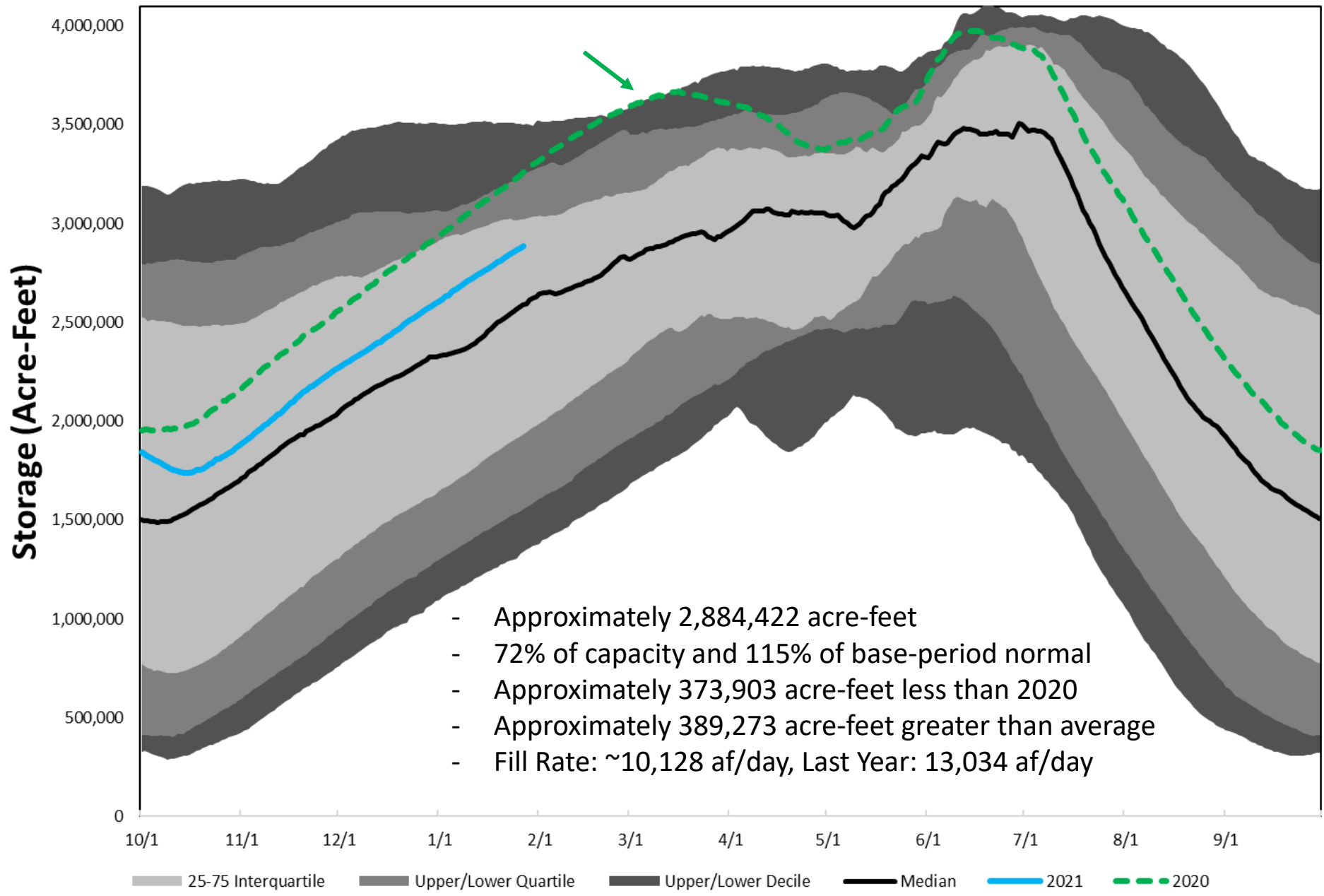


-Peak Unregulated flow @ Pal of 37,594 cfs, and peak release of 20,000 cfs

