



— BUREAU OF —
RECLAMATION



Potential Water Year 2020 LTEMP Experiments & Bug Flow Update

AMWG Webinar

May 20, 2020

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.



LTEMP Flow Experiments w/ Spring-Summer 2020 Potential

GCD Experimental Flow	Duration	Implementation Window
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
Fall HFE	up to 96 hours	October - November
Extended Duration Fall HFE	97- 192* or 97-250 hours ^{***}	October - November

* First test not to exceed 192 hours

** First test 24 hours

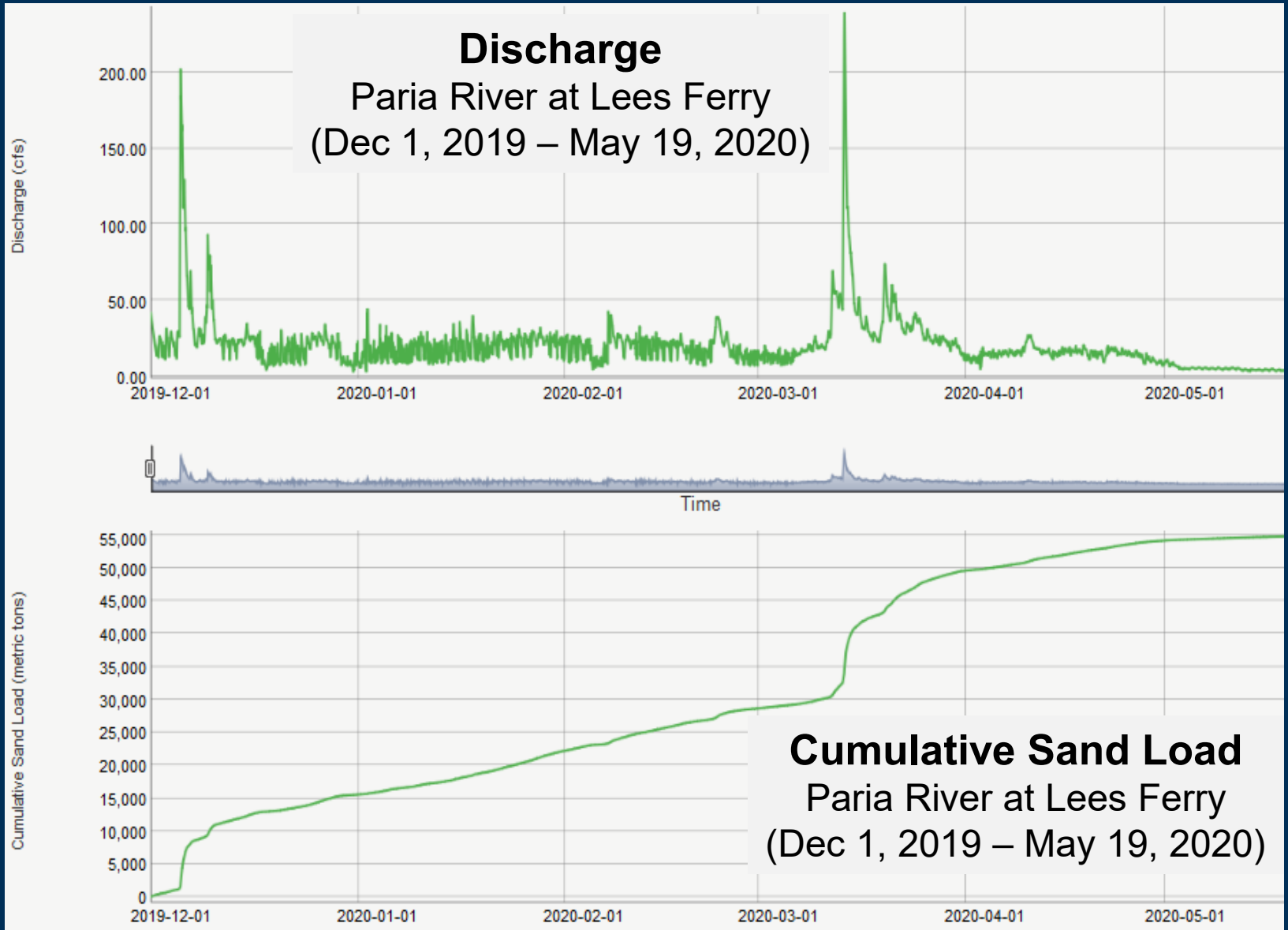
*** After first test, up to 250 hours

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

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



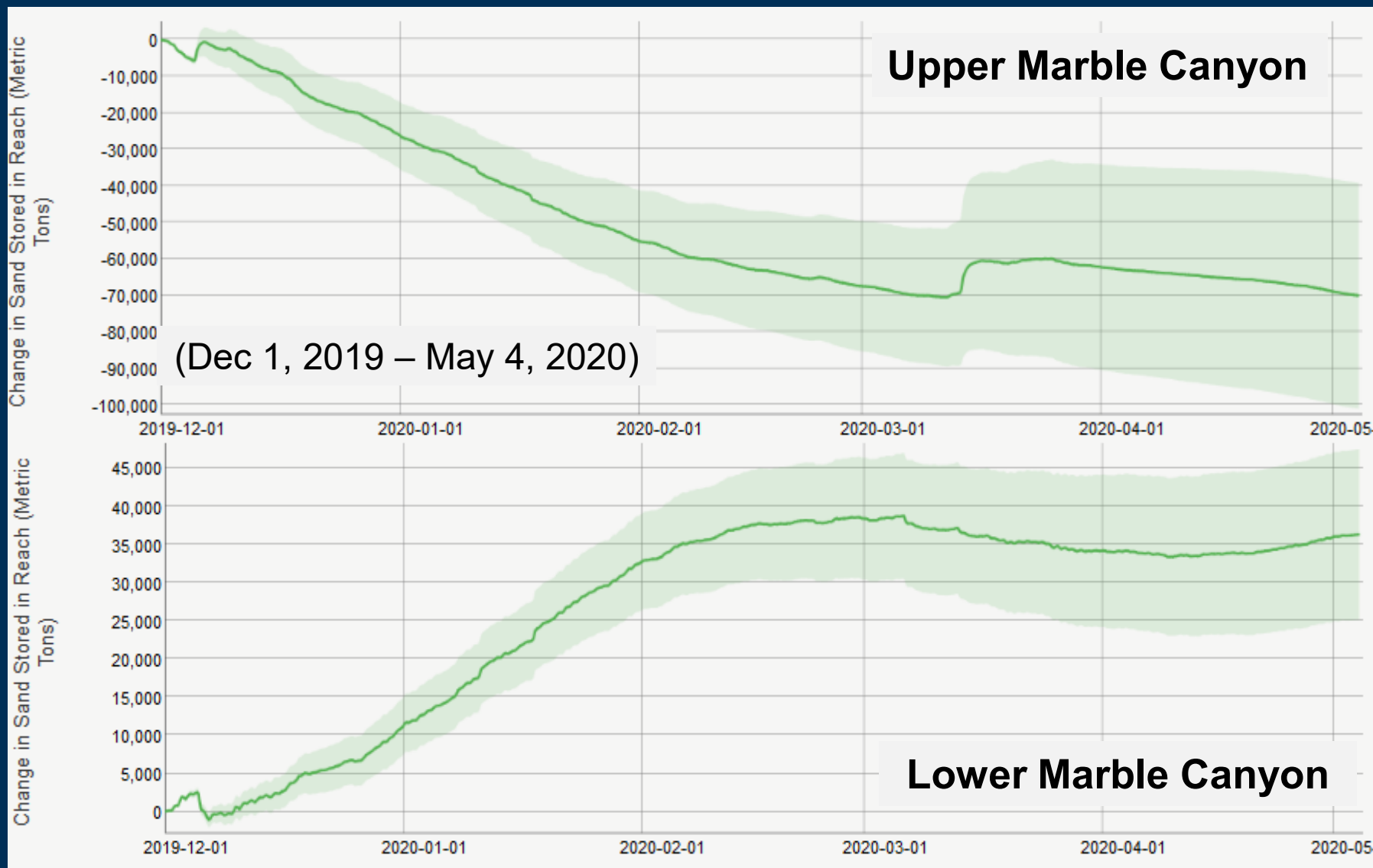
Paria River Discharge & Sand Load



