

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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September 21, 2011

Ms. Michelle Banonis
Mid-Pacific Region
Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, California 95825

Subject: Draft Programmatic Environmental Impact Statement for the San Joaquin River Restoration Program, San Joaquin Valley, California (CEQ #20110131)

Dear Ms. Banonis:

The U.S. Environmental Protection Agency has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The San Joaquin River, one of California's major rivers, is essential to the health of the San Francisco Bay-Delta watershed. Over the years, the federal and State governments, and local entities such as the water and flood control districts downstream of Friant Dam, have invested significant resources to manage the River for water supply and flood control. These actions, in combination with changes in use of adjacent lands, have radically altered San Joaquin Basin hydrology and the River channel. Depleted flows, agricultural return flows, and intensive use of ground and surface water supplies in the Basin contribute to poor water quality that adversely affects aquatic life, wildlife, agriculture, recreation, and other beneficial uses.

The Draft PEIS examines actions to implement a Settlement providing for restoration of the upper reaches of the San Joaquin River to sustain a native fishery, including salmon, and actions to offset water supply impacts experienced by the Central Valley Project Friant Irrigation District contractors as a result of the restoration flows. The restoration components of the Settlement call for releases from Friant Dam to reestablish flows between the Dam and the confluence with the Merced River, and channel and structural improvements to eliminate impediments to fish migration and reproduction.

EPA strongly supports the Restoration Program. While a number of programs exist to improve San Joaquin River water quality, the Restoration Program is the most important effort underway to revive the River fisheries and ecosystem. The Draft PEIS provides a useful program-level analysis of impacts associated with implementing the Settlement. Based on our review of the Draft PEIS, we have rated the proposed action "Lack of Objections" (LO) (See the enclosed "Summary of Rating Definitions").

While we respect Reclamation's decision to limit the proposed actions to implementation of the negotiated Settlement, we believe that certain issues not anticipated or explicitly provided for in the Settlement have arisen that will need to be addressed in order for the Restoration effort to be successful.

For example, we observe that the interim flow trials have shed light on impediments that will necessitate monitoring, analysis, and actions in collaboration with other parties to support implementation of the Settlement. In particular, experience with the interim flows indicates that the Restoration Program must address conflicting land and channel uses below Friant Dam that have blocked continuous and full passage of restoration flows. These challenges, which are briefly identified as “new information” regarding channel capacity in the Draft PEIS (Executive Summary, p. 61), appear to be the result of prolonged management of the River channel for agricultural supply deliveries and flood conveyance, and adaptation or alteration of channel and bypass conditions to accommodate these uses, with concomitant curtailment of other beneficial uses.

In light of the above issues, EPA believes that defining a corridor that would support a physically and biologically restored River is crucial to the coordination of Restoration actions along the River and to the resolution of impediments to restoration. This will require the participation of downstream land owners and districts, flood system planners and managers, conservation organizations, public and private wetlands agencies, and counties and communities. We recommend that the Final PEIS discuss how the development of such a restoration strategy could be incorporated into the Program. The enclosed Detailed Comments (Enclosure 1) elaborate on the above, as well as other topics that we recommend be discussed in the Final PEIS.

We recognize that there are significant limitations to available information, and that some topics were intentionally excluded from the Draft PEIS because they were considered to be beyond the specific scope of the Settlement. We wish to take this opportunity, however, to highlight a few topics that are particularly important to the outcome of the overall Restoration effort. In the enclosed U.S. EPA’s Recommendations for Future Work (Enclosure 2), we are providing recommendations, beyond the scope of our NEPA review, regarding future work and analyses that we believe will be necessary to ensure the success of the Restoration Program.

EPA commends the effort and dedication of Reclamation and partner agencies. We appreciate the opportunity to provide input on this critical restoration project, and are available to discuss our recommendations. We look forward to continuing work with you in the future. When the Final PEIS is released for public review, please send one hard copy and two CDs to the address above (Mail code: CED-2). If you have any questions, please contact me at (415) 972-3843 or contact Laura Fujii, the lead reviewer for the project. Laura can be reached at (415) 972-3852 or fujii.laura@epa.gov.