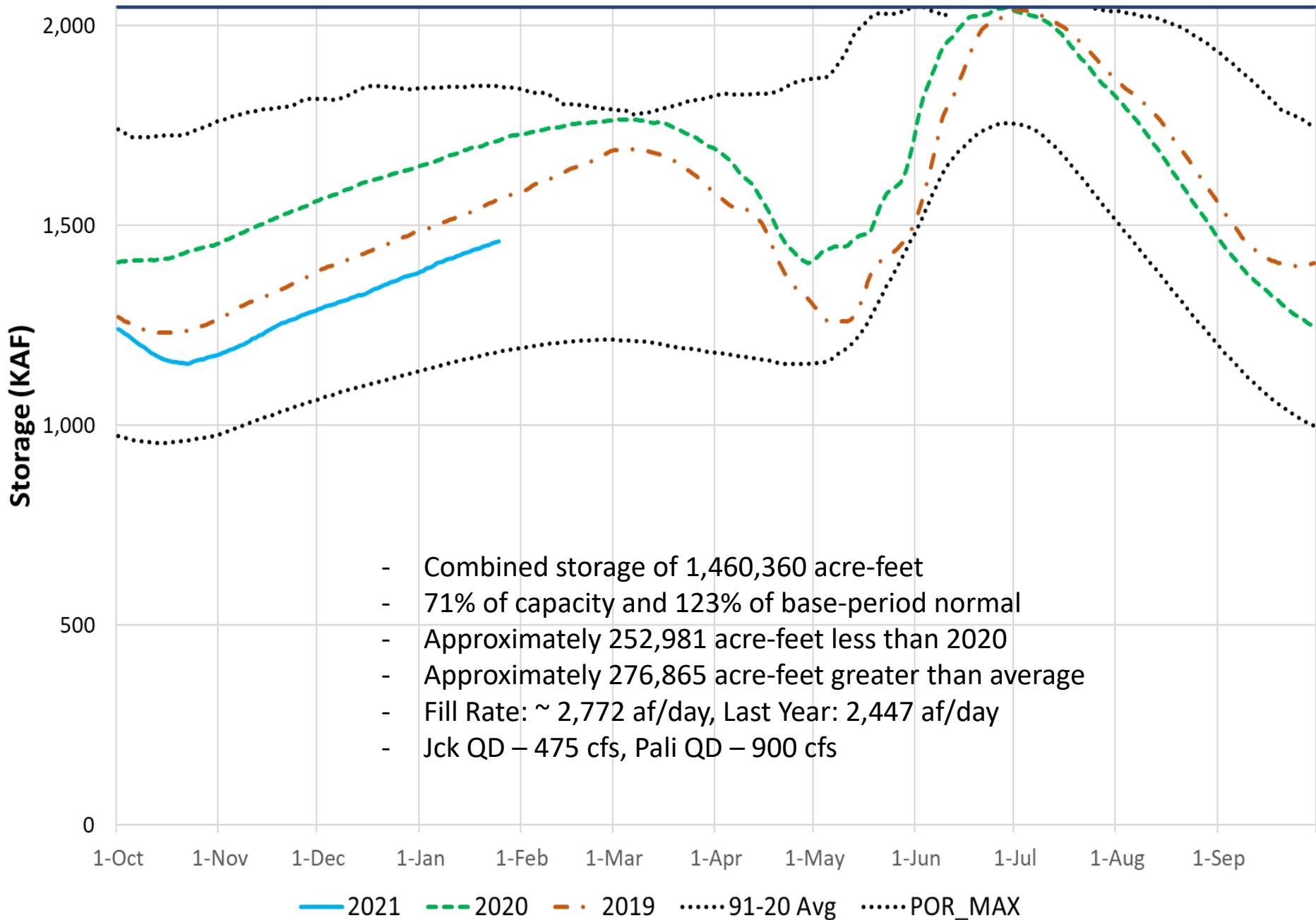


# Upper Snake Reservoir System Total Storage (Acre-Feet)

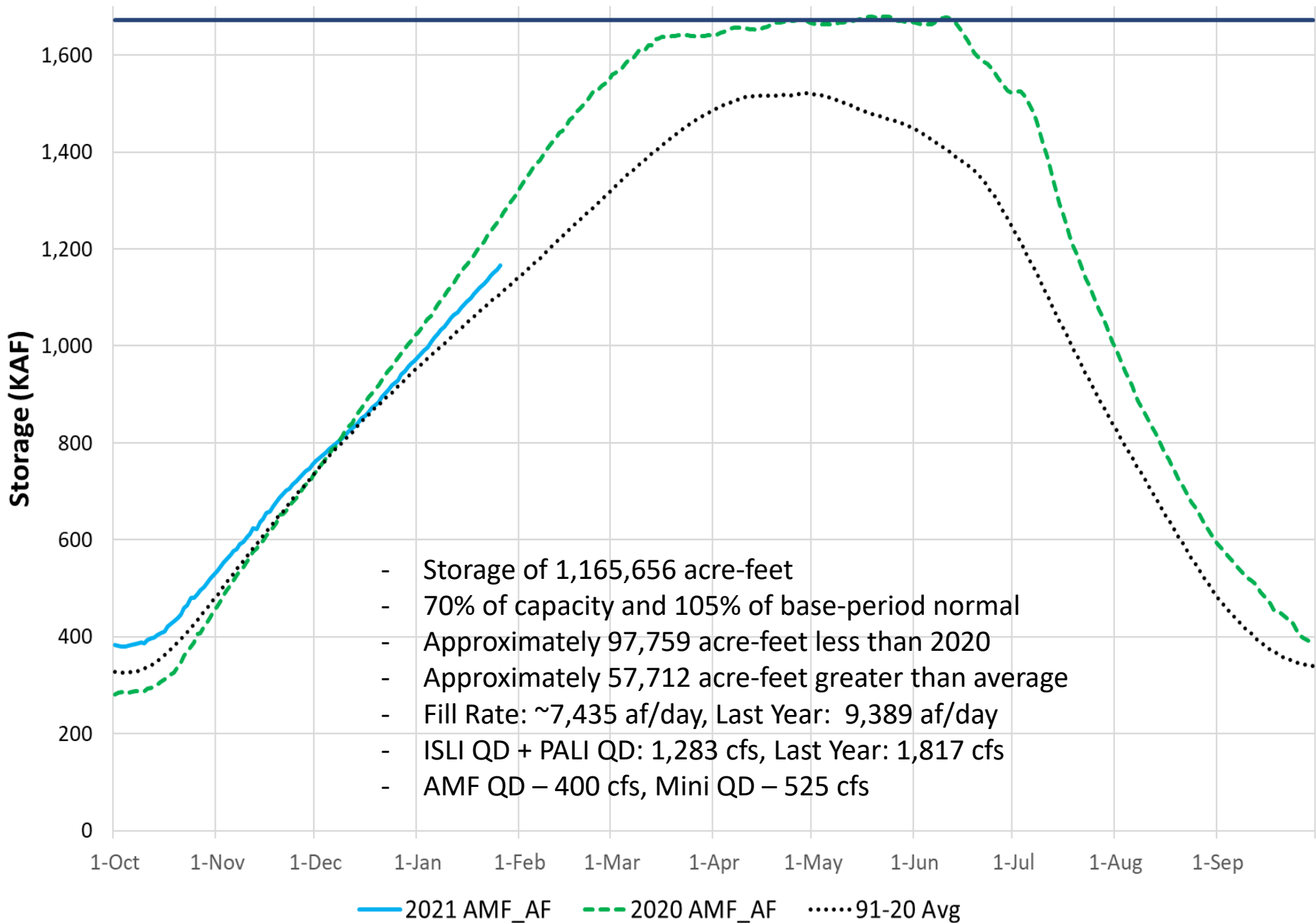
