

# RECLAMATION

*Managing Water in the West*

**USBR Updates:**

**Green River**

*CRFS Meeting October 27, 2016*



U.S. Department of the Interior  
Bureau of Reclamation

# Upper Basin Storage

Data Current as of:  
10/25/2016

## Upper Colorado River Drainage Basin

85%



Flaming Gorge  
3187997/3749000  
85% Full

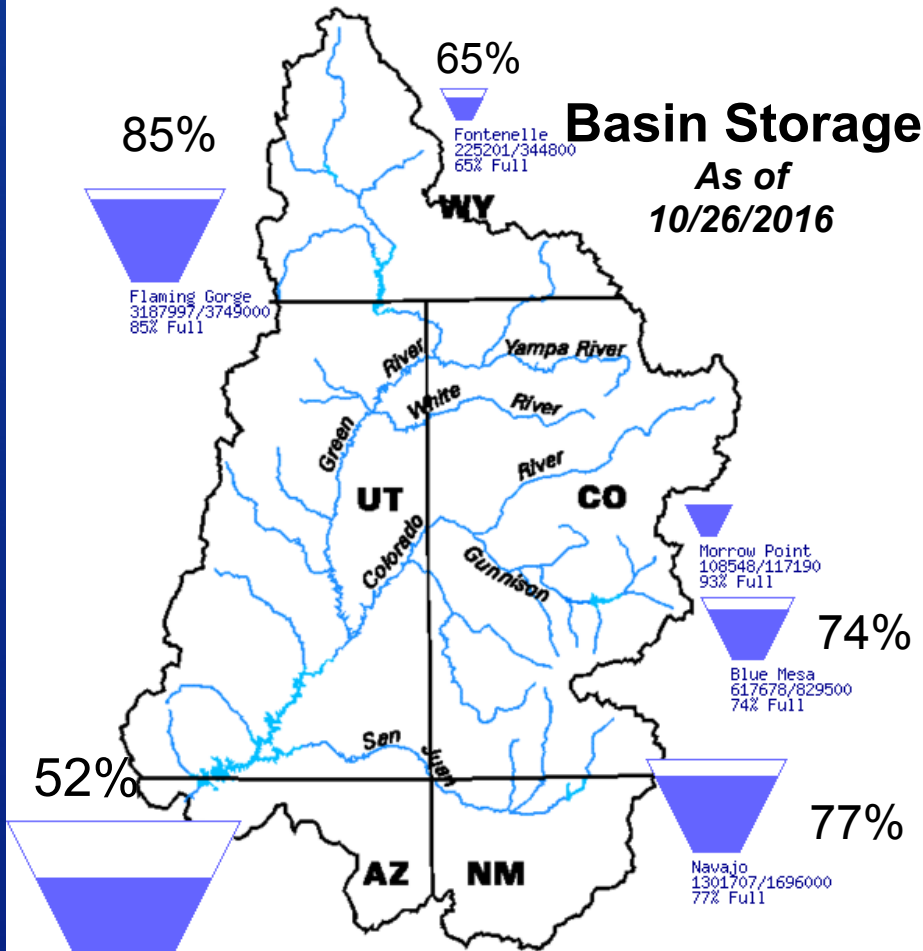
65%



Fontenelle  
225201/344800  
65% Full

## Basin Storage

As of  
10/26/2016



52%



Lake Powell  
12712190/24322000  
52% Full

74%



Blue Mesa  
617678/829500  
74% Full

77%



Navajo  
1301707/1696000  
77% Full

Drainage Area 279,300 Square Kilometers

## Water Year 2017 Forecasted Inflow Issued October - 2016

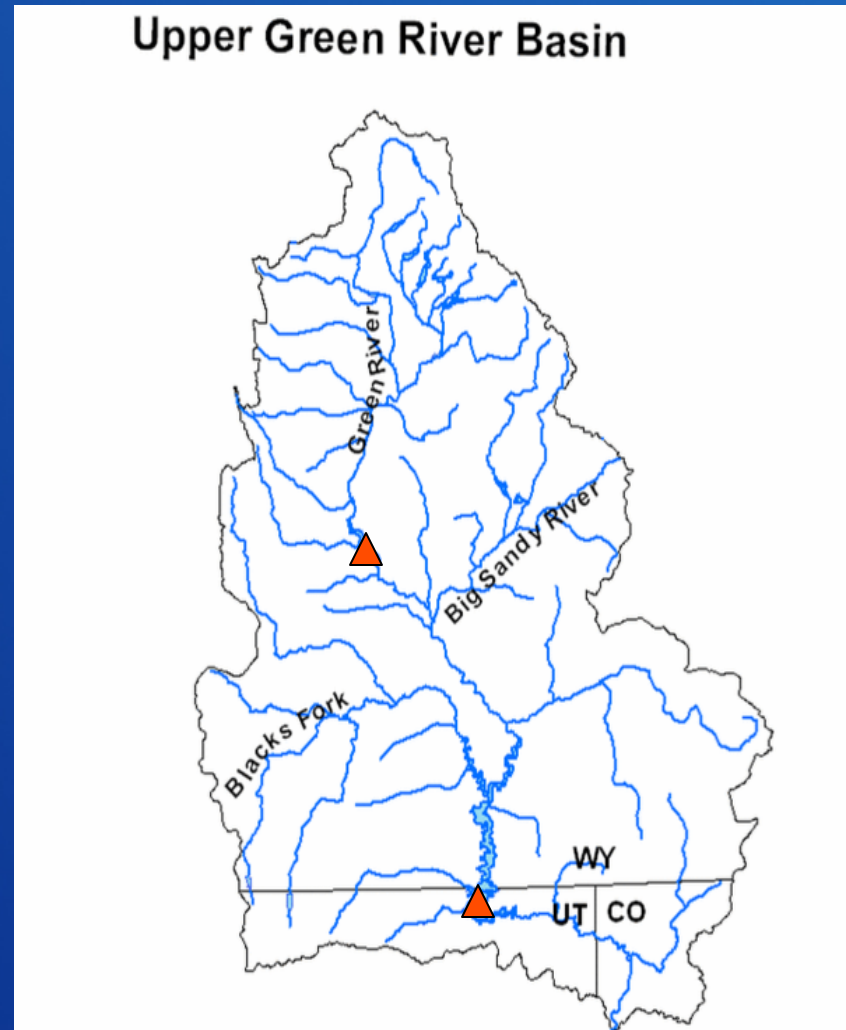
Reservoir	WY2017 Forecast (KAF)	Percent of Average <sup>1</sup>
Fontenelle	925	85%
Flaming Gorge	1,275	88%
Blue Mesa	810	85%
Navajo	885	82%
Powell	9,240	85%

<sup>1</sup> percent of average based on period 1981-2010.

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# Green River Operations

- Fontenelle
- Flaming Gorge



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# Fontenelle Operations



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# 2016 Operations Summary

## (the good)

- Reservoir filled
  - Peak elevation: 6504.6 ft (June 16)
- Spring peak
  - Peak release: 6,200 cfs (June 17)
  - Peak inflow: 8,329 cfs (June 12)
- Sufficient carry-over storage winter 2017
  - Baseflows set at 920 cfs
  - Potential shift to 950 cfs in November

