

# Hells Canyon Operations Recap - 2022



Frank Gariglio  
David Blew  
October 2022

# Snowpack – Upper Snake

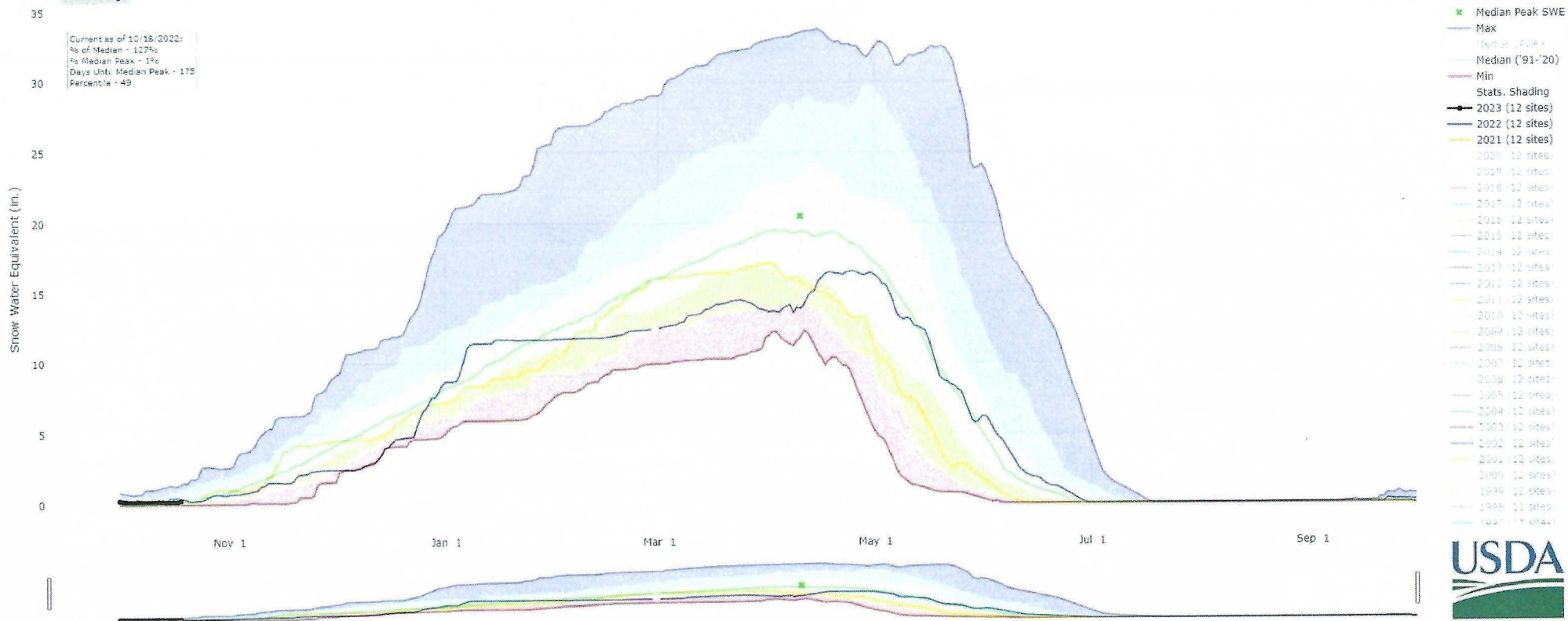
SNOW WATER EQUIVALENT IN  
SNAKE RIVER ABOVE HEISE

Reset Range

Current as of 10/16/2022:  
R% of Median - 127%  
R% Median Peak - 19%  
Days Until Median Peak - 175  
Percentile - 49

[Link to data: CSV / JSON](#)