Historical Period 1977-2020



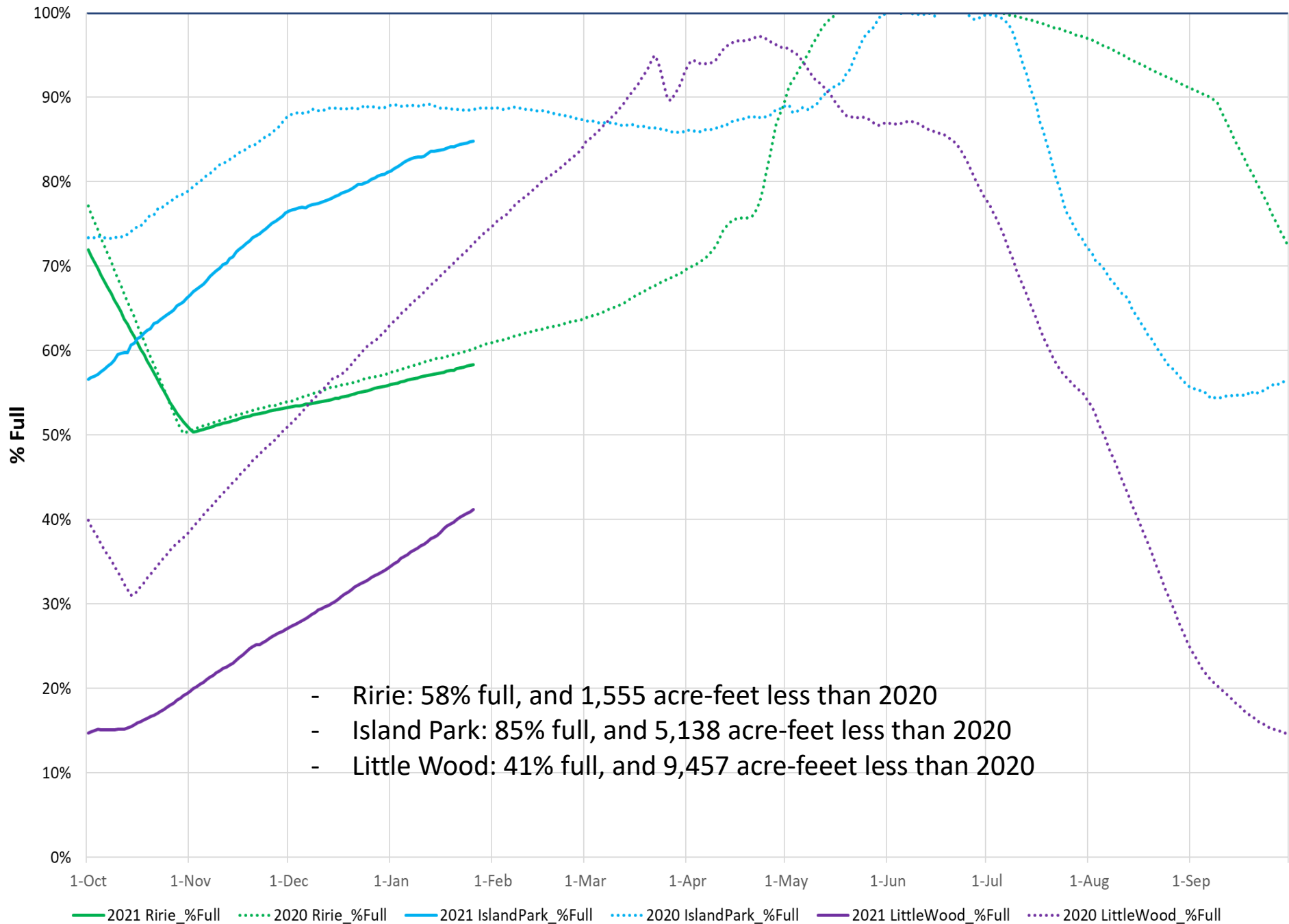
# Jackson Lake + Palisades Storage (1,000 Acre-Feet)