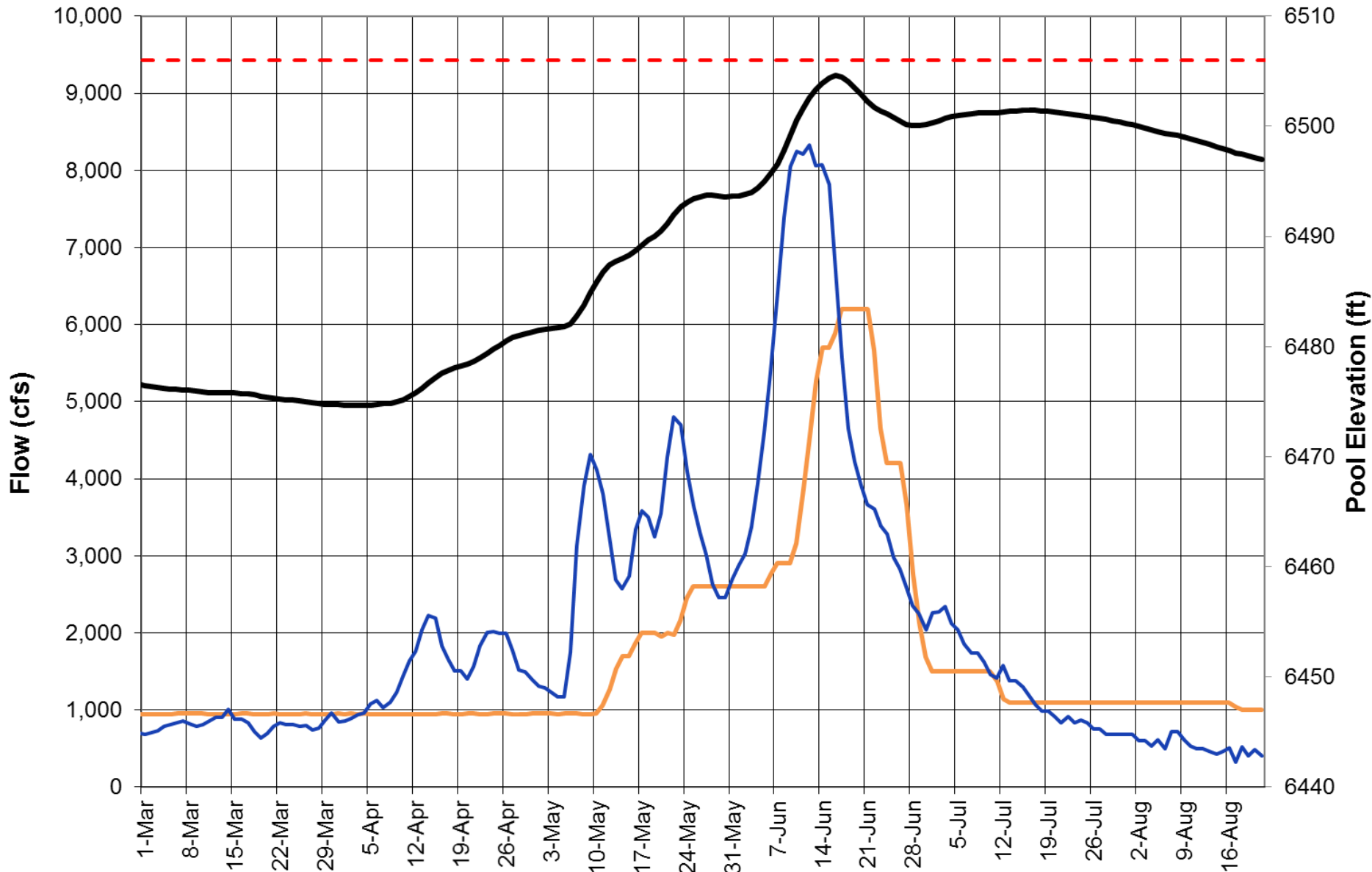
# 2016 Operations Summary

## (the not so good)

- Underestimated A-J inflow volume
  - Entered May anticipating “dry year operation”
- Filled reservoir by early June
  - High carry-over storage + May rainfall

# Fontenelle Dam Elevation, Inflow and Release

Observed Water Year 2016



— Release (obs)    — Inflow    — Elevation    - - - Max Elevation



# Flaming Gorge Operations



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# Larval Trigger Study Plan

- Time Reach 1 flows with the initial appearance of larval suckers
- Design Matrix
  - Three years of flows < 18,600 cfs
  - Three years of flows > 18,600 cfs
  - Connecting flows of at least seven days duration

**STUDY PLAN TO EXAMINE THE EFFECTS OF USING  
LARVAL RAZORBACK SUCKER OCCURRENCE IN THE GREEN  
RIVER AS A TRIGGER FOR FLAMING GORGE DAM PEAK RELEASES**

**Prepared by the Larval Trigger Study Plan Ad Hoc Committee**

Kirk LaGory, Argonne National Laboratory  
Tom Chart, Upper Colorado River Endangered Fish Recovery Program  
Kevin Bestgen, Colorado State University, Larval Fish Laboratory  
Jerry Wilhite, Western Area Power Administration  
Shane Capron, Western Area Power Administration  
David Speas, Bureau of Reclamation  
Heather Hermansen, Bureau of Reclamation  
Kevin McAbee, U.S. Fish and Wildlife Service  
Jana Mohrman, U.S. Fish and Wildlife Service  
Melissa Trammell, National Park Service  
Brandon Albrecht, Environmental Group Representative

**Coordinated by**

The Upper Colorado River Endangered Fish Recovery Program

Final Report

March 2012

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# Research Requests



## Upper Colorado River Endangered Fish Recovery Program

Noreen Walsh, Chairman  
Implementation Committee

Thomas C. Chart  
Program Director

U.S. Fish and Wildlife Service - P.O. Box 25486 - Denver Federal Center - Denver, CO 80225 - (303) 236-9881 - Fax (303) 236-8739