Sincerely,

/s/

Kathleen Martyn Goforth, Manager
Environmental Review Office (CED-2)

Enclosures: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Ms. Fran Schulte, Department of Water Resources

ENCLOSURE 1

U.S. EPA DETAILED COMMENTS ON DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR THE SAN JOAQUIN RIVER RESTORATION PROGRAM, SAN JOAQUIN VALLEY, CALIFORNIA, SEPTEMBER 19, 2011

River corridor strategy development

EPA recommends that a strategy be developed for evolution of a functioning river corridor for the entire extent of the restoration reaches. The corridor would provide space and suitable conditions for a range of river flows and functions, including reestablishment of floodplains and conveying water to wetlands that are, at present, hydrologically and functionally disconnected from the River. Cooperation across programs and among stakeholders will be important to achieve continuity along the corridor and to resolve issues at the interface between the River and adjacent lands. For example, we support continued outreach to partnering organizations, landowners and other stakeholders in developing programs on seepage response, habitat conservation on adjacent lands, and appropriate impact mitigation. Further details regarding factors that should be considered in the development of such a strategy are provided in "U.S. EPA's Recommendations Regarding Future Work to Maximize the Success of the San Joaquin River Restoration Program", September 2011 (Enclosure 2).

Recommendation:

The Final PEIS should include a commitment to develop a river corridor strategy and should briefly describe how the development of such a strategy could be incorporated into the Program.

Address conveyance limitations

The Settlement and Draft PEIS recognize the need to deal with constraints on channel capacity, such as in-channel barriers and confining levees; however, the 2011 interim flow period, which was not discussed in the Draft PEIS, shed new light on the issue of channel capacity. Due to a variety of factors-- not all addressed in the Settlement-- there has been insufficient continuous channel „space' to convey test flows through the entirety of the Restoration reaches. In most cases the „trigger' for curtailment of flows has been potential or alleged impacts, such as seepage, to adjacent lands.

The Exchange Contractors and Reclamation are currently evaluating continuation of a water transfer program that includes actions such as fallowing and water efficiency measures that could help address seepage impacts to adjacent land uses. Operational practices and priorities can also affect channel capacity. We understand that certain flows, such as conveyance of certain agricultural water supplies, can take precedence over Restoration (US Bureau of Reclamation, Supplemental Environmental Assessment, Interim Flows Project, Water Year 2011, p. 2-9). If the need arises to route restoration flows when channel capacity is limited, assuring a continuous flow past the agricultural diversion point may not be feasible. There are several possible ways to resolve this issue of limited channel capacity for cumulative flows. One way would be assuring sufficient channel capacity to accommodate the cumulative flow functions, such as agricultural deliveries as well as a continuous restoration flow. Another would be to require a continuous instream flow, which would ensure sufficient flows occur beyond agricultural delivery points.

Recommendation:

The Final PEIS should:

- Explain whether opportunities exist to coordinate water transfer actions with the Restoration program.

- Briefly explain how water delivery priorities are determined, and whether channel capacity is being examined from the perspective of its ability to carry different ‘kinds’ of instream and supply flows. For instance, describe whether channel capacity and water delivery decisions will accommodate a range of prescribed restoration flows.
- Evaluate and discuss whether there are legal mechanisms (for example, State Board actions, judicial actions, or targeted water acquisitions) to protect the instream flows for the full ecologically-critical stretch of the river.

Management of flood water and high flows

The description in the Draft PEIS of infrastructure, programs and practices for ‘flood management’ on the River gives the impression of a pieced-together system with inconsistent policies, gaps in agency responsibilities, and limited State oversight. It is not clear whether work is underway, nor which agencies would be best positioned, to plan and implement or oversee flood management that complements the Restoration Program. The Lower San Joaquin Levee District has, for years, had substantial autonomy, and practices for routing high (“flood”) flows (including reducing or blocking flows required in the operations manual) have buffered agriculture along the River and diminished the historic channel. The Draft PEIS lacks a thoughtful analysis of the impetus for, and consequences of, the existing flood management situation-- for example, the relationships between bypass routing of high flows and reduced or blocked flows in the River; concomitant adjustment of River channel capacity; and changes in the interface between the River and adjacent land uses.

