

Water Year 2023 Review

Rob Van Kirk, Henry's Fork Foundation

Henry's Fork Watershed Council, October 10, 2023



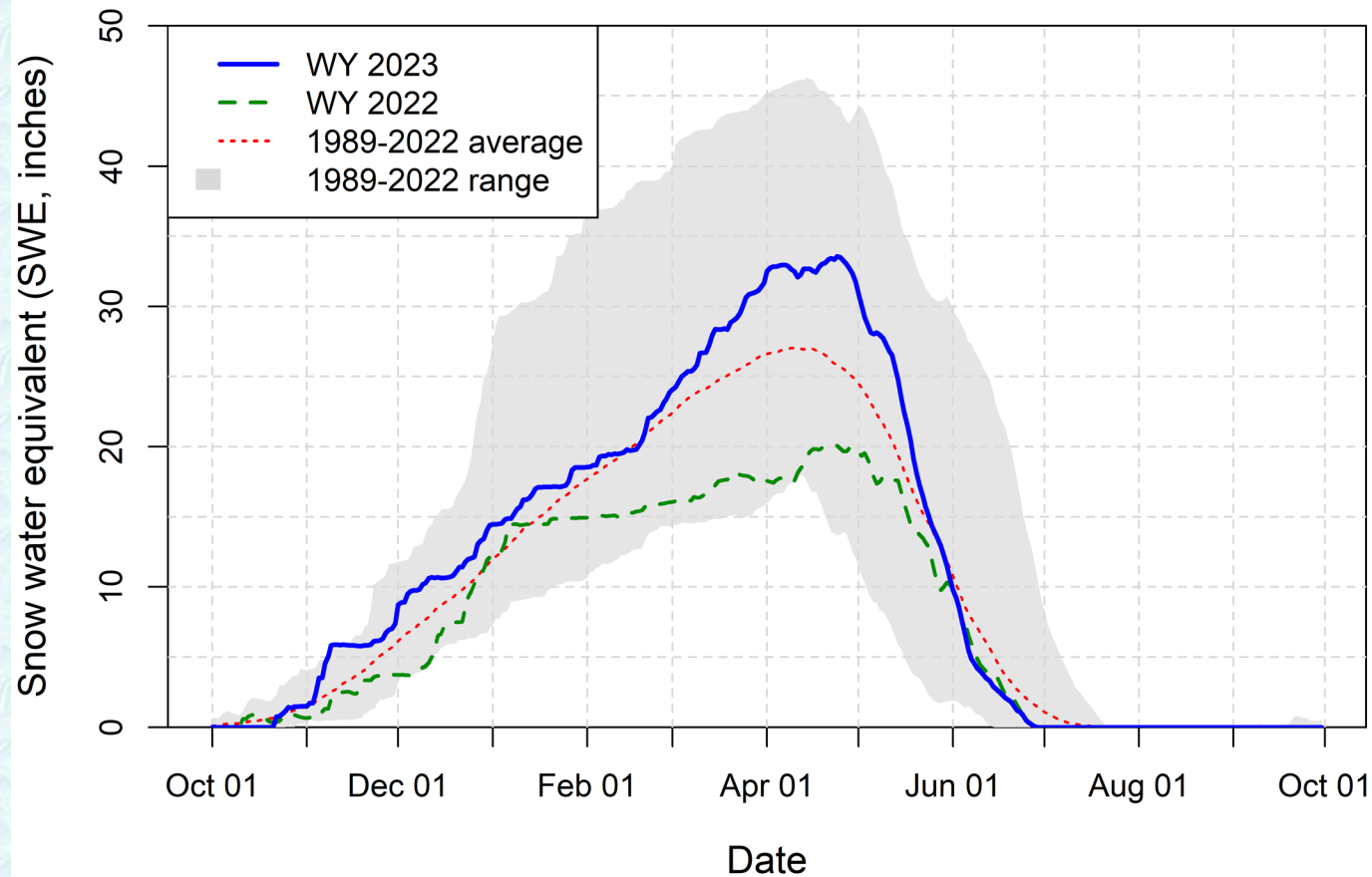
Outline

- Climate and drought
- Natural flow
- Irrigation management
- Island Park Reservoir management
- Observations vs. April 1 predictions (throughout)

