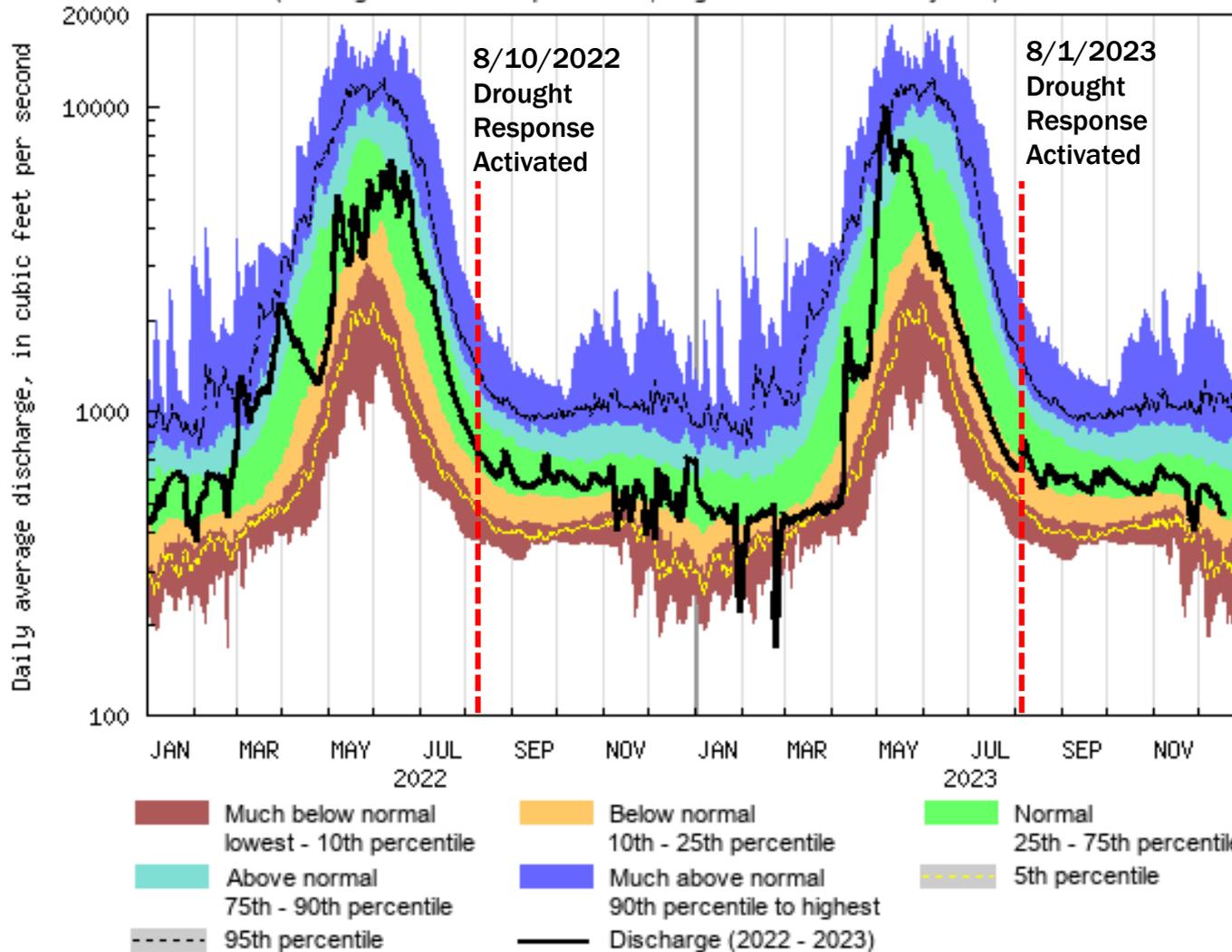


DROUGHT RESPONSE 2023

USGS 12340000 Blackfoot River near Bonner MT
(Drainage area: 2287 square miles, length of record: 87 - 90 years)



WATER YEAR AT A GLANCE

DROUGHT RESPONSE AT A GLANCE

- Drought Response activated on August 1, 2023
- Call letters sent to 72 individuals on August 2
- 50 confirmed participants
- 1 new participant this year
- Drought response lifted on September 29th, 2023

