

# RECLAMATION

*Managing Water in the West*

## Possible Fall 2017 HFE Planning

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TWG presentation  
October 12, 2017



U.S. Department of the Interior  
Bureau of Reclamation



# LTEMP HFE Process

## 1. Planning and Budgeting Component

- Annual resource status assessment
  - Annual Agency Reporting
  - GCDAMP Budget and Work Plan Process

## 2. Modeling Component (is there enough sediment?)

## 3. Decision and Implementation Component

- Review Modeling Component
- Review Status of Resources
- Consultation with agencies and tribes, AMWG input
- Staff Recommendation/ HFE Leadership Team Recommendation
- DOI decision

# Fall 2017 HFE planning steps taken

- **Jan 2017 TWG meeting:** discussed possible experiments for upcoming year – fall HFE, extended duration fall HFE
- **July and August** – coordinated with management agencies to determine best dates for possible HFE
- **Aug 31:** update to TWG on HFE status and process
- **Sept 1:** notification to GCDAMP stakeholders of possible date for HFE: Nov 6<sup>th</sup>
- **Sept 21:** update to AMWG (not enough sediment to trigger HFE)
- **Sept 27, Oct 4:** HFE Tech team discuss sediment conditions, ops, HFE process, other resources (including brown trout)
- **Oct 5:** notification of possible HFE to parties of PA, follow up Oct 11
- **Oct 10:** notification to GCDAMP stakeholders, HFE tech team, DOI leadership of no HFE
- **Oct 11:** HFE tech team discuss lessons learned, close the planning process