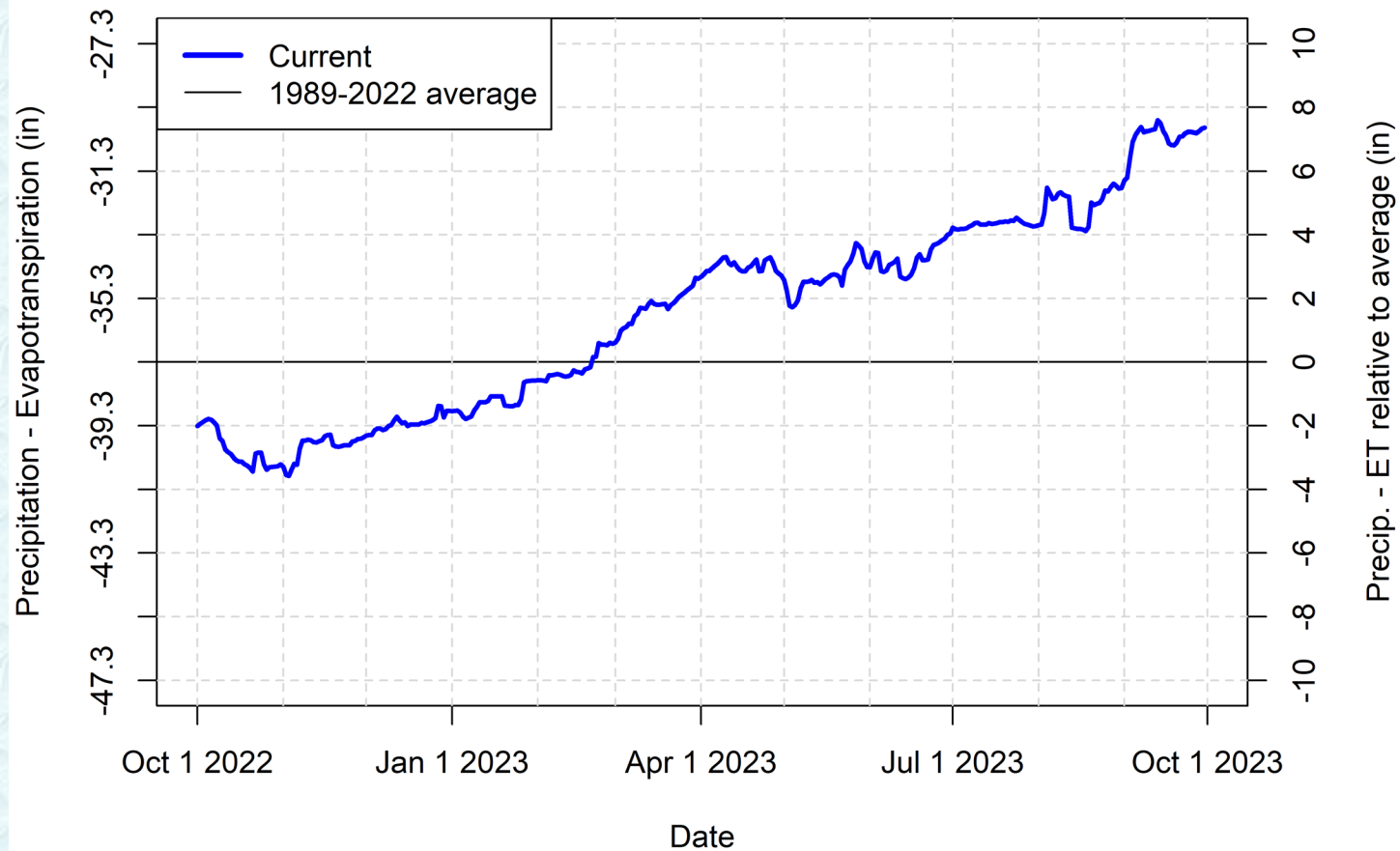
Water year 2023: moving out of drought

- Above-average precipitation
 - Peak **Snow Water Equivalent**: 19% above average
 - Precipitation: 11% above average
- Snowmelt started late but ended early
- Highly variable temperature
 - Water year: 1 degree F below 1989-2022 average
 - Cold winter and early spring
 - April-June temperature average but 1.4 degrees below long-term trend
 - July very warm and dry
 - August-present: very wet
- Large short-term drought improvement
- Moderate medium-term improvement
- Long-term drought continues

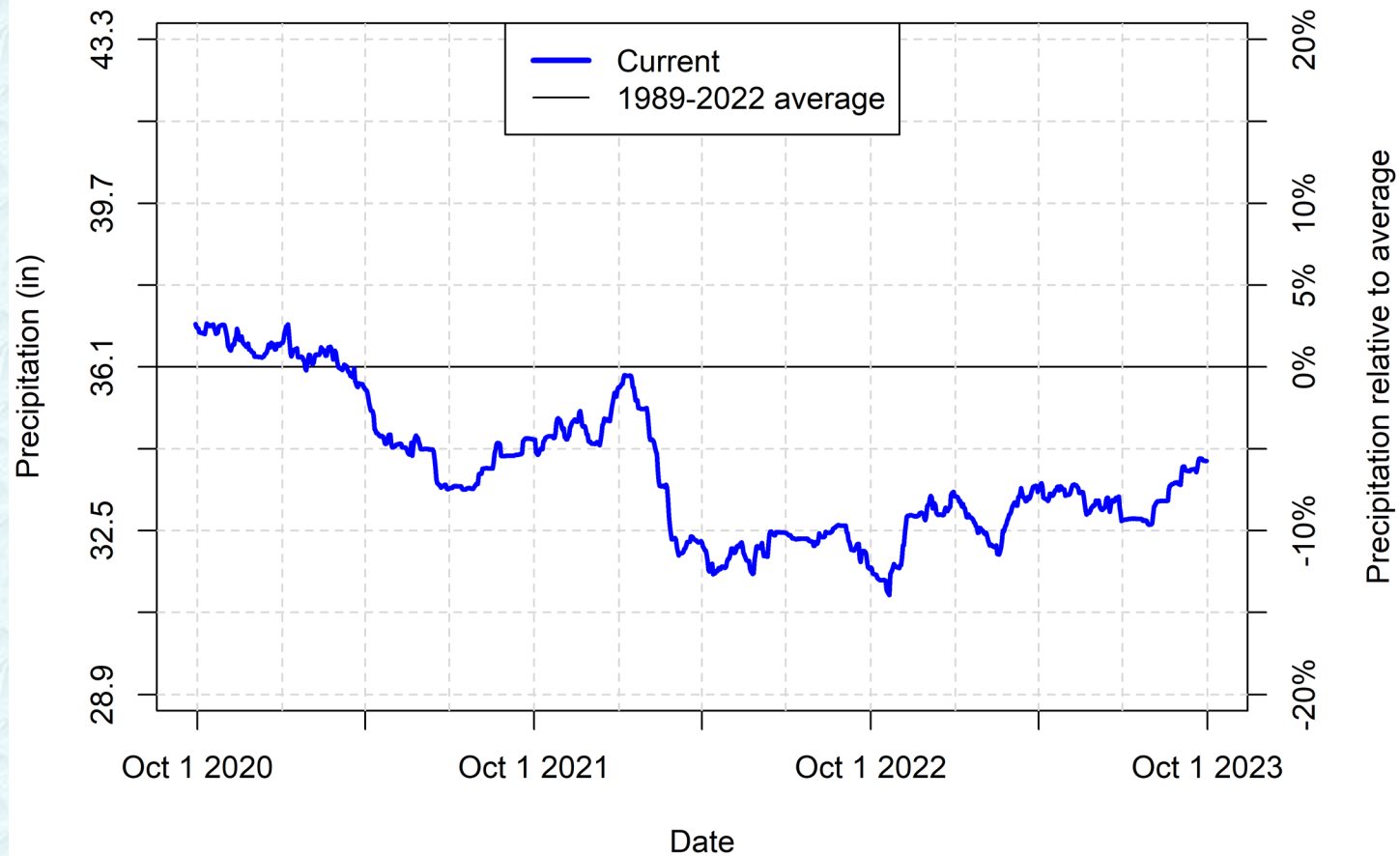
Henry's Fork Watershed Mean SWE Accumulation Oct 01 2023



