

March 20, 2013 RA INTERIM FLOW PROGRAM RECOMMENDATIONS

BACKGROUND

The current approved Interim Flow Schedule (dated February 1, 2013) provides for Interim Flow releases from Friant Dam to increase from 350 cfs to 700 cfs on March 22, 2013, based on the Normal-Dry water year Allocation provided to me by Reclamation in late January (but dated February 1, 2013). However, using the March 1, 2013 water year forecast provided by DWR, Reclamation prepared an updated Allocation and Default Flow Schedule dated March 12, 2013, that changes the water year determination to a Dry water year. In its March 12 Allocation, Reclamation has calculated the Interim Flow allocation based on the 90% runoff forecast needs to be reduced from the 218.5 TAF Allocation (per the February 1 Allocation) to 195.5 TAF (measured at Gravelly Ford).

In response to Reclamation's revised Allocation, and consistent with the procedures set forth in the Restoration Flow Guidelines (RFG), I am transmitting the following updated RA Interim Flow Schedule recommendations for review and action by Reclamation.

UPDATED RA RECOMMENDATION: March 20, 2013 - FEBRUARY 28, 2014

Note that all flow releases identified in this recommendation, although called Interim Flow releases, actually include both Interim Flow releases and Riparian releases. The portions of the total Friant Dam releases recommended that are actually Interim Flows are identified in Table 1 (Updated RA Interim Flow Schedule for 2013). I am not authorized to make recommendations with respect to implementation of the Riparian releases as set forth in Exhibit B of the Settlement.

After consulting with the TAC, Reclamation and other agency staff, and other interested parties, and based on the best available information at the time of this submittal, I recommend that the January 31, 2013, Interim Flow Schedule be modified consistent with the following recommendations.

RA Flow Schedule Recommendations

I recommend the following schedule of Interim Flow Releases from Friant Dam commencing March 20, 2013 (see Table 1, Figure 1 and Figure 2, below).

- The current Interim Flow releases from Friant Dam (350 cfs) should continue through March 21, 2013, ending at Noon on March 22.
- At Noon on March 22, the Interim Flow releases from Friant Dam should be increased to 700 cfs and be maintained at 700 cfs for twenty-one (21) days, ending at Noon April 12.
- At Noon on April 12, Interim Flow releases from Friant Dam should be increased to 1,060 for twenty-five (25) days, ending at Noon on May 7.
- At Noon on May 7, Interim Flow releases should be reduced to 850 cfs for one day, ending at Noon on May 8.
- At Noon on May 8 Interim Flow releases should be reduced to 680 cfs for one day, ending at Noon on May 9.
- At Noon on May 9, Interim Flow releases should be reduced to 540 cfs for one day, ending at Noon on May 10.

- At Noon on May 10, Interim Flow releases should be reduced to 430 cfs for one day, ending at Noon on May 11.
- At Noon on May 11 Interim Flow releases should be reduced to 350 cfs and maintained at 350 cfs for 17 days, ending at Noon on November 1.
- At Noon on November 1, Interim Flow releases should be increased to 700 cfs and maintained at 700 cfs for ten (10) days, until Noon on November 10.
- At Noon on November 10, Interim Flow releases should be reduced from 700 cfs to 350 cfs and maintained for 110 days until March 1, 2014.

TABLE 1. Updated RA Flow Schedule Recommendation for 201 (based on a Dry Water Year)

Begin Date	End Date	Recommended Friant Dam Releases (cfs)	Exhibit B Riparian Release (cfs)	Gravelly Ford Flow Target (cfs)	Gravelly Ford Flow Allocation (cfs)	Estimated Flows Entering Mendota Pool (cfs)
3/1/13	3/22/13	350	130	225	220	145
3/22/13	4/1/13	700	130	575	570	475
4/1/13	4/12/13	700	150	555	550	455
4/12/13	5/1/13	1,060	150	915	910	806
5/1/13	5/7/13	1,060	190	875	870	770
5/7/13	5/8/13	850	190	665	660	565
5/8/13	5/9/13	680	190	495	490	395
5/9/13	5/10/13	540	190	355	350	265
5/10/13	5/11/13	430	190	245	240	165
5/11/13	7/1/13	350	190	165	160	85
7/1/13	9/1/13	350	230	125	120	45
9/1/13	10/1/13	350	210	145	140	65
10/1/13	11/1/13	350	160	195	190	115
11/1/13	11/11/13	700	130	575	570	475
11/11/13	1/1/14	350	120	235	230	155
1/1/14	3/1/14	350	100	255	250	175
	TOTALS	312,298	116,945	198,972	195,352	138,340

