



# Possible LTEMP Experimental and Management Actions for 2018

Technical Work Group Meeting  
April 23-24, 2018

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# LTEMP Process for Experiments

- LTEMP ROD outlines a specific process for planning for and implementing experiments
  - GCDAMP Annual Reporting meeting
  - TWG meeting to discuss possible upcoming experiments
  - Tribal consultation
  - Work with implementation / planning group to develop a consensus recommendation to DOI
  - DOI decision and possible implementation

- **Annual Reporting meeting w/ AMP**
  - Present learning from previous experiments
  - Use best available science and information
- **Meet w/ TWG to discuss possible experiments**

#### **1.4 COMMUNICATION AND CONSULTATION PROCESS FOR ALTERNATIVE D**

In implementing the processes described in Section 1.3 and the associated decision process shown in Figures 4 and 5, the DOI will exercise a formal process of stakeholder engagement to ensure decisions are made with sufficient information regarding the condition and potential effects on important resources. As an initial platform to discuss potential future experimental actions, the DOI will hold GCDAMP annual reporting meetings for all interested stakeholders; these meetings will present the best available scientific information and learning from previously implemented experiments and ongoing monitoring of resources. As a follow-up to this process, the DOI will meet with the TWG to discuss the experimental actions being contemplated for the year.

# Consultation and Commitments to Tribes

- **LTEMP Cultural Programmatic Agreement**
- **Notification of possible experiment - minimum 30 days in advance.**
  - **Letter to Tribes and parties to the Programmatic Agreement**
  - **Consultations as requested**
  - **Follow up communication will be sent after DOI decision**

## **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).

## **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.

# Implementation / Planning Team coordination

- Implementation/planning meetings or calls Evaluate status of resources, coordinate technical details / planning for possible experiment
- Implementation/planning team strives for consensus recommendation to bring to DOI
- Secretary retains sole discretion

## 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.

## 2018 Approved Experiment:

- Macroinvertebrate Production Flows (a.k.a. Bug Flows)

## 2018 Potential Experiments:

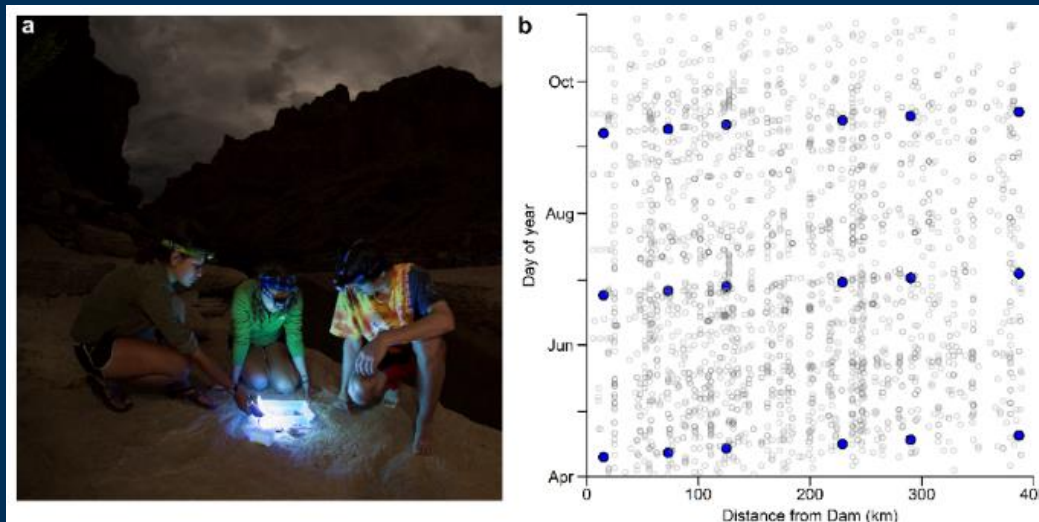
- Fall High Flow Experiment (HFE)  $\leq 96$  hrs (Oct – Nov)
- Extended Duration Fall HFE up to 192 hrs (Oct – Nov)
  - Both dependent on July - November sediment inputs – Tech Team will convene mid summer to review resource conditions