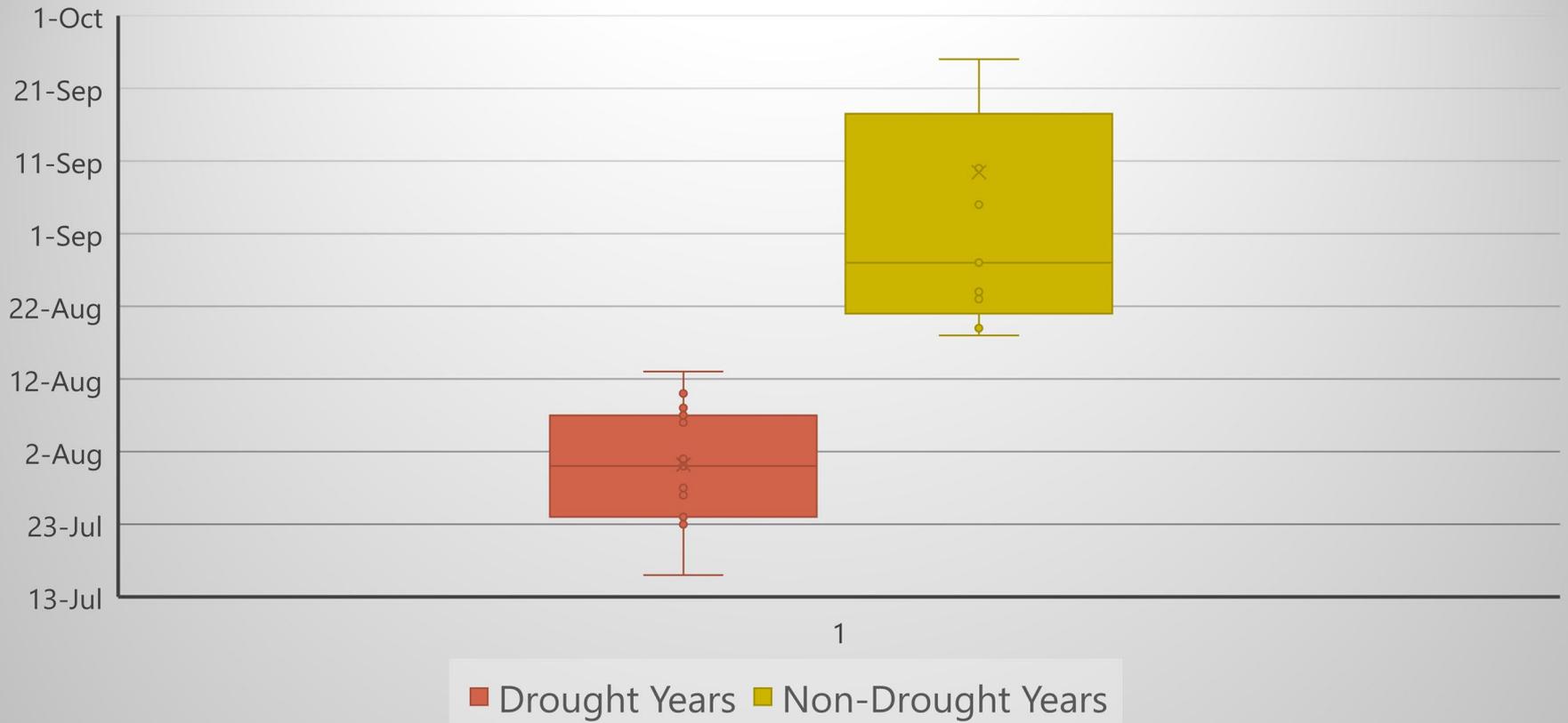
DROUGHT RESPONSE OVER THE DECADES



- Drought Response activated in 15 of the last 24 years (62.5%)
- July 31st is the average date that the river drops below 700cfs during Drought Years
- September 9th is the average date during non drought years

DROUGHT RESPONSE OVER THE DECADES

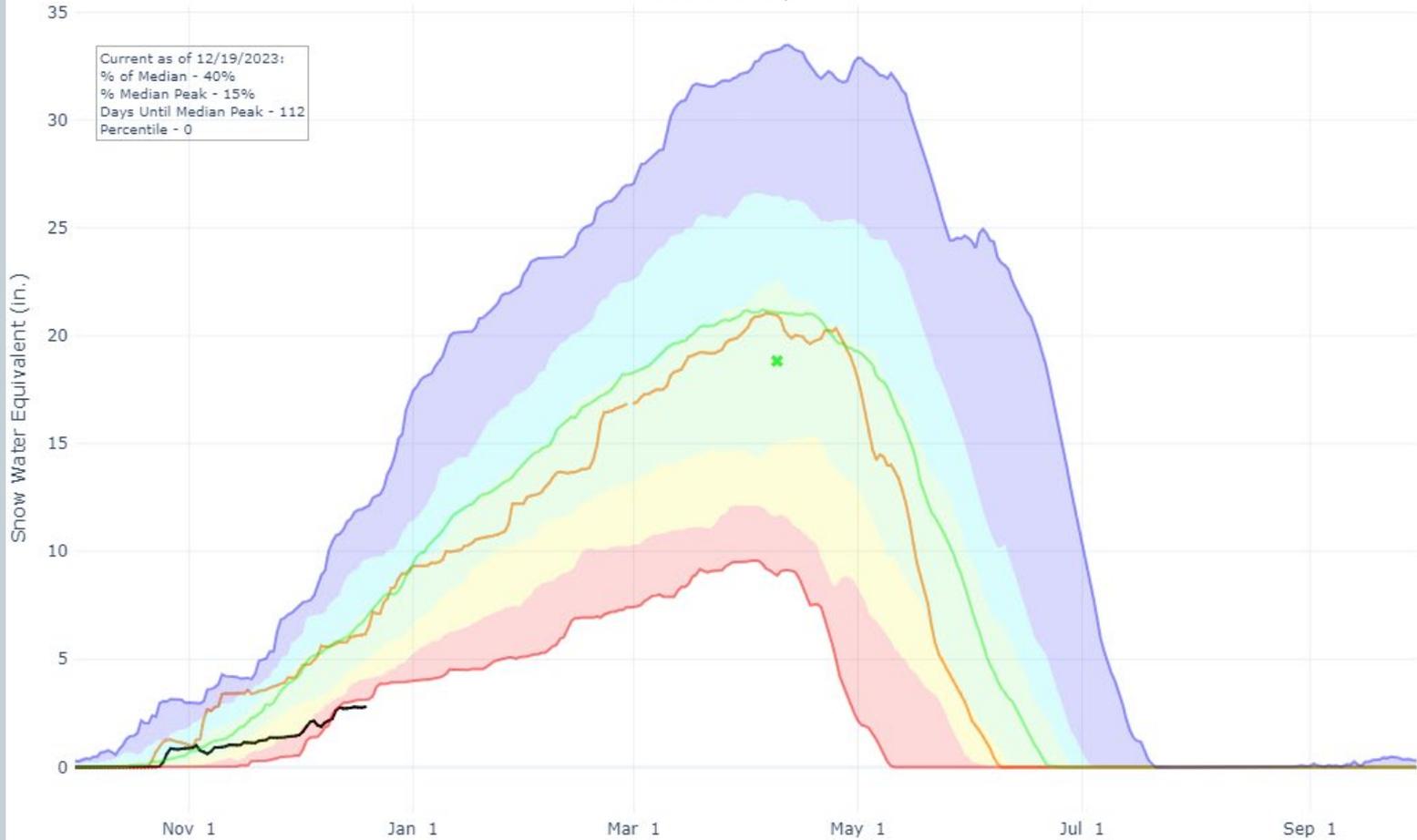
Comparison of Date when Blackfoot River Drops Below 700 cfs 2000-2023