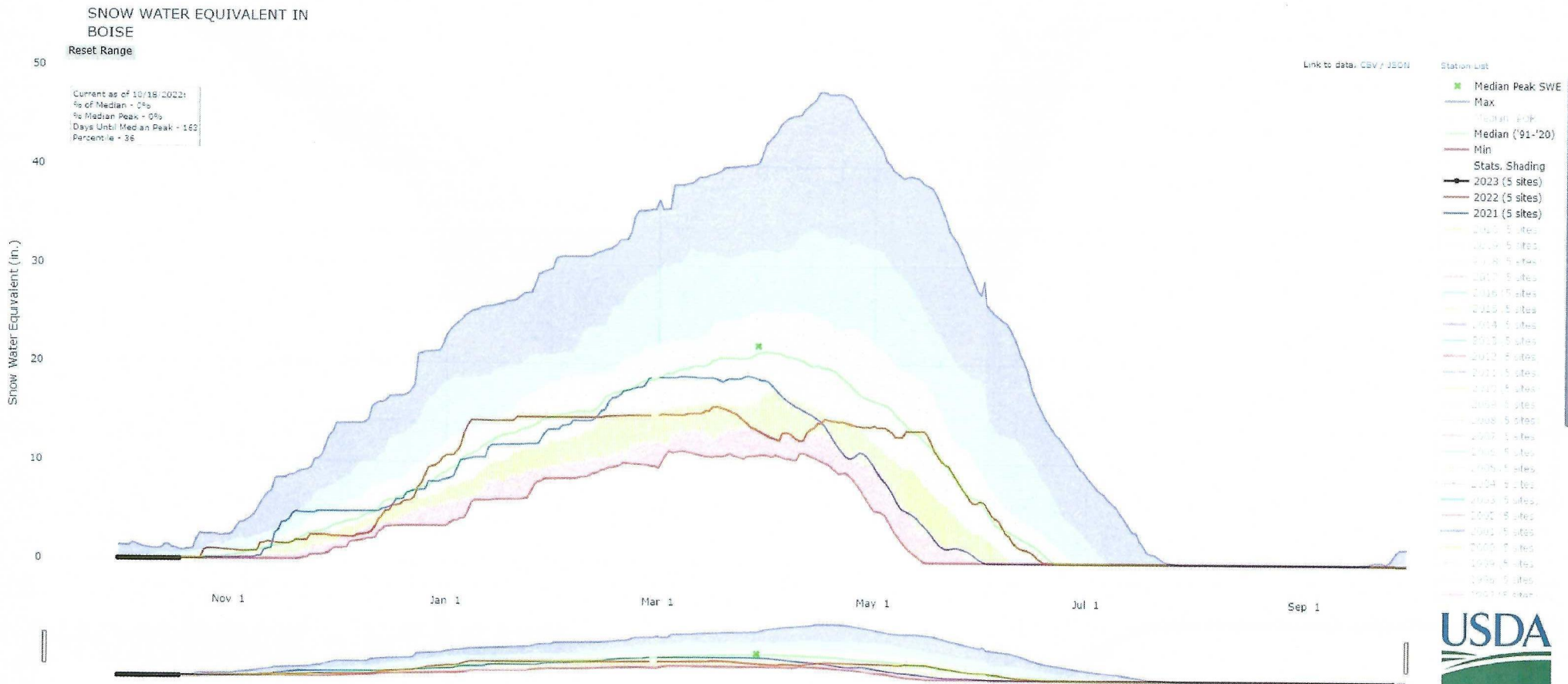
Station List



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles  
For more information visit: [20-Year Hydroclimatic Normals](#)



# Snowpack - Boise



# Snowpack - Payette

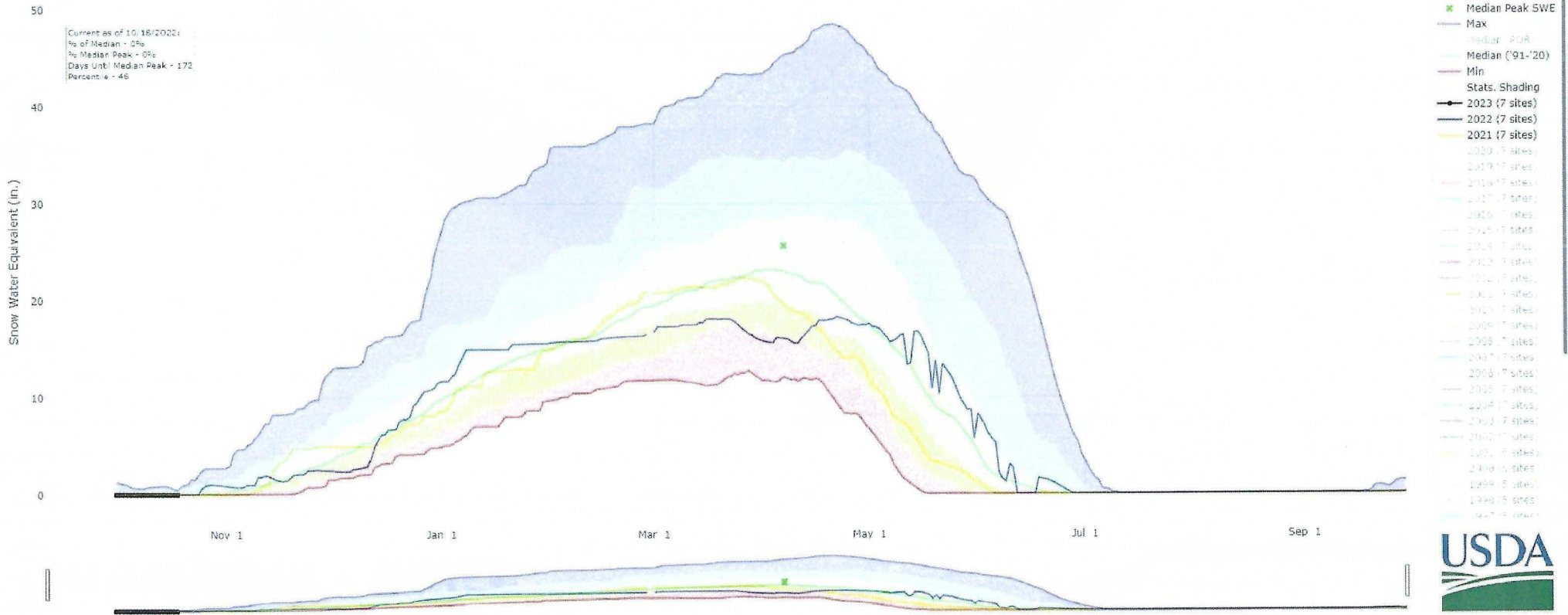
## SNOW WATER EQUIVALENT IN PAYETTE

Reset Range

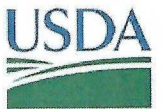
Current as of 10/18/2023  
 % of Median - 0%  
 % Median Peak - 0%  
 Days Until Median Peak - 172  
 Percentile - 45

[Link to data: CSV / JSON](#)

Station List



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles  
 for more information visit: [30-Year Hydroclimatic Normals](#)