# American Falls Storage (1,000 Acre-Feet)



### Island Park, Ririe, and Little Wood Storage (% Full)



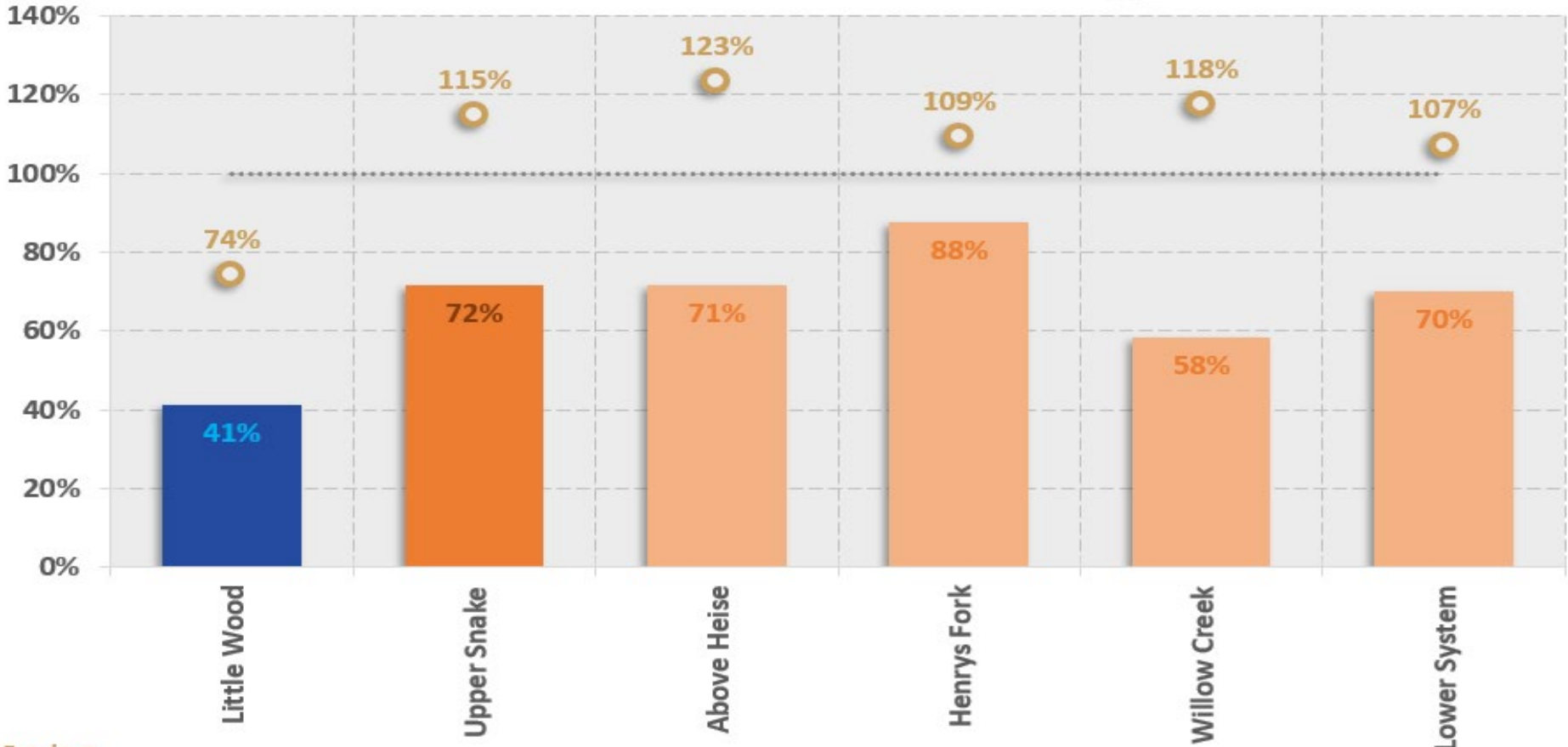


# Idaho Reservoir Storage (Jan 27 2021)



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■ Percent Full (Active Storage)    ● Percent of Average (Jan-27 '90-'20)



Previous Week %-Avg Trend



Up: Increase in inflow and/or decrease in releases | Down: Decrease in inflow and/or increase in releases | Neither: No change



