

# RECLAMATION

*Managing Water in the West*

## DOI-DOE Hydrograph Development for Water Year 2015

Adaptive Management Work Group  
*August 27, 2014*

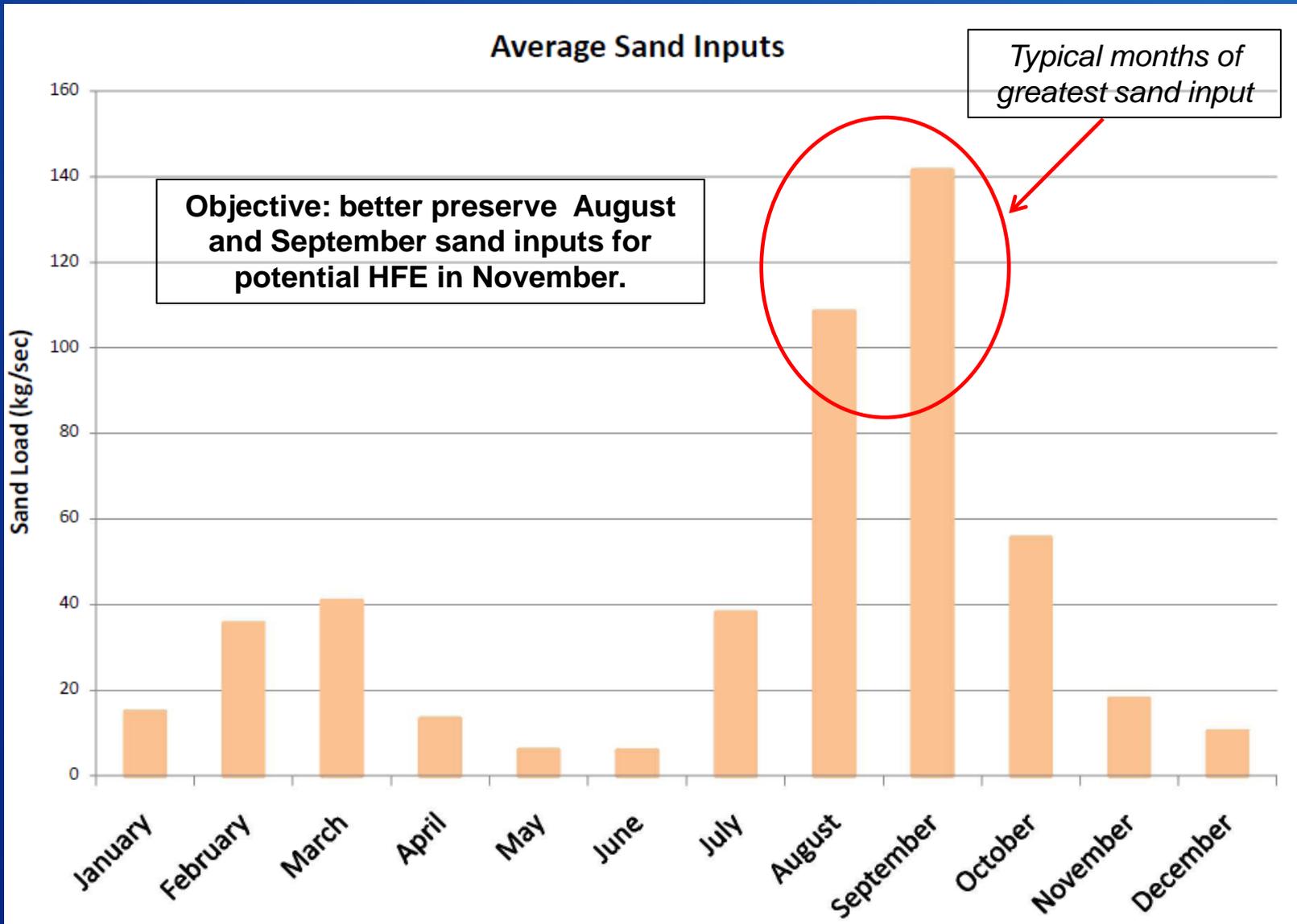


U.S. Department of the Interior  
Bureau of Reclamation

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*Bureau of Reclamation*

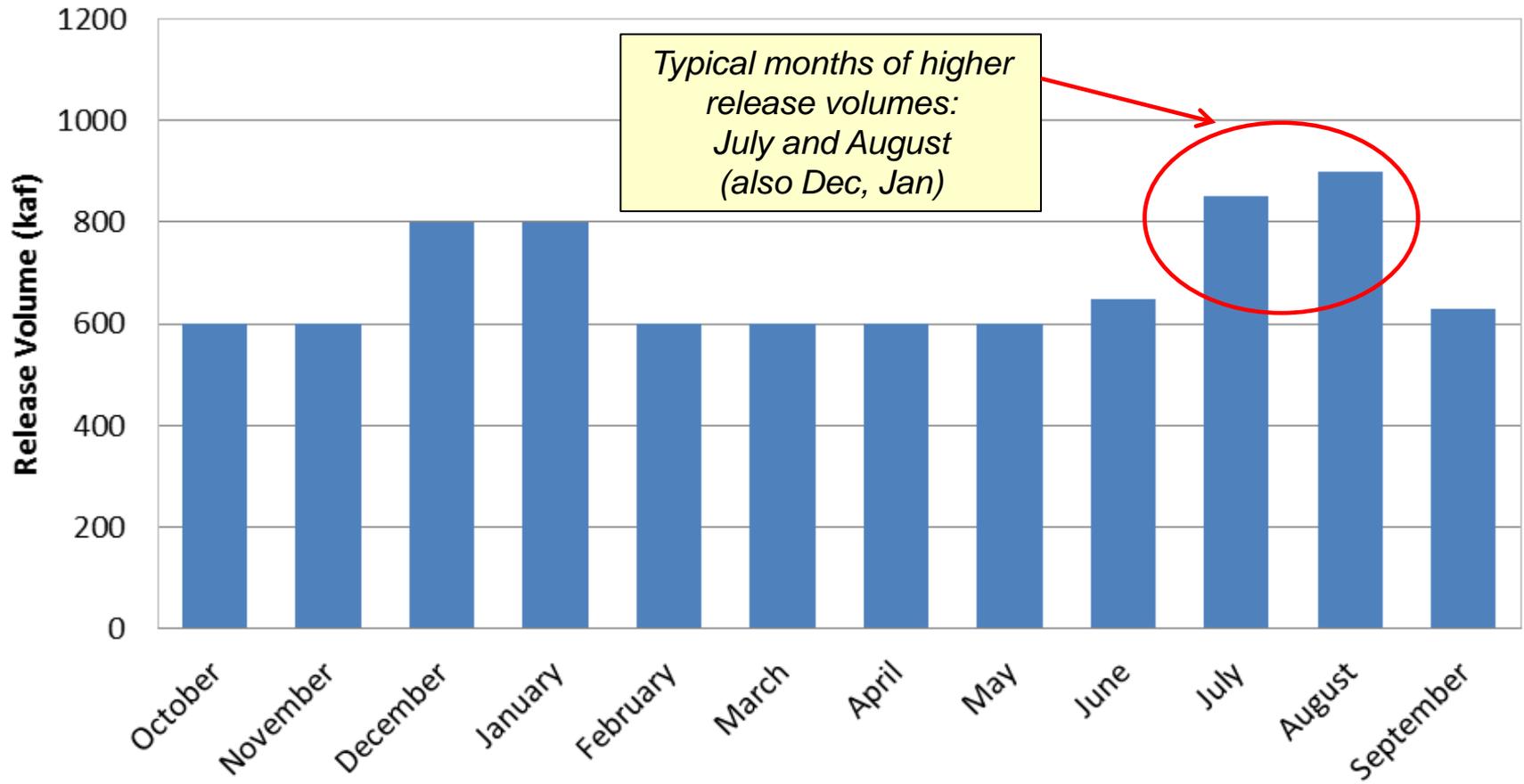
# 2015 Hydrograph Development

- Objective: retain sand inputs high in the system in anticipation of a potential HFE in fall 2015
- Target lower August through October releases
- Avoid shifting “extra” water to June (which cools temperatures at the mouth of the LCR)
- Move water from August to other equal value months for hydropower (Dec/Jan, Jul)
- Continue to work within existing environmental compliance