Reset Range

Link to data: CSV / JSON

Current as of 12/19/2023:
% of Median - 40%
% Median Peak - 15%
Days Until Median Peak - 112
Percentile - 0



- Station List
- ✱ Median Peak SWE
 - Max
 - Median (POR)
 - Median ('91-'20)
 - Min
 - Stats. Shading
 - 2024 (7 sites)
 - 2023 (7 sites)
 - 2022 (7 sites)
 - 2021 (7 sites)
 - 2020 (7 sites)
 - 2019 (7 sites)
 - 2018 (7 sites)
 - 2017 (7 sites)
 - 2016 (7 sites)
 - 2015 (7 sites)
 - 2014 (7 sites)
 - 2013 (7 sites)
 - 2012 (7 sites)
 - 2011 (7 sites)
 - 2010 (7 sites)
 - 2009 (7 sites)
 - 2008 (7 sites)
 - 2007 (7 sites)
 - 2006 (7 sites)
 - 2005 (7 sites)
 - 2004 (7 sites)
 - 2003 (7 sites)
 - 2002 (7 sites)
 - 2001 (7 sites)
 - 2000 (7 sites)

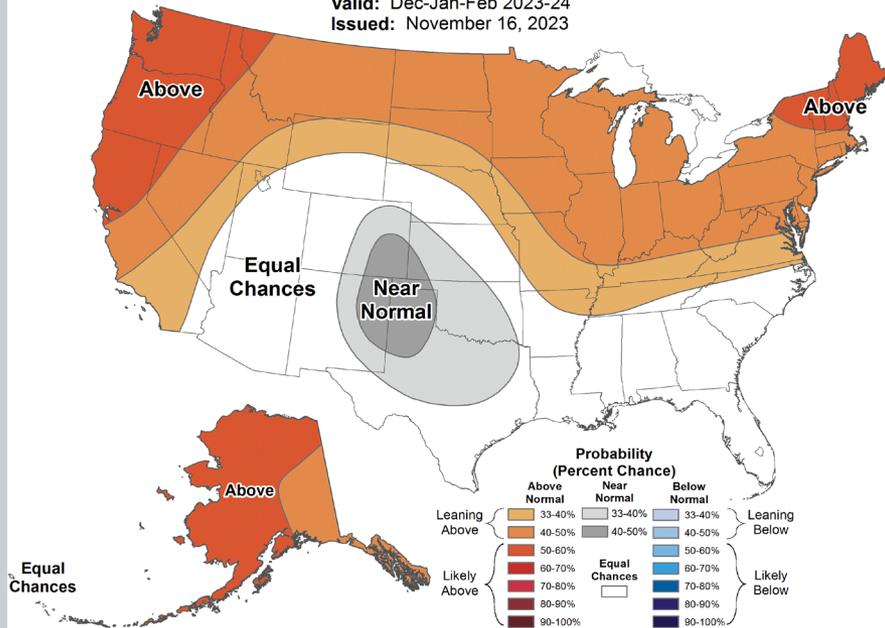