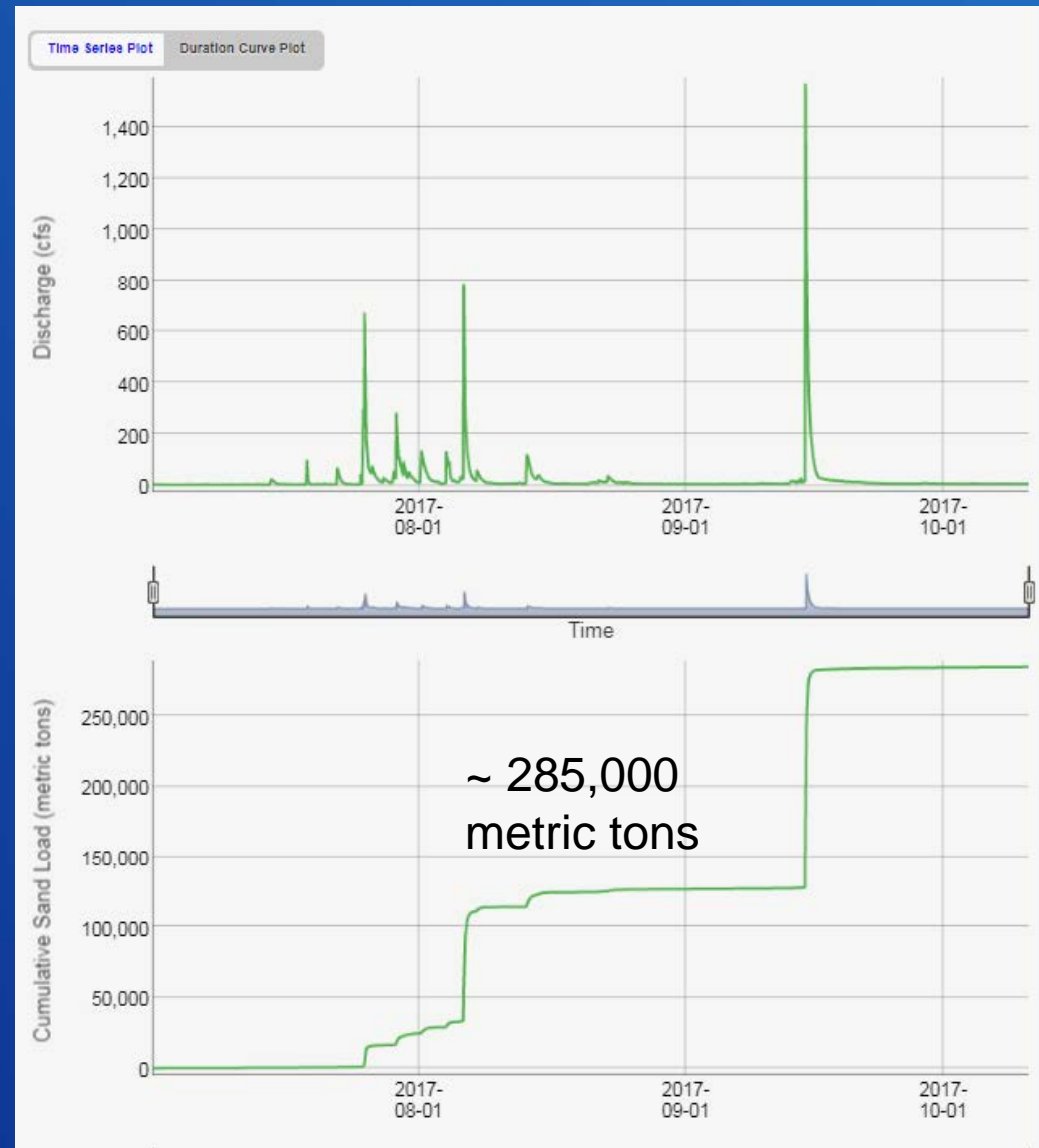
# Flow and Sediment conditions

from the GCMRC web page as of Oct 10, 2017

The screenshot shows the USGS Grand Canyon Monitoring and Research Center website. It features a map of the Grand Canyon area with several monitoring stations marked by orange dots. A list of stations is provided on the right, including:

- Water Holes Canyon above the mouth (GCMRC-QCLT1)
- Colorado River at Lees Ferry, AZ (09380000)
- Paria River near Kanab, UT (09381800)
- Paria River at Lees Ferry, AZ (09382000)
- Badger Creek below highway 89A near

[http://cida.usgs.gov/gcmrc/discharge\\_qw\\_sediment/stations/GCDAMP](http://cida.usgs.gov/gcmrc/discharge_qw_sediment/stations/GCDAMP)