FWS/CRRP  
K3a1  
Mail Stop 65115  
Memorandum

March 27, 2015

To: Brent Rhees, Regional Director, Upper Colorado Region, Bureau of Reclamation  
Heather Patno, Chair, Flaming Gorge Technical Working Group, Bureau of Reclamation  
From: Thomas Chart, Director, Upper Colorado River Endangered Fish Recovery Program  
Subject: Recovery Program's Research Request for 2015 Green River Spring Flows

The Upper Colorado River Endangered Fish Recovery Program (Recovery Program) supports the Bureau of Reclamation's (Reclamation) operations at Flaming Gorge Dam in 2015 consistent with the 2005 biological opinion (U.S. Fish and Wildlife Service 2005) and 2006 record of decision (ROD; U.S. Department of Interior 2006). As in the past four years, the primary objective of our request this year is to build on past research (Bestgen et al. 2011) to benefit the razorback sucker population throughout the Green River by timing the river-floodplain connection with the presence of wild-produced razorback sucker larvae.

The Recovery Program's 2015 spring flow request is based on objectives outlined in our *Study Plan to Examine the Effects of Using Larval Sucker Occurrence in the Green River as a Trigger for Flaming Gorge Dam* (LTSP: Larval Trigger Study Plan Ad Hoc Committee 2012). In the LTSP we describe a desired range of experimental floodplain connection scenarios and studies we would implement to evaluate those scenarios. Minimally, to complete the experiment, the Recovery Program requests three years with flows < 18,600 cfs and three years with flows ≥ 18,600 cfs and with connecting flows in each of these years of at least seven days duration. However, spring peak flow magnitude requests will be driven by hydrologic conditions in the upper Green River Basin and to some extent the Yampa River basin; therefore, it may not be possible to complete the experiment in six consecutive years. The LTSP experiment began officially in 2012; however, the Recovery Program was able to gather some pre-LTSP related information during 2011. Reclamation's spring operations in 2011 were dictated by flood control concerns, but resulted in

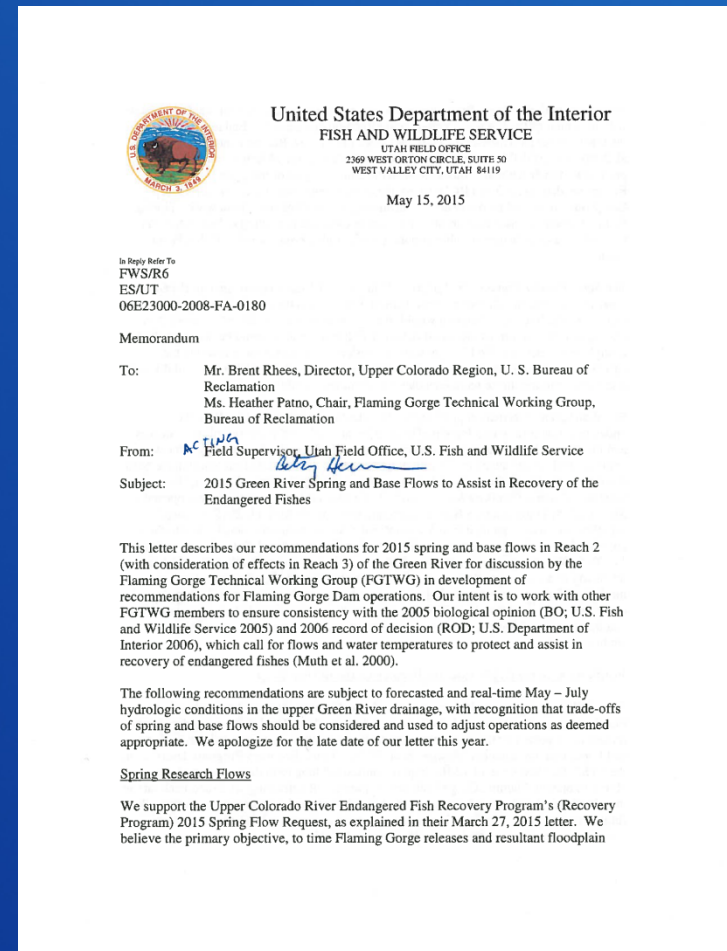
Colorado River Energy Distributors Association - Colorado Water Congress - National Park Service - State of Colorado  
State of Utah - State of Wyoming - The Nature Conservancy - U.S. Bureau of Reclamation - U.S. Fish and Wildlife Service  
Utah Water Users Association - Western Area Power Administration - Western Resource Advocates - Wyoming Water Association