Seasonal Temperature Outlook



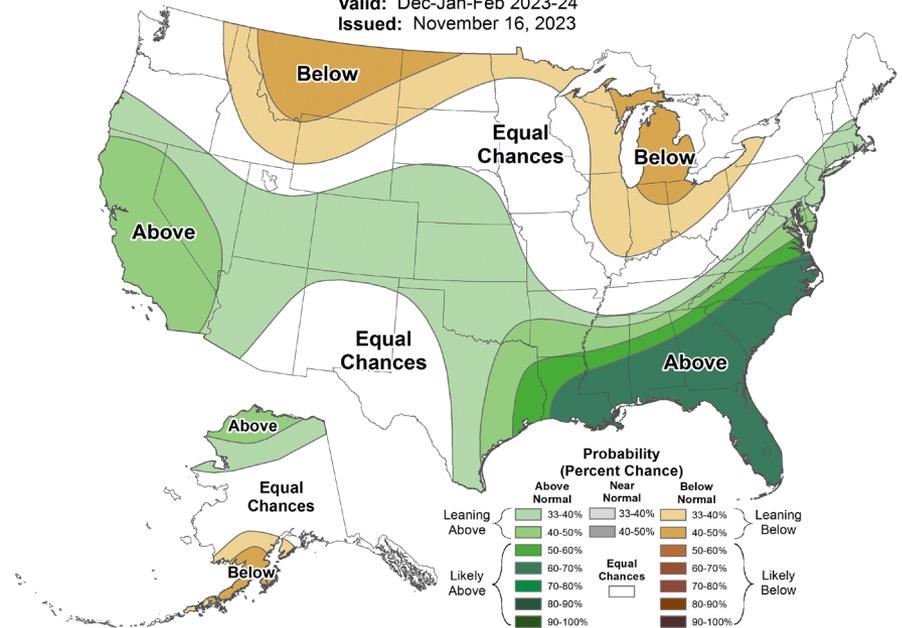
Valid: Dec-Jan-Feb 2023-24
Issued: November 16, 2023



Seasonal Precipitation Outlook



Valid: Dec-Jan-Feb 2023-24
Issued: November 16, 2023



STREAM MONITORING 2023

OBJECTIVES

- Better understand how key areas within the watershed interact
- Pinpoint potential opportunities for restoration within the framework of the drought plan
- Provide evidence of effectiveness of drought plan for tributaries



OBJECTIVES



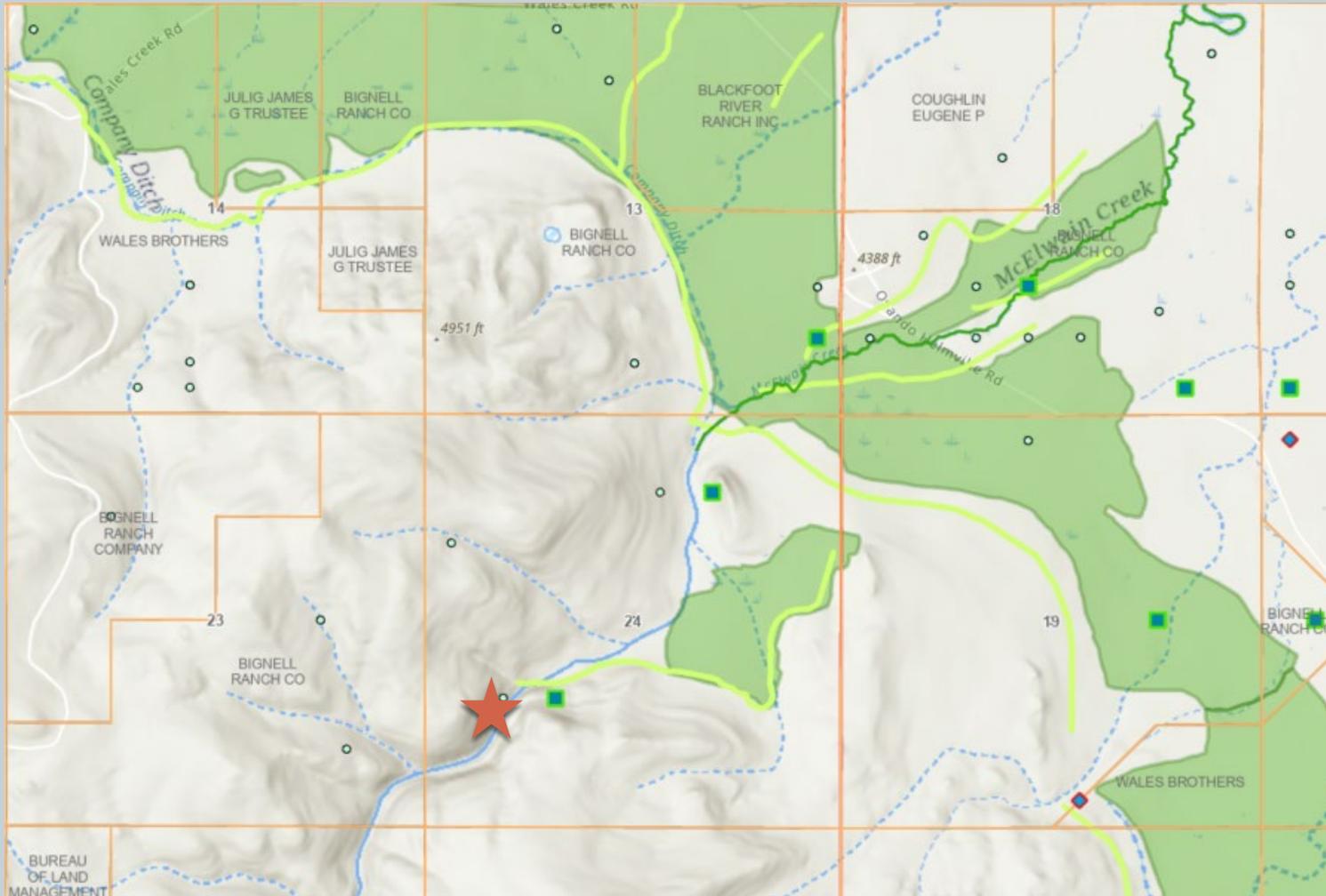
- **McElwain** – exploring restoration opportunities and fisheries improvement for water users.
- **Cottonwood** – gain baseline information on limiting factors for riparian and fisheries improvement.