# Bug Flows: planned monitoring

- Light traps
  - ~ 1000 samples per year, throughout Canyon
  - Robust dataset for tracking response
- Invertebrate drift
  - Monthly in Lees Ferry reach
  - Annually or semi-annually throughout Canyon

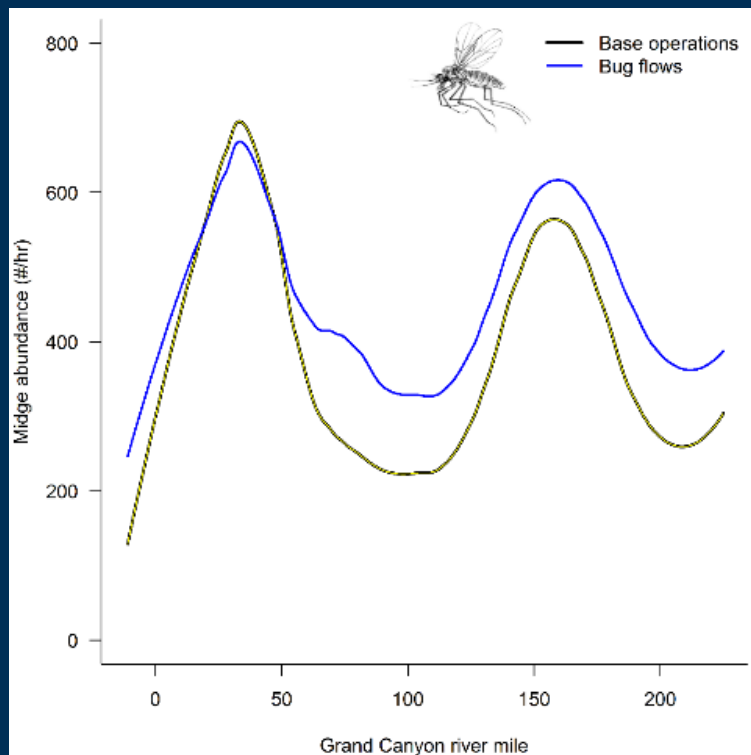
Kennedy et al. 2016  
*BioScience*



Unpublished data, subject to change, do not cite.

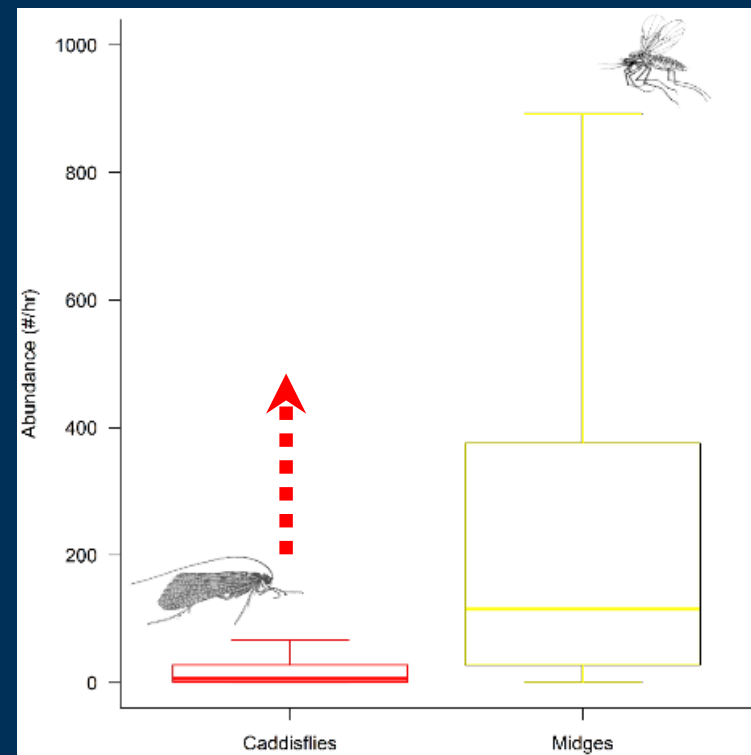


# Predicted responses



## Midges:

- 26% overall increase



## Caddisflies (mostly):

- Abundances increase
- No longer restricted to tributaries





# Hydropower

- WAPA estimates that the Colorado River Basin Fund will end the 2018 fiscal year with a balance of \$112 million. This does not meet WAPA's target for an end of year balance.
- The proposed Bug Flow experiment may reduce this balance by \$335,000, and is not expected to have a substantial impact on the basin fund.