# Snowpack - Salmon

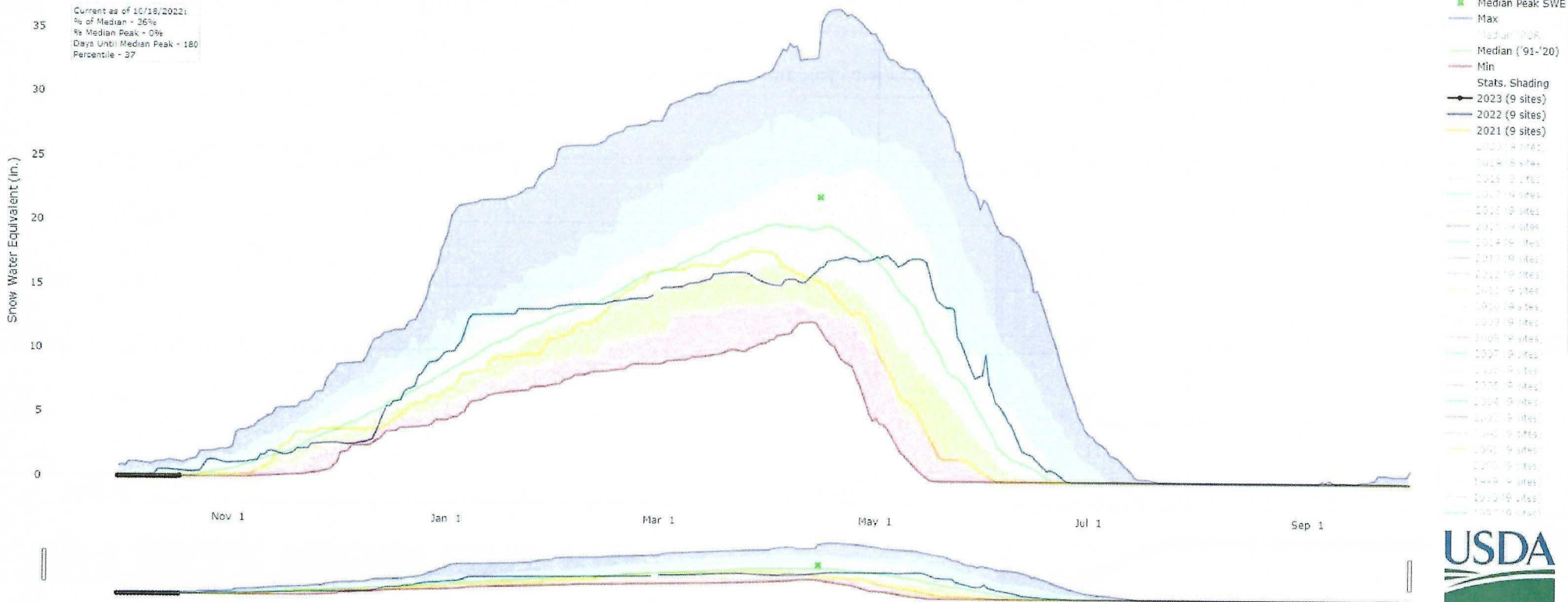
## SNOW WATER EQUIVALENT IN SALMON

Reset Range

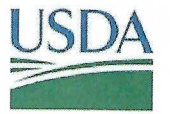
Current as of 10/19/2022:  
 % of Median - 35%  
 % Median Peak - 0%  
 Days Until Median Peak - 180  
 Percentile - 37

[Link to data: CSV / JSON](#)

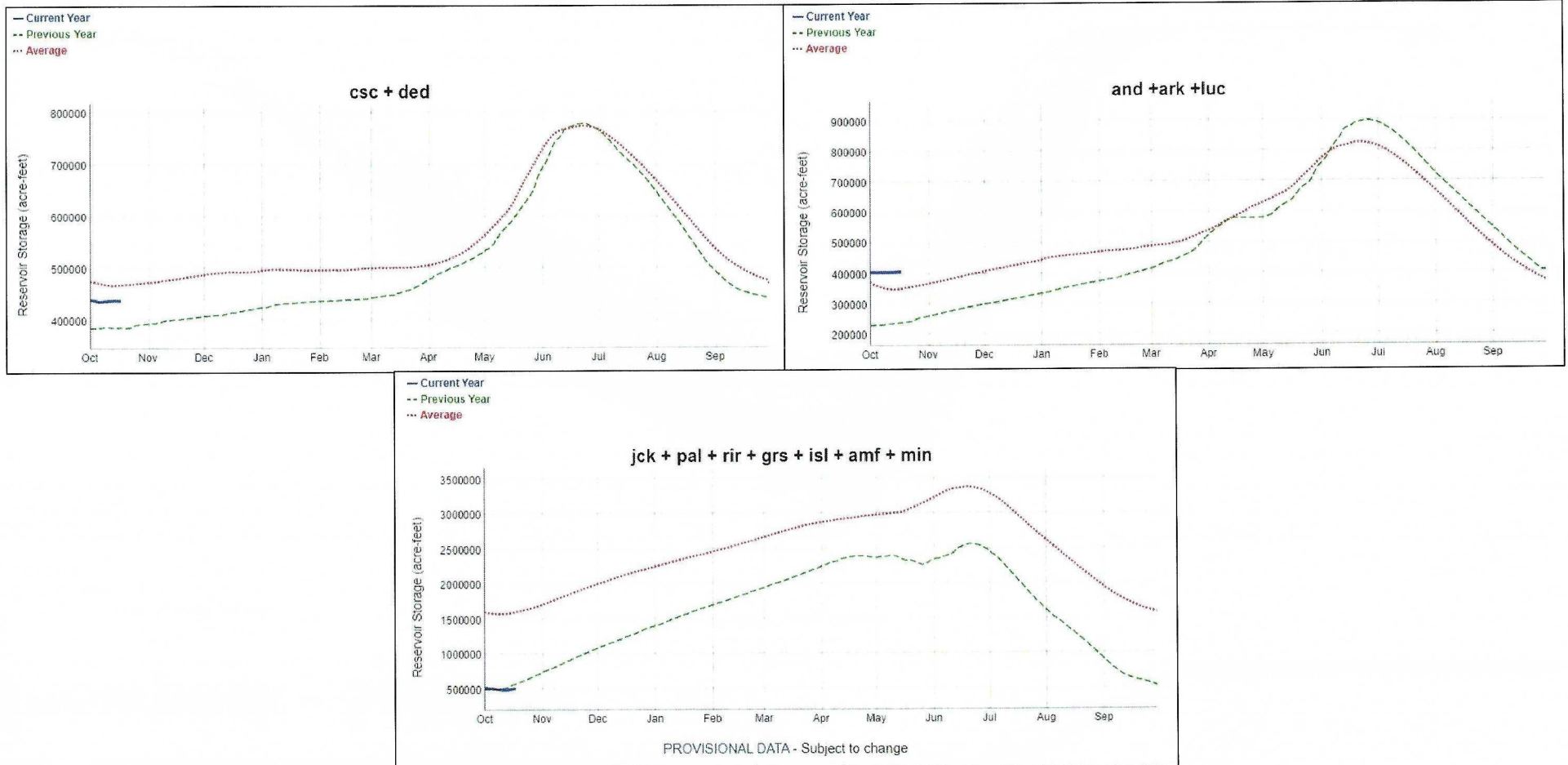
Station List



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles  
 for more information visit: [20-Year Hydroclimatic Normals](#)