MCELWAIN CREEK, HELMVILLE

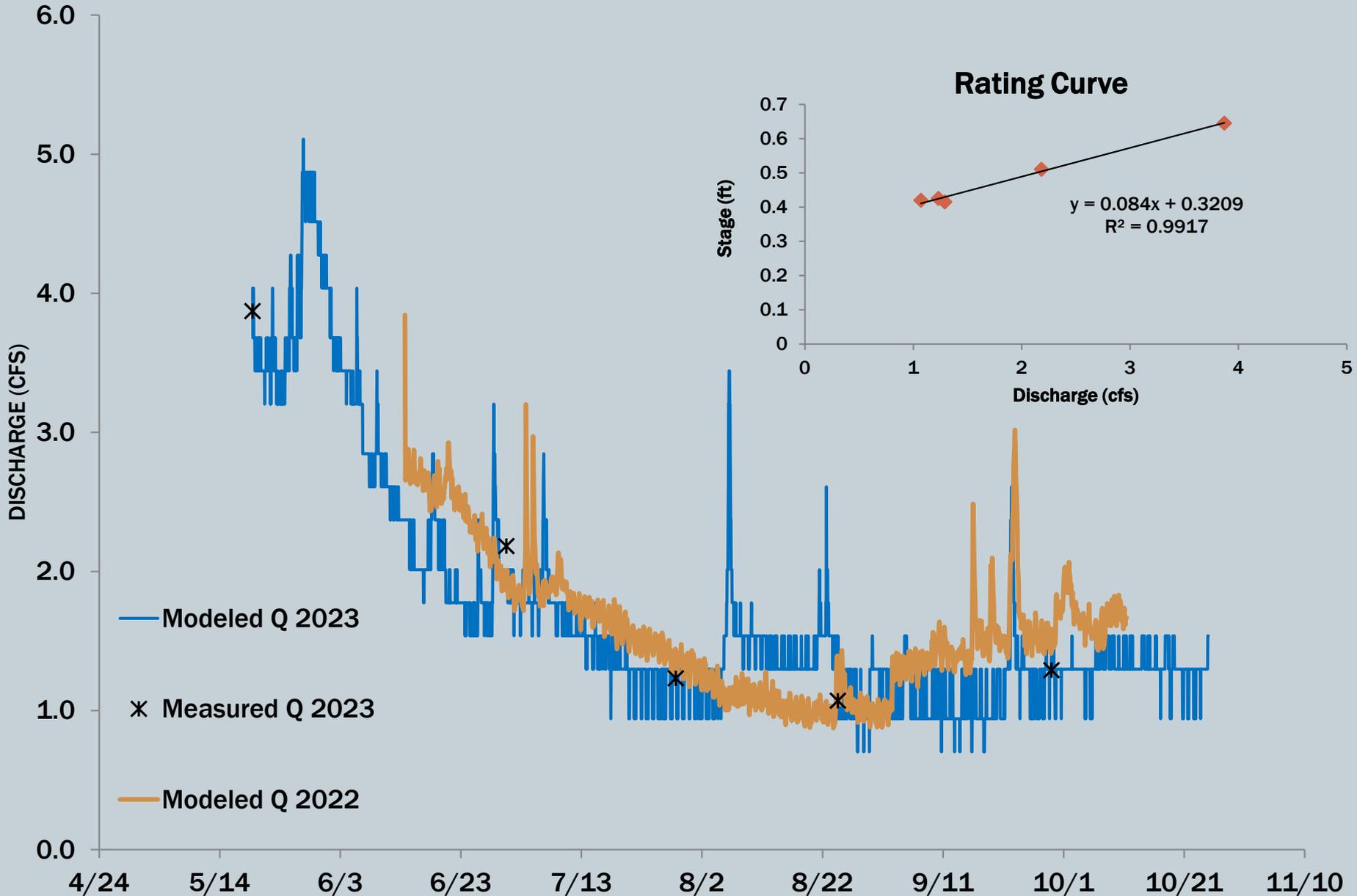
- Bignell Ranch
- 11 water rights all senior to Milltown
- Chronically dewatered
- Second year of flow and temperature data above 1st diversion