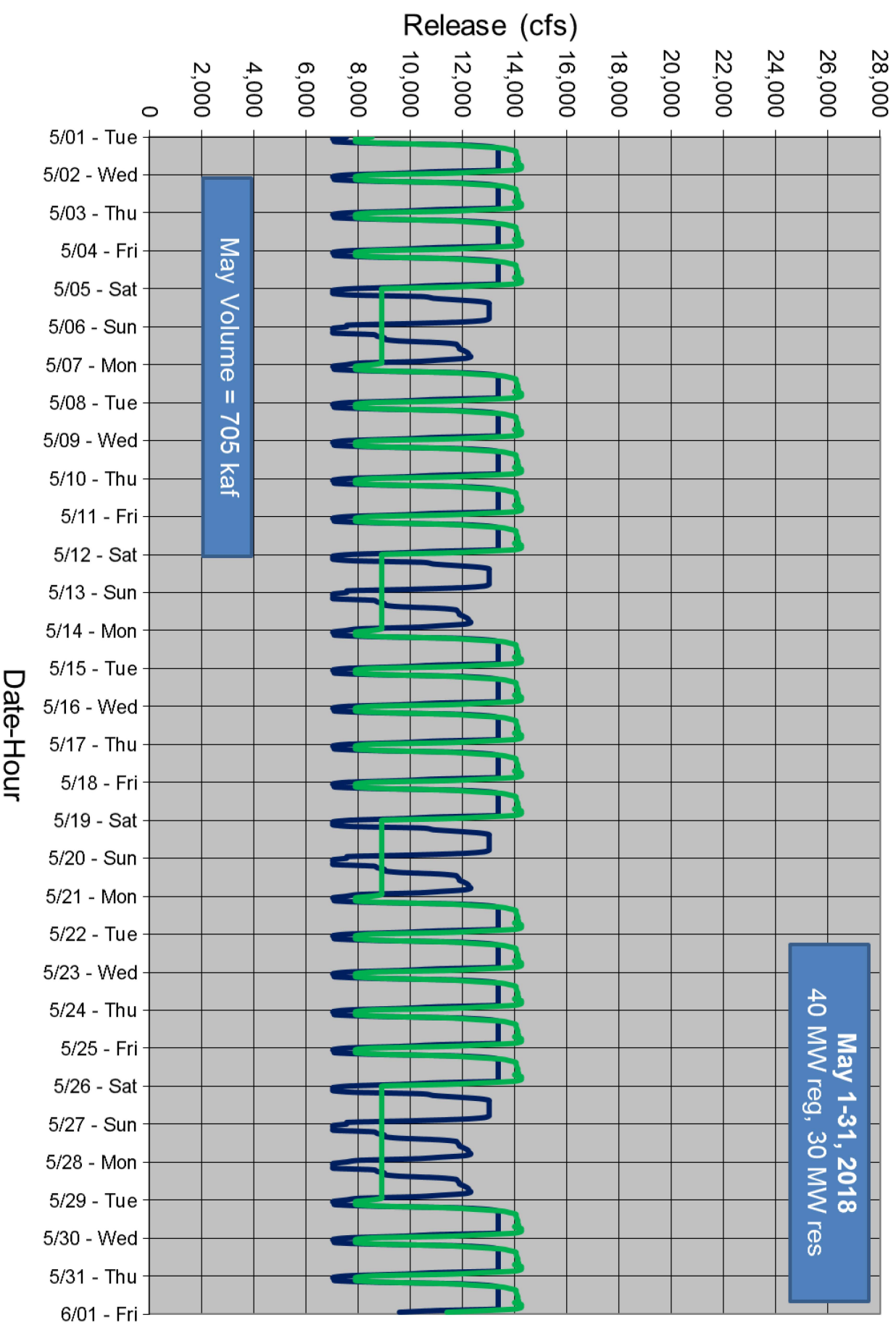


# How would GCD releases change?