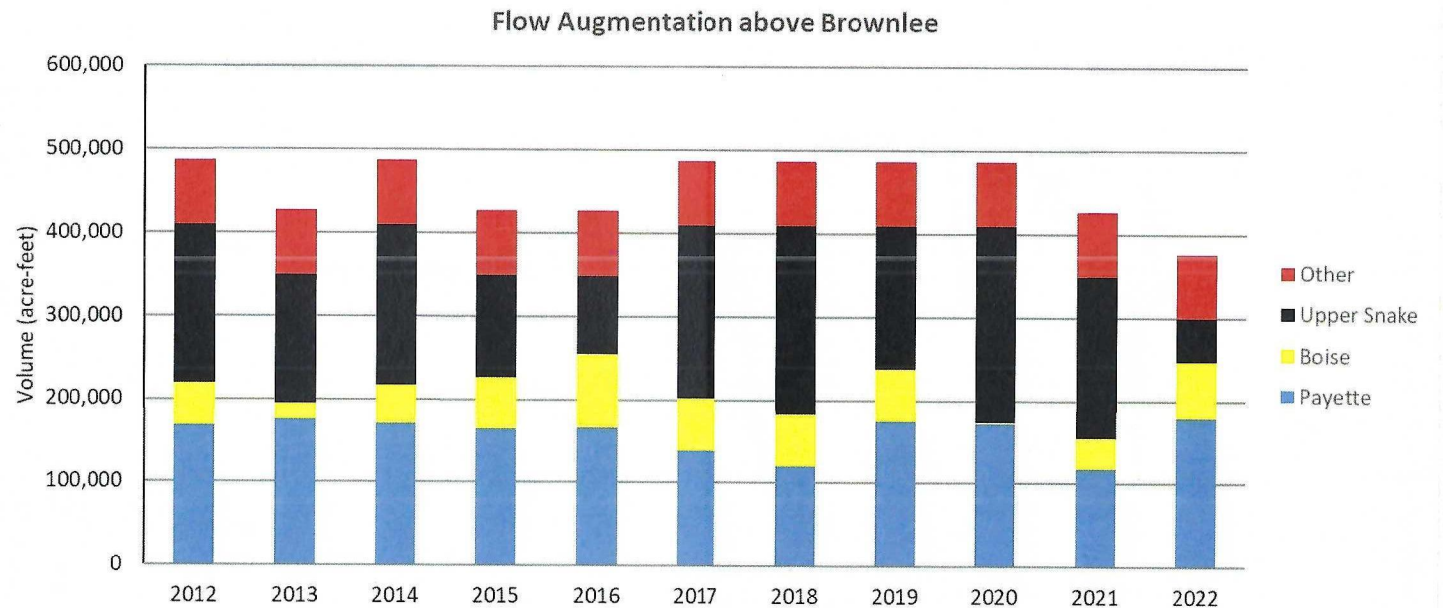


# WY2022 Reservoir Fill



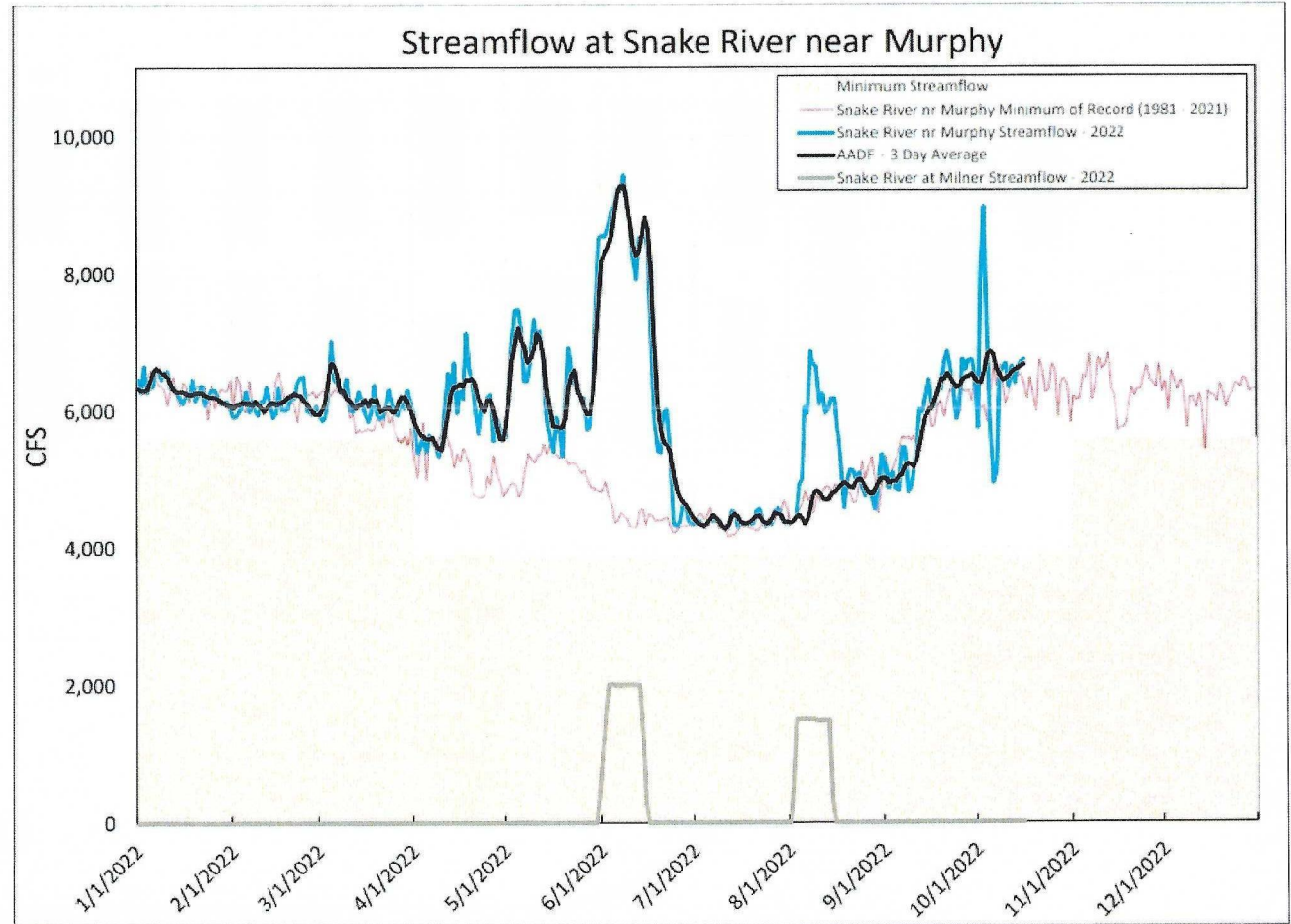
# Flow Augmentation

- Flow augmentation deliveries totaled approximately 377,000 acre-feet, or 50,000 acre-feet below the target of 427,000 acre-feet.