Recommendations:

- The impacts of flows from the Kings River via Fresno Slough should be examined more closely in the Final PEIS. For example, the community of Firebaugh appears to be vulnerable to flooding attributable to San Joaquin River flows and/or water from the Kings River that is directed into the San Joaquin River to avoid flooding in the Tulare Basin. While this flood risk is not caused by the Restoration Program, it merits attention since restoration flows could affect this risk. We recommend that the Final PEIS explain whether flood risks to local communities, such as Firebaugh, might be addressed through the planned restoration and channel capacity improvements in Reach 2B.
- The Final PEIS should provide an expanded description of the current flood system, particularly in the area of program responsibilities for oversight, operations, and other aspects of management that have an impact on river functions and adjacent land uses. This should include the flood bypass system, levees, dams and other infrastructure used to manage high flows, and the responsible agencies, including the local levee district, Department of Water Resources, and US Corps of Engineers.
- Look for opportunities to work with existing flood control programs and local jurisdictions to ensure that flood management programs support flows and land uses (such as floodplains and designated floodways) consistent with the Restoration Program. The Final PEIS should identify any significant conflicts or impediments to working with flood management programs to support the restoration goals.

Water quality and water quality monitoring

On page 14-2, bottom, the reference to Salt and Mud Sloughs seems to place them as „east side’ tributaries, which is incorrect. They enter the River as west side tributaries, in contrast to Bear Creek. This should be corrected in the Final PEIS.

Water supply make-up program updates and corrections

As with the interim implementation of restoration flows and related actions, Reclamation has taken steps to implement the Water Management components listed generically in Settlement paragraph 16. To the extent that the current measures are successful in addressing any supply gaps from the Restoration flows, other more controversial and costly projects may not be needed.

Recommendations:

The Final PEIS should include the following information:

- A summary of water management measures that have been put in place, such as water transfers, water exchanges under „relaxed’ rules, and transactions enabled by the consolidated State Water Project/Central Valley Project place of use. We recommend that this information be displayed to compare water supply losses due to implementation of restoration flows with the (reported or estimated) water supply gains associated with the interim measures. Explain whether the interim water management measures will be extended for a longer term.
- Whether release of interim restoration flows from Friant Dam resulted in collateral water supply benefits to diverters downstream that would not have occurred absent the Restoration Program.
- Clarification regarding whether or not the restoration flow goals (Restoration Administrator recommendations) were met by the release of interim restoration flows.

The Draft PEIS states that an increase in groundwater pumping prompted by reallocation of water would further exacerbate the overdraft and land subsidence issues in the San Joaquin Valley, and concludes that groundwater overdraft is an "unavoidable" impact (p. 12-121). EPA does not believe that groundwater overdraft is an "unavoidable" impact; rather, the potential for overdraft indicates the need for improved groundwater oversight and management. The Central Valley Project has, in part, provided surface supplies to „supplement’ groundwater in areas with significant groundwater overdraft. Agriculture-caused overdraft was an initial impetus for the Friant Dam project. If overdraft remains a significant impact issue, we recommend reexamining options -- including State and local programs, both required and voluntary -- for groundwater monitoring and moderating groundwater withdrawals and inputs.

Environmental Justice

The Draft PEIS states that many of the program- and project-level effects could have a significant and unavoidable disproportionate adverse effect on minority and low-income populations because more than 50% of the population in the Restoration Area is comprised of minority or low-income farm workers.¹ While potential effects are described, possible mitigation measures to work with the minority and low-income communities to offset the effects are not disclosed.

¹ see Footnote 1, Table ES-8: Summary of Impacts and Mitigation Measures, and Chapter 9 Environmental Justice.