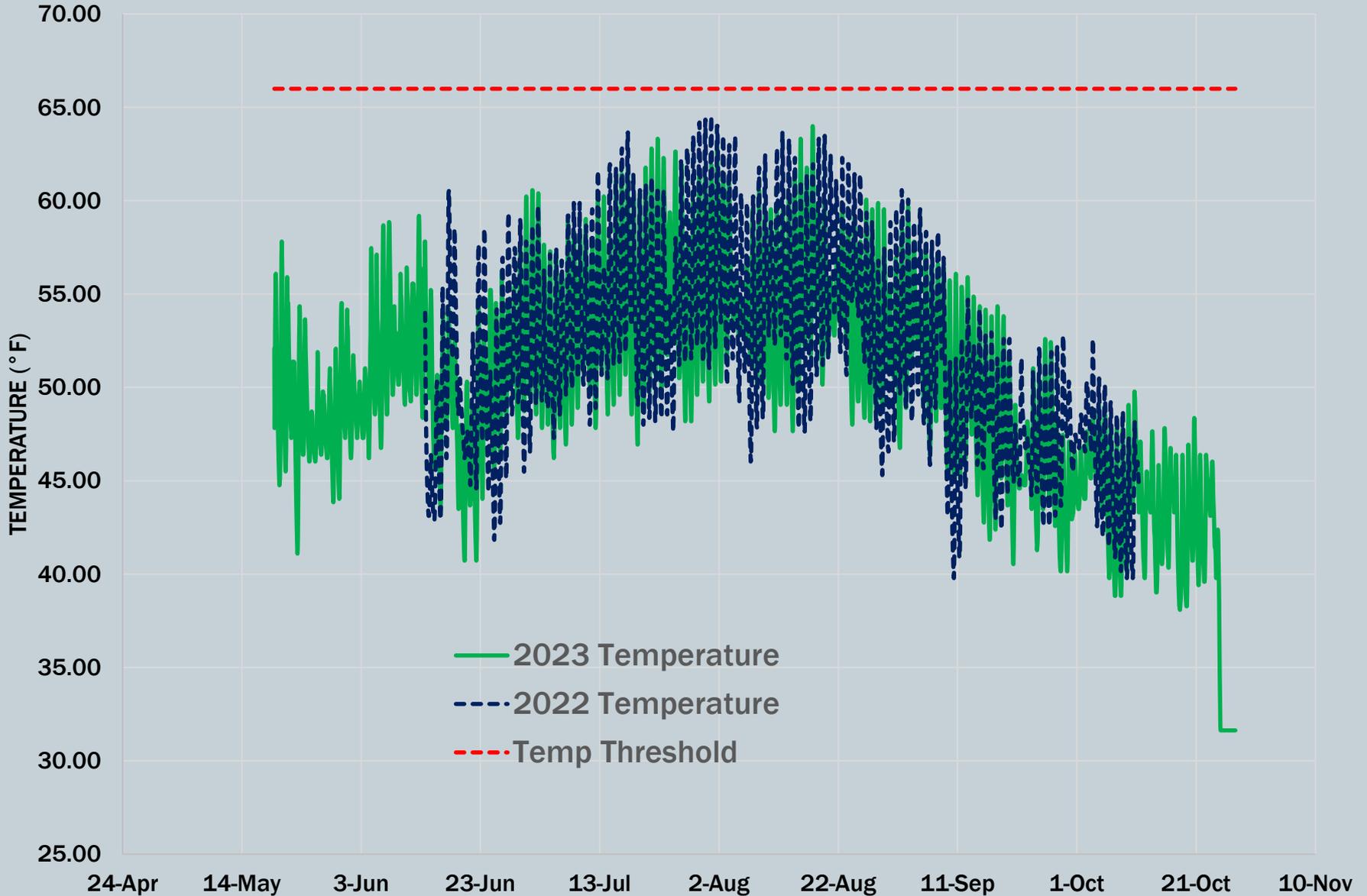
MCELWAIN CREEK



MCELWAIN CREEK DISCHARGE HYDROGRAPH



MCELWAIN STREAM TEMPERATURE



TAKEAWAYS

- Baseflow about 1.3 cfs above the diversion points through late summer and early fall.
- Maximum discharge estimated at about 5 cfs in 2023
- Max Temperatures of 64 and 64.5 F on August 17th and July 31st of 2023 and 2022, respectively.
- When on, first diversion on creek takes 100% of flow (documented in June, Aug, Sept)