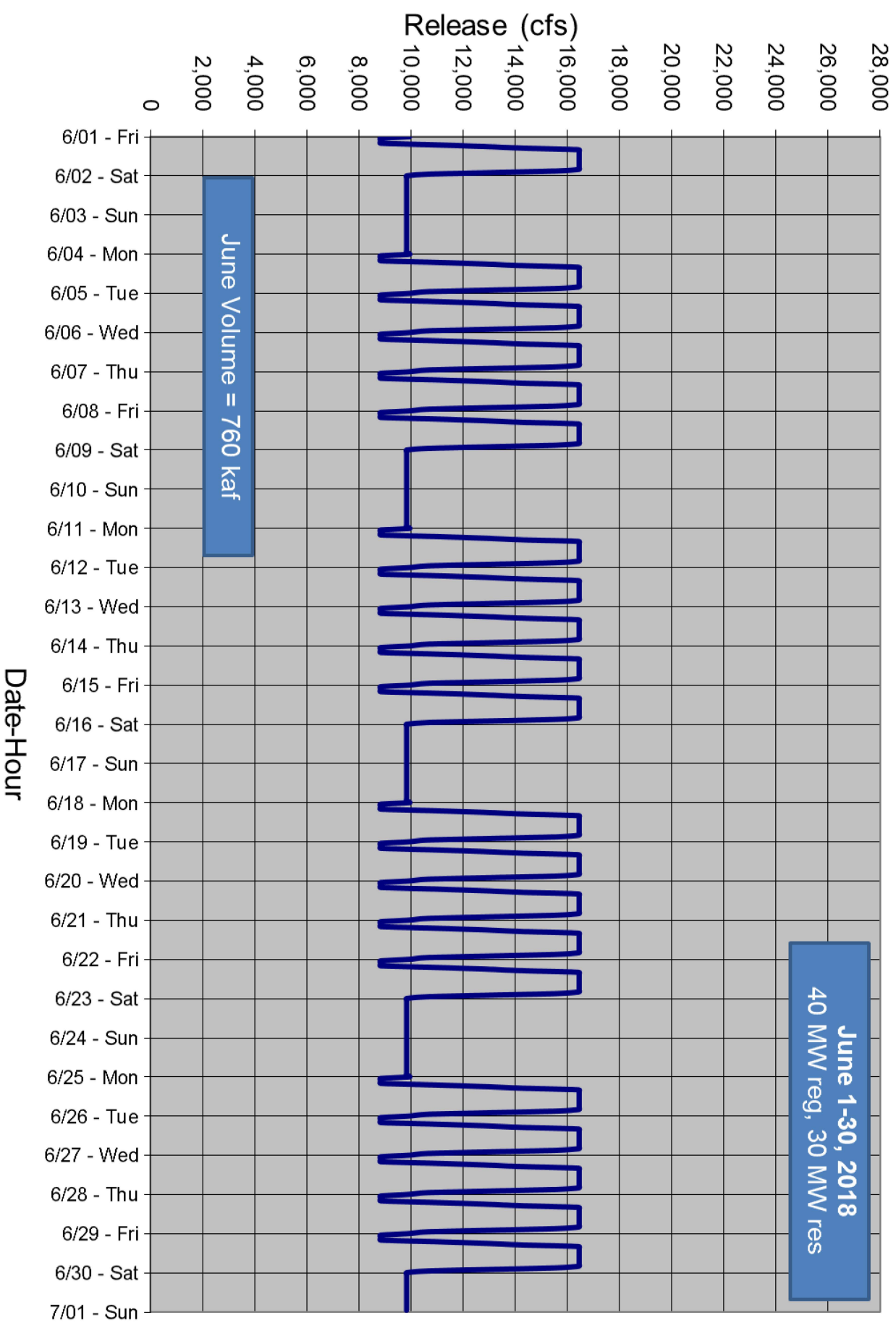




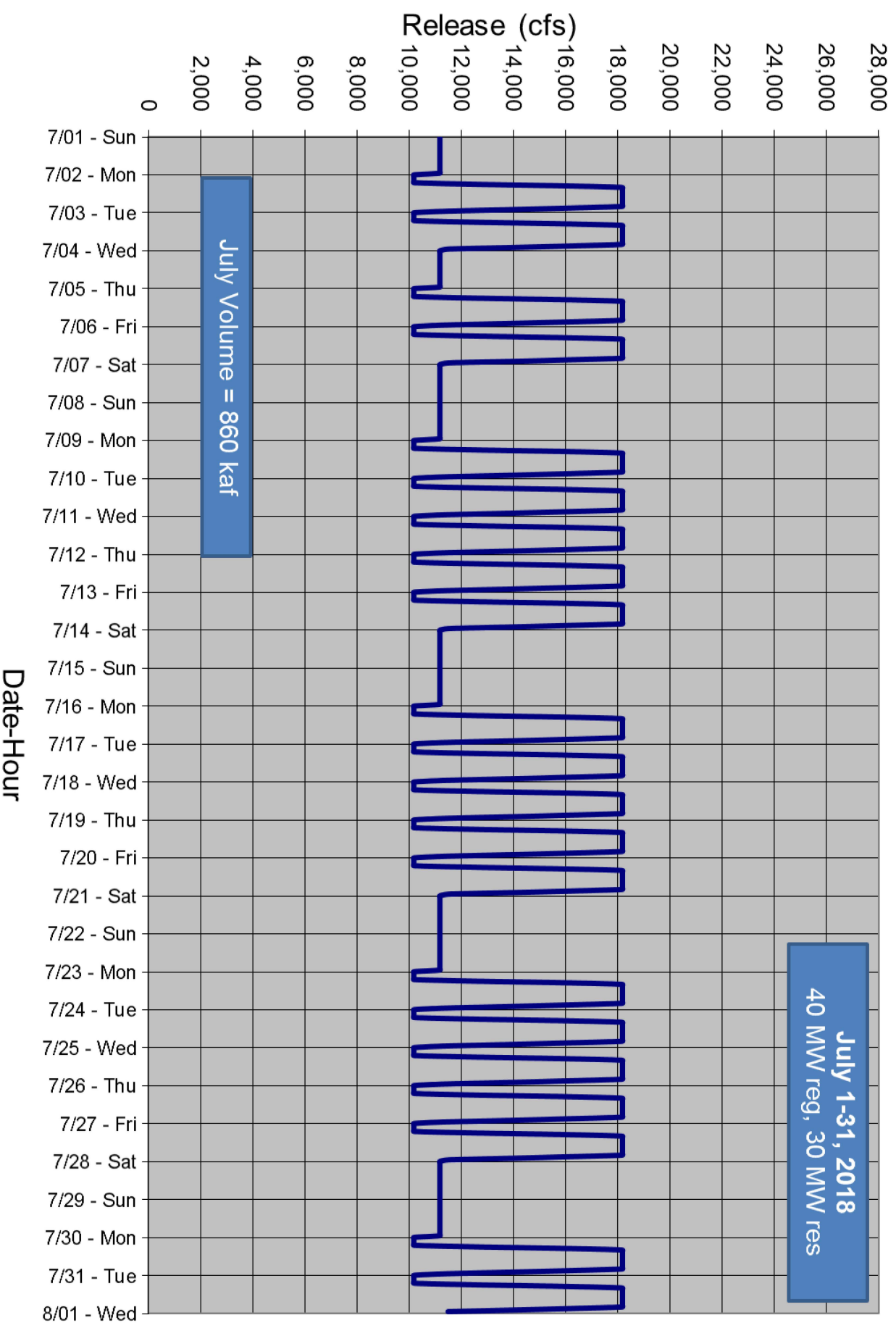
# Glen Canyon Dam Hourly Bug Flow Pattern May 2018