USGS Preliminary Data, 2020. Do Not Cite.

(https://www.gcmrc.gov/discharge_qw_sediment/station/GCDAMP/09382000#) May 20, 2020 4

Marble Canyon Sand Mass Balance



USGS Preliminary Data, 2020. Do Not Cite.

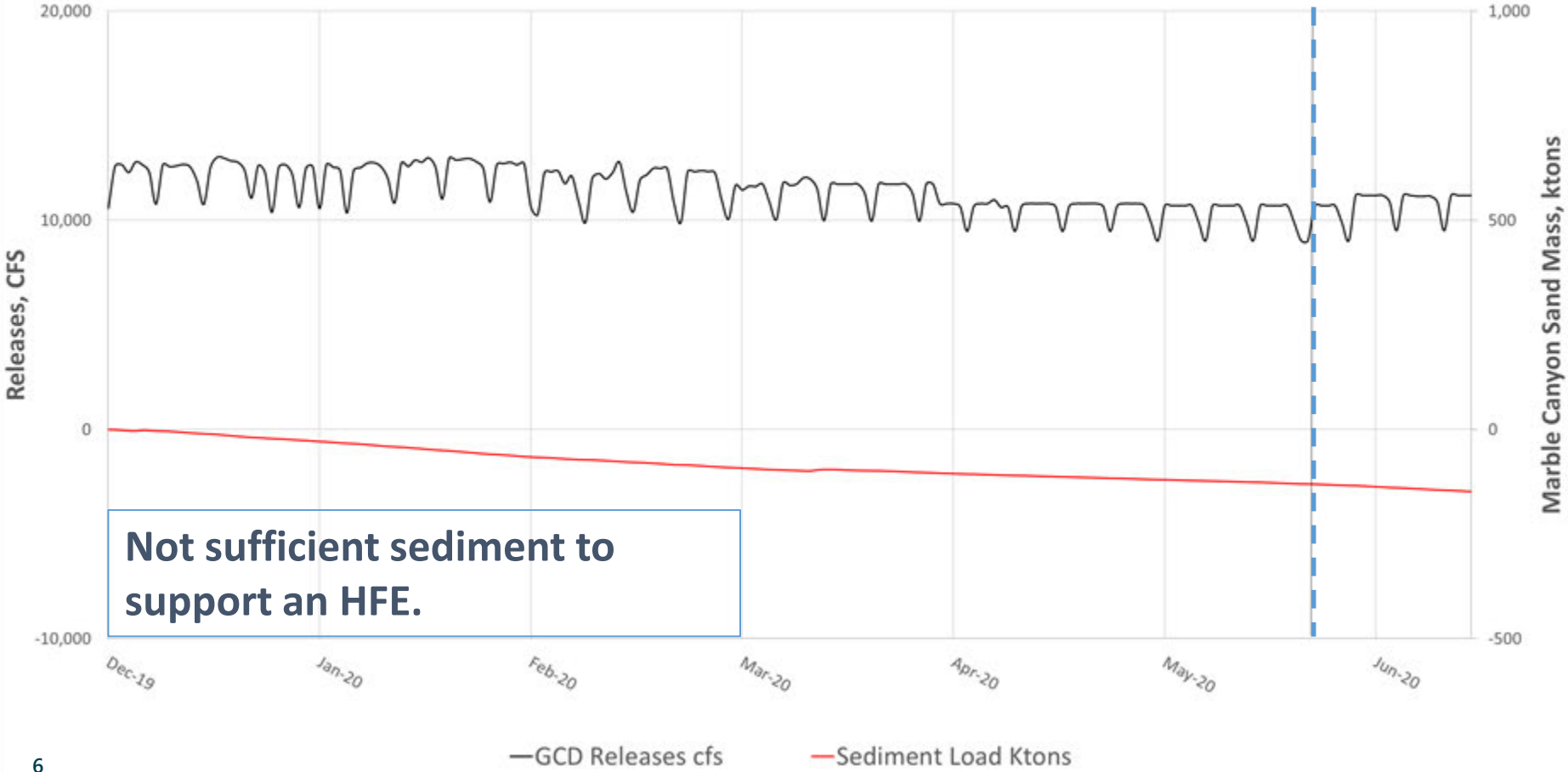
(https://www.gcmrc.gov/discharge_qw_sediment/reach/GCDAMP/09380000/09383050,
https://www.gcmrc.gov/discharge_qw_sediment/reach/GCDAMP/09383050/09383100)

