



— BUREAU OF  
RECLAMATION —

# Potential LTEMP Experiments WY 2023

TWG

October 12, 2022

# LTEMP Flow Experiments w/ WY 2023 Potential

GCD Experimental Flow	Duration	Implementation Window
Spring HFE <sup>Δ</sup>	up to 96 hours	March – April
Proactive Spring HFE <sup>Δ◇</sup>	24 hours <sup>**</sup>	April – June
Trout Management Flows	up to 3 cycles/month for 4 months	May – August
Macroinvertebrate Flows	target 2-3 replicates	May – August
Fall HFE	up to 96 hours	October - November
Extended Duration Fall HFE	97- 192* or 97-250 hours <sup>***</sup>	October - November

\* First test not to exceed 192 hours

\*\* First test 24 hours

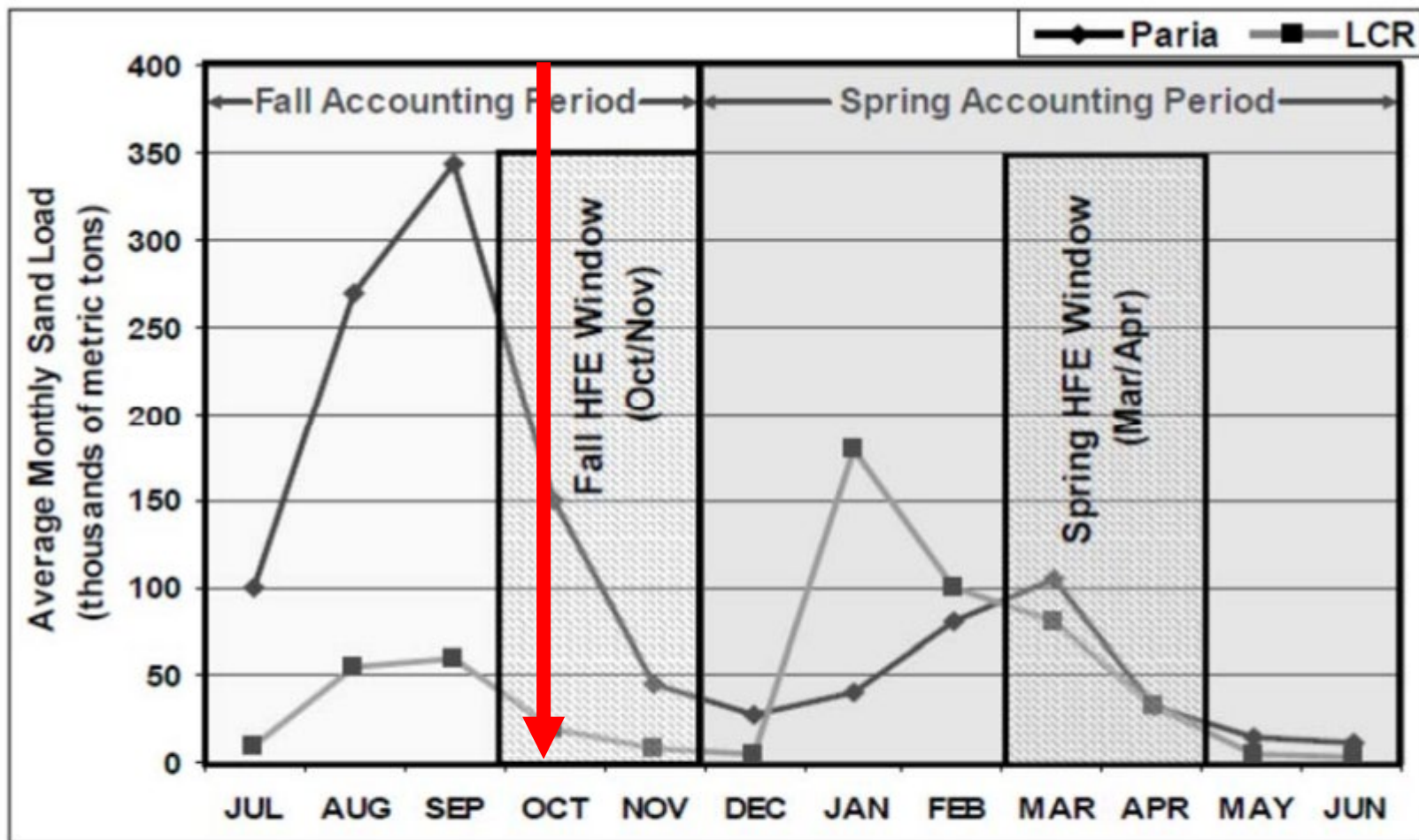
\*\*\* After first test, up to 250 hours