Preliminary Data – Do not cite or distribute

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# Sand Budget Model Results

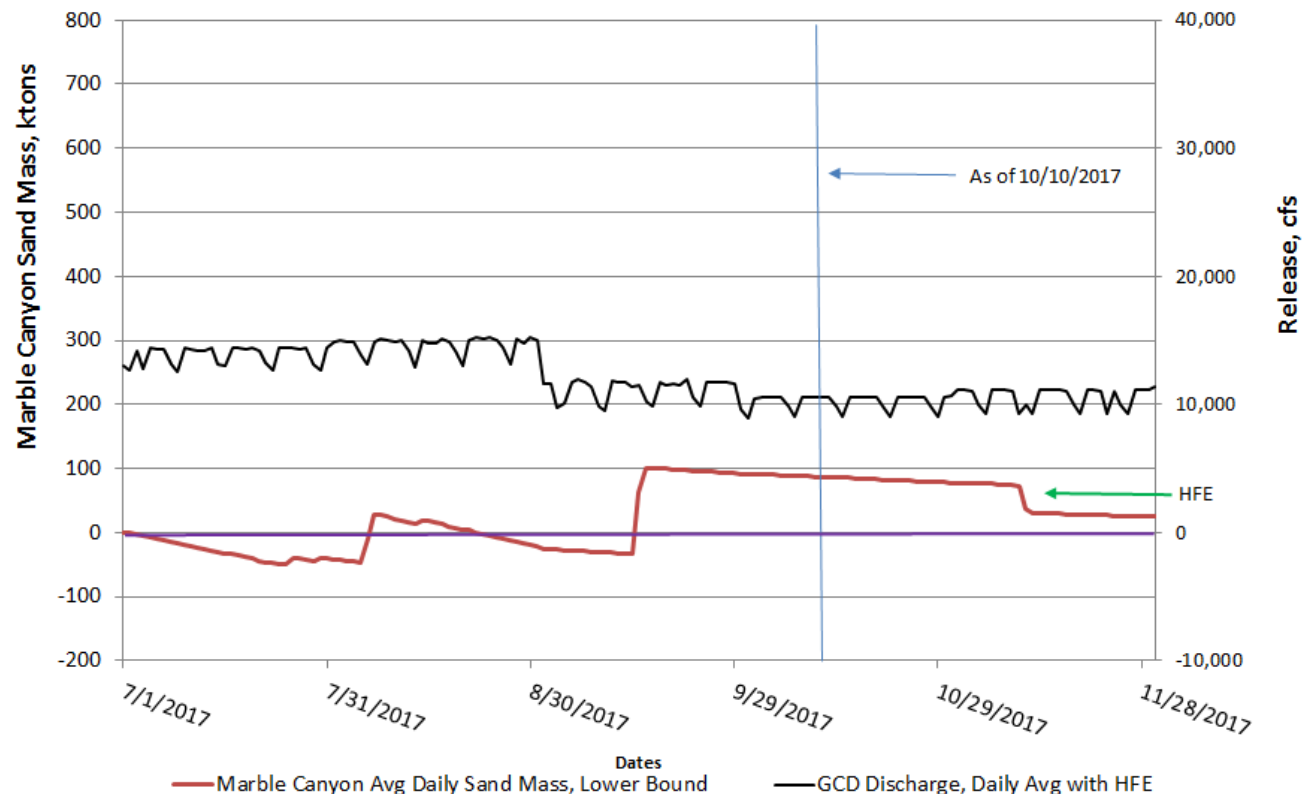
10-10-2017

Modeling suggested there **COULD** be enough sediment to support a 1-hr 36,500cfs HFE... need to ground truth this with field data.

Actual flow as of 10/10/2017 23:00  
Actual Sediment data as of 10/10/2017 3:00  
Graph updated 10/10/2017 8:09  
GCMRC's most recent Lab Results of Suspended Sediment as of 9/15/2017

## Sand Budget Model Results, Jul 2017-Nov 2017 Release and Calculated Sediment Load in Colorado River

There currently sufficient sediment to support an 1 hr 36500cfs HFE this accounting



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# Potential High Flow Experiment: Status of Resources

Technical Work Group Webinar  
October 12, 2017



Scott VanderKooi

USGS Grand Canyon Monitoring and Research Center

# Paria River Sand Inputs

~ 285,000 metric tons of sand inputs through 10/10/2017.

Cumulative Sand Load (metric tons)