Sand Budget Model Results

Actual Flow as of 5/17/2020 23:00
 Actual Sediment data as of 5/18/2020 04:00
 Graph Updated 5/18/2020 14:00
 GCMRC's most recent Lab Results of Suspended Sediment as of 11/21/2019

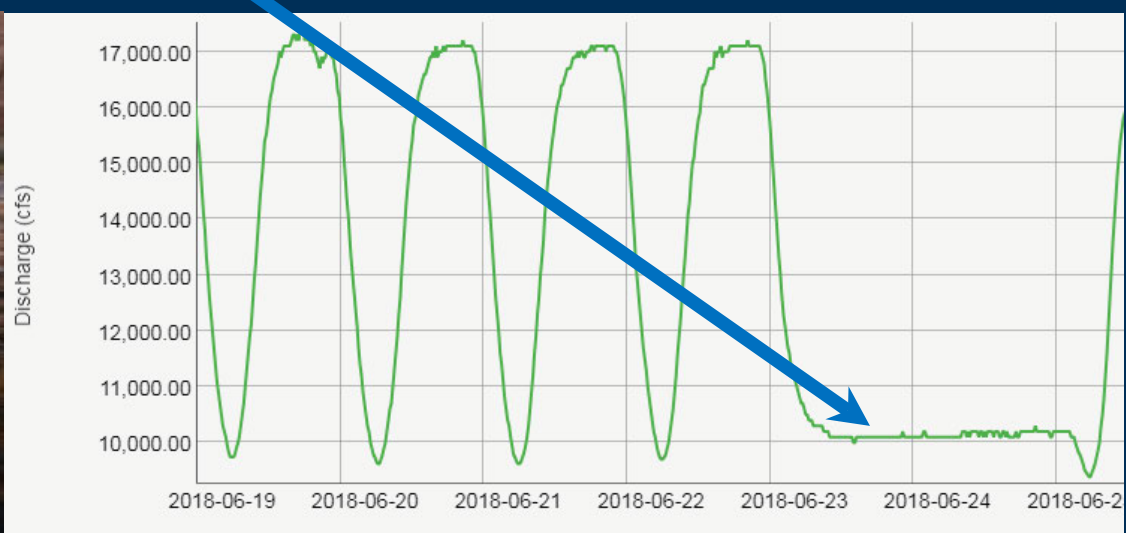
Sand Budget Model Results, Dec 2019-June 30, 2020
Release and Calculated Sediment Load in Colorado River, Marble Canyon

The model indicates that currently there is not sufficient sediment to support and HFE.