FIGURE 1. RA Recommended Annual Interim Flow Schedule for Dry Water Year

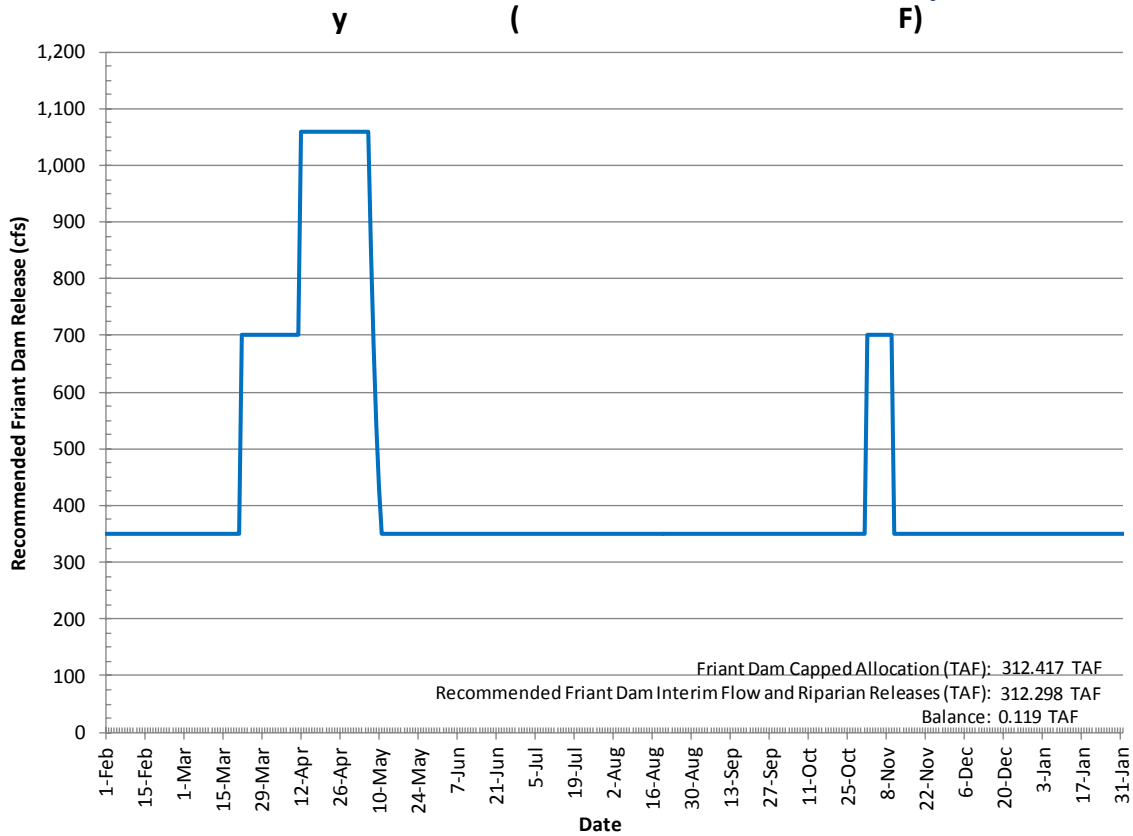
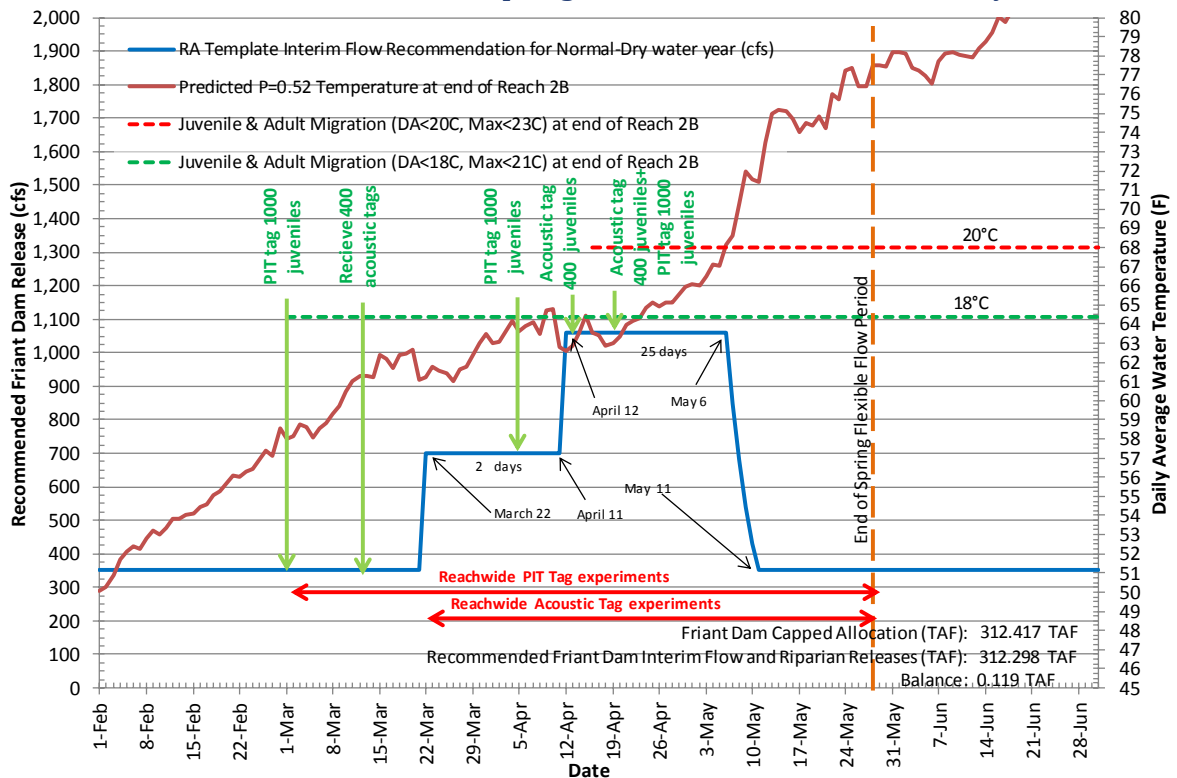