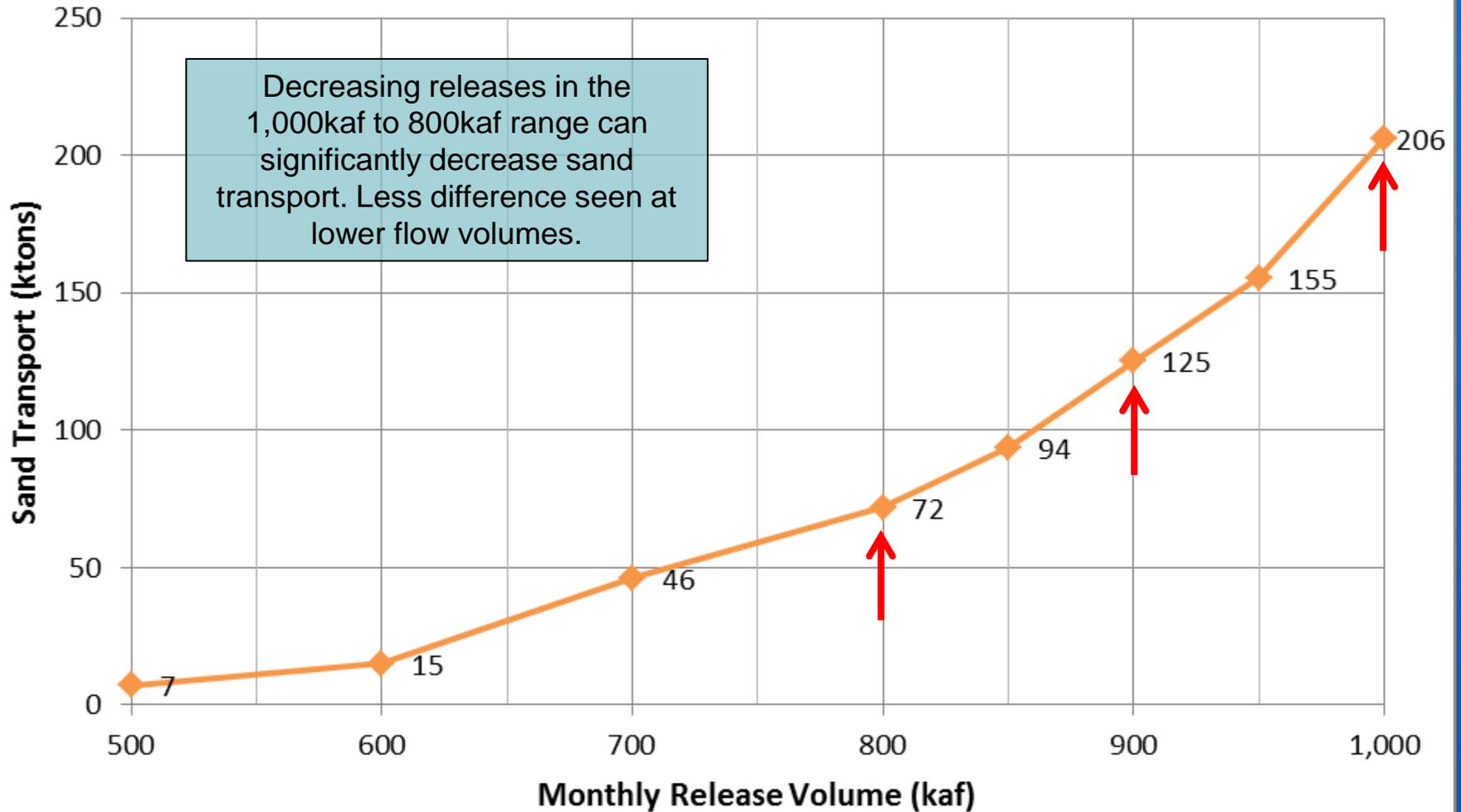
# Typical Annual Release Pattern

8.23 maf year



# Sand Budget Model - Marble Canyon Reach

(based on Dec-2013 initial conditions)