Recommendation:

The Final PEIS should identify possible mitigation measures to reduce and offset potential adverse effects on surrounding minority and low-income populations. For example, consider integrating a local job training and hiring program into the Conservation Strategy and Physical Monitoring and Management Plan. Other measures could include incorporation of parks and recreation opportunities for local communities, educational programs for local schools, etc., into the restoration design.

General Comments

The U.S. Army Corps of Engineers is currently evaluating a plan to dredge the San Joaquin River Stockton Ship Canal. This project does not appear to be considered in the cumulative impacts analysis presented in Chapter 26 Cumulative Impacts, even though it may contribute reasonably foreseeable effects to water quality in the lower San Joaquin River.

Recommendation:

We recommend that the San Joaquin River Stockton Ship Canal Dredging Project be included in the cumulative impact analysis in the Final PEIS.

**U.S. EPA'S RECOMMENDATIONS REGARDING FUTURE WORK
TO MAXIMIZE THE SUCCESS OF THE SAN JOAQUIN RIVER RESTORATION PROGRAM
September 2011**

River Functions Require a 'Corridor'

The Settlement flow release schedule anticipates a range of flows that will affect functions such as riparian and wetland recruitment, sediment transport, chemical cycling, instream and floodplain habitat structure development, and floodplain inundation (Draft PEIS, Appendix A: Stipulation of Settlement in NRDC vs. Rodgers, Appendix B Restoration Hydrographs); however, the proposed program lacks a design or process to guide channel changes needed to accommodate variability of flows on a system-wide scale (Friant to the Merced confluence). Identification and establishment of a riverine corridor should be pursued to provide latitude to manage restoration flows with respect to magnitude, duration, seasonal timing, and routing. We recognize that specific projects included in the Settlement, such as work on River Reach 2B, provide for some channel and flood plain expansion; however, we believe a strategy is needed for establishing a riverine corridor throughout the restoration reaches. The strategy should provide guidance for projects and decisions regarding areas both within and outside the active River corridor, but within its sphere of influence, to ensure compatibility between the River and adjacent land uses.

A riverine corridor provides functions such as habitat for instream, terrestrial, and aquatic organisms; biogeochemical cycling and water quality improvement; physical structure for streambed and bank stability; and sources of beneficial nutrient inputs to the aquatic system. All of these functions serve to support the entire aquatic ecosystem, including fish populations. The riverine corridor would include the channel itself, and should extend laterally to include floodplains, wetlands, and the riparian zone. Such a corridor should integrate wetlands and National Wildlife Refuges (NWRs), which are, at present, largely hydrologically disconnected from the River. Additional factors relevant to corridor planning include:

- a) The role of the State Lands Commission in developing information that could be used for River corridor planning and in establishing areas subject to public trust oversight. The Draft PEIS indicates that the Commission is now examining the reaches with respect to public trust jurisdiction. It will be important to understand the technical and historical basis for their findings, and the implications for the restoration program.
- b) Whether there is a process for coordinating restoration actions along the River. For example, it will be important to ensure that objectives for restoration are factored into remedies for seepage under agricultural lands near the River.
- c) How actions with potential to conflict with a river corridor, such as activities on or with respect to private lands along the River, can be addressed.
- d) Whether steps are being taken, through Reclamation or with other lead agencies or entities, to expand programs promoting complementary land uses. Adjacent and even „overlapping' land uses can complement riverine functions – wetlands, recreation areas, and agricultural lands being some of the most adaptable.

We recommend that the implementing agencies work with other interested parties to develop a strategy for evolution of a functioning river corridor for the entire extent of the restoration reaches. The aim should be to provide and protect suitable conditions for a range of river flows and functions, including conveying water to wetlands. Development of a functioning corridor is expected to be incremental but systematic, using opportunities to „assemble pieces and practices’ in an adaptive manner. The strategy should provide guidance for actions and decisions outside the channel to ensure compatibility between the active River and adjacent land uses.

