



— BUREAU OF —
RECLAMATION



WY 2023 LTEMP Experiments and Process Updates

Adaptive Management Work Group Meeting

Aug 17-18, 2022

Clarence Fullard, US Bureau of Reclamation

Michael Moran, US Geological Survey, Southwest Biological Science
Center, Grand Canyon Monitoring & Research Center

LTEMP Process for Experiments

- Annual Reporting and TWG meetings
- Notification and Consultation to Tribes & PA Parties
- Implementation / Planning Team Recommendation
- DOI 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.



Potential LTEMP Flow Experiments

Water Year 2022

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

* 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



2022 Bug Flows Implementation

- Implementation approved
April 26, 2022
- H750 hydrograph
- PI Team meeting bi-weekly
- Off-ramps available, if warranted.
- Non-consensus recommendation from LT to offramp due to SMB.
- DOI decision was to continue with final three weeks.



IN REPLY REFER TO:
UC-100
2.1.1.04

United States Department of the Interior

BUREAU OF RECLAMATION
125 South State Street, Room 8100
Salt Lake City, UT 84138-1102



Memorandum

To: Daniel Picard, Deputy Regional Director
Upper Colorado Basin - Interior Region 7, Bureau of Reclamation

From: Wayne G. Pullan
Chair, Glen Canyon Leadership Team
Acting Secretary's Designee to the Glen Canyon Dam
Adaptive Management Program

Subject: Approval of Recommendation for Macroinvertebrate Production Flow Releases at Glen Canyon Dam in Water Year 2022

WAYNE PULLAN
Digitally signed by WAYNE PULLAN
Date: 2022.04.26 07:55:44 -05'00'