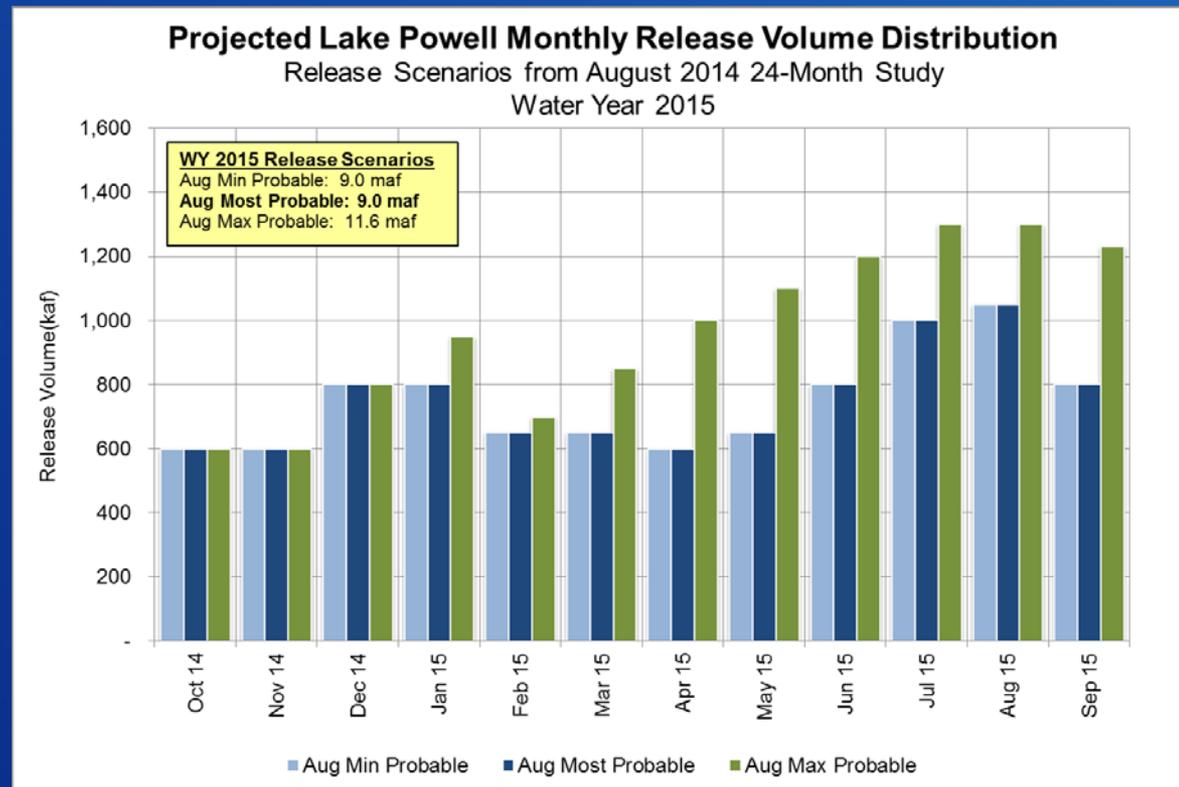


# Temperature Considerations

- Last year (2013) FWS suggested we look at ways to improve temperatures at the mouth of the LCR early in the season (June)
- LCR temperatures were found to decrease by about 0.5 deg C as releases are increased from 600 to 800 kaf
- Avoid shifting “extra” water into June, if possible

# 2015 Annual Release Scenarios

- **8.23 maf** (very small possibility)
- **9.0 maf** (most likely)
- **11.6 maf** or greater (April adjustment to equalization)