Bug Flows: Implementation

- Give bugs the “weekends off”
- Stable, low flows on weekends, May-August
- Eggs laid on weekends won’t dry/die

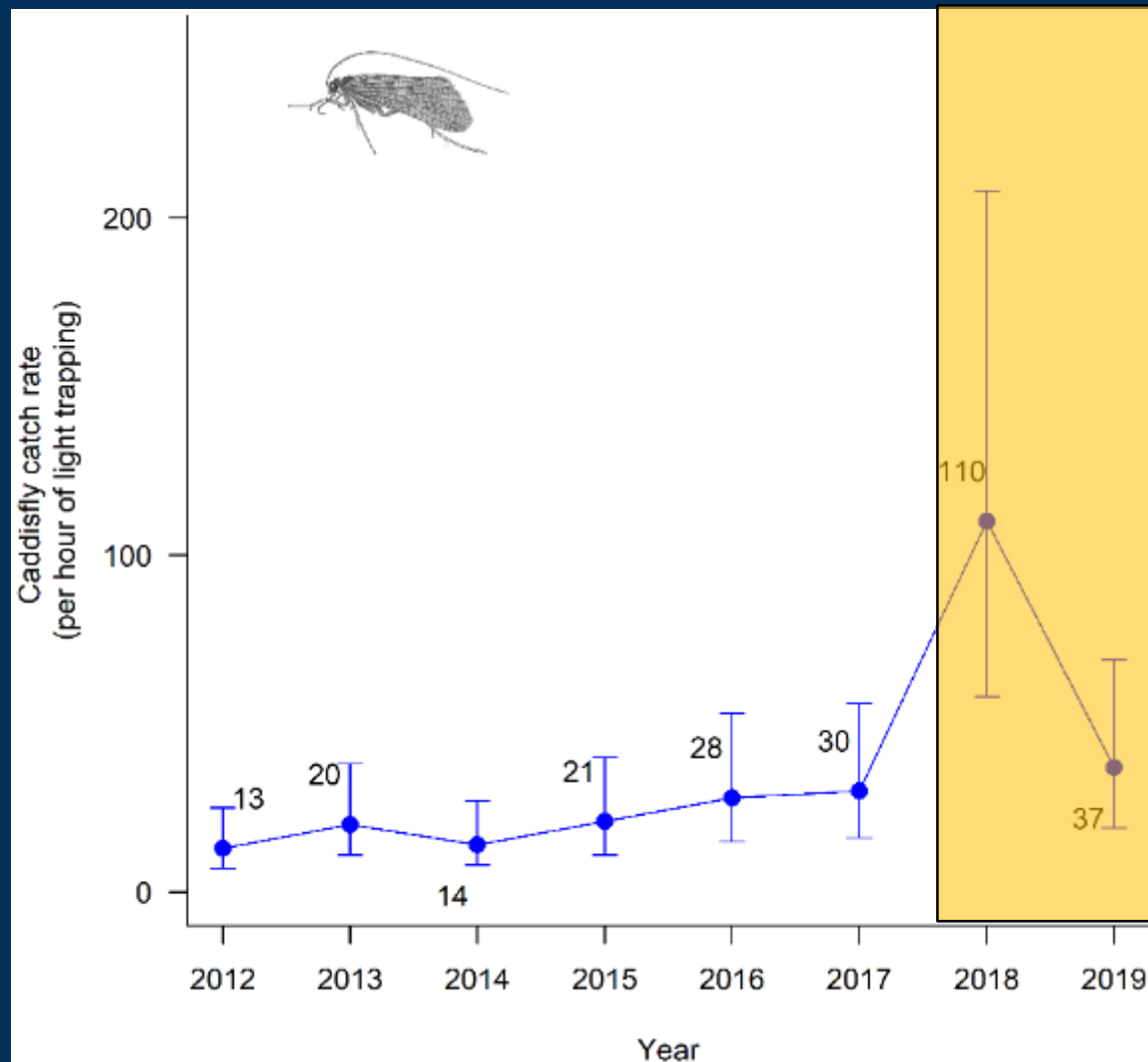


Unpublished data, subject to change, do not cite.