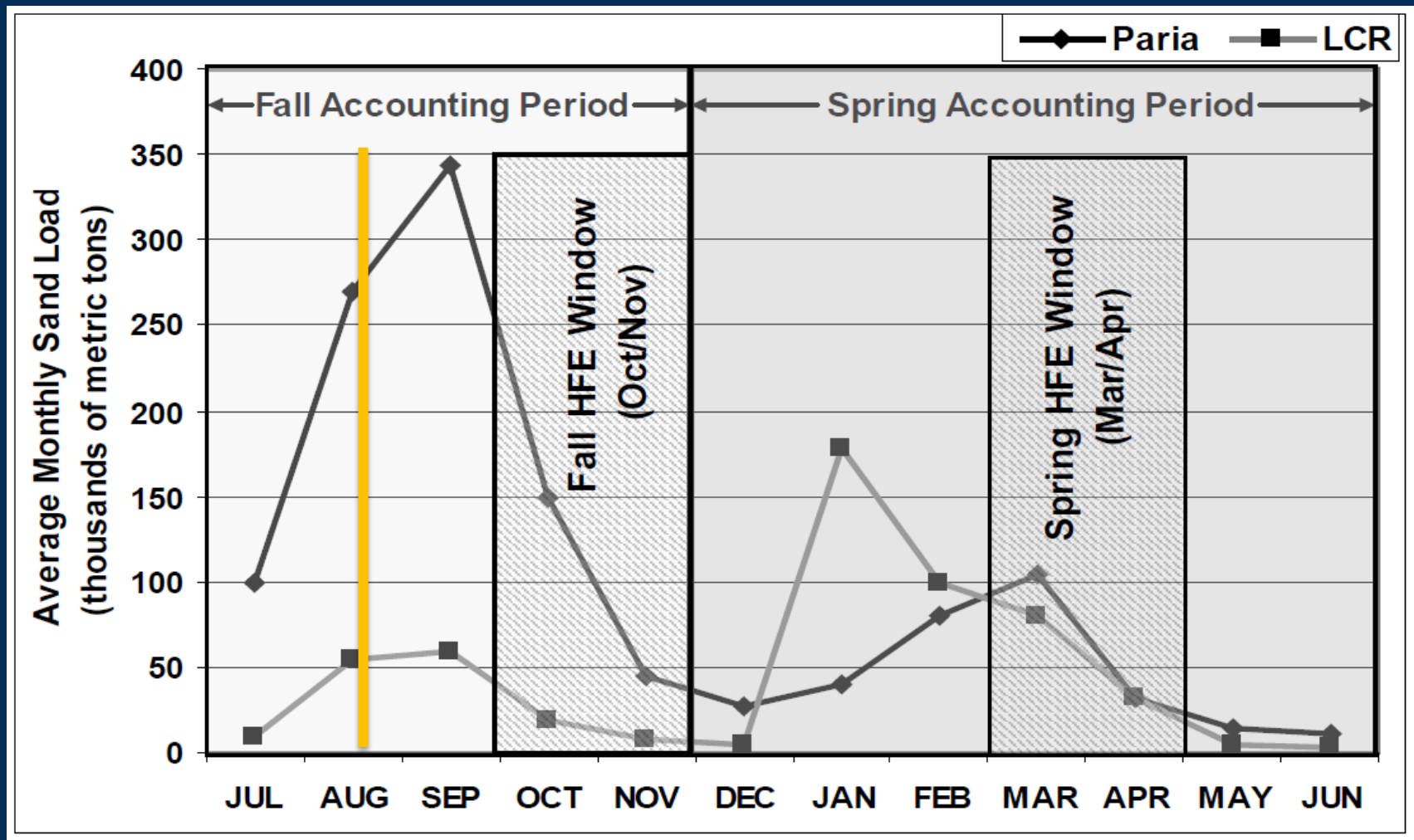


Fall HFE 2022

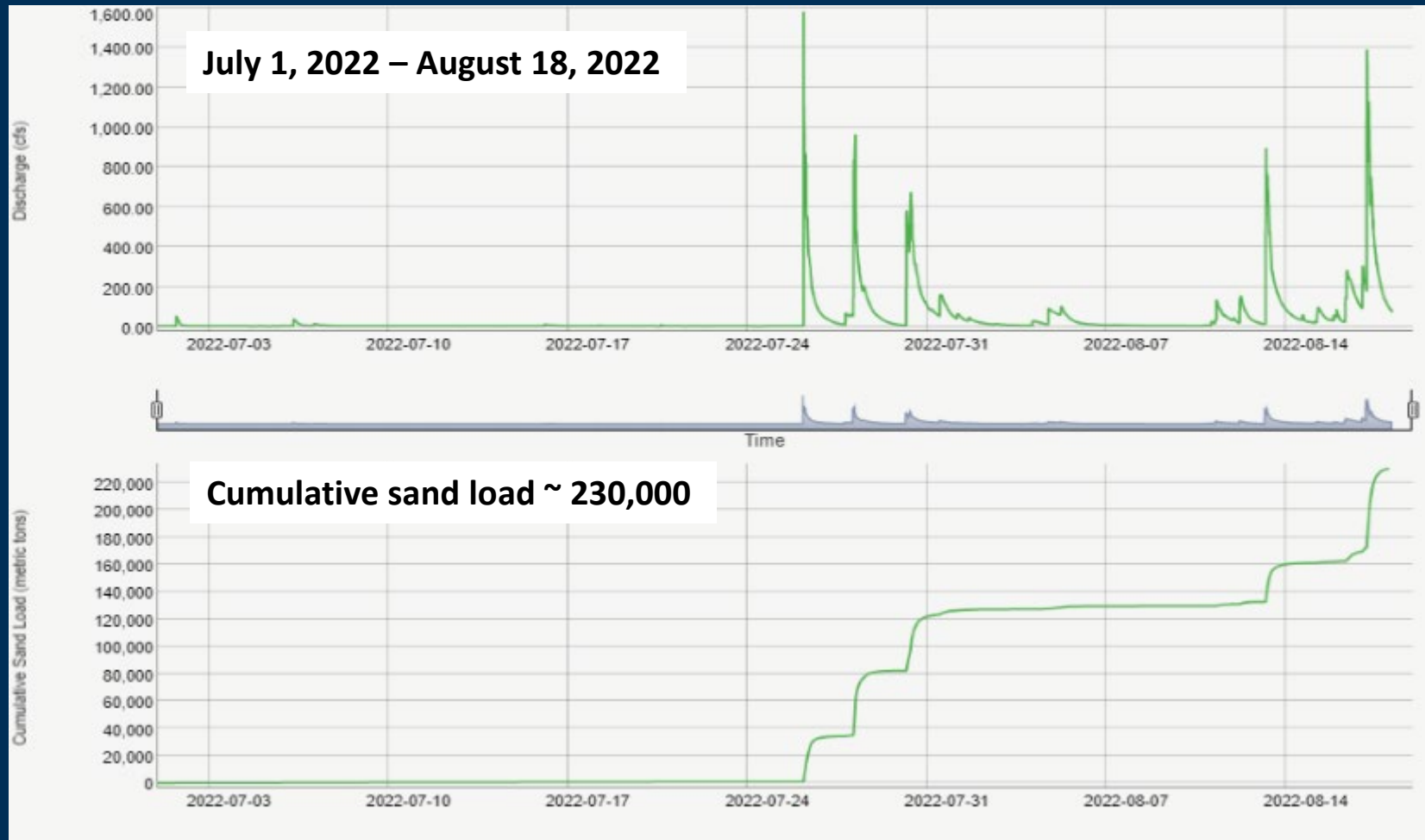
- Currently within Fall HFE accounting period (July 1 – Dec. 1)
- Too early to know if there will be sufficient sand to trigger an HFE