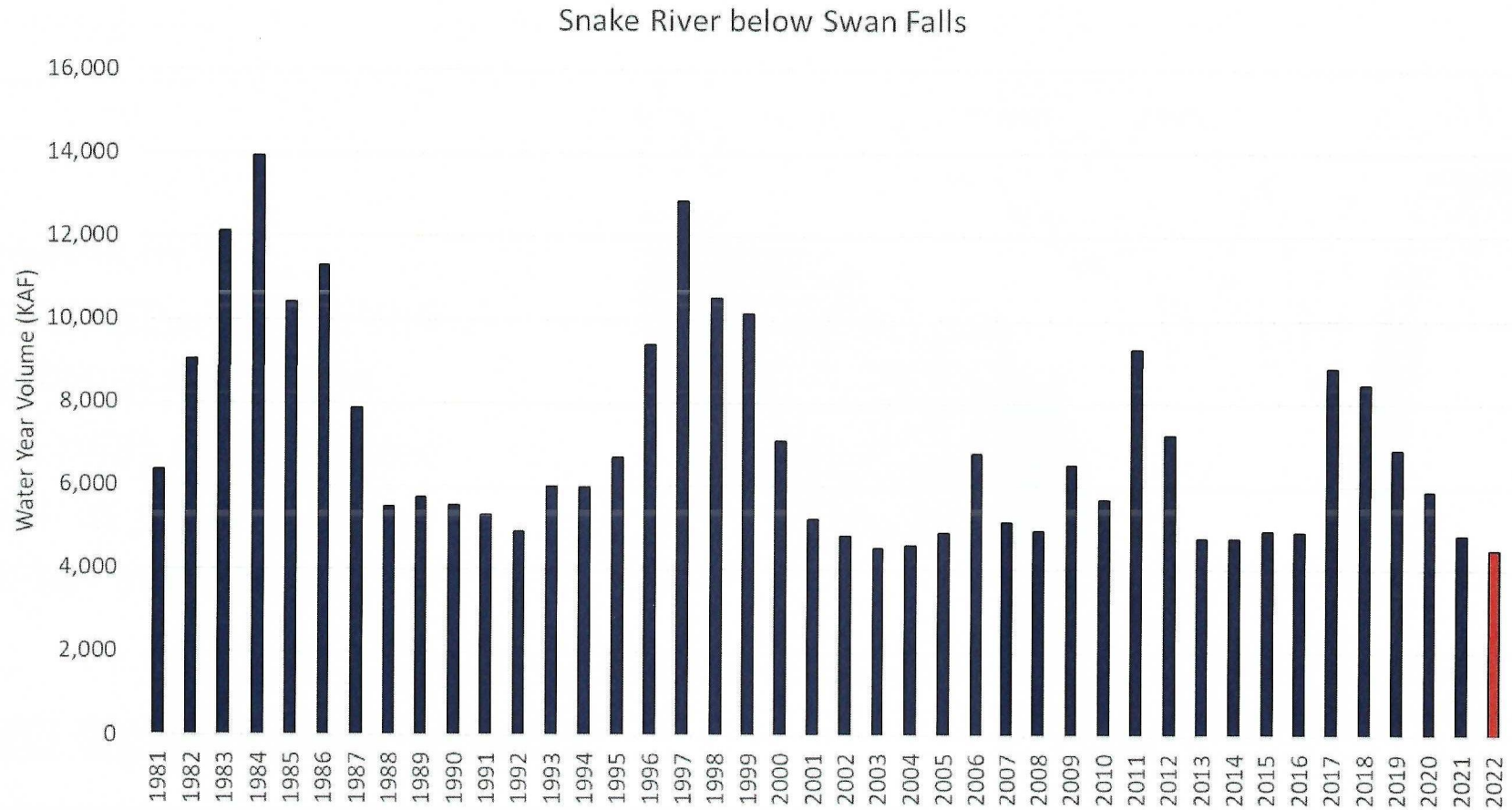
# Swan Falls Flows

- Swan Falls flows set a record for low flows in WY2022.
  - 52.7 KAF of flow augmentation past Milner
  - 37.6 KAF of Idaho Power Primary Storage past Milner