# USFO\_HEII.QU Group

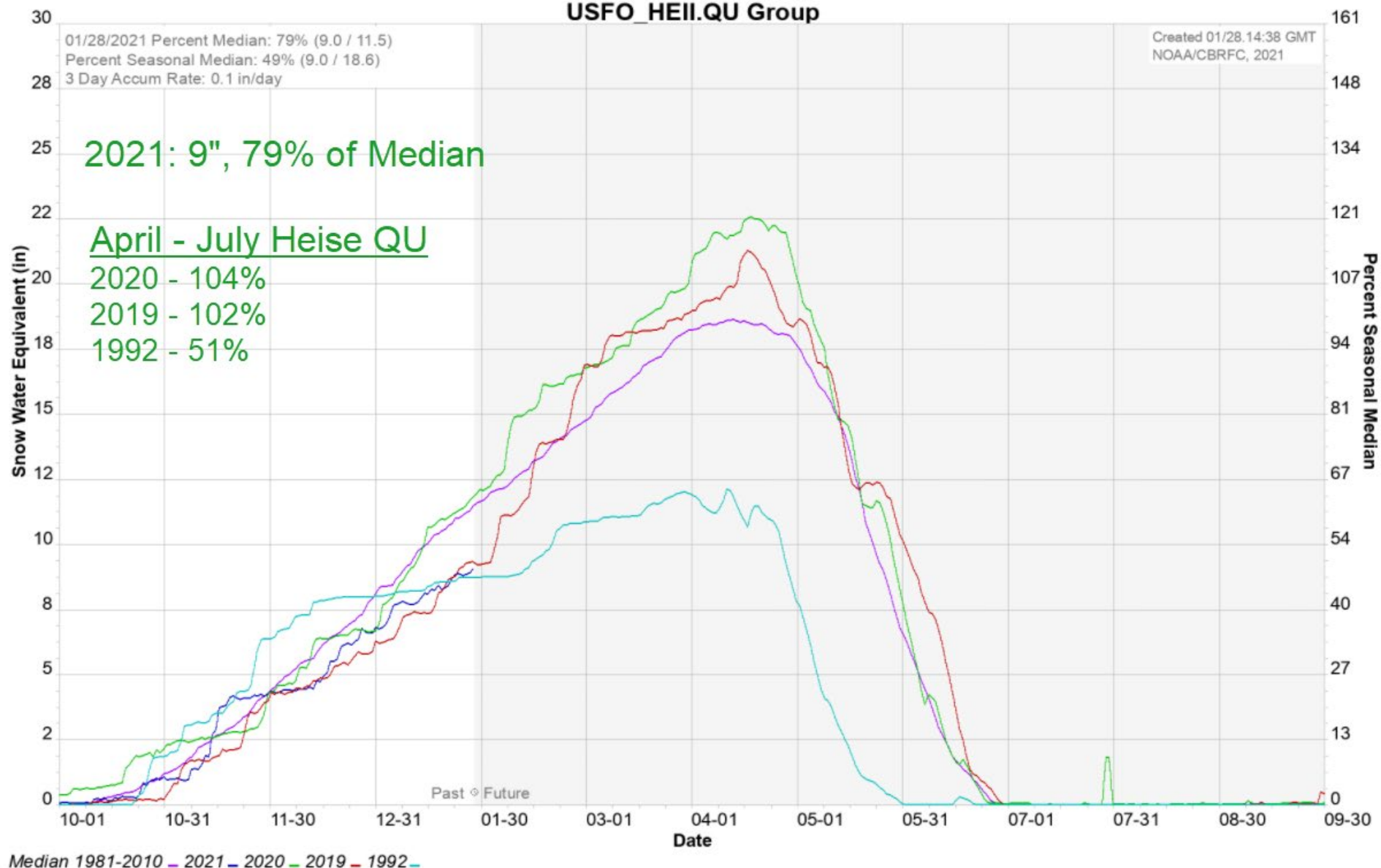
01/28/2021 Percent Median: 79% (9.0 / 11.5)  
Percent Seasonal Median: 49% (9.0 / 18.6)  
3 Day Accum Rate: 0.1 in/day

