

RA Recommendation Report

RECOMMENDATION

Based on consultation with the Technical Advisory Committee (TAC) the Restoration Administrator (RA) recommends that, as part of the Programmatic Environmental Impact Statement/Report (PEIS/R) for the San Joaquin River Restoration Program (SJRRP), the Secretary evaluate the potential for reoperating the Chowchilla Bifurcation Structure to allow for routing of Interim Flows and Restoration Flows to both Reach 2B and to the Chowchilla Bypass. Such reoperation of the Bifurcation Structure would not occur until completion of the recommended reoperation evaluation. If determined to be desirable and feasible, reoperation could occur as early as WY 2011 and could continue at least until Reach 2B and Mendota Pool Bypass improvements are completed and operational. This RA recommendation does not apply to WY 2010 and should not impact approval/certification of the EA/IS/FONSI/MND for WY 2010 Interim Flows.

The recommended evaluation should include assessment of the restoration benefits that could be achieved, potential environmental and operational impacts to downstream water users and landowners, feasible mitigation measures for identified impacts, and the costs and sources of funding associated with allowing future Interim and Restoration Flow releases from Friant Dam to enter the Chowchilla Bypass.

BACKGROUND

The Settlement identifies a number of required improvements and measures that are considered necessary to achieve the Settlement's Water Management Goal and Restoration Goal. Paragraph 11 of the Settlement identifies these improvements, including specified improvements to channel capacity, creation of a bypass around the Mendota Pool, structural improvements to existing headgates, the Chowchilla Bifurcation Structure and other structures. The Settlement does not identify or discuss the routing of Interim Flows or Restoration Flows through the Chowchilla Bypass although it is understood that the Chowchilla Bypass will conduct flood flows as necessary and that these flows would convey both juvenile and adult Spring run salmon via the Chowchilla Bypass.

The Settlement declares that the Secretary “. . . shall begin a program of interim flows which will include releases of additional water from Friant Dam commencing no later than October 1, 2009, and continuing until full Restoration Flows begin (Settlement Paragraph 15).” The Restoration Administrator is assigned the task of formulating and recommending to the Secretary a program of Interim Flows “. . . in order to collect relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture and reuse . . . to the extent that such flows would not impede or delay completion of the measures specified in Paragraph 11(a), or exceed existing downstream channel capacities (Paragraph 15).”

As SJRRP implementation planning and environmental review have progressed, the downstream water users and landowners have identified a lengthy list of concerns that, when addressed, could serve to reduce future Interim Flows downstream of the Chowchilla Bifurcation Structure. The combined issues identified by downstream water users and landowners include, but are not limited to:

- Concerns about the difference between estimated channel capacities in Reaches 2B and 3 and the Arroyo Canal and “experienced” capacities indicated by historic responses to flow conditions;
- Seepage impacts related to Interim Flows in Reaches 2B and 3;
- Operational and capacity concerns regarding the impact of Interim Flows on managing elevations in Mendota Pool and semi-annual dewatering of the Pool for dam inspection;
- Operational issues related to the Mendota Dam gates;
- Operational issues related to the real-time management of Interim Flows;
- Concerns regarding the adequacy of funding to complete the required reach 2B and Mendota Pool Bypass; and
- Concerns that completion of required improvements to Reach 2B and the Mendota Pool Bypass will be delayed.

REASONS FOR THE RECOMMENDATION

The Restoration Administrator takes the comments and concerns of the downstream water users and landowners and others very seriously. If the available information cannot demonstrate that the cited concerns can be avoided or mitigated to an acceptable level under the EA/IS for WY 2010 and the overall SJRRP Draft PEIS/R documents, the RA is recommending that the SJRRP be prepared to explore alternatives to the existing flow routing model that could relieve pressures downstream of the Chowchilla Bifurcation Structure on Reaches 2B, the Mendota Pool and Dam, Reach 3 and the Arroyo Canal.

The cumulative potential constraints on future Interim Flows under the existing flow routing program have increased to a point where the RA and TAC are not sure what level of Interim Flow releases will be permitted, whether the permitted additional release of water from Friant Dam allocated for Interim Flows will be adequate to successfully achieve the purposes of the Interim Program under Paragraph 15 of the Settlement, and when relief from these constraints will be available. The issues/concerns identified above could persist at least until the improvements to Reach 2B and the Mendota Pool Bypass are completed and become operational. These critical improvements are scheduled for 2013 in the Settlement; however, the effects of the two-year delay in achieving approval of the SJR Act and other factors could significantly extend the time needed to complete these improvements. Thus, both Interim Flows and Restoration Flows could be impacted for many years by these issues due to conditions downstream of the Bifurcation Structure.

One approach to relieving pressure on channels, facilities, water users and landowners downstream of the Bifurcation Structure is to allow the Bifurcation Structure to be able to route a portion of the Interim Flow releases reaching the downstream limit of Reach 2A to the Chowchilla Bypass. Under this approach, when the magnitude or duration of Interim Flow releases from Friant Dam threaten to induce adverse impacts downstream of the Bifurcation Structure, a portion of the Interim Flows leaving Reach 2A could be diverted to the Chowchilla Bypass. In this way, Reaches 1 and 2A could sustain greater flow magnitudes and a more robust set of experiments, data collection and analyses could be performed upstream of the Bifurcation Structure. This capability could significantly enhance achieving the Restoration Goal by providing earlier and more valuable data and insight into how to implement Restoration Flows. Further, if the Mendota Pool Bypass and Reach 2B improvements required by the Settlement in Paragraph 11 are delayed, the increased flexibility gained in terms of higher water releases from Friant Dam for Interim Flows and the for early phases of Restoration Flows that precede completion of the Reach 2B/Mendota Pool Bypass improvements will enable the overall SJRRP to avoid falling farther behind the Settlement Milestone/Schedule.