# 2015 Hydrograph

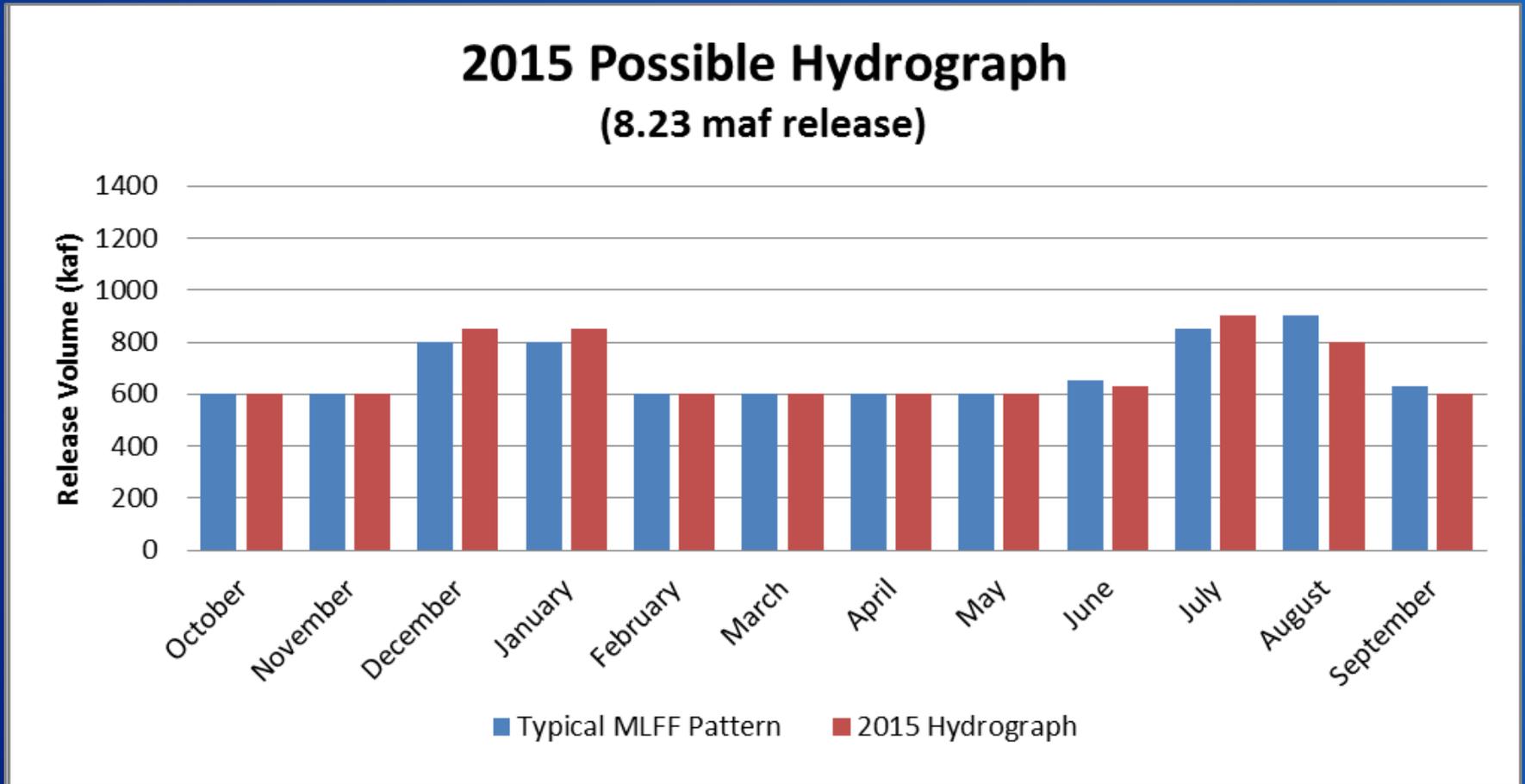
## Monthly Release Objectives

	Annual Release Volume		
	8.23 maf	9.0 maf	10 maf or greater
<b>June</b>	600-650kaf	800 kaf	> 900 kaf
<b>August</b>	800 kaf	800 kaf	800 kaf
<b>September</b>	600 kaf	700 kaf	800 kaf

\* Monthly targets may shift due to hydrologic uncertainty and changing operational conditions