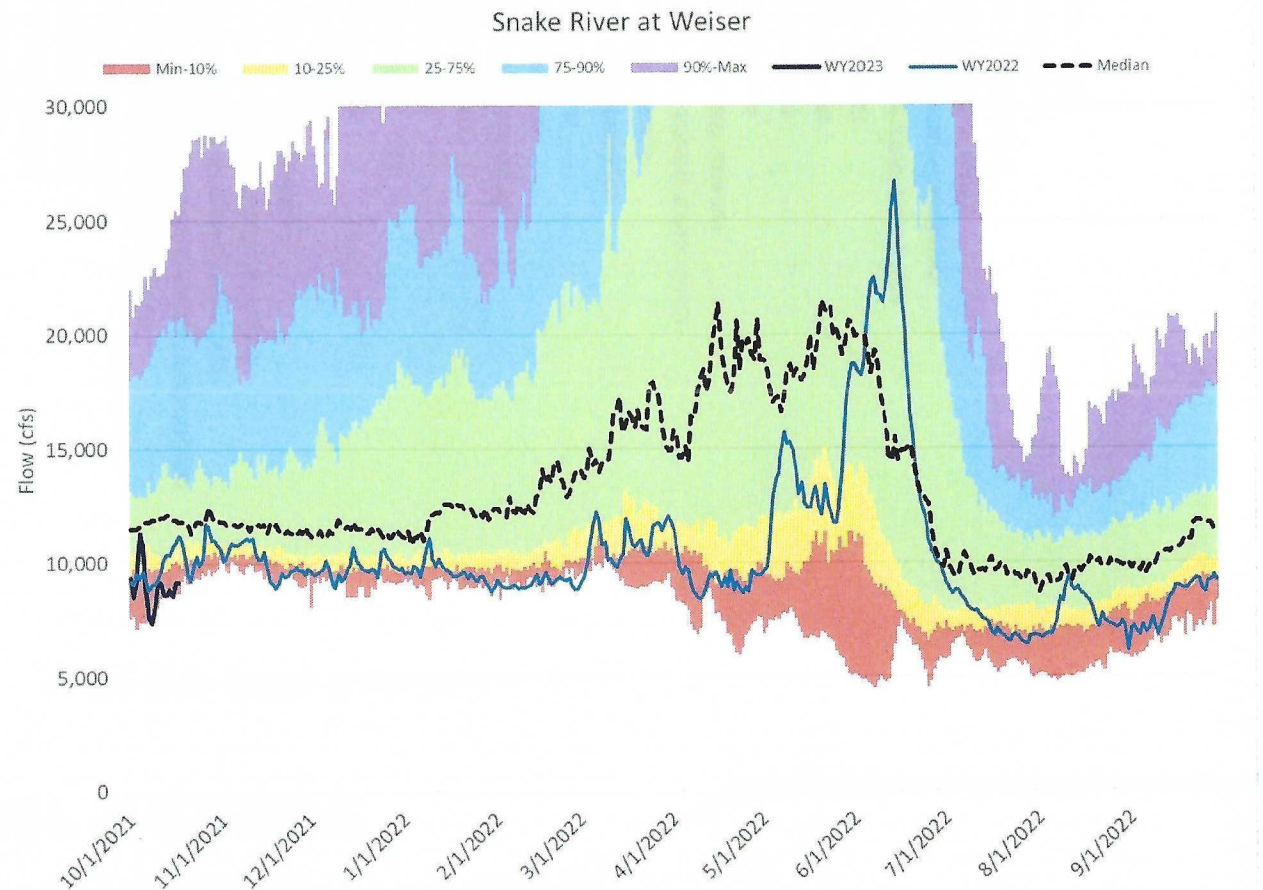


# Swan Falls Water Year Volume

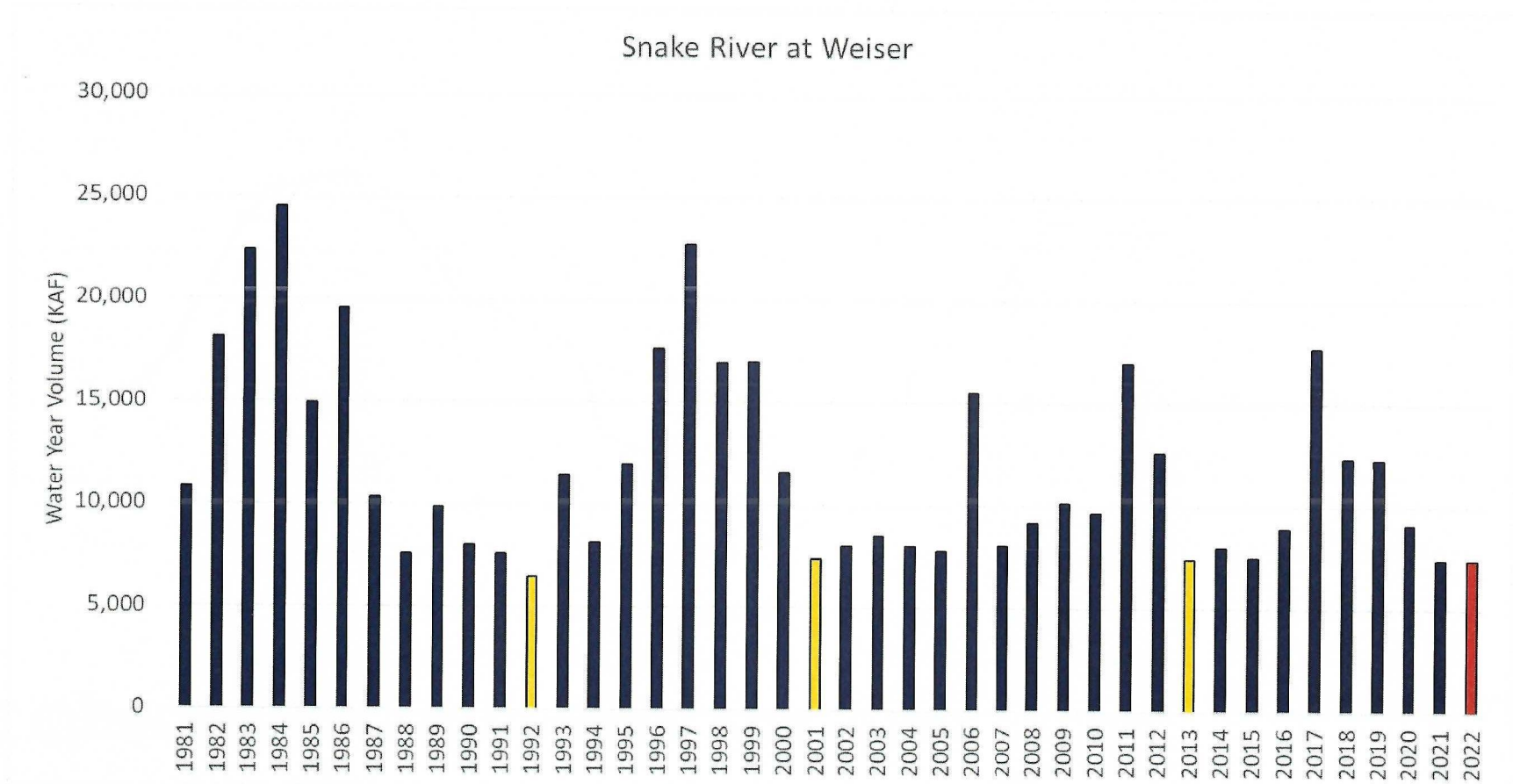


# Snake at Weiser Flows

- Besides May/June, Snake at Weiser flows were near record lows and generally in the bottom 25<sup>th</sup> percentile all water year.