Δ no Spring HFE in same WY as extended duration Fall HFE

◇ no proactive Spring HFE in same WY as sediment-driven Spring HFE



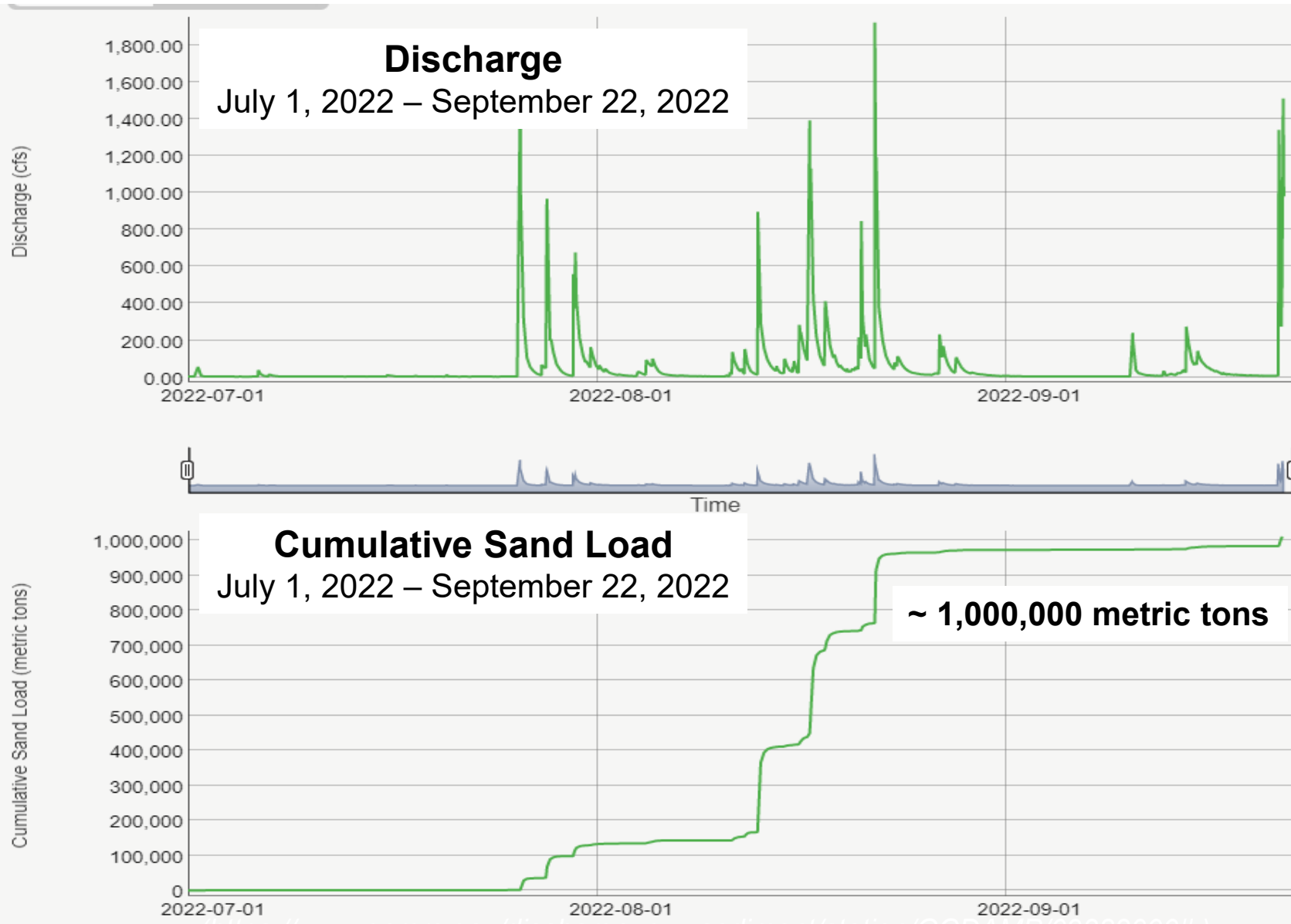




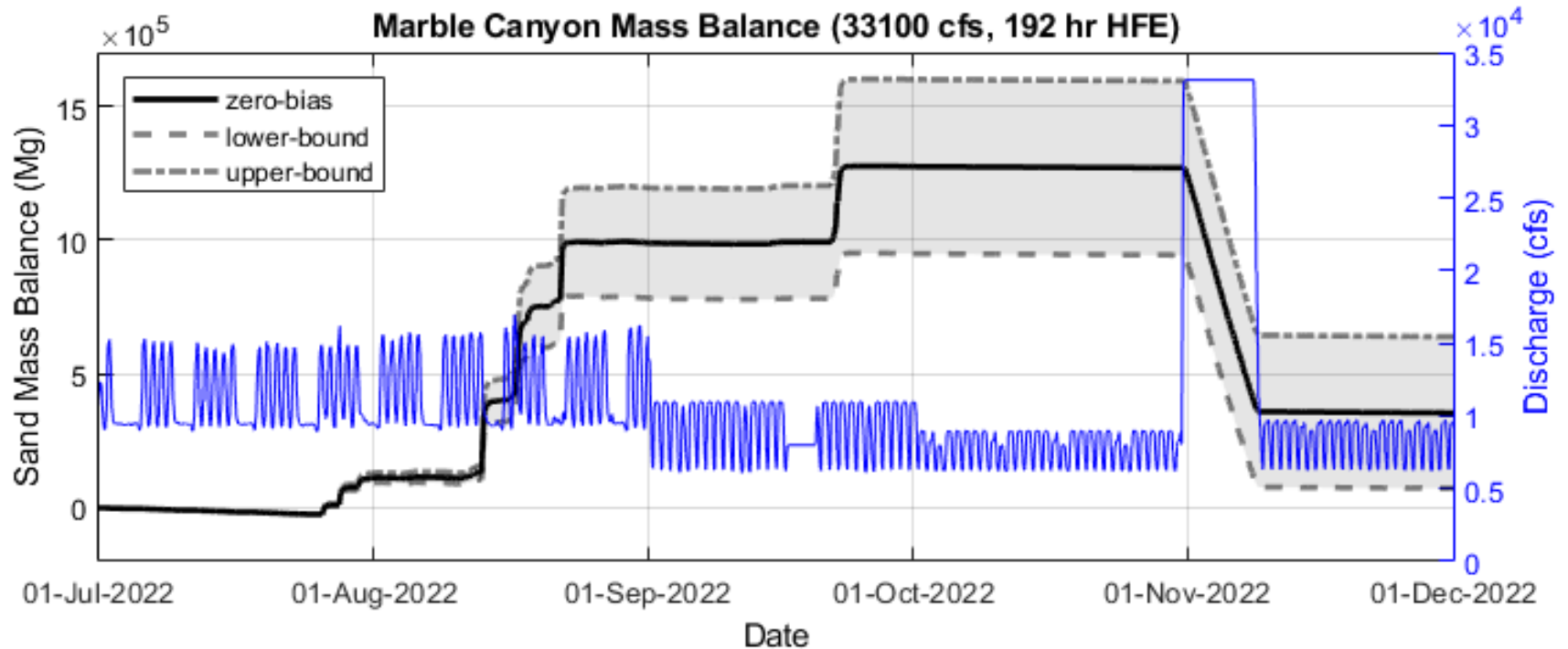
**FIGURE 1 Average Monthly Sand Load from the Paria River and Little Colorado River Showing the Fall and Spring HFE Accounting Periods and Implementation Windows**



# Paria River Discharge & Sand Inputs



# Sand Mass Balance Results



At 33,100 cfs, up to a **192-hour** HFE would be triggered based on the lower bound mass balance



# Considering Alternate Hydrographs:

- 1) 24-hour
- 2) 48-hour
- 3) 96-hour
- 4) 144-hour

\*192-hour was triggered

Also varied reallocation options:

(D) = December

(DJ) = December and January

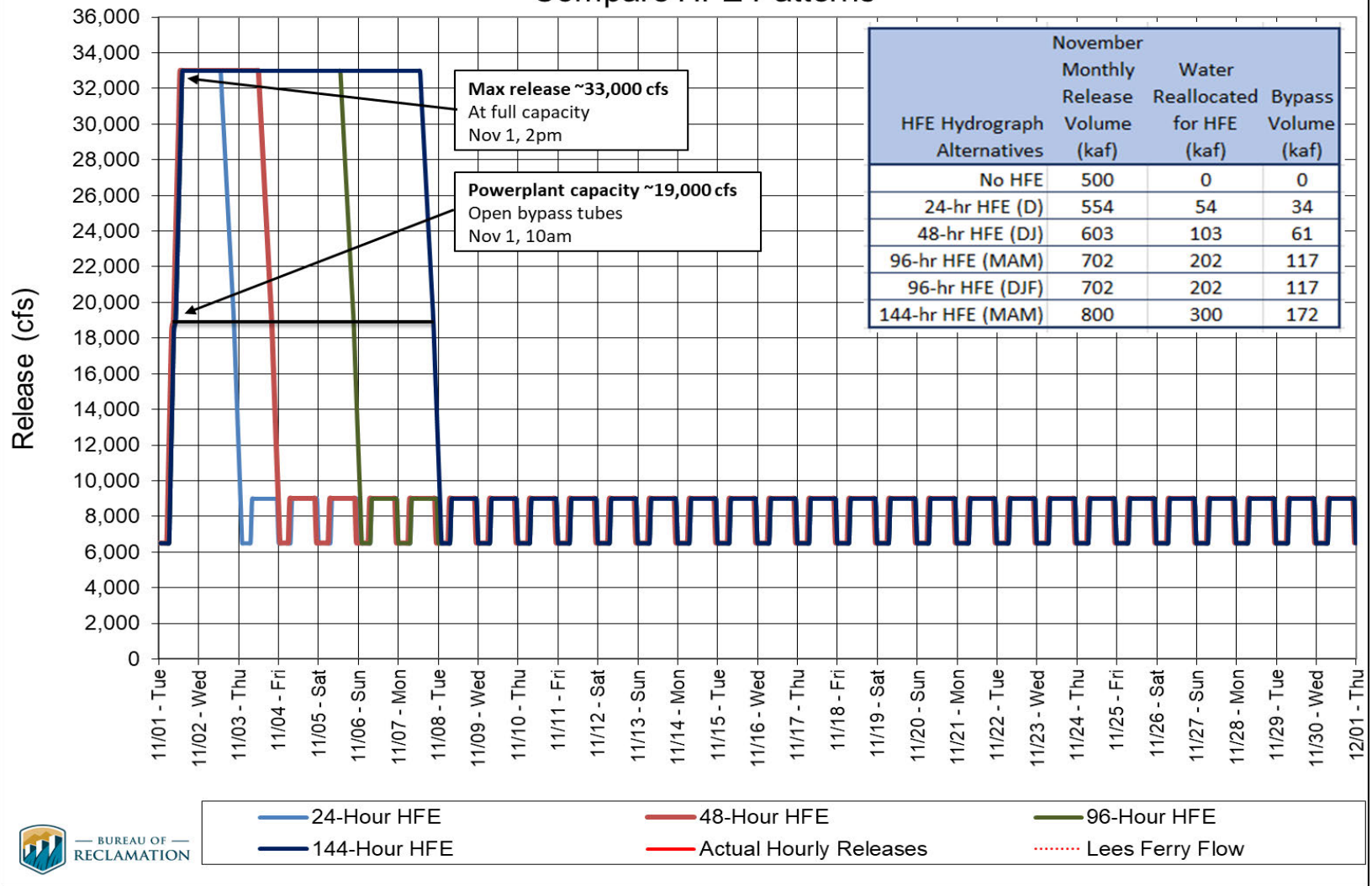
(DJF) = December, January, and February

(MAM) = March, April, and May



# Glen Canyon Dam Hourly Release Pattern November 2022

## Compare