Fall Accounting Period



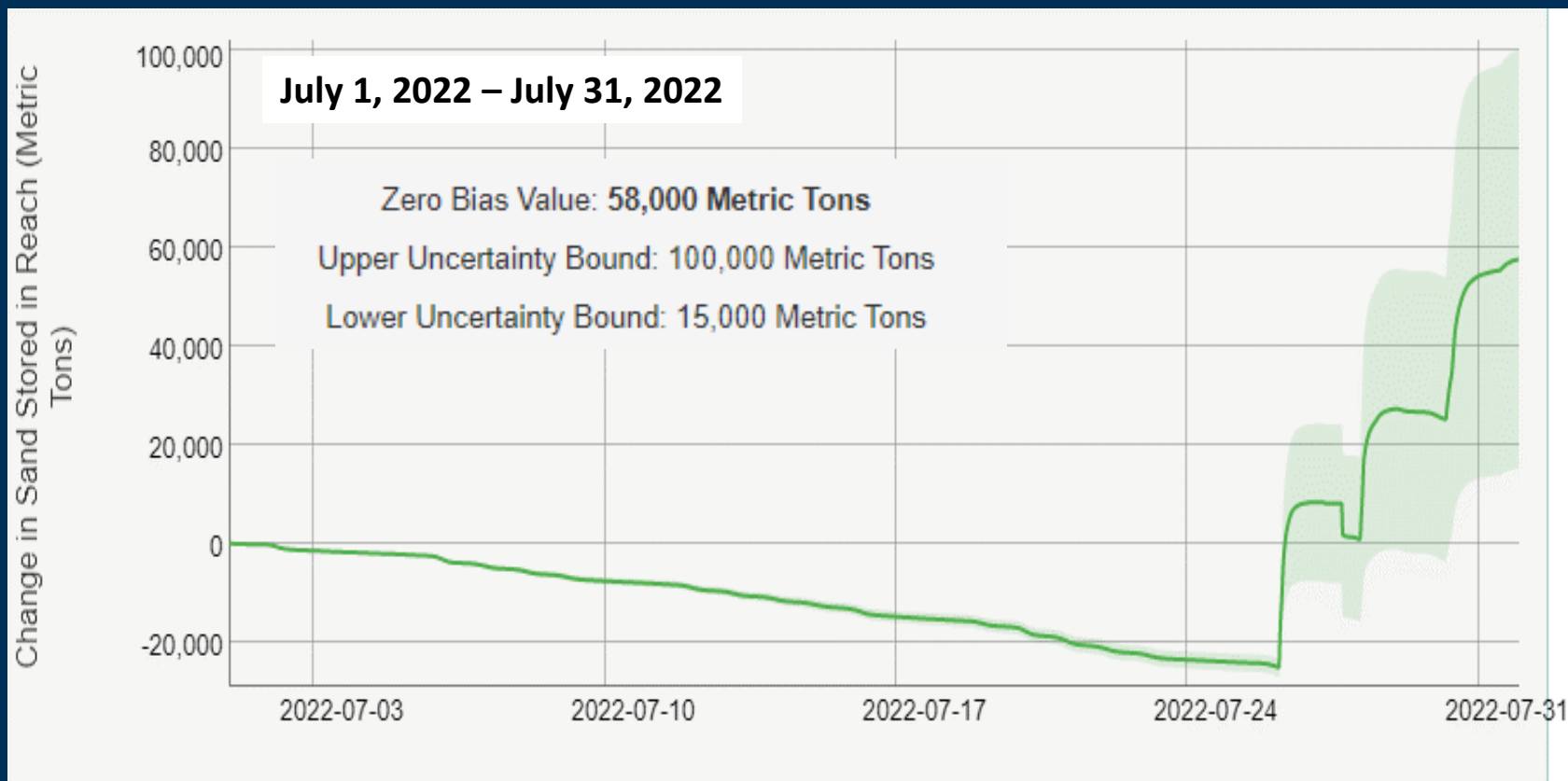
Paria River Discharge and Sand Inputs



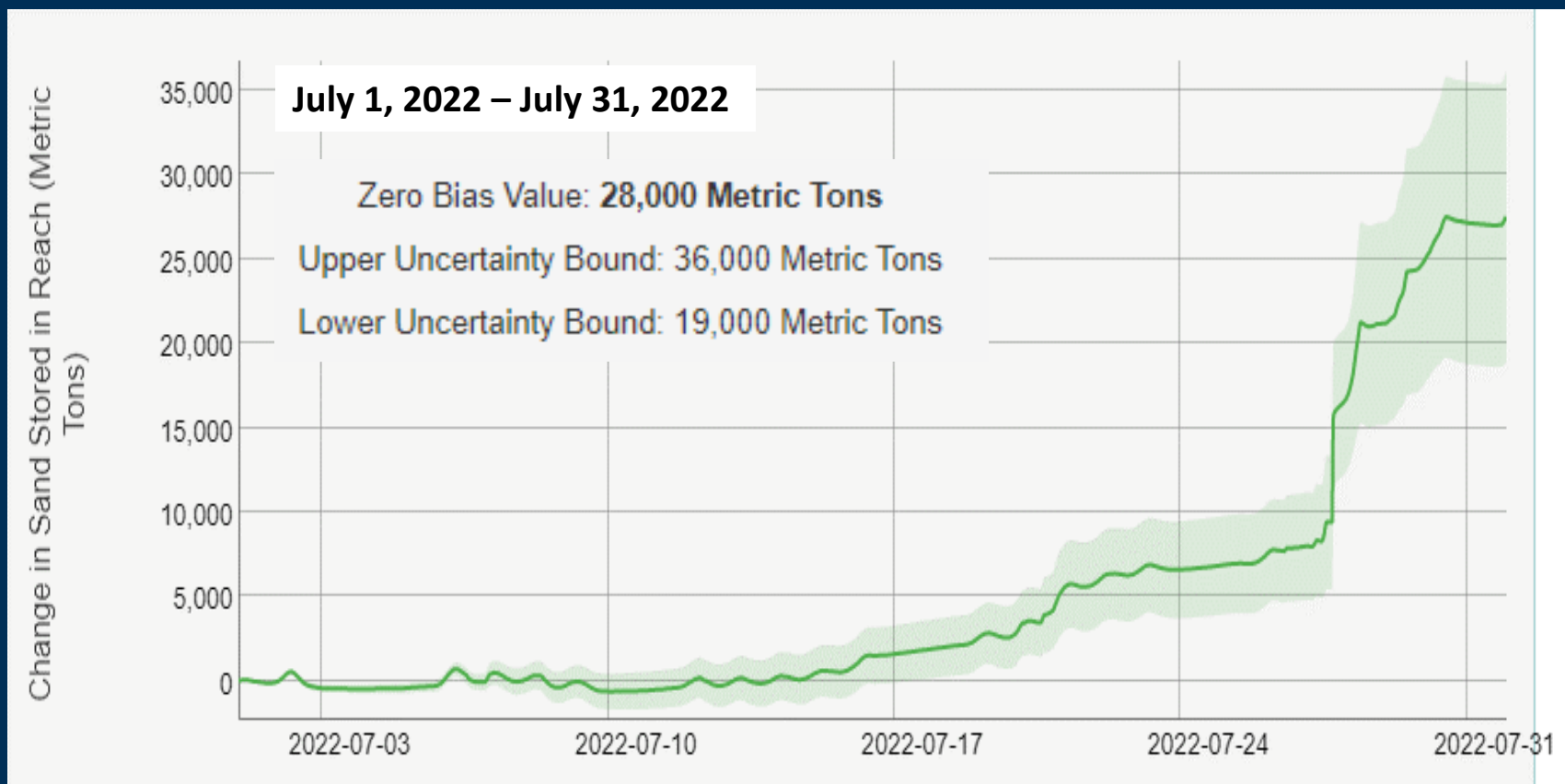
Colorado River below Paria Mouth



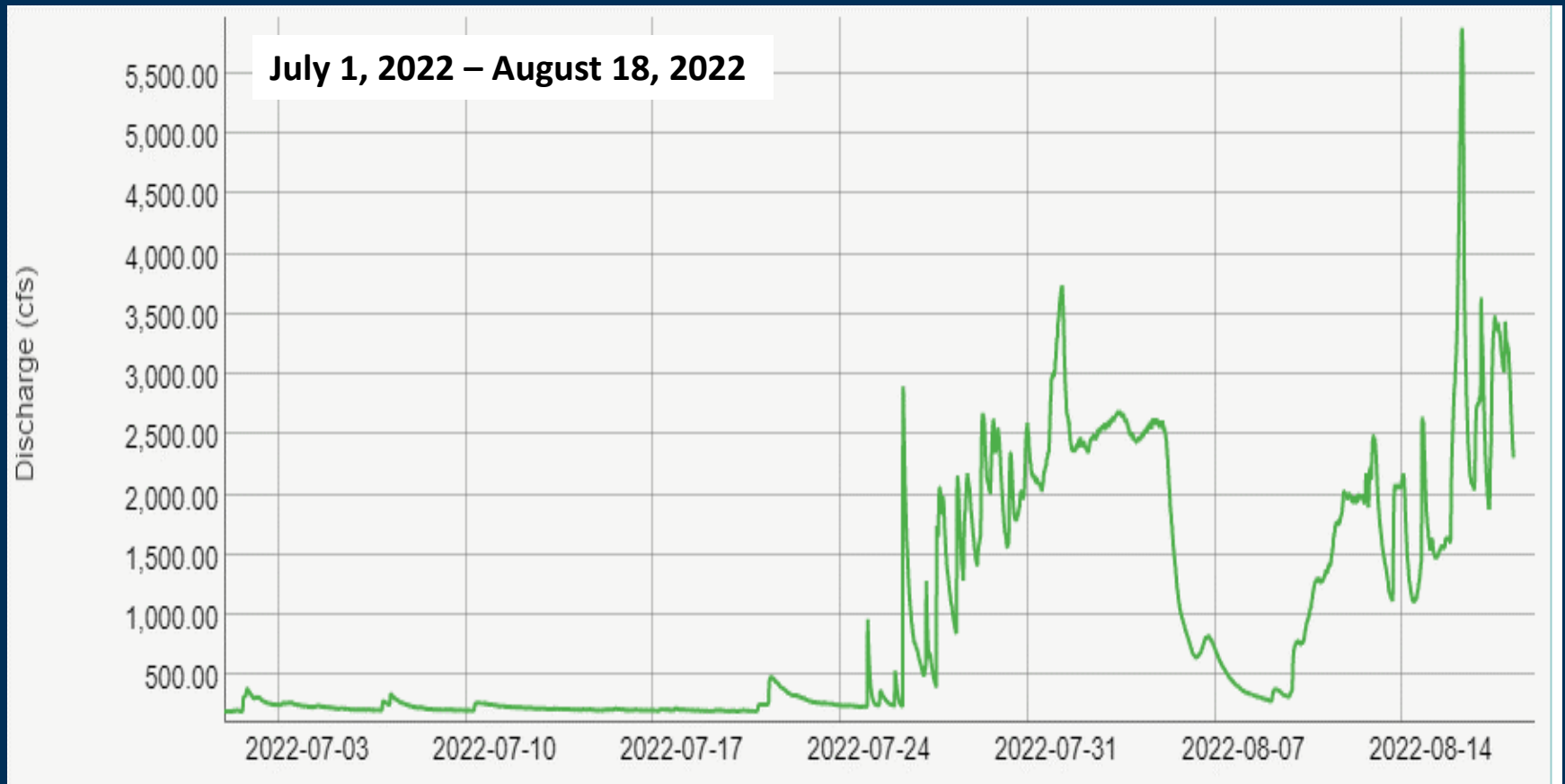
Upper Marble Canyon Sand Mass Balance



Lower Marble Canyon Sand Mass Balance



Little Colorado River Discharge



Sand Budget Model Results

Actual Flow as of 07-01-2022

Actual Sediment data as of 08-09-2022