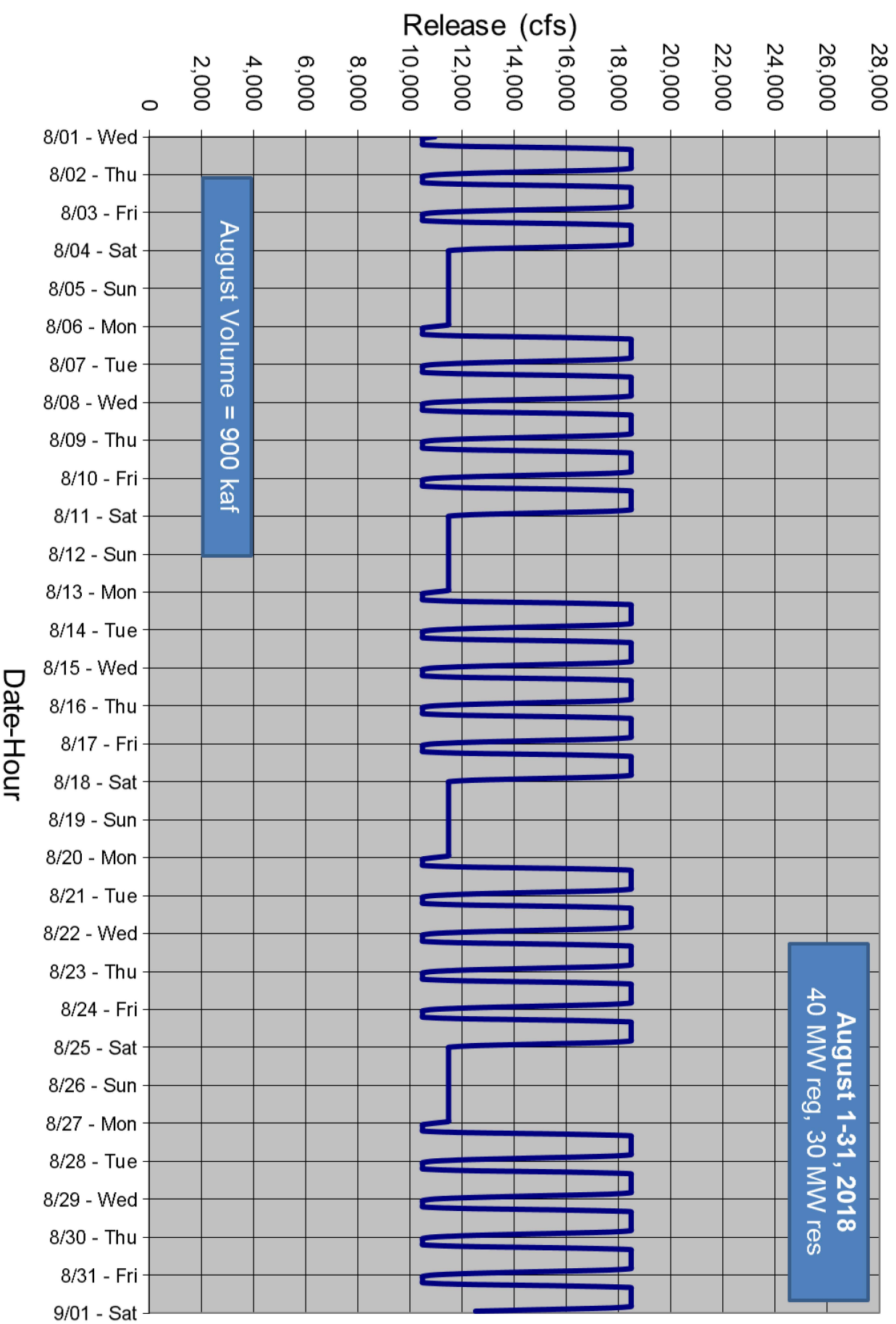
# Glen Canyon Dam Hourly Bug Flow Pattern June 2018



# Glen Canyon Dam Hourly Bug Flow Pattern July 2018



# Glen Canyon Dam Hourly Bug Flow Pattern August 2018



# Coordination / Monitoring During Implementation

- Implementation / planning group will continue to meet regularly (monthly operations coordination calls)
  - Report back on field data, adjust operations accordingly in the event of unexpected impacts
- Operational flexibility and emergency exception criteria will be maintained.



# Next Steps

- Implementation / planning group written recommendation and presentation to DOI: April 12
- DOI Decision: April 13
  - Memo from DOI
  - Notification to Tribes and parties to the PA
  - Notification to AMP partners
  - Public Affairs outreach
- Implementation: May 1 – August 31
- Ongoing coordination during implementation
- Background work in support of Trout Management Flow design

# Questions?