- LTSP
- Research results to date – Wildly Successful!
- Spillway

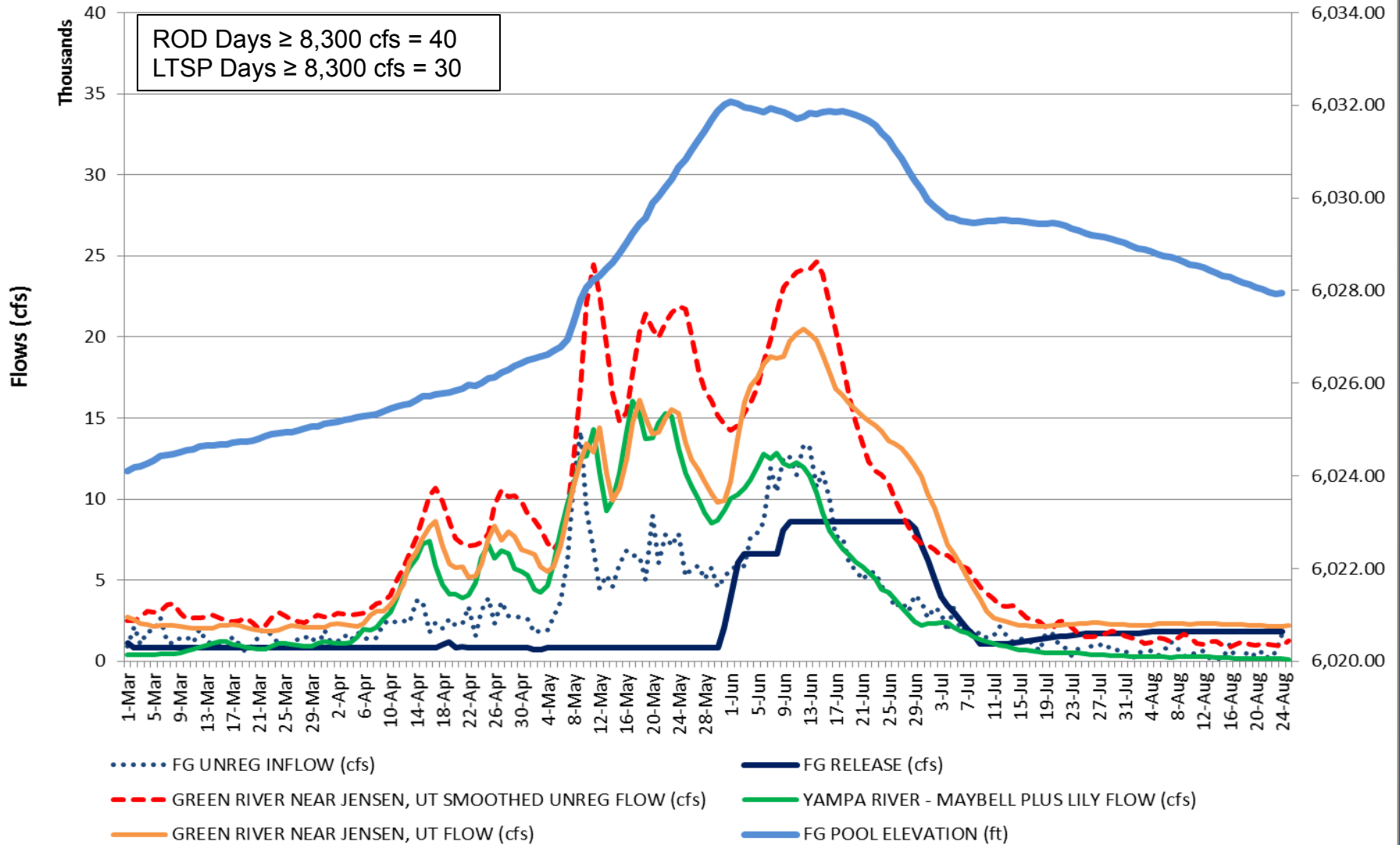
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# Research Requests