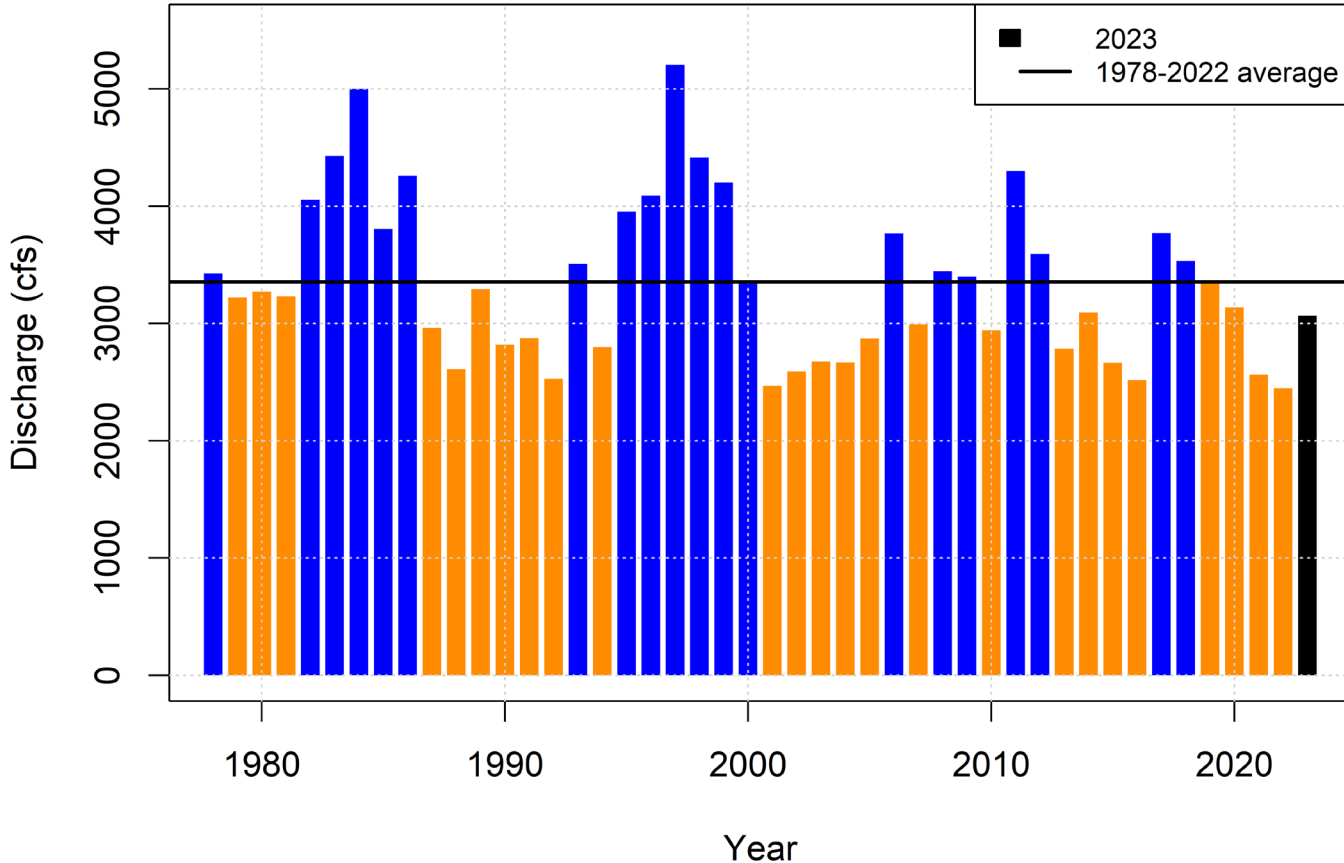
One-year Cumulative Agricultural Moisture Availability



Three-year Average Annual Watershed Precipitation



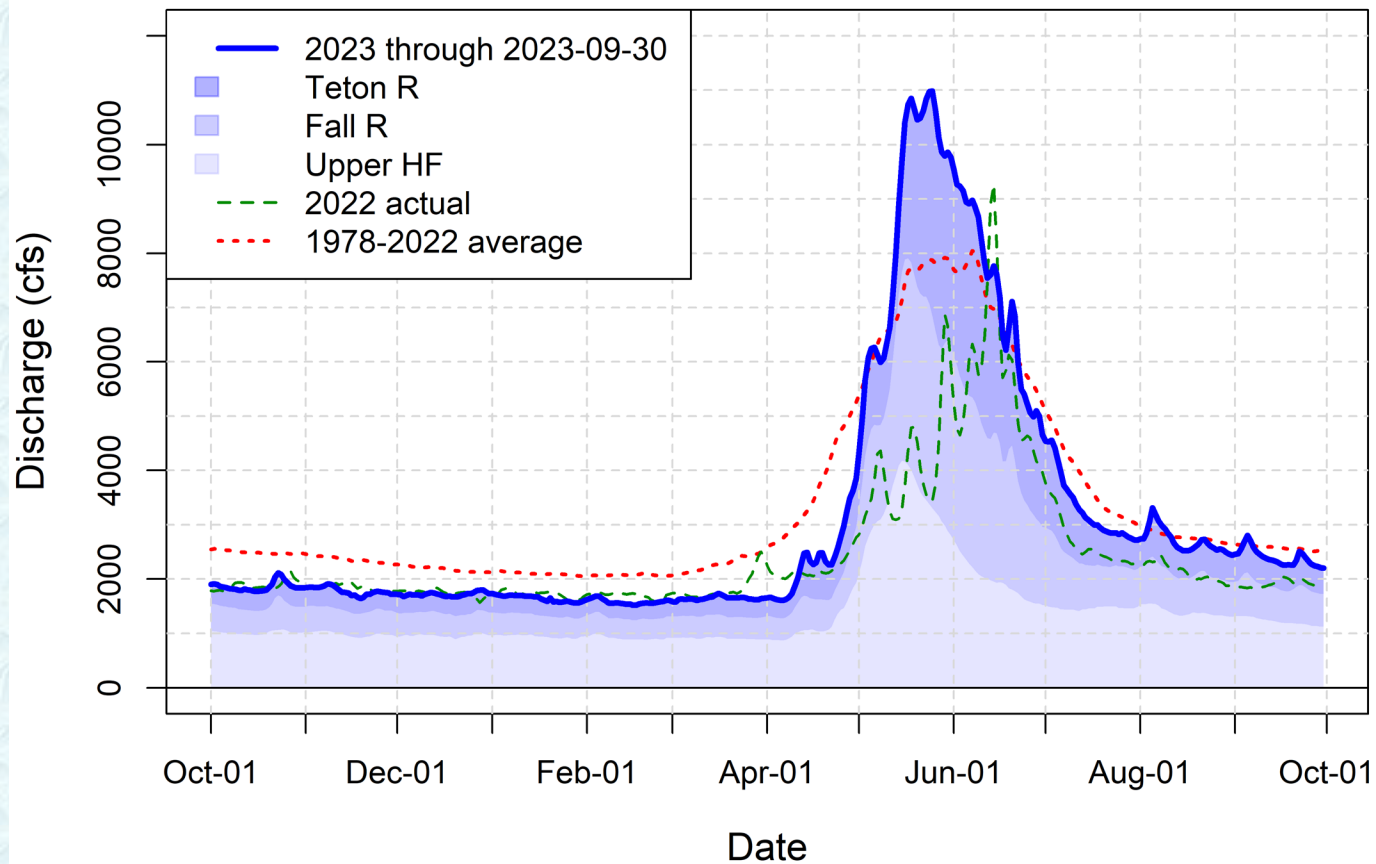
Mean Natural Flow, Watershed Total (Upper HF + FR + TR)