Created 01/28, 14:38 GMT  
NOAA/CBRFC, 2021

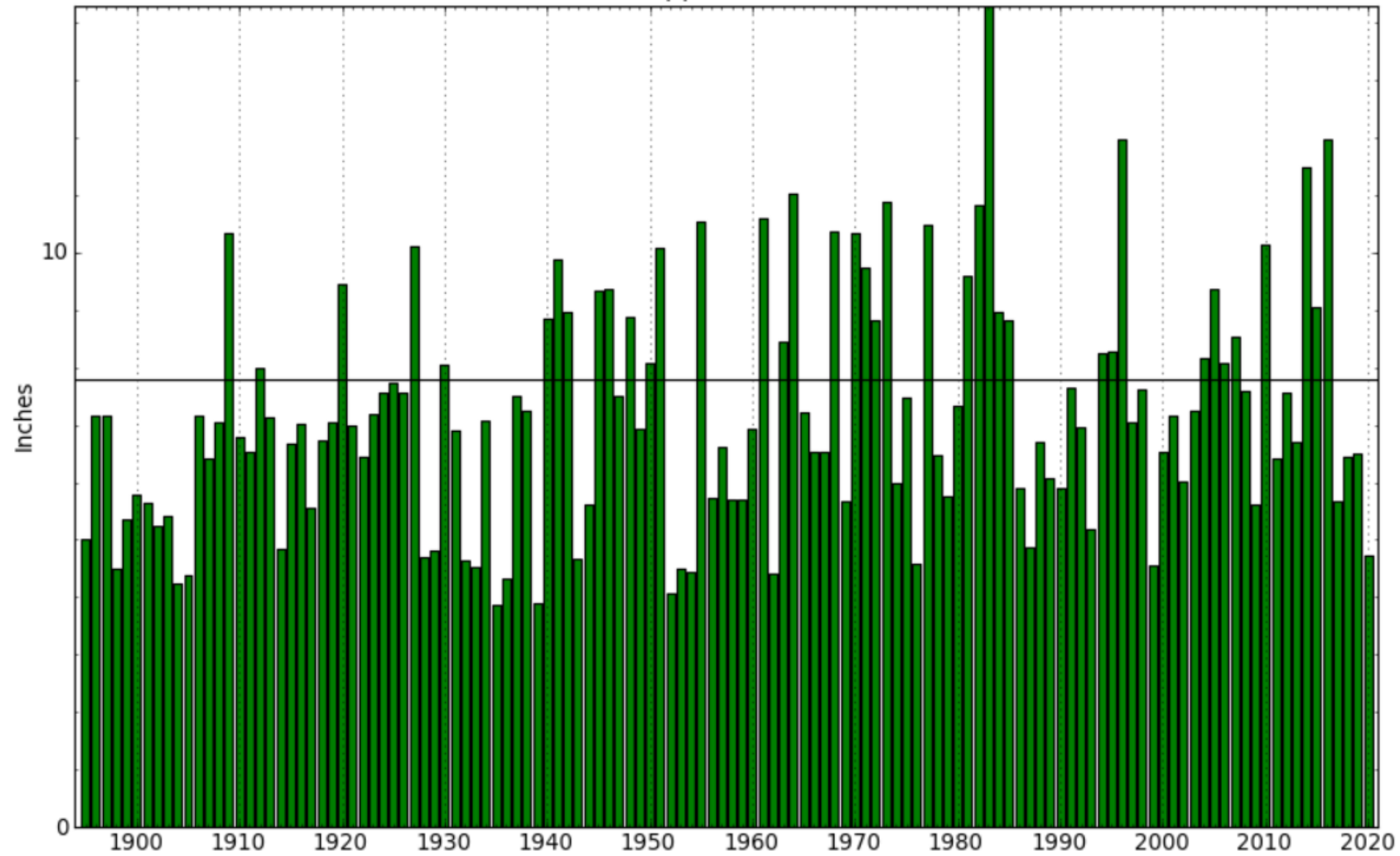
2021: 9", 79% of Median

## April - July Heise QU

2020 - 104%  
2019 - 102%  
1992 - 51%



# Precipitation, 5-Months Ending in December Upper Snake



- 61% of normal precipitation since July
- ~1.8" less than previous year
- Low base-flows





NWSPocatello

# Pretty Weak Snowfall (So Far)

## 3<sup>rd</sup> Least Amount of Snow through Jan 9<sup>th</sup> weather.gov/pocatello

| Year      | Snowfall, October 1 <sup>st</sup> to January 9 <sup>th</sup> at Pocatello Regional Airport | Liquid Water Equivalent that had fallen so far |
|-----------|--|--|
| 1950-1951 | 4.0 inches   | 3.44 inches                                    |
| 1960-1961 | 4.8 inches   | 2.40 inches                                    |
| 2020-2021 | 5.3 inches   | 1.61 inches                                    |
| 2002-2003 | 5.4 inches   | 1.67 inches                                    |
| 2011-2012 | 6.4 inches   | 3.37 inches                                    |

**Yes, it's not been much of a snowy winter, but not the worst snow to this point. You might remember the two least snowiest October 1<sup>st</sup> to January 9<sup>th</sup> periods, but you are likely on Social Security, being they were 1950-51 and 1960-1961. However, it looked like there was just more rain than usual, while 2020-21 has had little of either.**

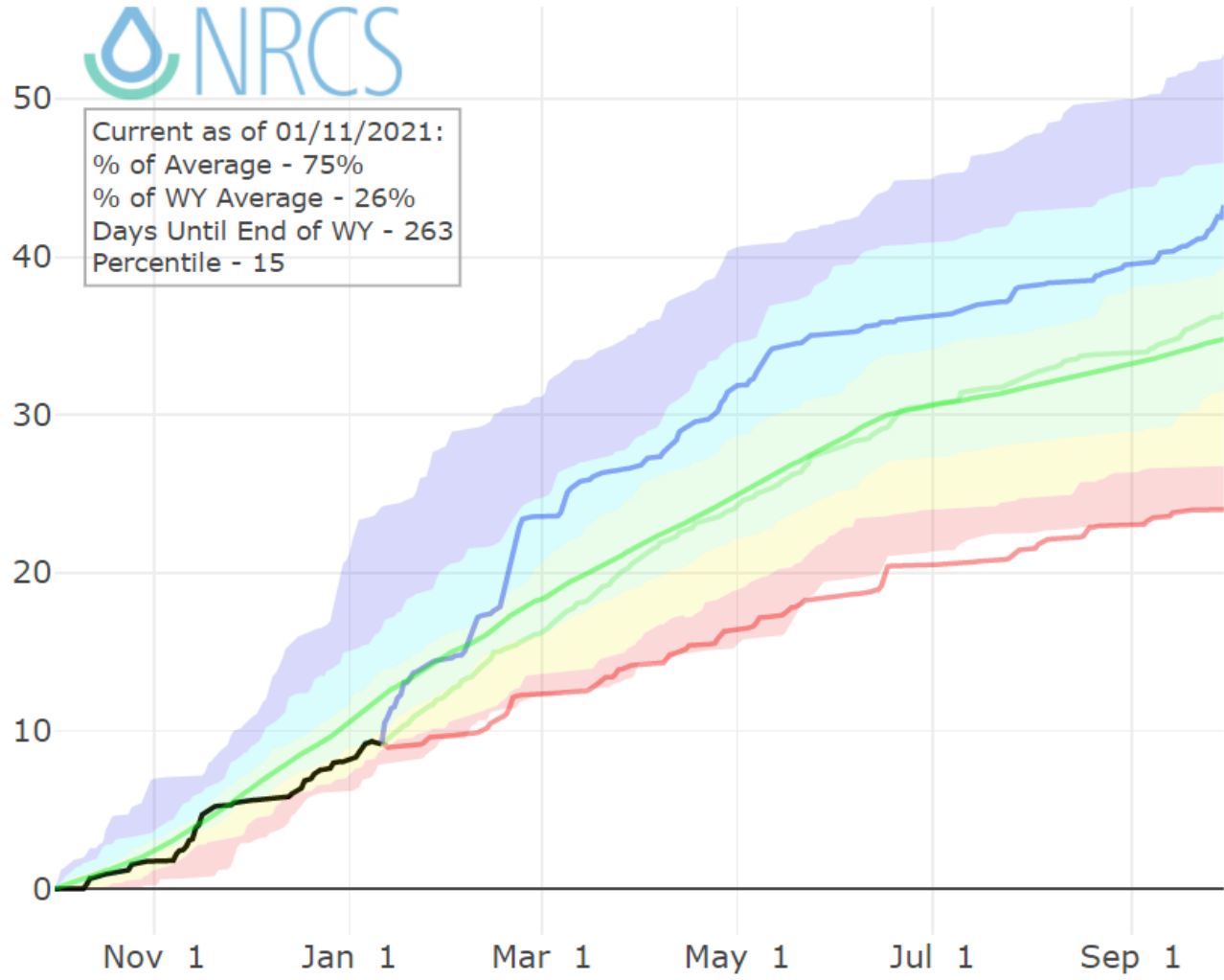
# Precipitation Projections in Snake River ab American Falls