HFE Patterns



# Resource Considerations

## Resource Concerns:

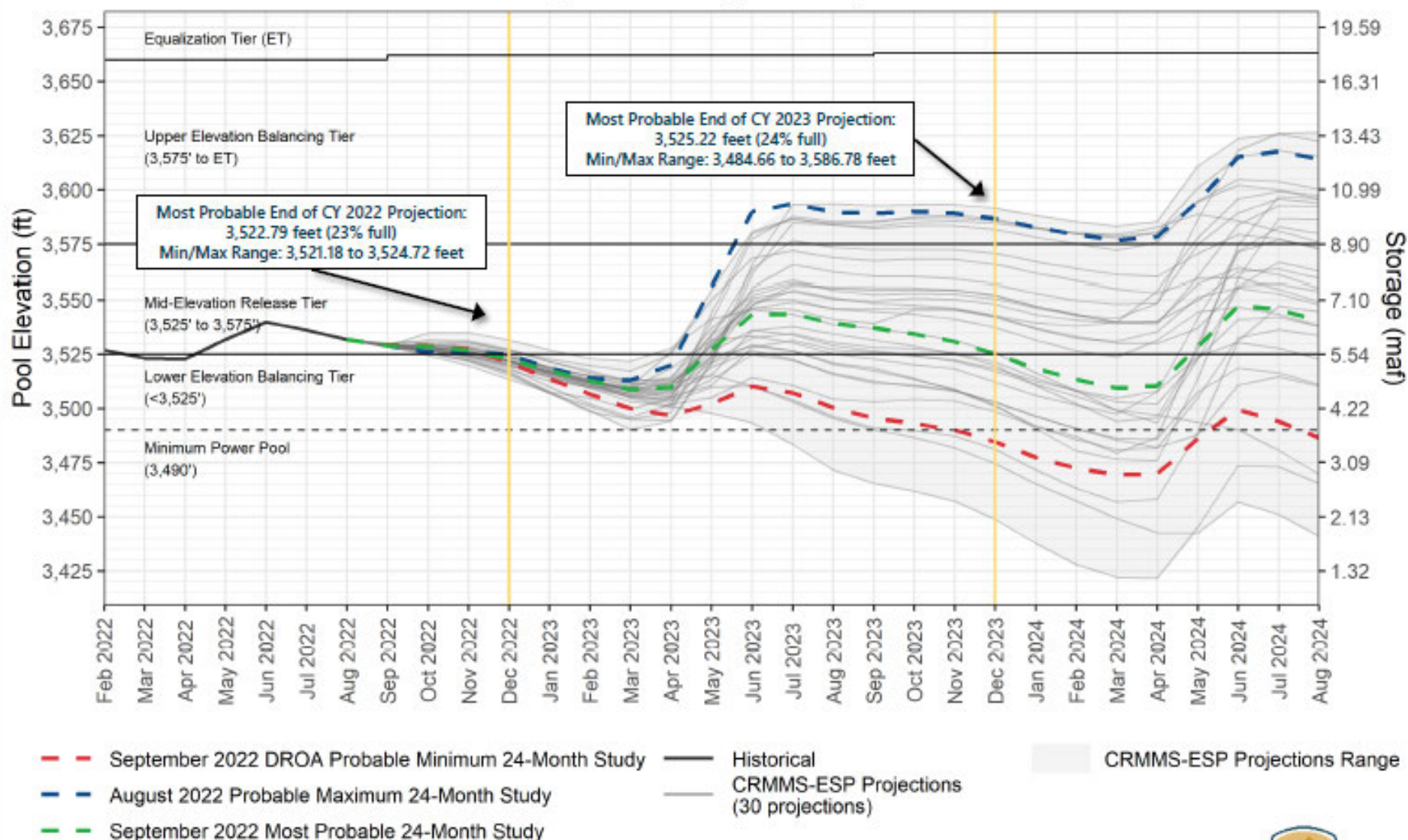
- Hydrology and Operations
- Hydropower impacts
- Non-native Fish
  - SMB at -12m slough
  - Green Sunfish





