

Restoration Administrator Flow Recommendation

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CC: Michael Jackson, Rufino Gonzalez, Lui Zaninovich, Doug Obegi, Steve Ottemoeller, TAC
Date: October 17, 2016
From: Tom Johnson, Restoration Administrator
Subject: Recommendations for Balance of 2016 Restoration Flows

The following is an updated recommendation by the Restoration Administrator (RA) for Restoration Flows for the balance of 2016, pursuant to the December 2013 Restoration Flow Guidelines (RFG) and Exhibit B of the Settlement. As always, I reserve the right to change, update and/or modify Flow Recommendations as circumstances change and conditions warrant.

Background

I am in receipt of the September 30, 2016 Restoration Allocation which provides an allocation of 263,295 ac-ft of Restoration Flows as measured at Gravelly Ford. This is decreased from the 270,297 ac-ft from the July 5, 2016 Allocation.

Considerations for Restoration Flow Releases

From the January 29 Restoration Flow Recommendation, the focus of this year's Restoration Flow releases were identified as:

1. Taking a fundamental step towards implementation of the Settlement by commencing year-round connectivity of the river from Friant Dam to the Merced River confluence.
2. Facilitate outmigration of juveniles and to further refine techniques and methods for juvenile trapping in Reach 1.

The juvenile outmigration studies are completed for 2016; however, the objective of full river connectivity is still pertinent. The September 30, 2016 Allocation identifies specific and continuing challenges for achieving this objective. However, several challenges from earlier in the year are resolved, including completion of the Eastside Bypass sand removal project and environmental sampling for the presence of kangaroo rats downstream of Sack Dam. Additionally, maintenance at the canal power plant is completed, resolving the "dead band" in Friant release to the San Joaquin River.

Maintenance activities at Mendota Pool will impact river flows in November. A Friant release schedule is being developed with the Mendota Pool operators for the Mendota Pool maintenance period; this Recommendation reflects the current Friant release schedule during the maintenance period, which is subject to change.

Recommendation

The RA is recommending the following for the balance of Restoration Year 2016 (Table 1). This Recommendation presumes certain timing for channel constraints and losses, which may prove to be inaccurate. As a result, this Recommendation may be further updated to achieve the objectives of river connectivity based on actual channel constraints and losses.

1. Continue Restoration Flows from Friant Dam above Holding Contract releases as necessary with the target of providing the following Restoration Flows:
 - a. 170 cfs of Restoration Flows at Gravelly Ford, and 40 cfs of Restoration Flows at Sack Dam in October and November until the flow constraint at Sack Dam is increased from 40 cfs to 150 cfs. For computing Restoration Flow volumes in Table 2, I assume that the flow constraint at Sack Dam will be relieved on November 1.
 - b. At four (4) days prior to the flow constraint at Sack Dam being lifted from 40 cfs to 150 cfs, adjust Friant releases to target 270 cfs of Restoration Flows at Gravelly Ford
 - c. As soon as the flow constraint at Sack Dam is lifted from 40 cfs to 150 cfs, increase to 150 cfs of Restoration Flows at Sack Dam. Hold 150 cfs of Restoration Flows at Sack Dam until November 18.
 - d. Reduce flows from Friant Dam starting 0800 on November 18 to target 80 cfs of Restoration Flows at GRF, to accommodate Mendota Pool maintenance work.
 - e. Target 80 cfs of Restoration Flows at Gravelly Ford from Nov 21 through January 15, 2017 or until the Mendota Pool maintenance is completed, whichever comes first.
 - f. Target 270 cfs of Restoration Flows at Gravelly Ford, and 150 cfs of Restoration Flows at Sack Dam starting on January 16 or when the Mendota Pool maintenance is completed, whichever comes first.
 - g. Hold 270 cfs of Restoration Flows at Gravelly Ford, and 150 cfs of Restoration Flows at Sack Dam through February 28, 2017.
2. Any Restoration Flows that reach Mendota Pool and are not released past Sack Dam may be recaptured at Mendota Pool.
3. In general, flow changes should occur between 0800 and 1200 on days when they are scheduled to occur. I will work with Program staff to adjust specific time and dates of flow changes as warranted (for example, if a flow change is nominally scheduled to occur on Sunday or a holiday).

This flow recommendation is shown in Table 1.

Table 1.

| Start Date | End Date | Restoration Flow at Gravelly Ford | Total Flow at Gravelly Ford | Restoration Flow at Sack Dam |
|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|------------------------------|
| October 1, 2016 | Sack Dam Flow Constraint Relieved | 170 cfs | 175 cfs | 40 cfs |
| Sack Dam Flow Constraint Relieved | November 20, 2016 | 270 cfs | 275 cfs | 150 cfs |
| November 20, 2016 | January 15, 2017 | 80 cfs | 85 cfs | 70 cfs* |
| January 16, 2017 | February 28, 2017 | 270 cfs | 275 cfs | 150 cfs |

* 70 cfs at Sack Dam from Firebaugh Raceway releases

Recommendation for Disposition of URF's, and Other Discussion

This flow schedule will continue to produce Unreleased Restoration Flows (URF's). My recommendation for disposition of URF's is as follows:

1. Approximately 138,589 AF of URF's have been sold, exchanged, or otherwise committed.
2. Withhold an additional 10 TAF of URF's from sale pending completion of the Mendota Pool maintenance project. This withholding will provide additional water for Restoration Flows in the event that the maintenance project is completed earlier than scheduled and full river Restoration Flows may resume earlier than January 16th, and for supplementing releases past GRF as needed to maintain 150 cfs at Sack Dam through February 28.
3. Any URF's not withheld to address future conditions per (2) above, may be released for sale.

Additional Consultation

I will continue to coordinate with the TAC, Program Office, and technical study leads to monitor release conditions and other factors. As necessary, I will be prepared to provide additional Restoration Flow recommendations as conditions change.