Limitations to Channel Capacity

The Settlement provides for a period of interim flow releases to collect information on flow and channel responses, water temperature, fish needs, seepage issues, and water management actions. With respect to both interim and restoration flows, the Settlement aims for flows extending the entire length of restoration reaches-- from Friant Dam to the confluence with the Merced River – subject to the existing channel capacity. The presumption is that flows could follow the "historic" channel or, alternatively, flood bypasses. Decisions regarding routing flows are important because flow volume, sources, and instream channel conditions all affect suitability of conditions, such as temperature and habitat, for fish. Due to a variety of factors, there has been insufficient continuous channel „space’ to convey test flows through the entirety of the Restoration reaches, as evidenced by the 2011 interim flow period. In most cases the „trigger’ for curtailment of flows has been potential or alleged impacts to adjacent lands.

This issue reflects the cumulative effects of a long history of local land use and flows management, in concert with government programs and decisions benefitting agricultural activities. The issue of channel capacity is a concern for a number of reasons: the variety and complexity of contributing causes, some lodged in law and administrative practice; potential limitations to using alternative routes such as flood bypasses due to conflicting purposes and channel requirements; and the fact that blockages must be dealt with systematically if full, continuous passage is to be ensured.

Important issues affecting the availability of adequate capacity to convey restoration flows are potential or alleged seepage impacts, operational priorities, and risk related to levee instability.

Seepage

The Settlement appears to treat seepage from the perspective of channel flow losses that adversely impact restoration flows, leading to a focus on quantifying amounts of water to make up restoration flows [see, for example, Settlement (Appendix A), Section 13 (c)]. The Settlement does constrain flows to the „existing channel capacity,’ but may not have considered – or had information to estimate-- seepage effects on adjacent land uses. Where channel reaches are confined by levees, the Draft PEIS calculates channel capacity with reference to levee height and avoiding overtopping. This calculation over-estimates capacity in areas where alleged damage to agriculture due to under or through levee seepage at lower flows is limiting.

At this juncture, the seepage issue has several ramifications: potential curtailment of restoration flows, and potential liabilities or mitigation costs for the restoration program. As work proceeds, we suggest that there be readily accessible information on seepage problems, and on the planning and projects addressing them. Subject to availability, this information might include:

a) A short summary of baseline groundwater conditions (e.g., during and outside the season when water conveyance and irrigation are occurring on adjacent lands) against which flow impacts are measured, the loss of restoration flows through channel seepage, seepage effects on adjacent land uses, and the implications of seepage losses and effects on adjacent land on passing adequate restoration flows.

b) Explanation of the processes for investigating seepage issues, the solutions under consideration, and arrangements for funding and implementation. We believe that solutions for these seepage issues should be consistent with the ecological and flow functions of a restored, healthy River corridor.

Operational practices and priorities

Implementation of restoration flows with suitable timing, magnitude, and continuity to re-establish fisheries and aquatic ecosystems requires channel capacity for these flows. Competing demands for flow capacity, such as to support agricultural operations, may preclude adequate flows for restoration. Future work should evaluate the impacts of ‚cumulative’ demands on a channel from the perspective of impacts on beneficial uses, such as water quality, not simply as a matter of physical channel capacity.

Levee stability

Risk of impacts to adjacent lands due to substandard levees is another factor in curtailing restoration flows. With a flood management design on the upper San Joaquin that relies on a flood bypass system, many of the levees along the River are secondary to flood flow management and do not perform well in high flows. Unlike the flood bypasses, these River levees are not facilities within the “State Plan of Flood Control” (Central Valley Flood Management Planning Program, FloodSAFE, California, “State Plan of Flood Control Descriptive Document,” November 2011). The short paragraph in the Draft PEIS on nonproject levees suggests that the ‚system’ is fragmented, has not performed as designed, and in some places has been modified at local landowner discretion (p. 11-13). Neither the PEIS nor the documents such as the recent “State Plan” provide specific information on condition or effective capacity.

