



## **Updated RA Recommendation Report**

### **Executive Summary**

In response to the recent request by the SJRRP Program Manager I am updating my August 16, 2009 RA Recommendation to study the reoperation of the Chowchilla Bifurcation Structure to allow SJRRP Interim Flows and Restoration Flows to enter the Chowchilla Bypass. The study recommended in August 2009 was intended to enable the SJRRP to assess the benefits and issues related to allow San Joaquin River Interim Flows and Restoration Flows to enter the Chowchilla Bypass. Based on my analysis of current conditions, I continue to recommend investigating the benefits/impacts associated with reoperation of the Chowchilla Bifurcation Structure. Further, for the reasons set forth below and discussed in this Report, I believe that the need to consider allowing the Chowchilla Bypass to convey Interim Flows and Restoration Flows as become even more pressing for the following reasons:

- Channel capacity constraints identified in my August 2009 RA Recommendation continue to constrain the release of higher spring flow pulses that are essential for understanding existing fish habitat including spawning gravel mobilization flows and mobilization flows in relation to temperatures;
- Downstream channel capacity constraints in reach 2B and Reach 4A have become even more problematic and, based on recent experiences, additional Interim Flow restrictions in Reaches 2B and 4A may further impact the collection of data critical to the reintroduction of salmon;
- Past and ongoing SJRRP delays in completing the PEIS/R and major project improvements in Reach 2B and 4B indicate that the channel conveyance capacity and structural improvements necessary to convey the full Restoration Flows scheduled to commence January 1, 2014, will not be complete;
- The ongoing delay in completing the PEIR/S and the anticipated delays in completing the major project improvements in Reaches 2B and 4B, in combination with the increasing flow restrictions in Reach 4A, indicate that routing Interim and Restoration Flows down the Chowchilla Bypass may be the most effective means of achieving the Interim Flows and Restoration Flow release targets for Friant Dam;
- Starting at the end of 2012, the ability to direct Interim Flows and Restoration Flows down the Chowchilla Bypass also may provide the most appropriate means of routing the reintroduced juvenile salmon downstream required by the settlement by the end of 2012; and
- Finally, during future flood events, Chinook salmon reintroduced after 2012 likely will be pushed down into the Chowchilla Bypass by flood flows and, given the likely presence of reintroduced Chinook salmon in the Chowchilla Bypass, it appears to be prudent to consider Interim and Restoration Flow routing options that could contribute to survival of these salmon.

Therefore, I continue to recommend studying reoperation of the Chowchilla Bifurcation Structure. I also recommend that this study be initiated and completed as soon as possible.

## Background

On October 27, 2010, the SJRRP Program Manager requested an update of my August 16, 2009 RA Recommendation calling for the SJRRP to study the potential benefits associated with reoperating the Chowchilla Bifurcation Structure to enable Interim Flows in the Chowchilla Bypass. The requested RA Recommendation update identified three components that would be part of the updating process, including:

1. The SJRRP Program Manager would provide the RA with ongoing or anticipated agency studies regarding flows in the Chowchilla Bypass;
2. The RA would consider the information included in the agency studies and consult with the TAC; and
3. The RA would provide the SJRRP Program Manager with an updated RA Recommendation.

This Updated RA Recommendation is provided below following a discussion of the information and factors considered by the RA and TAC.

### **The August 2009 RA Recommendation**

In August of 2009 I recommended the following action with regard to reoperating the Chowchilla Bifurcation Structure:

*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.*

### **Agency Studies that Provide New Information Relating to Potential Water Flows in the Chowchilla Bypass**

As noted in your email and confirmed during my follow up discussions with Reclamation and DWR staff, no current agency studies address water flows in the Chowchilla Bypass. The Final Agency Plan released last week (November 19) does not include studies that would address potential water flows in the Chowchilla Bypass and, as pointed out in your email, the spring run Chinook reintroduction permit application does not call out studies involving flows in the Chowchilla Bypass and the FMWG has not determined the need for such studies.

There are a few studies either underway or proposed that could address water flows in the Chowchilla Bypass. The DWR has completed its Geomorphic Assessment Report (qualitative rating of levee) but it will not be finalized and results will not be available until early in 2011. DWR's levee drilling program will address the right bank of the Chowchilla Bypass but it will not be completed until next year. Also, it is my understanding that DWR's hydraulics and hydrology analysis, while currently underway, will not address the Chowchilla Bypass. The Fish Management Work Group (FMWG) plans to conduct a qualitative assessment of the viability of fish utilization in the Chowchilla Bypass and it may be completed during 2011.