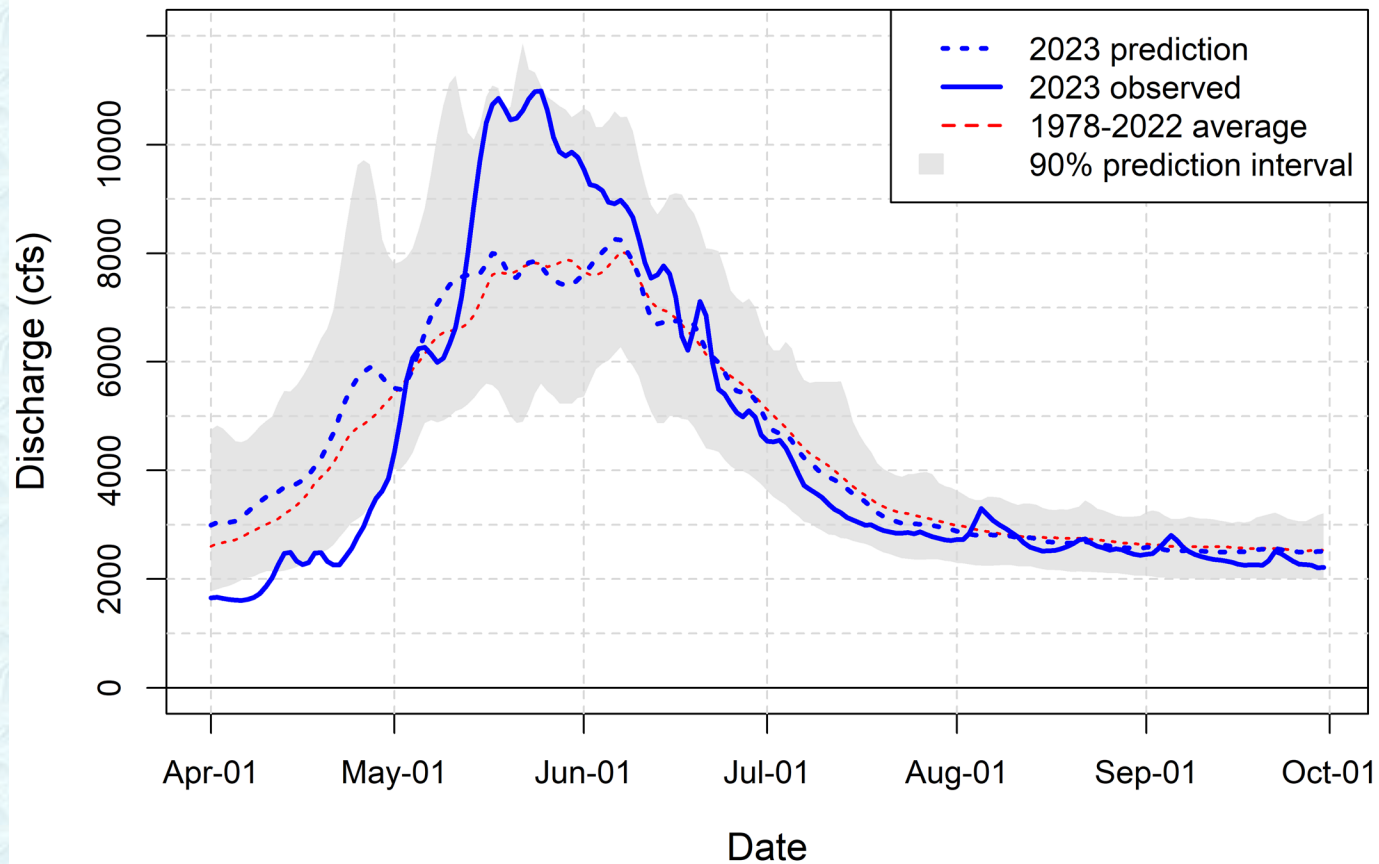
Water year 2023:

- Record low baseflow + above-average precip. =
- 92% of average water supply
- 4th consecutive year below average

Henry's Fork Total Natural Flow (Water Supply)



Henry's Fork Watershed Natural Flow



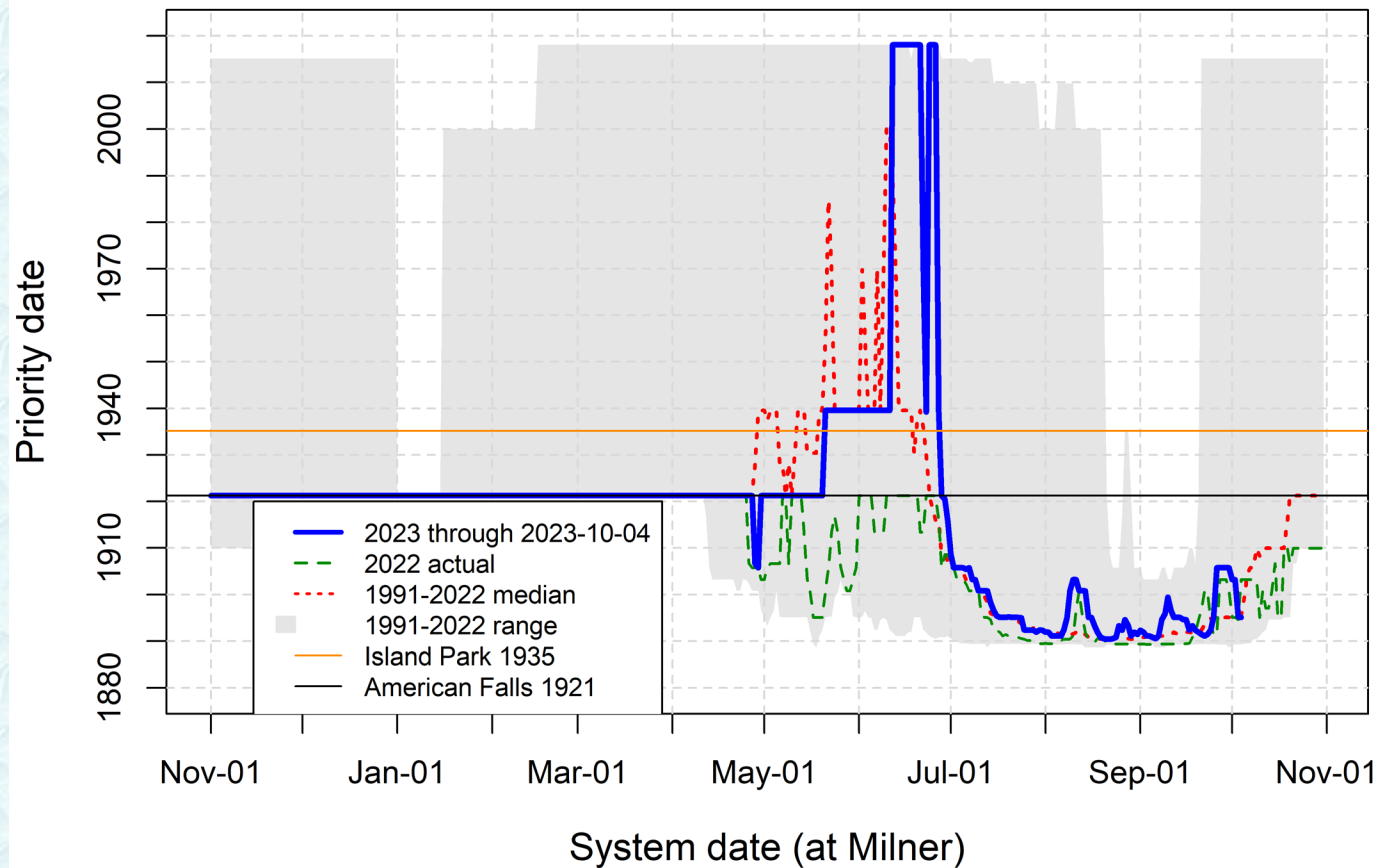
Irrigation Management

- All HF irrigators received full storage allocation
- Basin-wide water rights priorities average to above-average
- Diversion determined completely by crop needs and weather
- Crop development compressed across watershed
- Very high diversion (highest since 2015) in July