The issue of potential flood risk associated with the facilities operated by the Lower San Joaquin Levee District has emerged during interim flow implementation. Flood control activities have a direct relationship to, and impact on, the channel capacity and the corridor space needed to implement a range of River flows. Flood control planning and projects under the Corps of Engineers and State Department of Water Resources (for example, FloodSAFE) should be coordinated with the Restoration Program to support Restoration-friendly solutions, as should those of the local Lower San Joaquin Levee District, with the goal of ensuring oversight and accountability that protects public interests in the River.

Water Quality and Water Quality Monitoring

The fisheries chapter of the Draft PEIS includes a good analysis linking water quality parameters to beneficial use effects. We look forward to continuing to ‚cross-walk’ water quality conditions (understood to include physical, chemical and biological components) with ambient exposure and

potential effects on beneficial uses. Depending on the environmental context in which a constituent occurs, this linkage can require a more nuanced evaluation, e.g., one that accounts for variability of flow conditions (discharge, temperature, etc), and season, location, and duration of exposure of sensitive species life stages. We appreciate the challenge this analysis may present, and have a continued interest in working with the Restoration Program on these topics.

We would like to call your attention to the following, which should be considered in future work:

a) Mercury/methylmercury. Several water bodies, including the Mendota Pool, which is a supply source for the San Joaquin Basin, are on the State's list of impaired waterbodies (State Water Resources Control Board, Clean Water Act 303(d) list, 2010) because of high levels of mercury. Regional Board analysis has identified the Mud Slough wetland area as a source of methylmercury loading to the River and San Francisco Bay-Delta. Although source characterization for methylmercury in the Basin is limited, generally speaking, wetlands (intermittently wetted) that take in inorganic mercury tend to be high in net methylmercury production.

b) Selenium and agricultural drainage. The Grasslands area bordering a substantial portion of the Restoration area is implementing Total Maximum Daily Loads (TMDLs) for selenium. Success in reducing loading to the River – plus dilution flows on the three main tributaries (Merced, Tuolumne and Stanislaus Rivers) resulted in removing three River segments from CWA 303 (d) listing. However, the reach immediately above the Merced is still impaired, as is lower Mud Slough. These impairments are determined on the basis of existing standards. EPA, with the US FWS and USGS, expects to release proposed regulatory criteria for selenium in the Bay-Delta that will likely be more stringent than current values. Subsequently, we may reexamine appropriate standards in the Basin. In preparation, we are interested in developing more information about threshold effects for sensitive species and life stages, which would include juvenile salmon.

c) EPA recently added several segments of the mainstem San Joaquin River below the Merced River to the list of impaired waters under CWA Section 303(d) because of the impact of high temperatures on the migratory fishery. See EPA letter, November 12, 2010.

d) Analysis of water quality in the lower River (below the Merced River) and the impacts of Restoration actions on the lower River will be important in interpreting fish condition and success; this information is also relevant to other programs, notably State and Regional Water Board programs. Although the Draft PEIS concludes that the flow impacts are minor, this question should be considered more closely, particularly if Friant Dam releases occur during low flow periods. Also, if restoration flow water is subject to the Settlement provisions for storage and back-up uses [Settlement, section 13(i)], the potential benefits of releases that reach the lower River should be considered.

e) EPA is continuing to support work on a regional integrated monitoring program through the Coalition for Urban Rural Environmental Stewardship. In this process, we are interested in opportunities to coordinate monitoring of the Grasslands drainage area with the Physical Monitoring Program for the Restoration Program. Benefits of coordinated monitoring would be improved data reporting and sharing, enhanced information for assessments, and efficiencies in monitoring requirements.

f) While ‚aquatic life’ is central to the restoration effort, other beneficial uses, such as recreation, are important to consider, as well. With the exception of the River Parkway and a few discontinuous spots downstream, the River is largely inaccessible, or at least unfamiliar, to the wider community. Providing information about the River, for the benefit of landowners and the general public, should be one of the functions of a monitoring and assessment program.