# Lake Powell End-of-Month Elevations<sup>1</sup>

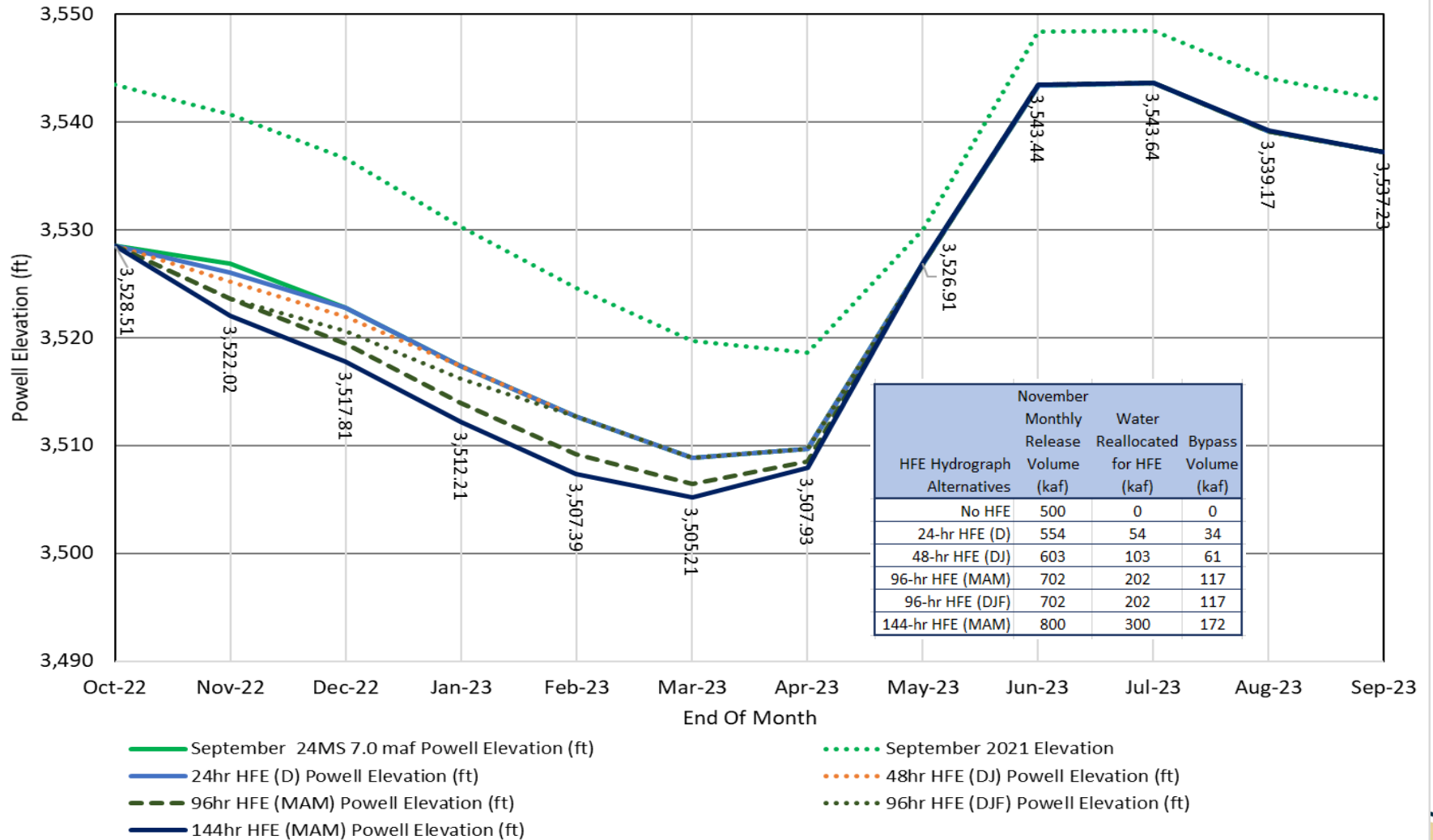
## CRMMS Projections from August and September 2022