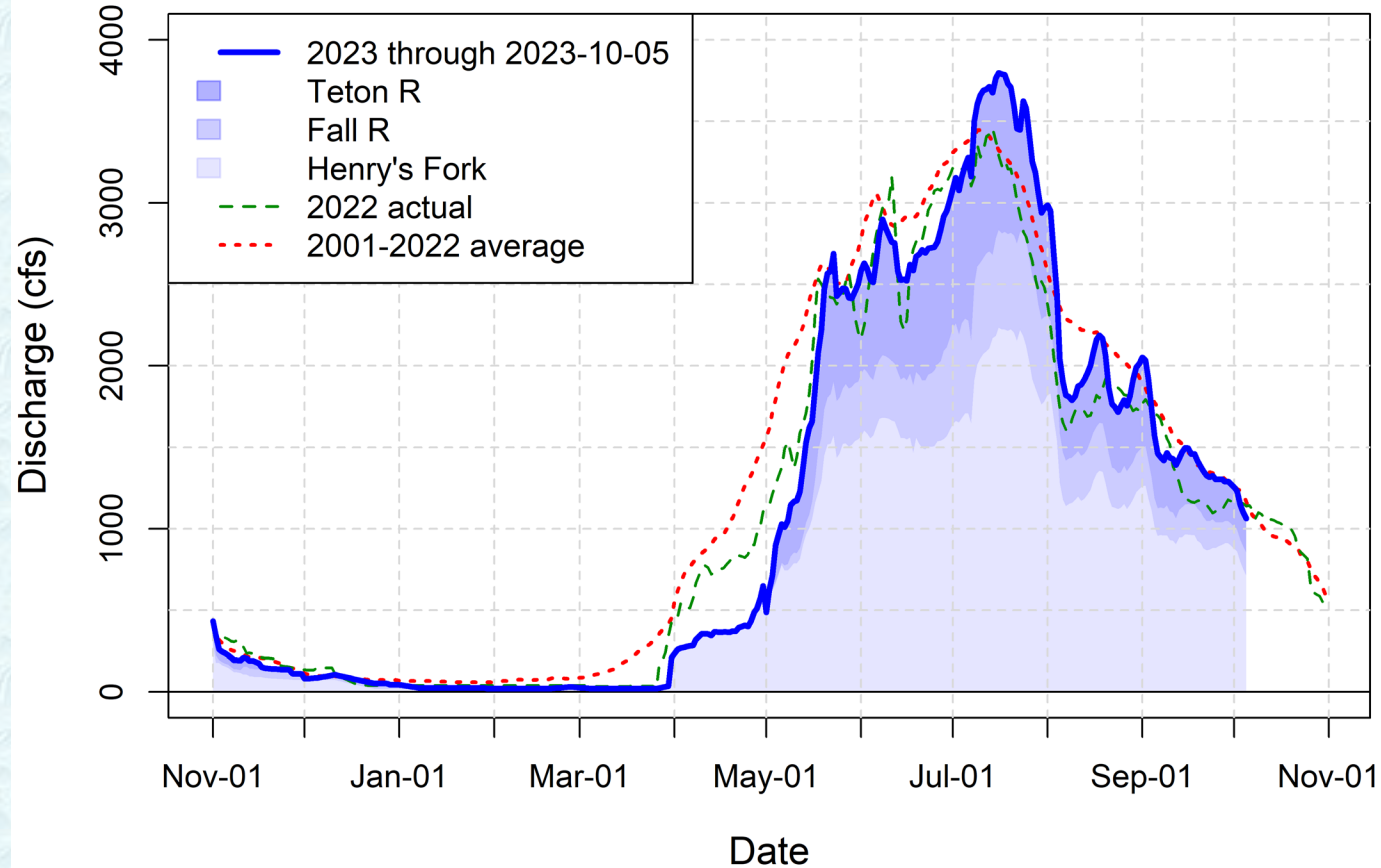
Lower-watershed streamflow targets during reservoir draft

- ~350 cfs in HF downstream of all diversions (at Parker)
- 0 cfs in NF Teton downstream of Teton Island Feeder
- Just enough in SF Teton for Rexburg Irrigation Canal
- Stability in flows

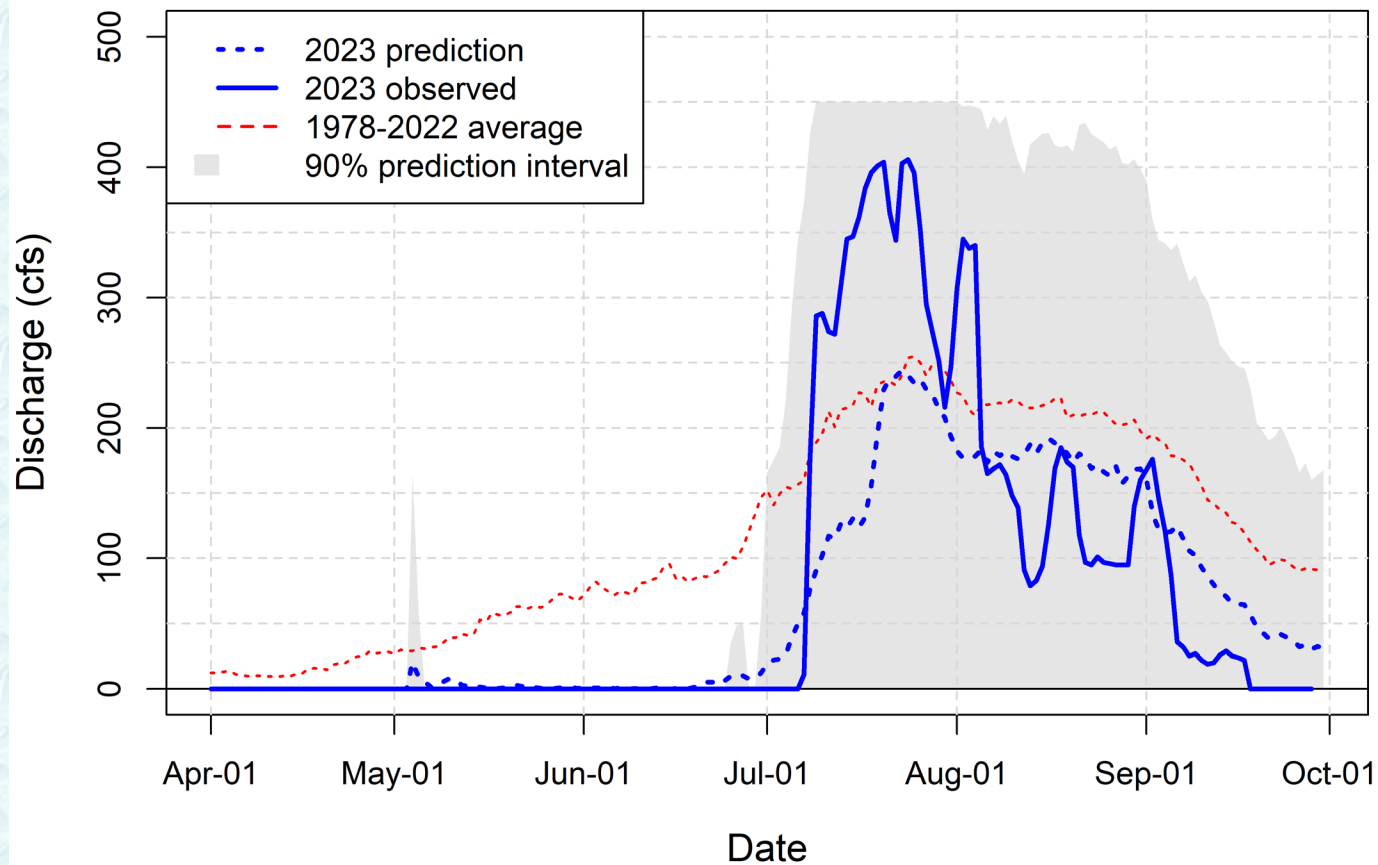
Water Right Priority in HF at St. Anthony