Graph updated 08-12-2022

GCMRC's most recent Lab Results of
Suspended Sediment as of 12-24-2021

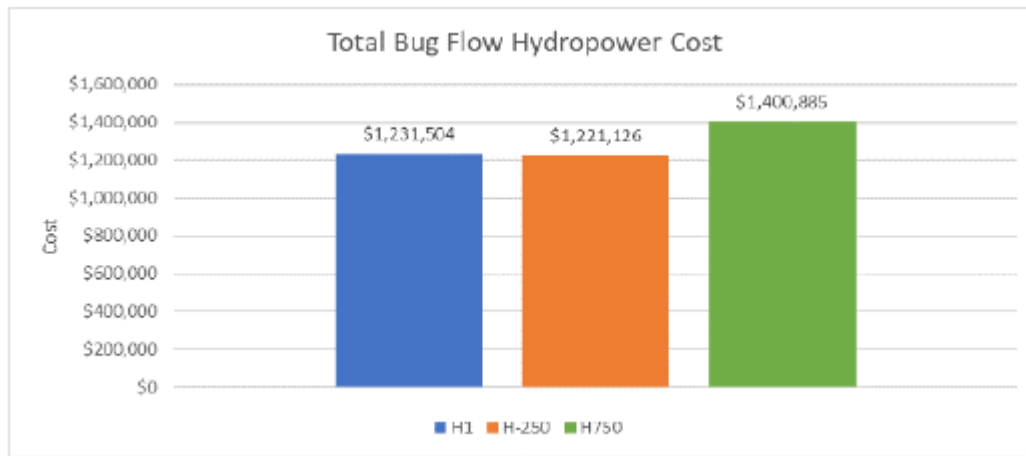
Sand Budget Model Results, July 1, 2021 - Nov 30, 2022 Release and Calculated Sediment Load in Colorado River, Marble Canyon

The model indicates that currently there is not sufficient sediment to support a HFE. The sediment balance at the end of the accounting period is approx. 59 ktons.



Basin Fund Status & Impacts

- Projected Basin Fund Decline
 - → \$83M by end of FY22
- Projected costs of FY22 Bug Flows: about \$1.4M



- Prior year costs
 - FY18 – actual \$165K (estimated \$335K) (H1000)
 - FY19 – actual \$327K (estimated \$332K) (H750)
 - FY20 – actual TBD (\$750K-\$1M) (estimated \$407K) (H750)



THANK YOU !



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