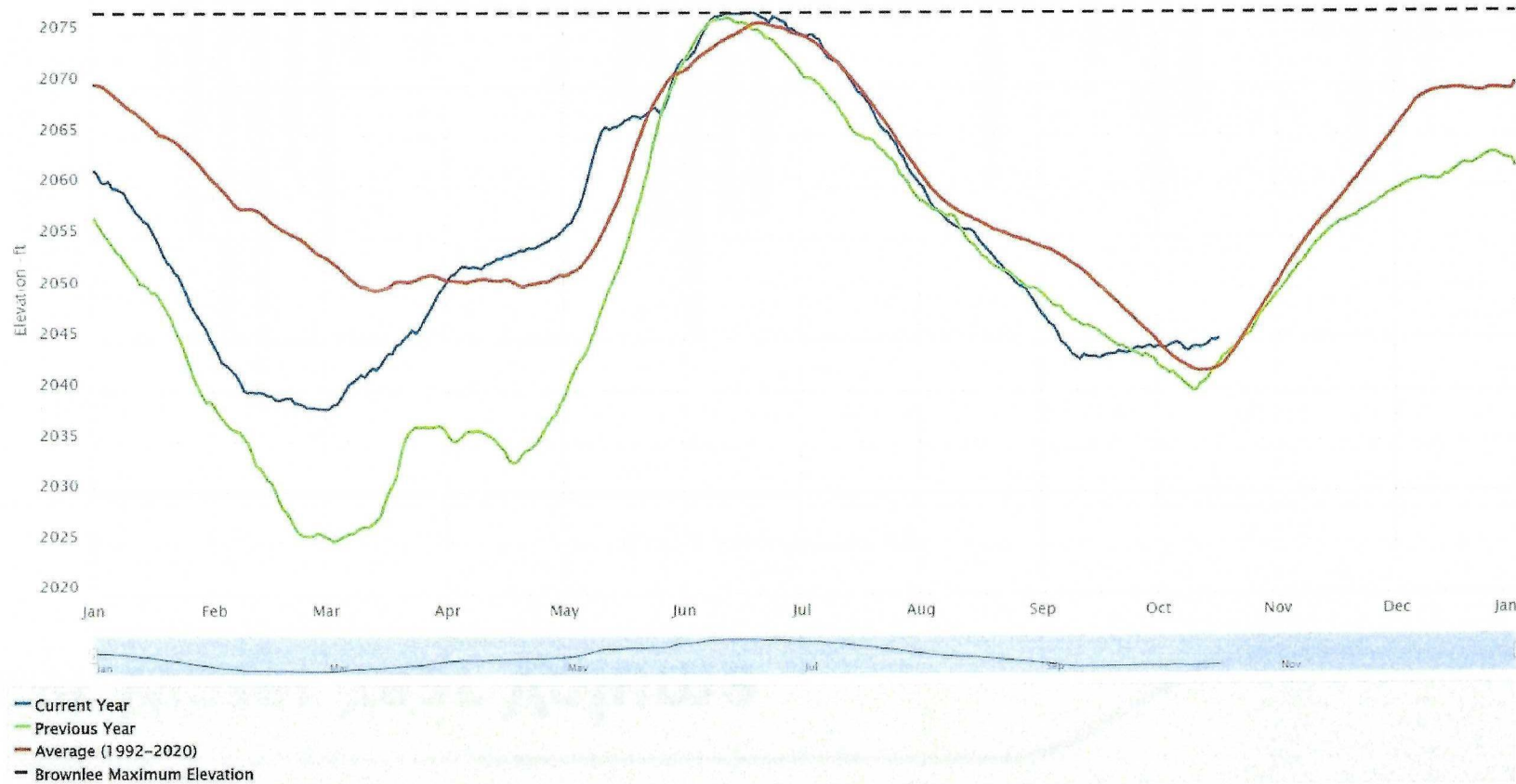


# Weiser Water Year Volume



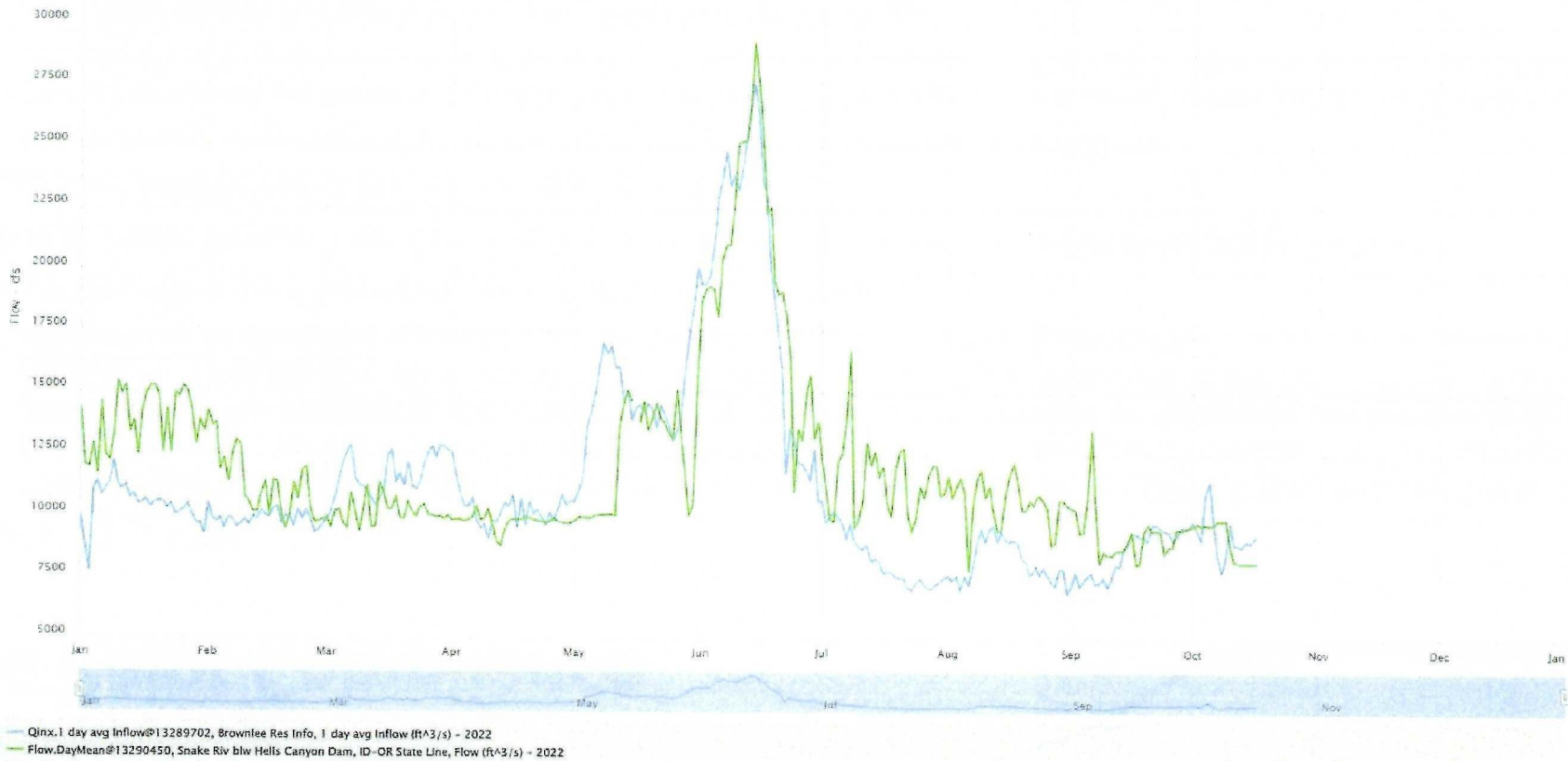
# HCC Operations – Brownlee Elevation

Elevation – Brownlee



# HCC Operations – Inflow/Outflow

Brownlee Inflow and Hells Canyon Outflow



# Lime Point Compliance

- Article 43 in FERC License:
  - *“The project shall be operated in the interest of navigation to maintain 13,000 cfs flow into the Snake River at Lime Point (river mile 172) a minimum of 95 percent of the time, when determined by the Chief of Engineers to be necessary for navigation. Regulated flows of less than 13,000 cfs will be limited to the months of July, August, and September, during which time operation of the project would be in the best interest of power and navigation, as mutually agreed to by the Licensee and the Corps of Engineers...”*
- 95% of the time July-September equates to 110 hours
- In 2022, Idaho Power met Lime Point requirements except for approximately 74 hours
- Important additional information on Lime Point:
  - Idaho Power is not required to draft Brownlee Reservoir to meet 13,000 cfs
  - During times when Brownlee Inflow plus the Salmon River (and other gains) is not sufficient to meet 13,000 cfs, the USACE and Idaho Power have developed a tracking method to determine compliance by looking at:
    - Hells Canyon releases relative to the 3-day average inflow and
    - Whether Lime Point is at or above 13,000 cfs due to Hells Canyon flow fluctuations
  - Idaho Power often requests a variance for Lime Point compliance during fall Chinook flow operations (mid-October through June 1). See next slide...