Jan Apr July WY



Current as of 01/11/2021:  
 % of Average - 75%  
 % of WY Average - 26%  
 Days Until End of WY - 263  
 Percentile - 15

WY Accumulated Precip. (in.)



Station List

- Average (POR)
- Average ('81-'10)
- Stats. Shading
- Max Proj
- 90% Proj
- 70% Proj
- 50% Proj
- 30% Proj
- 10% Proj
- Min Proj
- 2021 (27 sites)
- 2020 (27 sites)
- 2019 (27 sites)
- 2018 (27 sites)
- 2017 (27 sites)
- 2016 (27 sites)
- 2015 (27 sites)
- 2014 (27 sites)
- 2013 (27 sites)

-70<sup>th</sup> percentile accumulation needed to get back to average



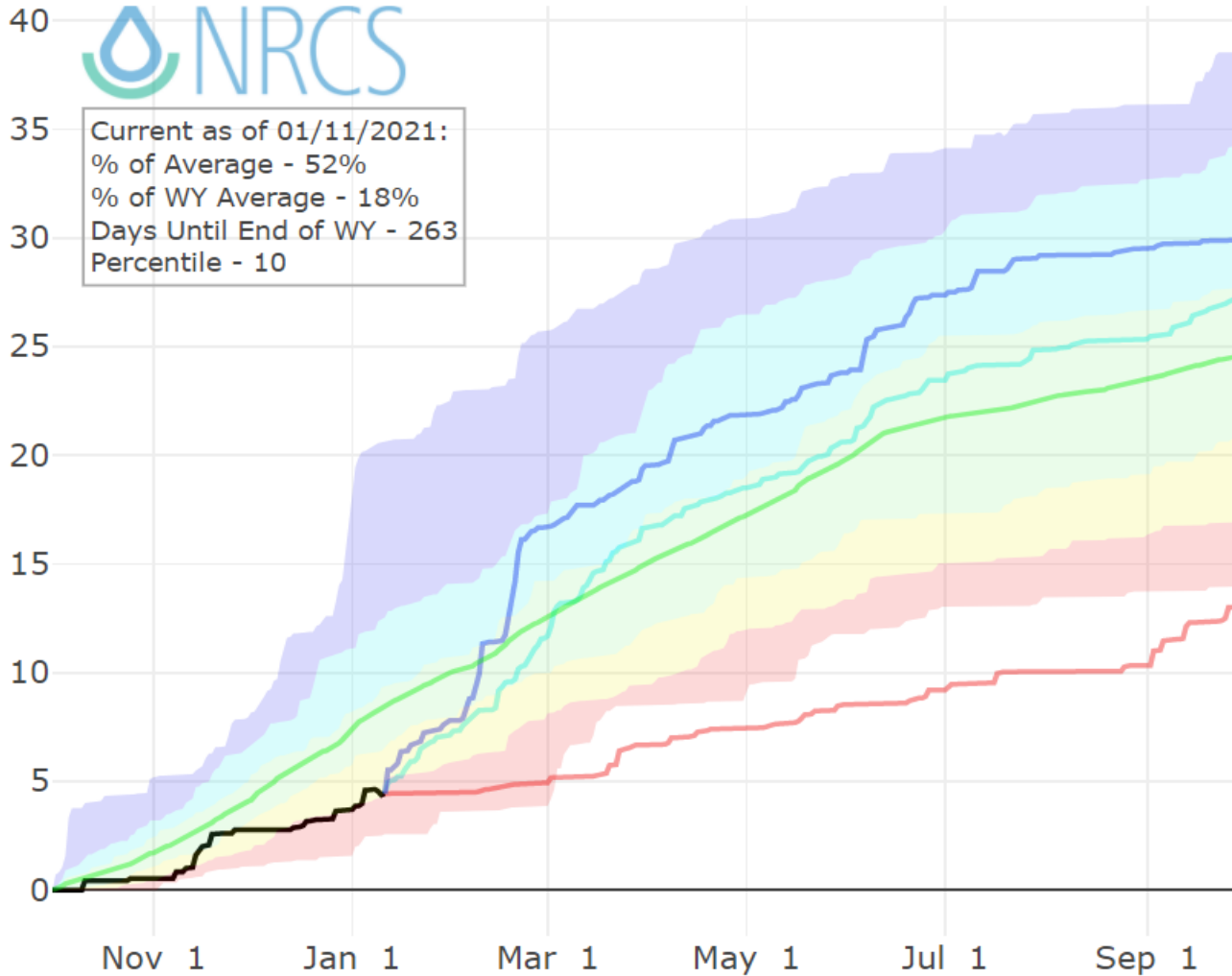
# Precipitation Projections in Little Wood River