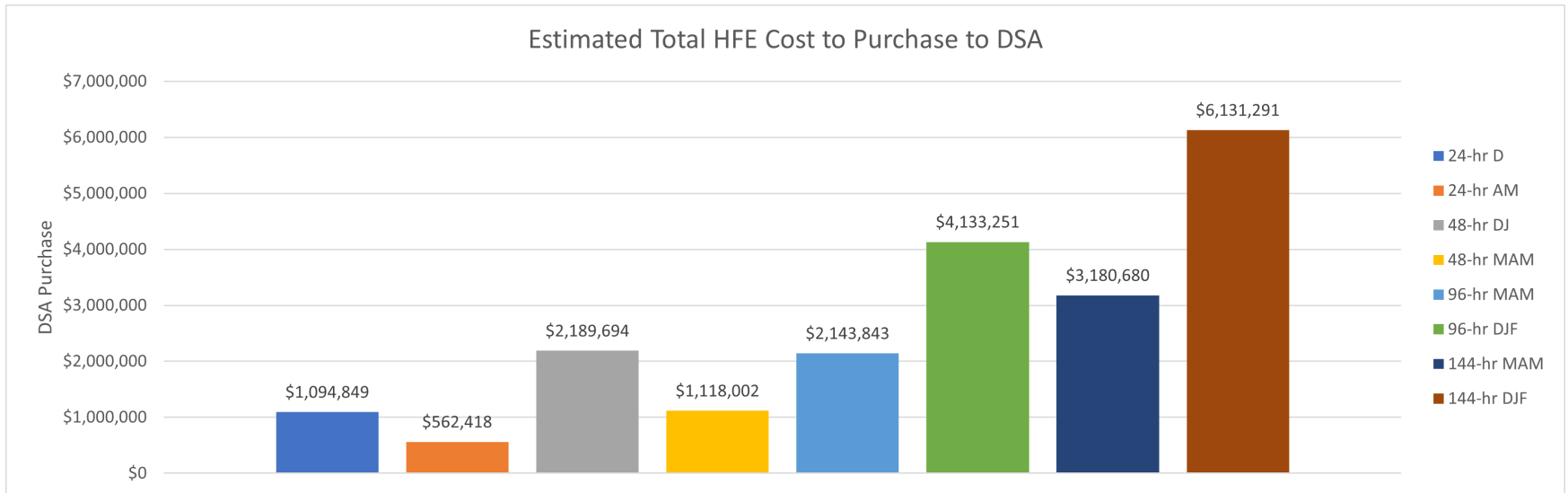
<sup>1</sup> Projected Lake Powell end-of-month physical elevations from the latest CRMMS-ESP and 24-Month Study inflow scenarios.

## Water Year 2023 HFE End of Month Elevation Analysis

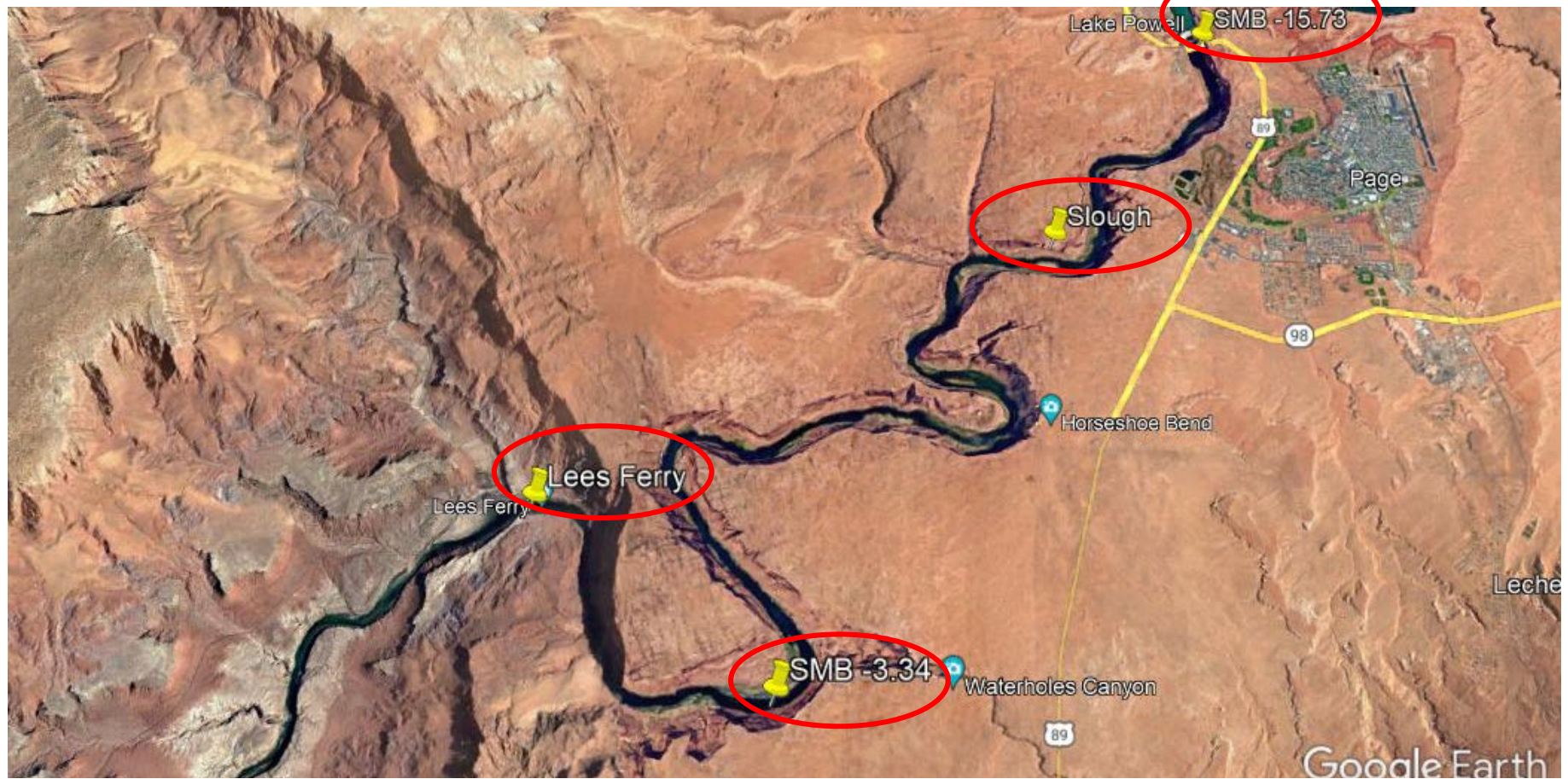
Based on September 2022 MOST PROBABLE 24-Month Study