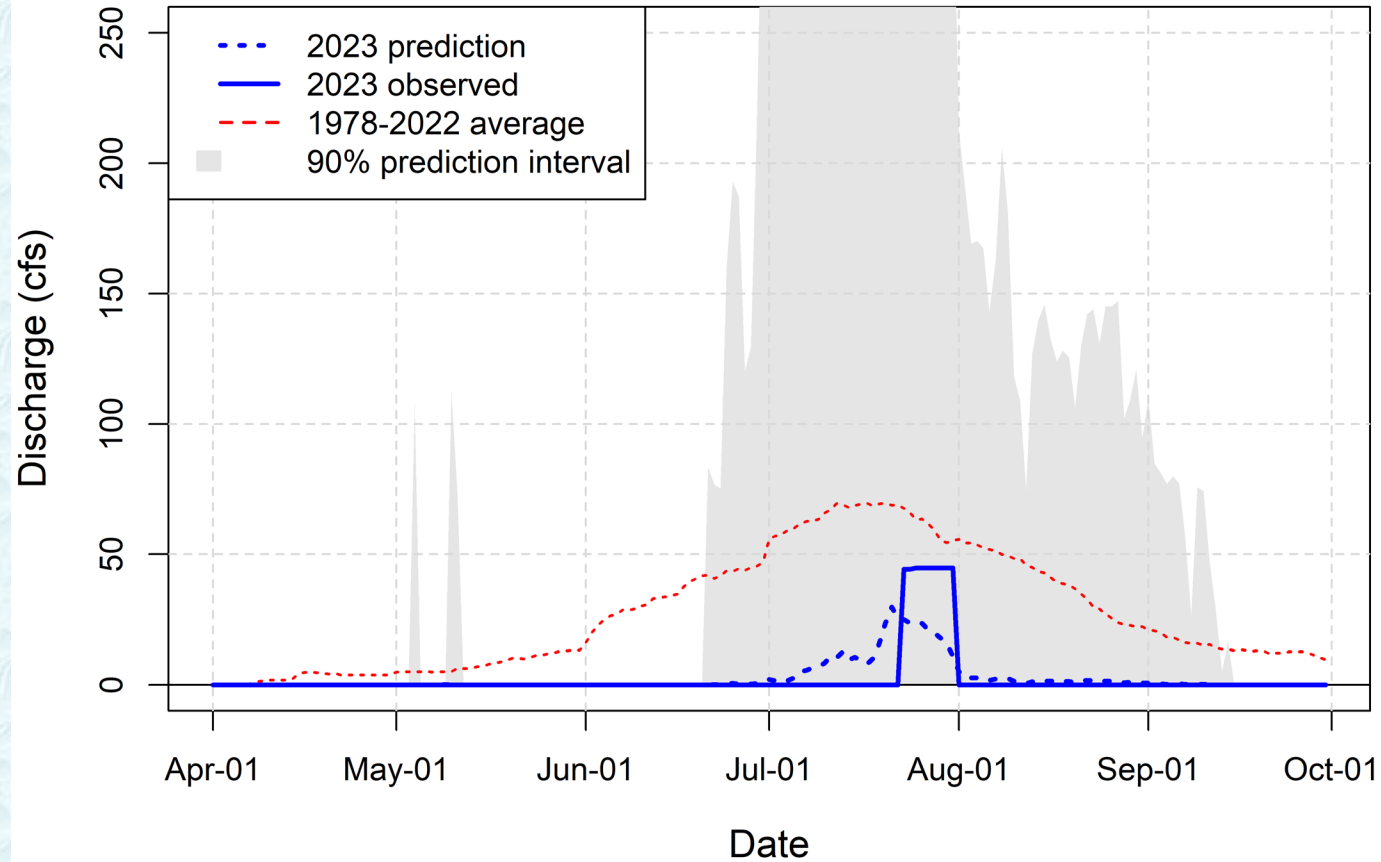
Henry's Fork Watershed Total Diversion



Crosscut Diversion to Teton River (Accounting)