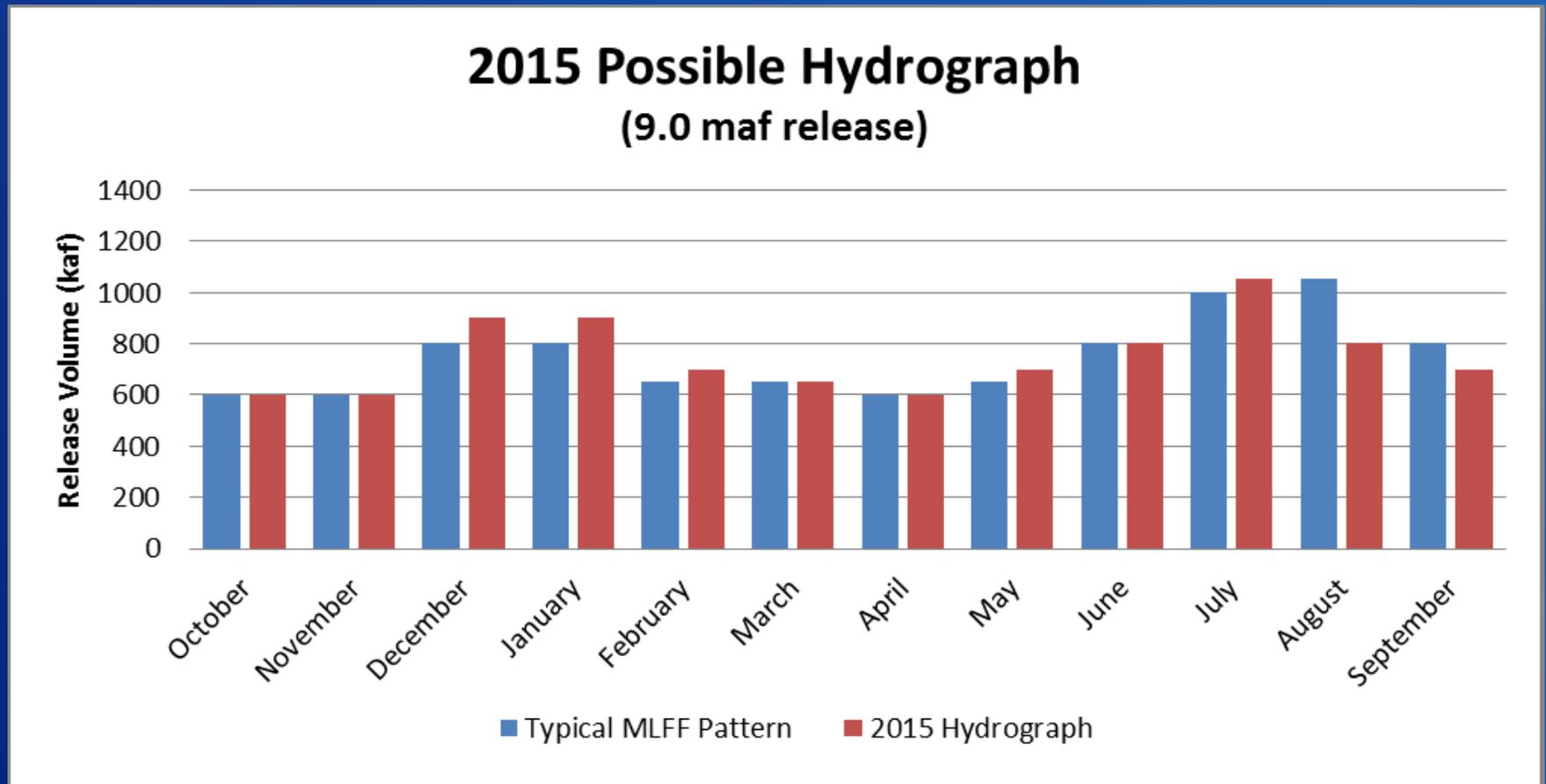
# 2015 Possible Hydrograph

## 8.23 maf release



# 2015 Possible Hydrograph

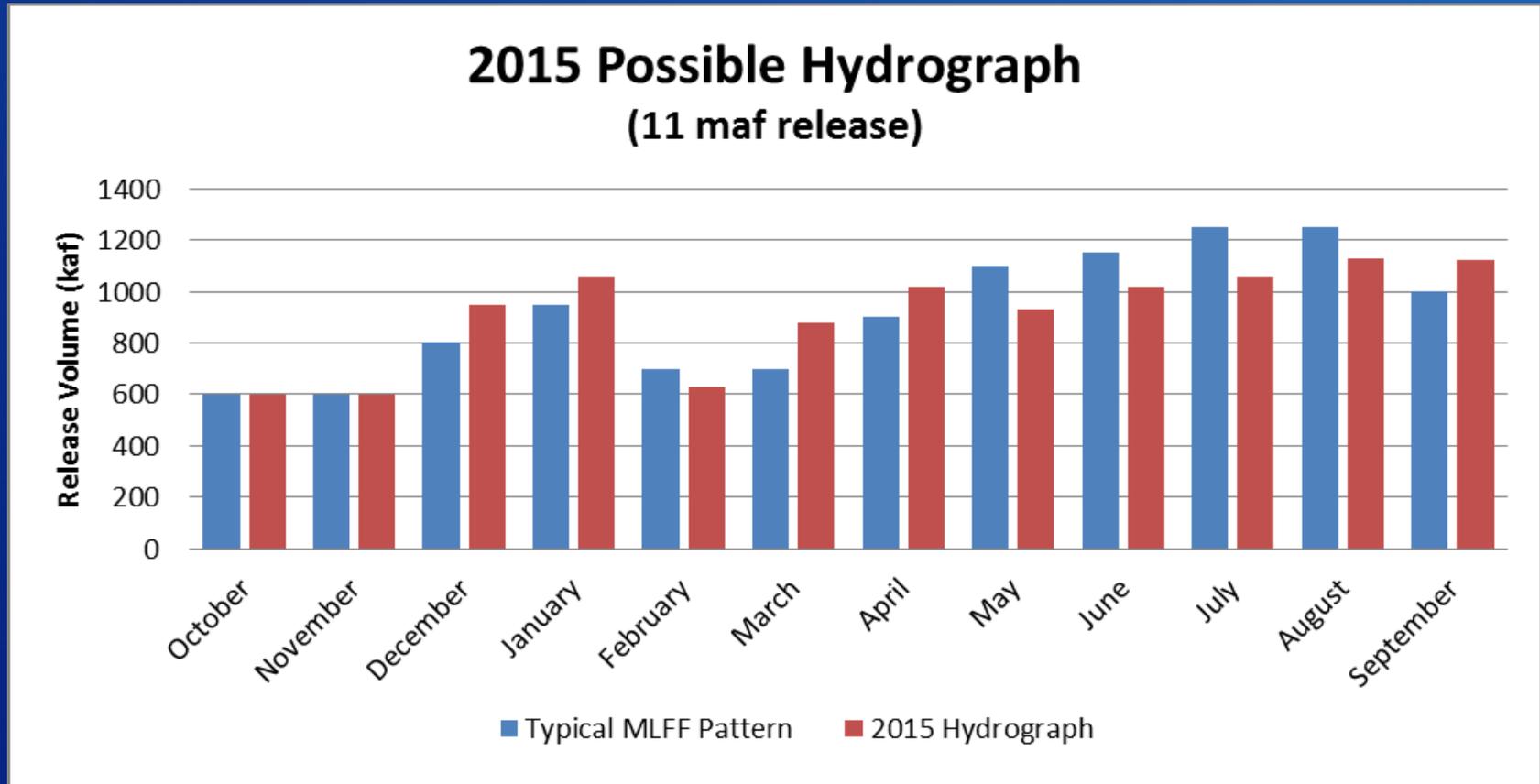
## 9.0 maf release

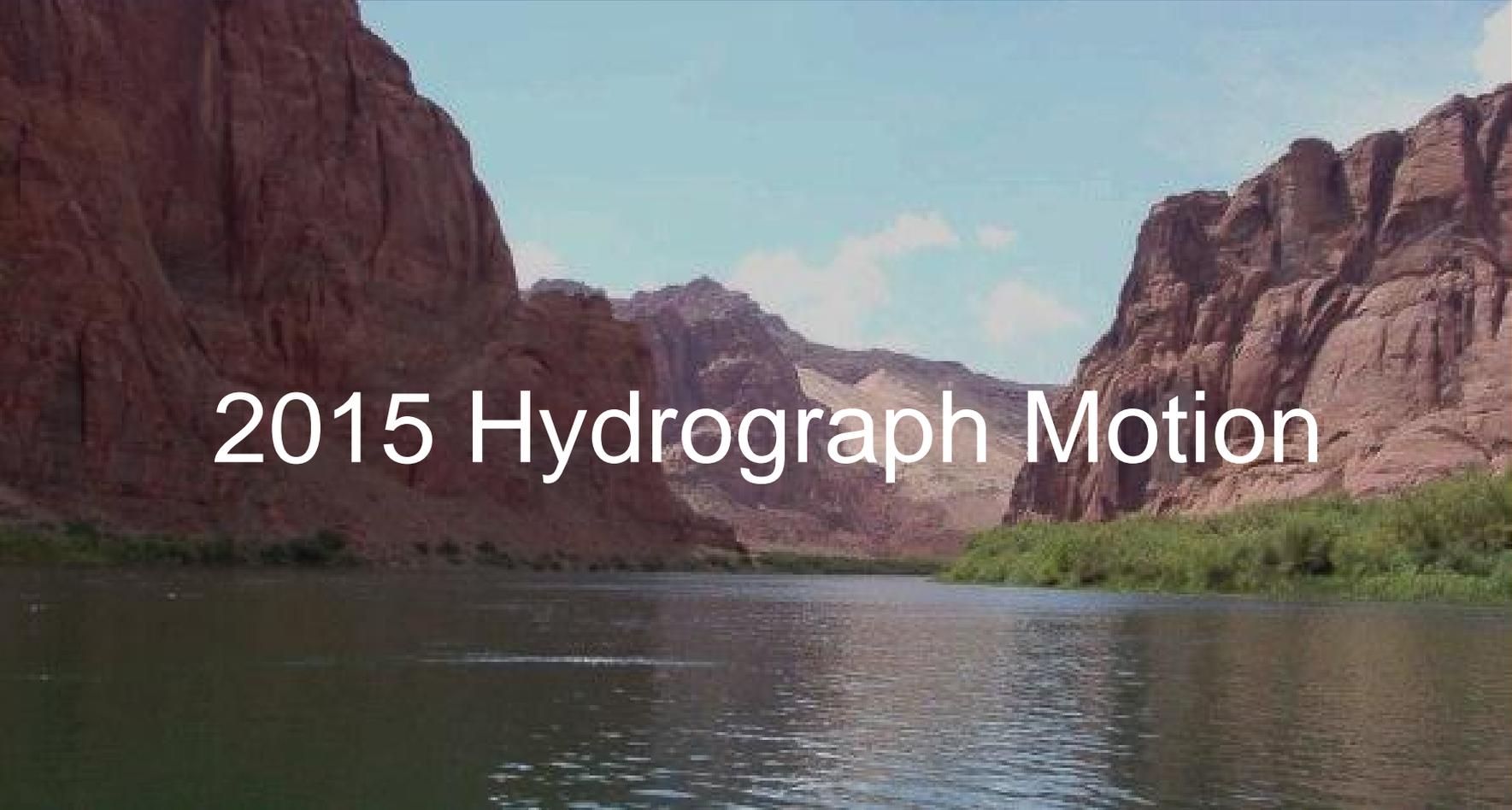


# 2015 Possible Hydrograph

## 11 maf release

- Lots of water to move: limited flexibility, powerplant capacity limits anticipated, minimal ability to affect sand retention or temperature





# 2015 Hydrograph Motion

RECLAMATION

**Motion Requested:** TWG recommends the AMWG recommend to the Secretary of the Interior her approval of the DOI-DOE Proposed Hydrograph for Water Year 2015 as follows:

- Annual Release Volumes will be determined by the 2007 Interim Guidelines and shall be reviewed and adopted through the normal annual operating plan process (in consultation with the Basin States as appropriate).