FIGURE 2: RA Recommended 201 Spring Interim Flow Schedule for a Dry Water Year



Consideration of Interim Flow Recommendation Compatibility with Water Demands at Mendota Pool and Fisheries Experiments and Monitoring Scheduled During the Spring Flow Period

My Interim Flow recommendations will continue to be re-evaluated during the Spring Flow period to reflect changing precipitation and runoff inflows into Millerton Reservoir. In addition, my recommendations will continue to consider operating conditions at Mendota Pool (e.g., changing water demands), the desire to maintain water temperatures upstream of Mendota Pool under 18°C for good juvenile rearing conditions, and the desire to facilitate and support scheduled fisheries monitoring, releases and experiments during the Spring Flow Period.

For instance, demand at Mendota Pool is currently about 76 cfs and decreasing; there is possibility, given recent conversations with Reclamation staff, that the Mendota Pool demand will continue to decrease to a point where it would not be able to accommodate the 1,060 cfs Interim Flow release at Friant Dam that were scheduled to occur on March 2 under my February recommendations. Based on discussions with Reclamation staff, Interim Flow releases up to 700 cfs can be accommodated by Mendota Pool operations. For that reason, my updated Interim Flow recommendations provide for increasing releases at Friant Dam to 700 cfs on March 22 and maintaining Friant Dam releases at 700 cfs for twenty-one (21) days so that Mendota Pool conditions can be monitored. After twenty-one (21) days, the Friant Dam releases would quickly increase in one-day step from 700 cfs to 1,060 cfs.

The flow recommendations should maintain water temperatures below 18°C entering Mendota Pool towards the end of April based on the San Joaquin River Temperature Model predictions, and under 20°C through May 1. The gradually increasing Interim Flow releases coincide with seasonally warming meteorological conditions, which minimizes risk of rapid changes in downstream water temperatures (Figure 2). Cumulatively, these Interim Flow recommendations facilitate good growth and survival conditions for juvenile fall-run Chinook salmon in Reach 1 and 2, and thus are intended to support the juvenile survival studies being conducted by SJRRP fisheries staff. Accordingly, my recommended Flow Schedule also reflects consultation with fisheries staff to ensure that the proposed flow schedule would not unnecessarily or substantively impact the ability of the fisheries staff to conduct scheduled fall-run Chinook salmon juvenile survival experiments and monitoring. To the best of my knowledge, based on my consultation with fisheries staff, the proposed flow schedule would provide for a flow regime that would support and facilitate scheduled fish management activities during the Spring Flow Period.

Other Considerations

As we move into the Spring Flow Period, it also may be necessary to consider a change from reliance on the 90 percent confidence level forecast to application of a 50 percent forecast. I will continue to consult with the TAC, Reclamation, and the water users on this issue as the water year progresses. In addition, juvenile fall-run Chinook salmon survival monitoring may benefit by extending the duration of the 700 cfs bench by several days, and extending the 1,060 cfs bench by a few days. I will consult with SJRRP fisheries staff on the merits of this potential flow adjustment. As appropriate and consistent with the Settlement and Legislation, I will consider future revisions to my recommendations as set forth in this March 20 submittal.

I look forward to Reclamation's early review and action on my proposed Interim Flow recommendations. Please email or call me with questions or requests for additional information.