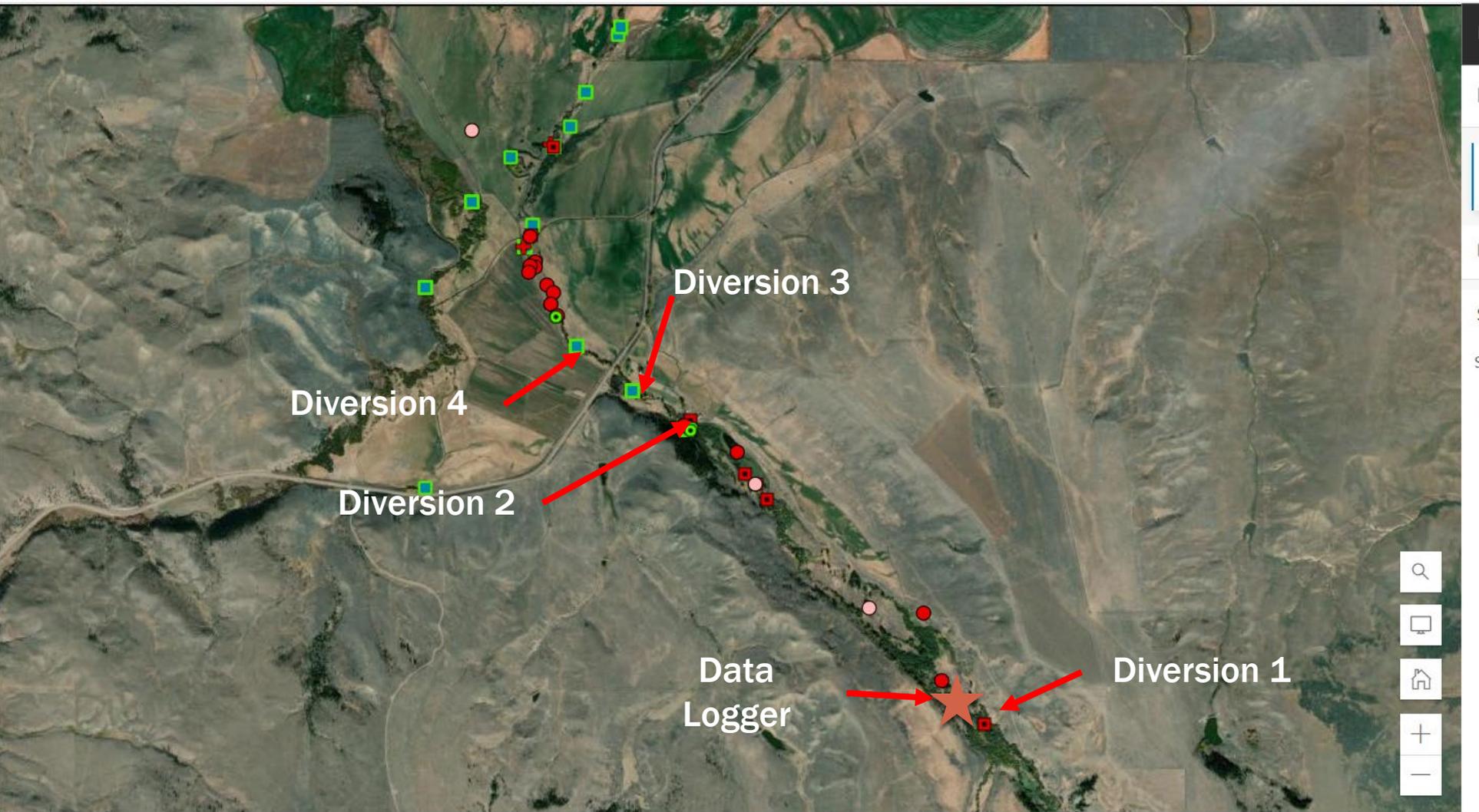


COTTONWOOD CREEK, HELMVILLE

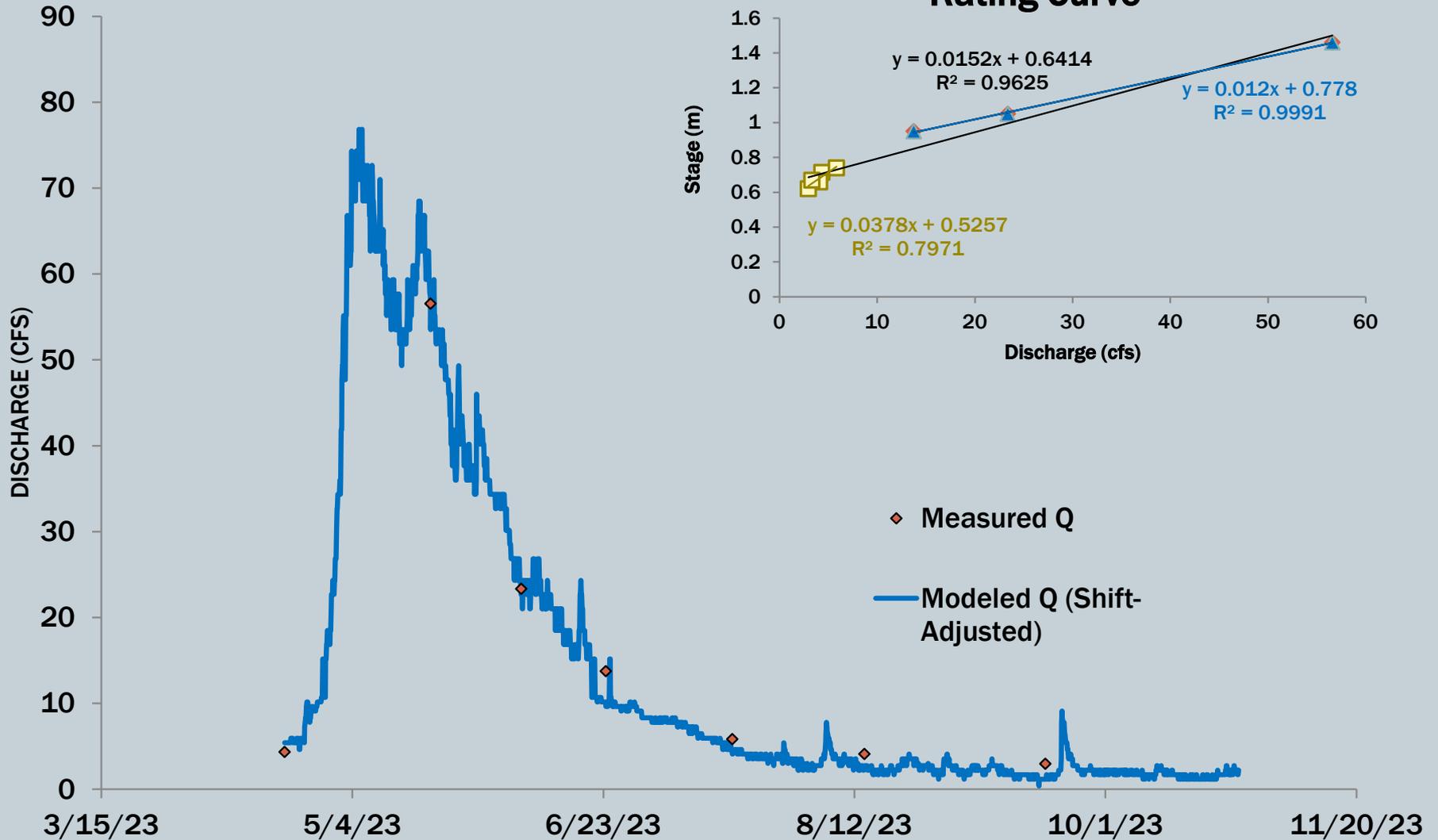
- UWC LLC, Mannix Leasing
- First season of data collection
- Exploring restoration opportunities after new ownership
- Contributing data to Nevada Creek hydrologic study