### **Consistent and Changed Circumstances and Experience Gained Subsequent to the August 2009 RA Recommendation that Relate to Potential Reoperation of the Chowchilla Bifurcation Structure and Routing of Flows Down the Chowchilla Bypass**

Some physical conditions on and adjacent to the San Joaquin river have remained relatively stable since my August 2009 RA Recommendation, other factors have changed significantly during the past year and one-half.

- **Circumstances that Remained Substantially Unchanged**

Land uses adjacent to the River have not changed significantly. Physical and biological conditions on and adjacent to the San Joaquin River below Friant Dam have not changed significantly since my 2009 recommendation. The physical channel conveyance capacities in Reach 2B, Reach 3 and Reach 4A have remained constant. Channel capacity constraints identified in August 2009 continue to prevent the release of higher spring flow pulses that are essential for understanding existing fish habitat including spawning gravel mobilization flows and mobilization flows in relation to temperatures.

Finally, the Settling Parties continue to disagree concerning the consistency of my 2009 Recommendation to study reoperation of the Chowchilla Bifurcation Structure with the terms and conditions of the Settlement. I continue to defer to the Settling Parties to resolve the issue of the consistency of my recommended reoperation study with the terms and conditions of the Settlement.

- **Changed Circumstances and Experience Gained While Implementing the 2010 Fall and Spring Interim Flows**

SJRRP experience during implementation of the 2010 fall and spring Interim Flows revealed that the SJRRP's ability to release Interim Flows from Friant Dam actually became more constrained following my August 2009 Recommendation. A primary contributor to the increased restrictions on Interim Flow releases from Friant Dam were the claims by downstream landowners in Reach 2B and Reach 4A that Interim Flows were impacting adjacent agricultural lands. In particular, flows below Sack Dam in Reach 4A were significantly constrained due to contentions that during the spring of 2010 Interim Flows adversely impacted groundwater elevations and salinity levels on adjacent agricultural lands. A report submitted by a landowner in Reach 4A resulted in Reclamation imposing additional flow restrictions in Reach 4A that limited flows below Sack Dam to  $\pm 80$  cfs. These flow reductions were implemented by Reclamation as a response to landowner claims that recent Interim Flows adjacent to their properties had adversely impacted their agricultural lands and failure to restrict future flows in Reach 4A would result in additional groundwater and salinity impacts. These claimed seepage impacts, when combined with seasonal variations in irrigation needs and Mendota Pool operating protocols, served to reduce Interim Flow releases from Friant Dam to release rates significantly below the "capped volume and flow rates" that were recognized to be in effect by the Settling Parties and RA at the time of my 2009 Chowchilla Bifurcation Structure reoperation recommendation.

Based on the experiences of the past year, it is clear that flow management issues in the downstream reaches of the San Joaquin River will continue to impact SJRRP Interim Flow and Restoration Flow releases from Friant Dam and that these impacts may be significantly greater than the limits experienced prior to preparation of the 2009 RA Recommendation. These ongoing flow restrictions may constrain achievement of experimental benefits that were expected to be realized during the Interim Flow Program and may impact the ability to collect data critical to successful reintroduction of salmon, thus reducing the prospects of achieving the Restoration Goal.

The impacts of the past year's constraints on Friant Dam releases and downstream Interim Flows potentially becomes even more significant when combined with the programmatic impacts of ongoing delays in completing the PEIR/S and the anticipated delays in completing the major project improvements in Reach 2B and Reach 4B and the Eastside Bypass. Completion of the latter project improvements is necessary to achieve full Interim Flow and Restoration Flow releases from Friant Dam. These improvements also are necessary to achieve the Settlement's downstream target flows in Reaches 3, 4 and 5 of the San Joaquin River. Reoperating the Chowchilla Bifurcation Structure to allow flows down the Chowchilla Bypass may be the only means of enabling Interim and Restoration Flow releases that achieve these Settlement release and flow targets.