Teton River Exchange Pumping

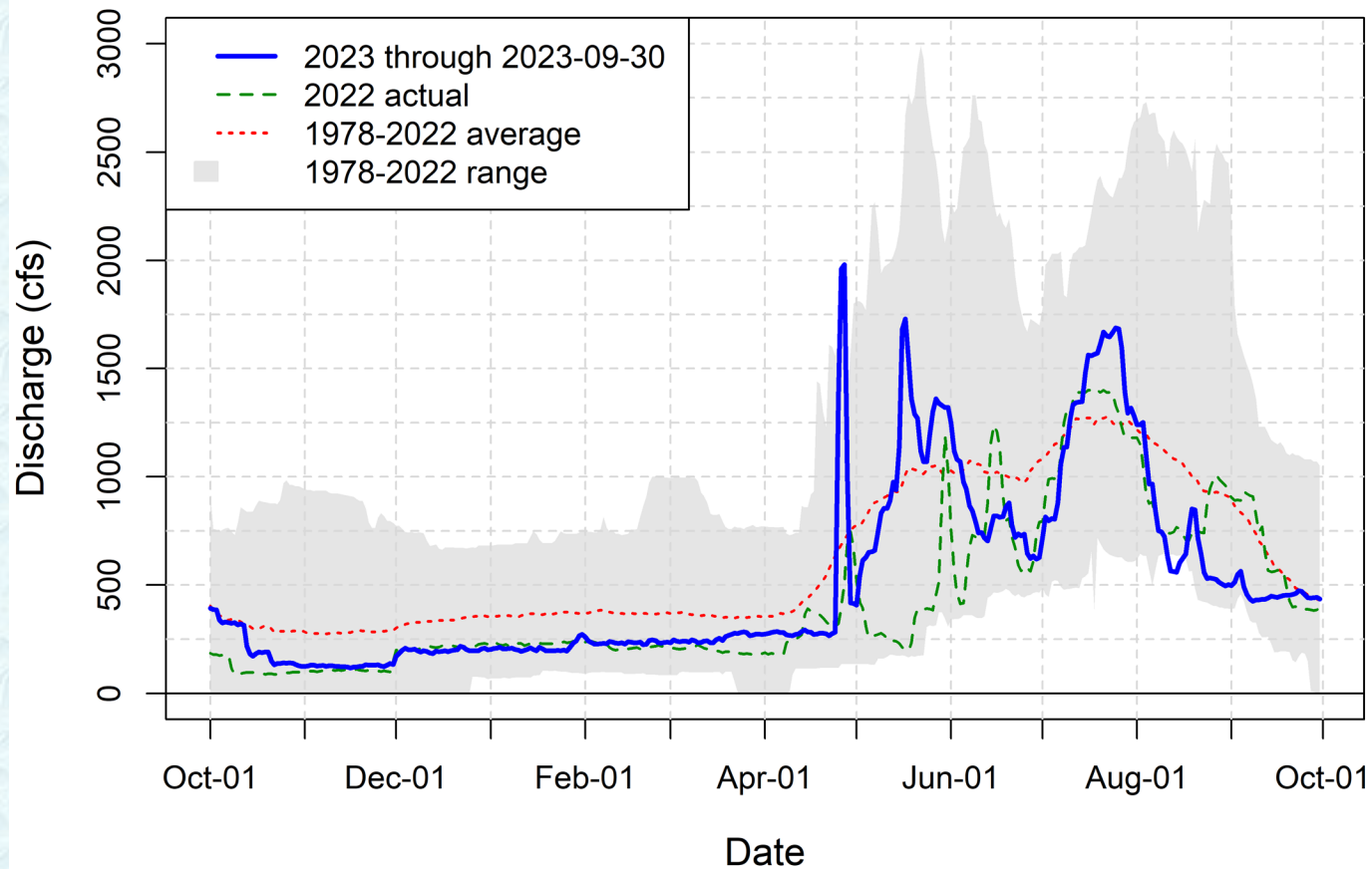


IP Reservoir Management

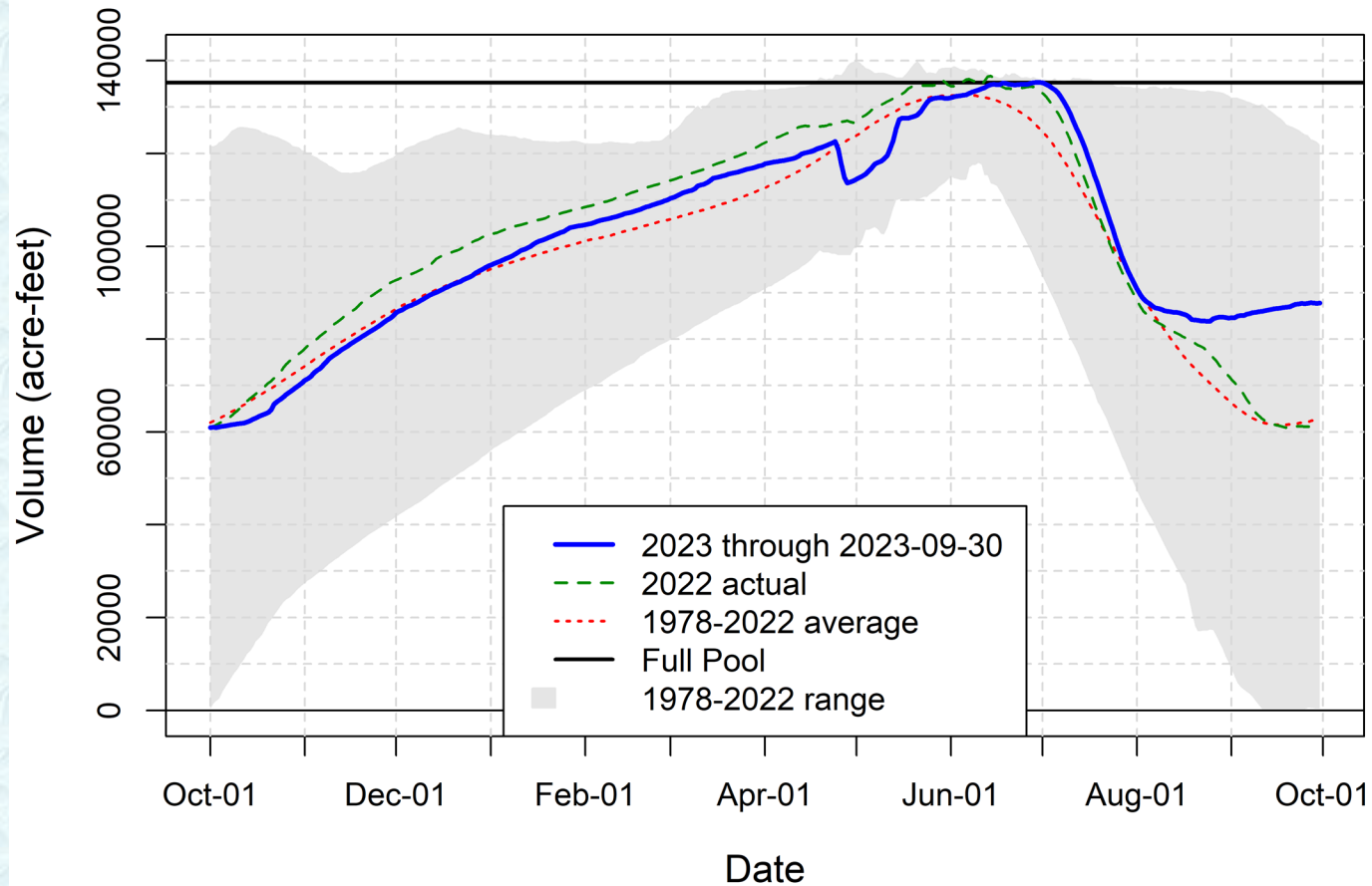
IP Reservoir

- Winter 2022/2023 outflow 213 cfs (vs. 354 average)
- Approached ice-off target April 24
- Delivered freshet April 25-April 28
- Ice-off May 11
- Filled June 18
- Draft started July 2 (3 days later than average)
- Peak outflow ~1600-1700 cfs in July, highest since 2013
- Draft ended August 25 (earliest on record)
- Minimum content 83,876 ac-ft (62% full, vs. 44% on average)