# Lime Point Variance

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- 2022/2023 Variance:
  - Flat flows of 8,100 cfs planned for fall Chinook spawning (mid-October – mid-December)
  - Mid-December – June 1, 2023:
    - Idaho Power is required to meet 11,500 cfs flows at McDuff (essentially the same as Lime Point but easier to gage)
    - Idaho Power is still not required to draft Brownlee inflow to meet the 11,500 cfs variance target
    - At a compliance target of 11,500 cfs, and minimum releases of 8,100 cfs, the Salmon River needs to be at approximately 3,400 cfs (assuming zero gains) to fully meet or exceed the variance flow target

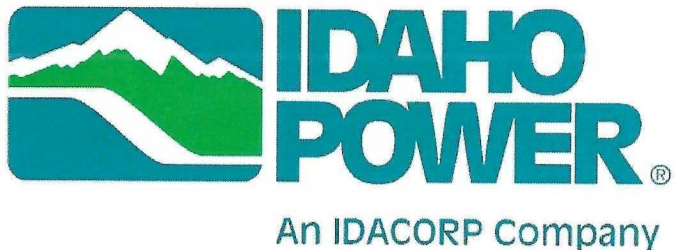
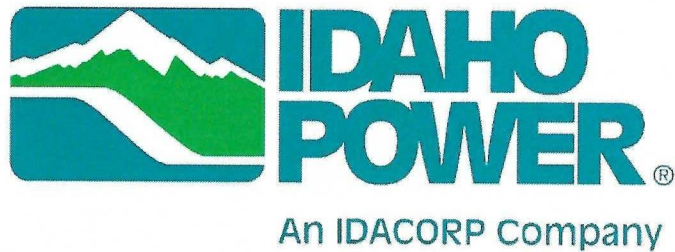
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## WY2023 Outlook

- Low baseflows are likely to persist all winter, especially at Swan Falls
- Above normal snowpack and water supplies are required for any releases out of the Upper Snake (past Milner Dam) next spring
  - Managed Aquifer Recharge is likely to divert all available natural flow at Milner Dam, leaving zero cfs passing Milner all winter and spring
- Conditions are improved for the Boise and Payette after a cool, wet spring, but normal to above normal snowpack is needed to see increased spring and summer season flows out of these basins
- A low snowpack could lead to very low Brownlee inflow and Hells Canyon outflow conditions next season



# Comments/Questions



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