250,000  
200,000  
150,000  
100,000  
50,000  
0

2017-07-01

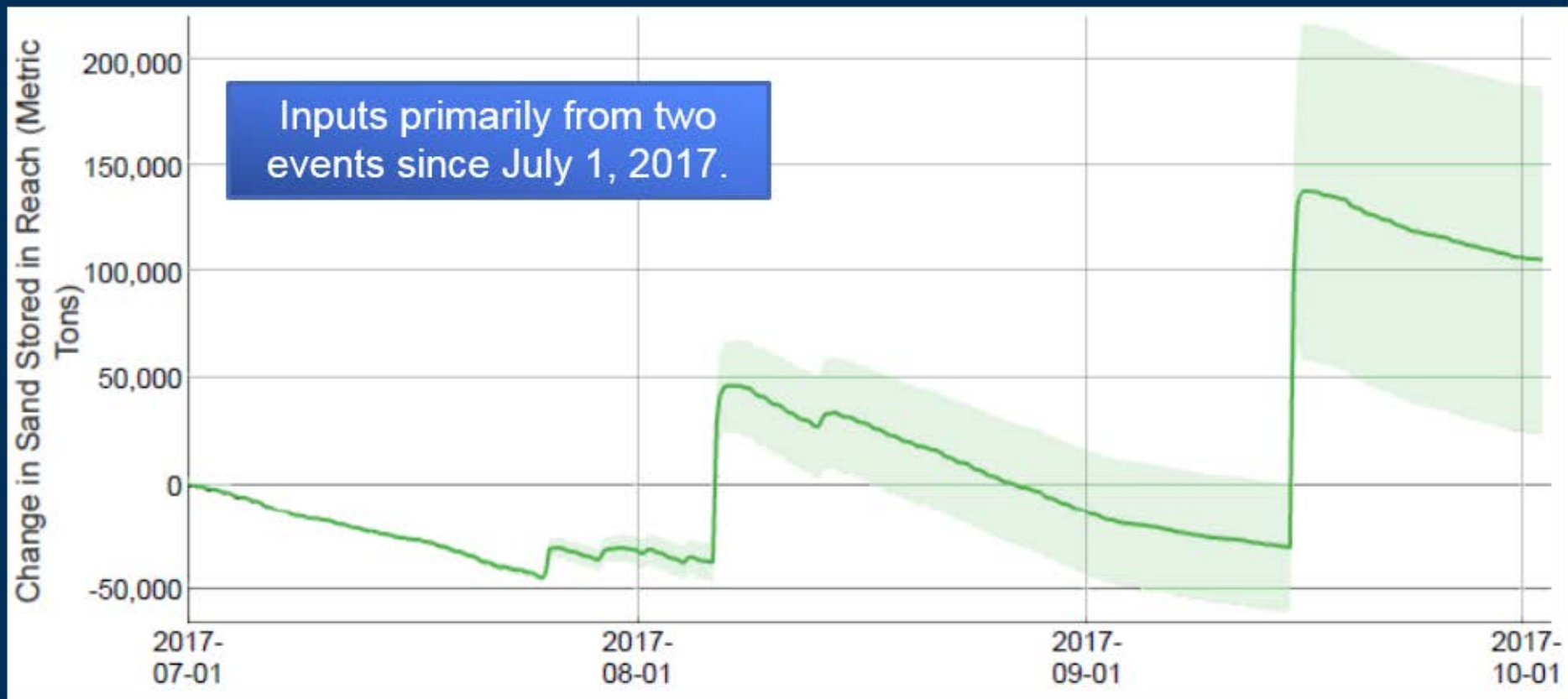
2017-08-01

2017-09-01

2017-10-01

[https://www.gcmrc.gov/discharge\\_qw\\_sediment/station/GCDAMP/09382000](https://www.gcmrc.gov/discharge_qw_sediment/station/GCDAMP/09382000)