- Monthly Release Volumes are anticipated to shift depending upon: (1) the projected Annual Release Volume, (2) powerplant capacity, and (3) the magnitude of a potential High Flow Experiment.
- Monthly Release Volumes may vary within the targets identified below. Any remaining monthly operational flexibility will be used for existing power production operations under the Modified Low Fluctuating Flow (MLFF) alternative selected by the 1996 ROD and contained in the 1995 FEIS and in compliance with all applicable NEPA compliance documents (HFE EA, NNFC EA, 2007 IG).

- Release objective for June is:
  - 600 to 650 kaf for annual releases below 9.0 maf
  - 800 kaf for annual releases of 9.0 maf to less than 9.5 maf
  - 900 kaf for annual releases of 9.5 maf to less than 10 maf
  - Greater than 900 kaf for annual releases 10 maf and greater
  
- Release objective for August is 800 kaf
  
- Release objective for September is:
  - 600 kaf for annual releases below 9.0 maf
  - 700 kaf for annual releases of 9.0 maf to less than 10.0 maf
  - 800 kaf or greater for annual releases of 10.0 maf or greater; up to powerplant capacity for high equalization releases
  
- Monthly Release Volumes will generally strive to maintain 600 kaf levels in the shoulder months (spring and fall) and 800 kaf in the December/January and July/August timeframe.
  
- Additionally, the Bureau of Reclamation will continue to apply best professional judgment in conducting actual operations and in response to changing conditions throughout the water year. Such efforts will continue to be undertaken in coordination with the DOI/DOE agencies, and in consultation with the Basin States as appropriate, to consider changing conditions and adjust projected operations in a manner consistent with the objectives of these parameters as stated above and pursuant to the Law of the River.