### **Additional Considerations Relating to Achieving the Restoration Goal**

The Chowchilla Bypass also may be the best alternative for routing reintroduced juvenile Chinook salmon downstream starting in 2012. Past and ongoing SJRRP delays in completing the PEIS/R and the prospect for significant delays in completing the major project improvements in Reach 2B and 4B indicate that when the full Restoration Flows are scheduled to commence in 2014 the physical improvements necessary to convey full Restoration Flows to the confluence with the Merced River will not be complete. The identified constraints on Friant Dam releases of both Interim Flows and Restoration Flows are expected to continue at some level for the next several years, well after the January 1, 2014, date when full Restoration Flows are required by the Settlement to commence.

In December 2012, when Chinook salmon are required by the Settlement to be reintroduced, the ability to identify alternatives that can successfully route salmon through the Study Area to the ocean becomes critical. Without the ability to use the Chowchilla Bypass for non-flood flows, the ability of the SJRRP to effectively provide for salmon escapement will be constrained at least until the Reach 2B and Reach 4B/Bypass project improvements are completed. In addition, during future flood events prior to completion of these major improvements, it is likely that Chinook salmon reintroduced after 2012 will be released into the Chowchilla Bypass whether or not the SJRRP decides to reoperate the Bifurcation Structure because future flood episodes will likely force recently reintroduced salmon into the Chowchilla Bypass due conveyance capacity constraints downstream of the Bifurcation Structure.

With the introduction of reintroduced salmon into the Chowchilla Bypass as a likely event, it seems prudent to study whether the Chowchilla Bypass also should be considered as a potential route for conveyance of Interim Flows and Restoration Flows as a means of improving the prospects for salmon survival, at least until completion of the major project improvements in Reaches 2B and 4B that will provide the conveyance capacities necessary to accommodate full Restoration Flows.

### **RA Consultation with the TAC**

During preparation of this updated RA Recommendation, I consulted with the TAC to discuss new information provided by agency studies, changes in circumstances since my August 2009 Recommendation, and SJRRP experiences during implementation of the 2010 fall and spring Interim Flows. I also distributed a draft RA Recommendation update for review by the Settling Party representatives and other TAC members and convened a TAC conference call to discuss my draft recommendation.

My August 2009 RA Recommendation generated a concern that I implied that the RA Recommendation to study reoperating the Bifurcation structure was “unanimously approved” by the TAC. I do not agree with that assertion; therefore, it is important for all parties to

understand that I do not request a TAC “vote” on any RA recommendation that I prepare for submission to the Secretary of the Interior. As required by the Settlement, I consult with the TAC; however, I do not request a vote by the TAC. The Updated RA Recommendation set forth below benefited by TAC consultation but it is an independent RA Recommendation to the Secretary of the Interior.

## **Updated RA Recommendation**

After completing my review of the August 2009 RA Recommendation and consulting with the TAC, I submit the following updated recommendations to the SJRRP Program Manager for consideration and action.

1. Based on the information and conclusions presented above, I continue to recommend that the SJRRP study the reoperation of the Chowchilla Bifurcation Structure to enable Interim Flows and Restoration Flows to be routed down the Chowchilla Bypass.
2. I recommend that the reoperation study be initiated as soon as possible and that it be completed early in 2011.
3. I recommend that the study identify:
  - a. Restoration benefits associated with reoperation of the Bifurcation Structure and conveyance of Interim Flows down the Chowchilla Bypass;
  - b. Flood, economic, restoration and/or other environmental impacts associated with reoperation of the Bifurcation Structure that could effectively preclude reoperation and conveyance of flows down the Chowchilla Bypass for Interim and Restoration Flows;
  - c. Legal, Settlement or Legislative obstacles that would preclude reoperation of the Bifurcation Structure and use of the Chowchilla Bypass for Interim and Restoration Flows; and
  - d. Other factors that may be relevant to a decision on reoperating the Chowchilla Bifurcation Structure and routing flows down the Chowchilla Bypass.
4. Finally, I recommend that if the reoperation study determines that reoperating the Bifurcation Structure and routing flows down the Chowchilla Bypass are feasible actions that would enhance the ability of the SJRRP to achieve the Restoration Goal, that the SJRRP initiate and complete the environmental compliance and permitting processes necessary to reoperate the Bifurcation Structure and permit Interim Flows down the Chowchilla Bypass.