# Sand Mass Balance – Upper Marble Canyon

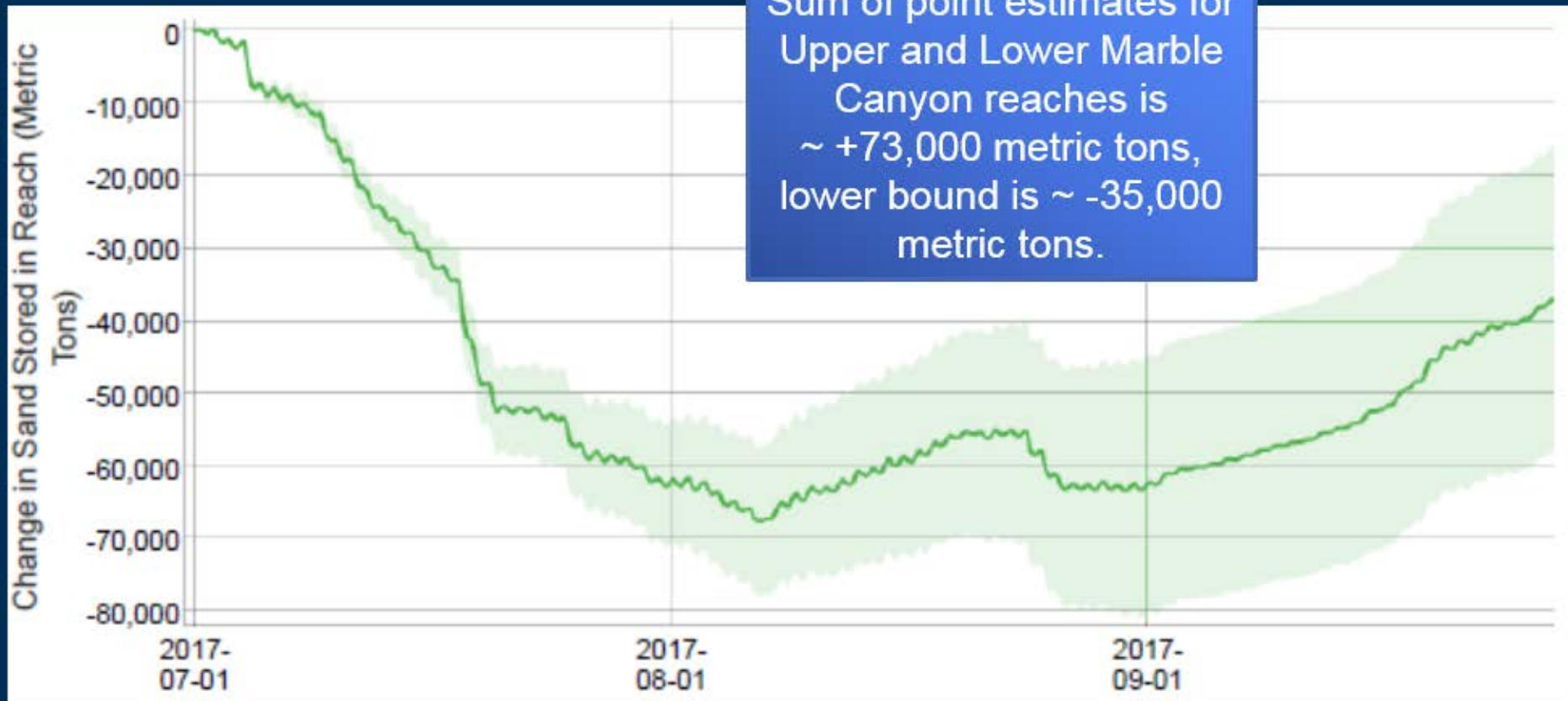


[https://www.gcmrc.gov/discharge\\_qw\\_sediment/reach/GCDAMP/09380000/09383050](https://www.gcmrc.gov/discharge_qw_sediment/reach/GCDAMP/09380000/09383050)



# Sand Mass Balance – Lower Marble Canyon

Sum of point estimates for Upper and Lower Marble Canyon reaches is ~ +73,000 metric tons, lower bound is ~ -35,000 metric tons.



[https://www.gcmrc.gov/discharge\\_qw\\_sediment/reach/GCDAMP/09383050/09383100](https://www.gcmrc.gov/discharge_qw_sediment/reach/GCDAMP/09383050/09383100)

# 2017 HFE Planning Outcomes and Summary

- Sediment conditions do not support a 2017 Fall HFE
  - No HFE Technical Team recommendation
  - No HFE Technical Team report
  - No HFE Leadership Team recommendation
  - No DOI decision

# 2017 HFE Lessons Learned

- Went well:
  - Setting possible HFE date early
  - Informal meetings with tech team early
- Ideas for improvement:
  - Reclamation send letters to PA parties at same time we notify GCDAMP of possible HFE date
  - Reclamation have sand budget model recalibrated over winter
  - GCRMC evaluate early in HFE planning window what size HFE would be meaningful (e.g., 1 hr?)
  - Brown trout – understand risk of an HFE early in the planning window to help fame discussions
  - Other?

# Questions?



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