- Support spring research
- Bestgen draft backwater synthesis report
- Future research on smallmouth bass

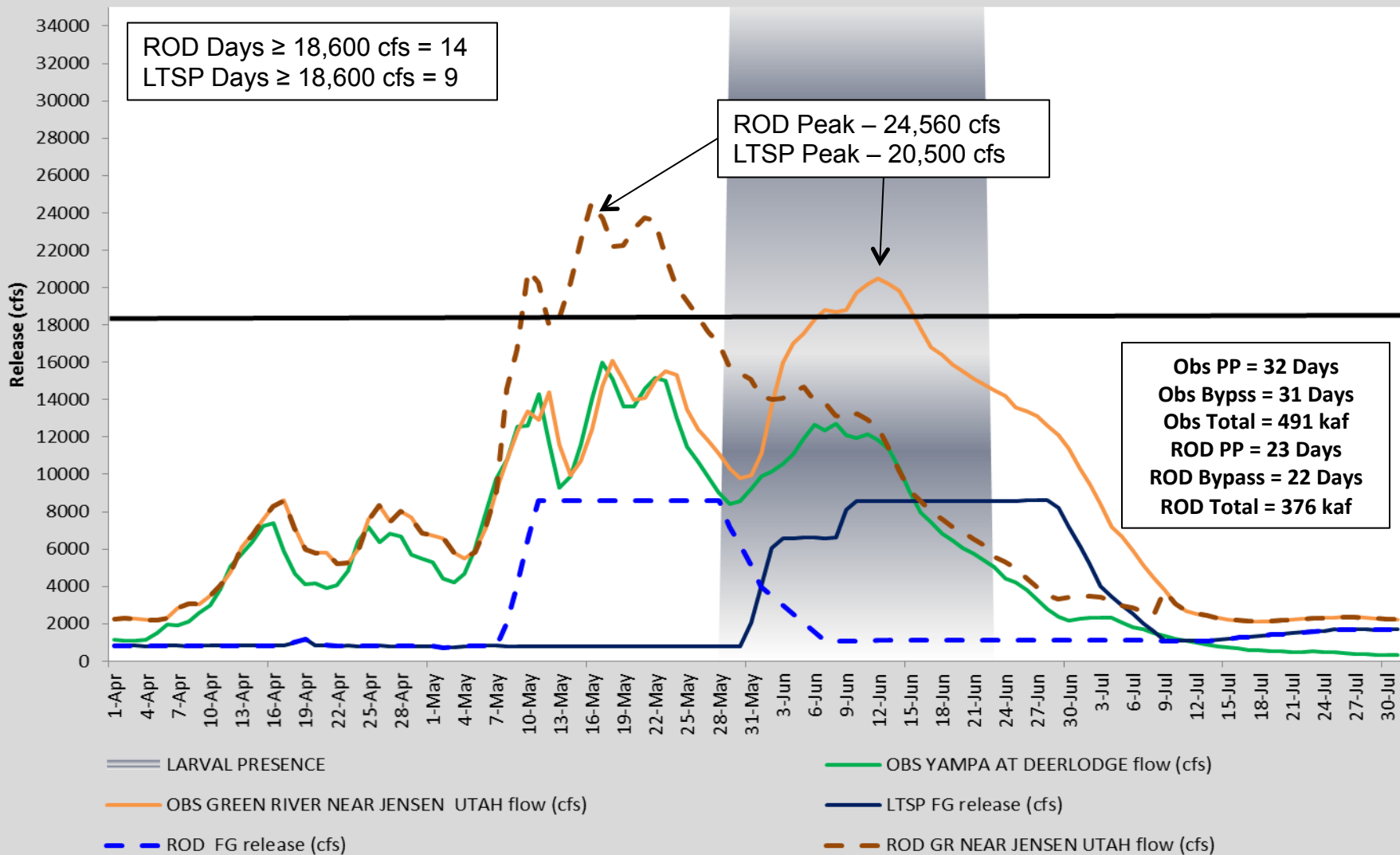


# Flaming Gorge Releases and Green and Yampa River Flows 2016





## FG Release and Green River Flows April-July 2016



# Green River Projects

- Green River Evaluation and Analysis Team (GREAT) review of Flow Recommendations
- Future NEPA likely
- Adaptive management and implementation of experimental releases
- Continued stakeholder communication