If, on the other hand, the existing flow routing model is unchanged and there is no effective response to the potential (thus foreseeable) constraints related to the concerns of downstream water users and landowners, both the Interim Flows and early phases of Restoration Flows could be reduced to a point where: (a) the collection and monitoring of data relating to flows, temperatures, fish needs, seepage and recirculation, recapture and reuse of water could be compromised significantly and may not adequately inform planning for future Restoration Flows at the magnitudes and durations anticipated; (b) the reintroduction of Chinook salmon scheduled for 2012 could be delayed; and (c) achieving a spring run Chinook salmon population in good condition also could be delayed.

The Settlement acknowledges in Paragraph 12 that “. . . there are likely additional channel or structural improvements . . . that may further enhance the success of achieving the Restoration Goal.” The Settlement further declares that, to enhance the success of achieving the Restoration Goal, the Restoration Administrator “. . . shall identify and recommend to the Secretary such additional improvements and potential measures . . .” to further enhance achieving the Restoration Goal.

Facing the circumstances discussed above, the Restoration Administrator has an obligation under the provisions of Paragraph 12 of the Settlement to recommend measures that could enable water releases from Friant Dam consistent with the Settlement hydrographs to serve Reaches 1 and 2A above the Bifurcation Structure so that a robust program of interim research and releases could be implemented and enhance the prospects for achieving the Restoration Goal. Among the scientists on the Technical Advisory Committee (TAC), there is agreement that the potential reductions in the Interim Flow release magnitudes and duration pose a significant challenge to the SJRRP’s ability to collect the range and quality of data on temperatures, fish needs, sand and gravel transport needed to plan effectively for commencement and long-term implementation of Restoration Flows.

After considering the number of concerns/issues that could impact Interim Flows, the Restoration Administrator is recommending that the Secretary evaluate the potential to reoperate the Chowchilla Bifurcation Structure to enable the Chowchilla Bypass to conduct Interim Flows.

EXPECTED RESTORATION BENEFITS

Seepage and operation constraints in Reach 2B and Mendota Dam limit Interim Flows to 1,300 cfs at the Chowchilla Bifurcation Structure (based on a release of 1,660 cfs at Friant Dam). The primary benefit related to reoperating the Chowchilla Bifurcation Structure to enable portions of Interim Flow water releases from Friant Dam is the ability to release water for Interim Flows at magnitudes greater than the maximum flows now contemplated in the EA/IS for WY 2010.

The ability to accommodate increased Interim Flow releases above the Bifurcation Structure could enhance the ability to monitor and analyze several important restoration criteria, including:

- Gravel bed mobility thresholds;
- Coarse sediment transport rates and spawning gravel augmentation needs;
- Fine sediment (sand) transport rates;
- Calibration of the 1-D and 2-D hydraulic models that will used during SJRRP implementation;
- Identification of floodplain inundation thresholds;
- Calibration of the water temperature model for spring high-flow releases, thus contributing to determining whether we can provide suitable juvenile salmon outmigration temperatures in April and May; and
- Calibration of the water temperature model for higher-flow releases.

In the absence of routing capability via the Chowchilla Bypass for planned Interim Flows, opportunistic monitoring of flood releases during the Interim Flow period could be conducted. However, these opportunistic monitoring efforts would be subject the following potential drawbacks:

- Little or no experimental control over the Friant Dam water releases with priority to flood management over experimental objectives;
- Inability to provide for steady flow as at a desired magnitude for experiments relating to priority information needs;
- Severe challenges to staff for planning (inadequate time and low priority) and conducting complex field work/monitoring during flood control releases; and
- No assurance that flood control releases will occur during Interim Flow period.

CONCLUSION: AN ASSESSMENT OF THE BENEFITS OF REOPERATING THE CHOWCHILLA BIFURCATION STRUCTURE SHOULD BE INCLUDED AS PART OF THE DRAFT SJRRP PEIS/R

The RA recommendation to consider reoperating the Chowchilla Bifurcation Structure to allow water releases for Interim Flows and Restoration Flows down the Chowchilla Bypass prior to completion of the Reach 2B and Mendota Pool Bypass improvements should be addressed in the Draft PEIS/R for the SJRRP is being prepared for public distribution.

The benefits of implementing the RA Recommendation include:

- Avoiding the need to conduct a separate and more time consuming independent environmental review of this additional measure;
- Expediting identification of potential environmental and operational impacts and costs associated with reoperation of the Bifurcation Structure and use of the Bypass;
- Confirming/clarifying the benefits of reoperation;
- Identifying the full range of permits, approvals and agreements that would be required to implement reoperation;
- Potentially expediting implementation of the reoperated Bifurcation Structure, thereby expediting the collection and analysis of higher quality data that would inform Restoration Flows decisions; and
- If reoperation of the Bifurcation Structure is rejected, then the evaluation would provide a venue for identifying other potentially feasible approaches capable of addressing the concerns set forth in this RA Recommendation.

Finally, the Interim Flows volumes will vary according to the kind of water year that is experienced. It is important to reduce, if possible, the number of variables that must be contended with in planning for the collection and analysis of data during these flows. The ability to know that “potential” or unforeseen downstream impacts associated with seepage, channel or levee issues and operation of the Mendota Pool and Dam would not preclude or suddenly cause Interim Flows to be reduced would be a significant benefit to the design and implementation of both the Interim Flow Program and the early Restoration Flows until the Mendota Pool Bypass and Reach 2B improvements are completed and operational.