# Estimated Total HFE Cost







## Resource Consideration

- Fish Monitoring Update
- Entrainment
- Dispersal



# Fall WY 2023 HFE Timeline

- **Next Steps**

- PA notification sent out 9/27
- Virtual AMWG/TWG webinar: 9/27
  - Feedback due 9/29 for PI Team, 9/30 for Leadership Team / Secretary's Designee.
  - Send directly to [cfullard@usbr.gov](mailto:cfullard@usbr.gov) and [melissa\\_mata@fws.gov](mailto:melissa_mata@fws.gov)
- Final Technical Team call and recommendation: 9/29
- Leadership team recommendation: 10/3-5
- DOI decision: ~10/5
- Notification of decision: ~10/6-8
- ~~Potential Implementation: 11/7~~





# Planning and Implementation

- Planning / Implementation team coordination
- Strives for consensus recommendation to DOI
- Secretary of the Interior makes decision

## 1.4 COMMUNICATION AND CONSULTATION PROCESS FOR ALTERNATIVE D

To determine whether conditions are suitable for implementing or discontinuing experimental treatments or management actions, the DOI will schedule implementation/planning meetings or calls with the DOI bureaus (USGS, NPS, FWS, BIA, and Reclamation), WAPA, AZGFD, and one liaison from each Basin State and from the UCRC, as needed or requested by the participants. The implementation/planning group will strive to develop a consensus recommendation to bring forth to the DOI regarding resource issues as detailed at the beginning of this section, as well as including WAPA's assessment of the status of the Basin Fund. The Secretary of the Interior will consider the consensus recommendations of the implementation/planning group, but retains sole discretion to decide how best to accomplish operations and experiments in any given year pursuant to the ROD and other binding obligations.



# Consultation

With Tribes, AZGFD, States, and UCRC as requested

## 1.4 COMMUNICATION AND CONSULTATION PROCESS FOR ALTERNATIVE D

DOI will also continue separate consultation meetings with the Tribes, AZGFD, the Basin States, and UCRC upon request, or as required under existing RODs.

## 6.5 Commitments to Tribes

- Traditionally Associated Tribes<sup>3</sup> shall be notified at least 30 days in advance of planned experimental flows (including HFEs, TMFs, MPFs, and LSFs).
- The DOI is committed to finding beneficial uses with Traditionally Associated Tribes for nonnative fish that are mechanically removed as part of the LTEMP actions to the extent practicable.
- The DOI recognizes the opportunities for cooperative and collaborative partnerships with tribes in the management of Federal lands and resources related to the LTEMP as stated in Secretarial Order No. 3342.



# Improvements to PI Team Process in the Future

- More notice to Parties to the PA:
  - Currently required to send out notice 30 days from potential action, but we'll strive for 45-60 days to allow for more time.
- Continue to host AMWG/TWG webinar
  - Feedback is submitted to LT and Secretary's Designee





Thank you

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