Jan Apr July WY



Current as of 01/11/2021:  
 % of Average - 52%  
 % of WY Average - 18%  
 Days Until End of WY - 263  
 Percentile - 10

WY Accumulated Precip. (in.)



Station List

- Average (POR)
- Average ('81-'10)
- Stats. Shading
- Max Proj
- 90% Proj
- 70% Proj
- 50% Proj
- 30% Proj
- 10% Proj
- Min Proj
- 2021 (3 sites)
- 2020 (3 sites)
- 2019 (3 sites)
- 2018 (3 sites)
- 2017 (3 sites)
- 2016 (3 sites)
- 2015 (3 sites)
- 2014 (3 sites)
- 2013 (3 sites)

90<sup>th</sup> percentile accumulation needed to get back to average



**CURRENT MONTHLY FORECAST SUMMARY**  
**JAN 1, 2021**

| FORECAST POINT  | FORECAST PERIOD | 1981-2010 AVERAGE (KAF) | NORMAL SUBSEQUENT CONDITIONS |                |
|-----------------|-----------------|-------------------------|------------------------------|----------------|
|                 |                 |                         | FORECAST (KAF)               | PERCENT NORMAL |
| *** HEISE       | JAN-JUL         | 3790                    | 3375                         | 89%            |
| ** JACKSON LAKE | JAN-JUL         | 861                     | 780                          | 91%            |
| ISLAND PARK     | JAN-JUL         | 303                     | 229                          | 76%            |
| TETON           | JAN-JUL         | 451                     | 373                          | 83%            |
| *** RIRIE       | JAN-JUN         | 74                      | 56                           | 76%            |
| *** LITTLE WOOD | JAN-JUL         | 94                      | 60                           | 64%            |

\* PCA Forecast

\*\* Average of some or all of the following: PCA, MLR, RFC

\*\*\* Coordinated with USACE

\*\*\*\* RFC or NRCS

- Little Wood historical irrigation demand for May-Sep~35-70 kaf



# SNAKE - NEAR IRWIN

## Forecasts For Water Year **2021**

### *Experimental Water Supply*

*HEFS with 15 days EQPF*

*Ensemble: **2021-01-10** Issued: 2021-01-10*

| Forecast Period | Forecasts Are in KAF |      |              |      | Obs Runoff<br>(2021-01-10) | 30 Year<br>Average<br>(1981-2010) |
|-----------------|----------------------|------|--------------|------|----------------------------|-----------------------------------|
|                 | 90 %                 | 50 % | %<br>Average | 10 % |                            |                                   |
| OCT             |                      |      |              |      | 153                        | 183                               |
| NOV             |                      |      |              |      | 159                        | 162                               |
| DEC             |                      |      |              |      | 141                        | 151                               |
| JAN             | 135                  | 135  | 95           | 138  | 43*                        | 143                               |
| FEB             | 111                  | 113  | 91           | 130  |                            | 124                               |
| MAR             | 125                  | 145  | 89           | 193  |                            | 162                               |
| APR             | 200                  | 293  | 83           | 487  |                            | 354                               |
| MAY             | 651                  | 876  | 88           | 1018 |                            | 991                               |
| JUN             | 490                  | 931  | 81           | 1448 |                            | 1155                              |
| JUL             | 234                  | 418  | 76           | 720  |                            | 552                               |
| AUG             | 164                  | 234  | 89           | 337  |                            | 263                               |
| SEP             | 137                  | 177  | 91           | 234  |                            | 195                               |





# Preliminary Operational Plan\*

- Jackson Lake Dam – Adjust outflow as needed to maintain 200 KAF requirement through period
- Palisades Dam – Expected to maintain the current outflow target through the end of February. Subject to forecasts
- Island Park Dam – Continue filling at current rate until targets are achieved and then adjust to maintain until ice-off
- Ririe Dam – Continue with zero releases through end of February
- American Falls – Expecting to maintain current outflow of approximately 400 cfs through Feb 15, or later
- Lake Walcott/Minidoka Dam – Expecting to maintain releases between 525-550 cfs through Feb 15. Reservoir is near normal winter operating levels for increased turbine efficiency
- Little Wood – Dry conditions are persisting, zero releases expected through March



\*SUBJECT TO CHANGE

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