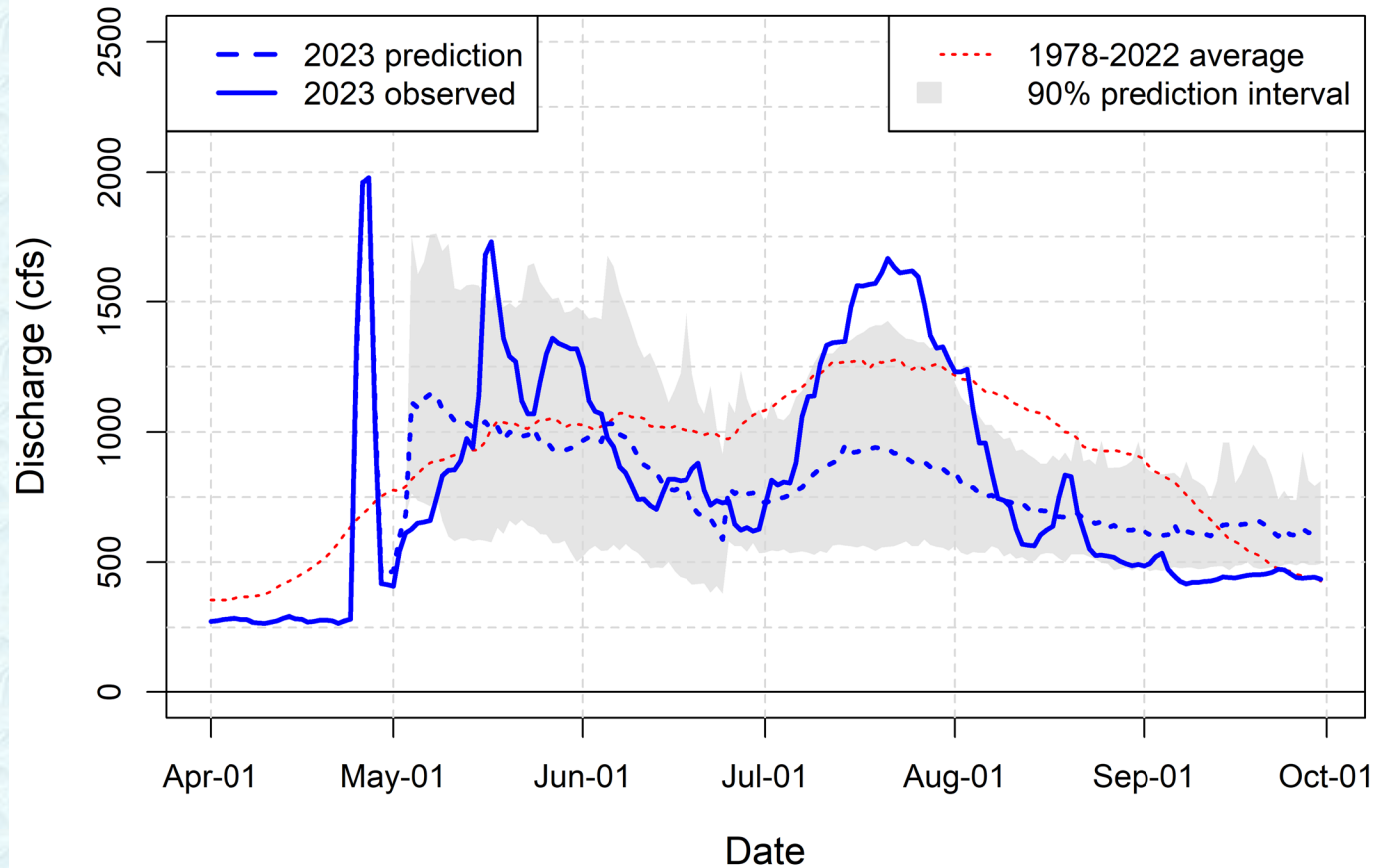
Outflow from Island Park Reservoir



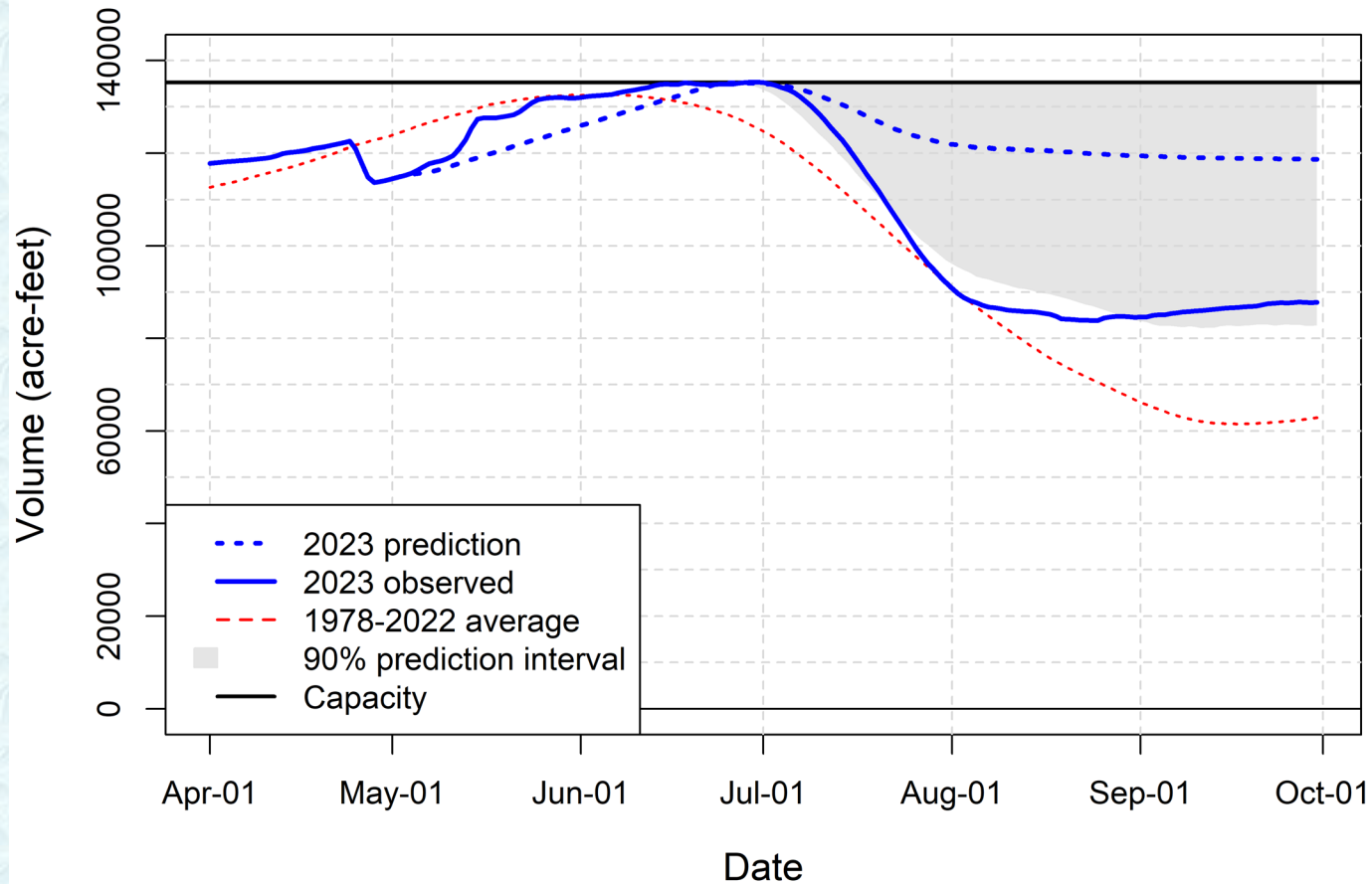
Island Park Reservoir Volume



Outflow from Island Park Reservoir



Island Park Reservoir Volume



Questions?

Contact: rob@henrysfork.org