***Tested at Glen Canyon Dam
May-August 2018 & 2019!***

Insect response equivocal

2018-Huge Increase!
2019-Back to earth



Unpublished data, subject to
change, do not cite.

Monitoring 2020 Bug Flows

Sampling at Accessible Sites

Thanks to NPS for assistance!

- Phantom Ranch citizen science
 - Started early May
- Lees Ferry monitoring
 - Monthly sampling by USGS personnel
- Citizen Science starts June 14
 - Assuming river trips resume
 - Will observe peak caddisfly emergence
 - Anticipate ~500 light trap samples
 - Statistical power still high



Photo: Kate Pitts NPS



Photo: Kate Pitts NPS



Unpublished data, subject to change, do not cite.



DAVID J. GRAESSL/USGS

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If NO monitoring in 2020

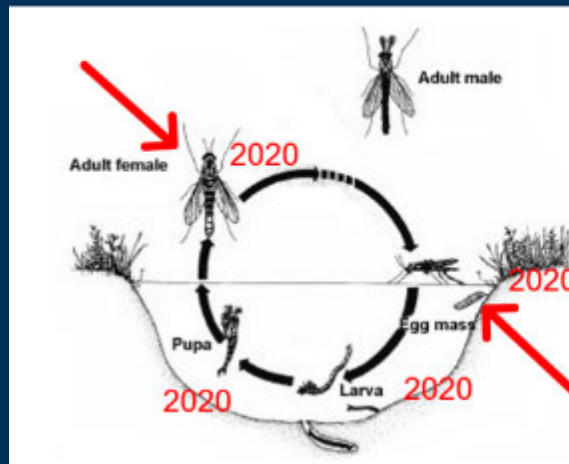
Can't Detect

- Short-term effect
 - 2020 Bug Flows
- Long-term effect
 - 2019 Bug Flows

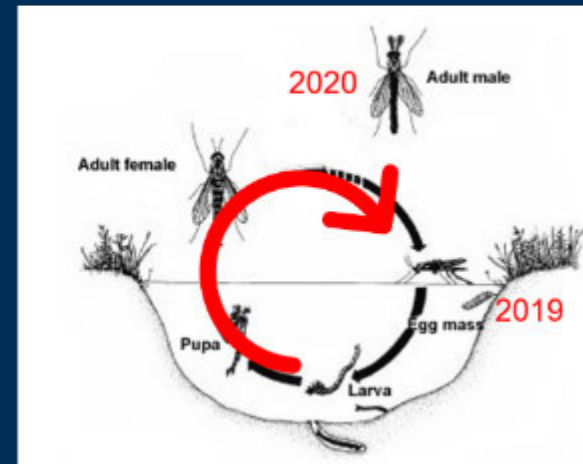
Can still detect (in 2021)

- Long-term effect
 - 2020 Bug Flows
 - 2018-2020 Bug Flows (Cumulative)

Short-term (instantaneous)



Long-term (whole life cycle)



Hydropower

- WAPA estimates that the Colorado River Basin Fund will end the 2020 fiscal year with a balance of \$138 million. This does not meet WAPA's target for an end of year balance.
- The proposed MPF experiment may reduce this balance by \$428,000, and is not expected to have a substantial impact on the basin fund.



Implementation & Next Steps

- **Planning / Implementation Team Recommendation**
 - Monday, April 20 – Recommendation Report issued
 - Wednesday, April 22 - Presentation to Leadership Team
- **DOI Decision – Approved!**
 - Friday, April 24 - ASWS Decision Memo signed
 - Friday, April 24 – Email notification to AMWG & TWG
 - Wednesday, April 29 - Notification to Tribes and Parties to the PA
 - Thursday, April 30 - Press Release
- **Next Steps**
 - Monitoring and updates by GCMRC as conditions allow
 - Ongoing coordination during implementation
 - Operational flexibility and emergency exception criteria will be maintained.





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