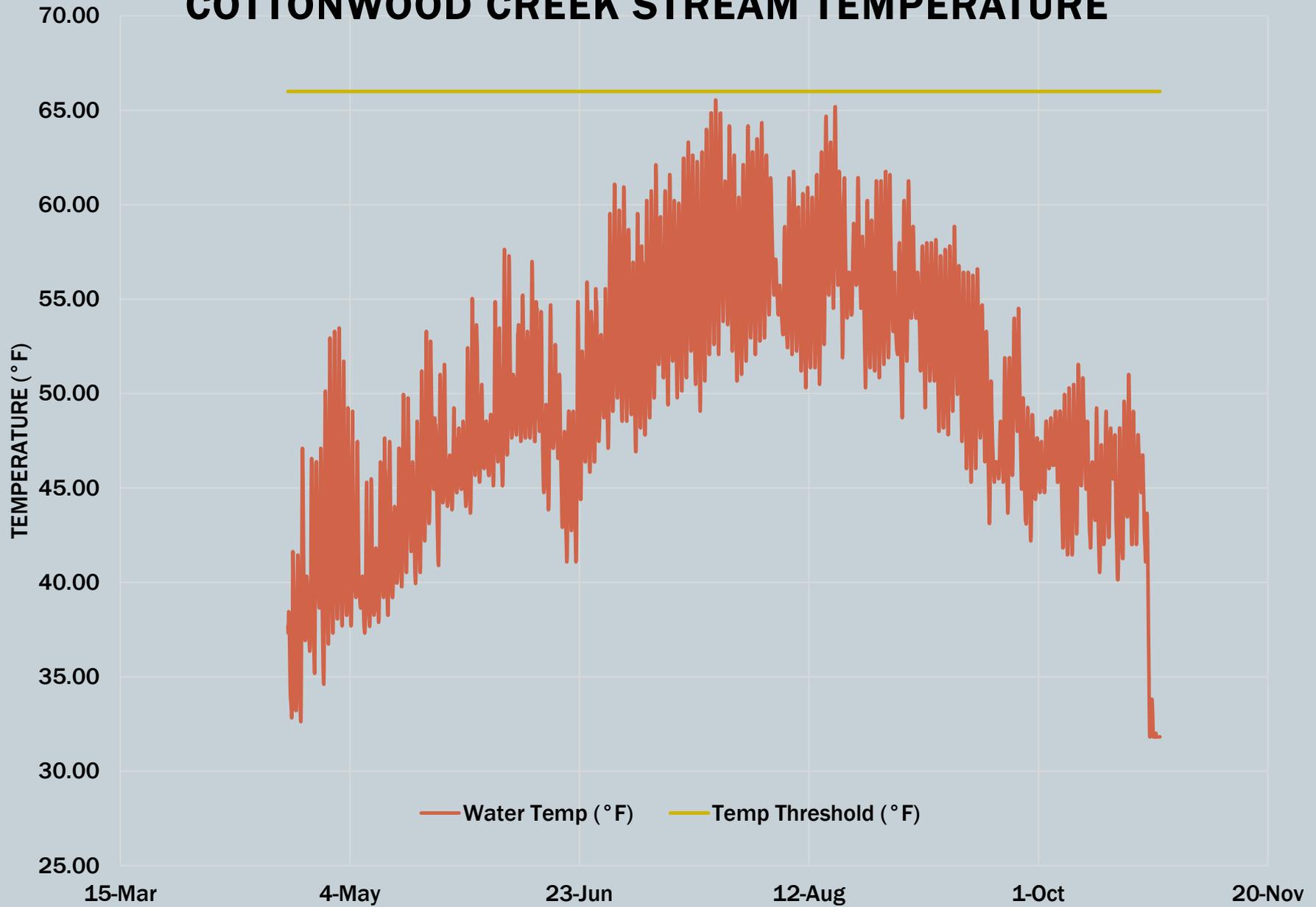
COTTONWOOD CREEK



COTTONWOOD CREEK DISCHARGE HYDROGRAPH



COTTONWOOD CREEK STREAM TEMPERATURE



TAKEAWAYS

- Baseflow of around 3 cfs during late summer and early fall
- Maximum discharge estimated at 76 cfs
- Maximum stream temperature recorded: 65.5 F on July 22nd

NEXT STEPS

- Determine where to continue monitoring in 2023 season.
- Share data relevant information with partners and water users to determine how we can inform drought plans.
- Continue to navigate the inclusion of restoration into drought planning.

QUESTIONS?