



State of California
Department of Fish and Game

STATE WATER RESOURCES
CONTROL BOARD

Memorandum

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Date: September 29, 2008

DIV. OF WATER RIGHTS
SACRAMENTO

To: Tam Doduc, Chair
State Water Resources Control Board
1001 I Street, 25th Floor
Sacramento, CA 95812-2000

From: Donald Koch, Director
Department of Fish and Game
1416 9TH Street, 12th Floor
Sacramento, CA 95814

Subject: Written Input on Factual Issues Regarding the Bay-Delta

The Department of Fish and Game (Department) appreciates the opportunity to provide suggestions for topics that could be the subject of evidentiary hearings conducted by the State Water Board to gather information on important issues related to Bay-Delta ecology (as requested on August 29, 2008 by Water Board staff). I also understand that the evidentiary hearings could be scheduled as soon as February and April 2009.¹

We offer the following suggestion based on the Department's commitment to address other high priority issues related to the Bay Delta Conservation Plan and our working knowledge of Bay-Delta issues.

The Water Board should consider the adequacy of the spring flow water quality objectives in the San Joaquin River (SJR) as a topic for the April evidentiary hearing. As part of this hearing the Water Board should consider salmon declines in the San Joaquin Valley and its relationship to water flow in the SJR. The decline in salmon populations is probably due to a variety of factors including poor water quality, inadequate flows, and poor ocean conditions. The most recent observations of poor SJR juvenile salmon production started in 2001 as a result of insufficient instream flows and inadequate spring water temperatures for out-migrating juvenile salmon from the SJR tributaries.² Adequate south Delta water quantity (e.g., Vernalis flows) and quality (e.g., water temperature) in the spring are dependent upon SJR east-side tributary operations. Higher tributary spring flow results in cooler water temperatures in

¹ As presented by Water Board staff at the September 17, 2008 San Joaquin River Flows Workshop.

² Marston, D. 2007. San Joaquin River Fall-run Chinook Salmon and Steelhead Rainbow Trout Historical Population Trend Summary. California Department of Fish and Game Report to the Central Valley Regional Water Quality Control Board.

Rich, A. 2007. Impacts of Water Temperature on Fall-run Chinook Salmon (*Oncorhynchus tshawytscha*) and Steelhead (*O. mykiss*) in the San Joaquin River System. Report submitted to the Central Valley Regional Water Quality Control Board.

Loudermilk, W. 2007. California Department of Fish and Game Petition to the Central Valley Regional Water Quality Control Board to List Water Temperature as Impaired in the San Joaquin River (SJR) at Vernalis and in SJR East-side Tributaries (e.g Stanislaus, Tuolumne, and Merced Rivers).

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tributaries and cooler water flowing into the south Delta which results in greater juvenile salmon survival during transit to and through the south Delta.

Department scientists have provided data and information regarding the updated San Joaquin Chinook Salmon Population Escapement Model (Model)³ that relates water flow with salmon escapement. The newest version of the Model was sent to your staff on September 3, 2008 and was discussed in some detail at your September 17, 2008 San Joaquin River Flows Workshop. The Model is one tool that could be used to assess the adequacy of the San Joaquin River flow objectives.

The evidence also suggests that increased flow from the SJR into the Delta will likely have positive effects on other anadromous fish besides Chinook salmon (e.g. steelhead, sturgeon) and other Delta and/or estuarine-dependent fish, including species that are part of the Pelagic Organism Decline (POD). Entrainment in the winter and spring of delta smelt and longfin smelt at the State Water Project and Central Valley Project diversions in the south Delta is related to the magnitude of upstream flow in Old and Middle rivers. These flows are mainly a function of SJR inflow to the Delta and diversion rate from south Delta channels. Minimizing entrainment of adult smelt and facilitating transport of larval and juvenile smelt to downstream rearing habitats would be an added benefit of improving San Joaquin flows for Chinook salmon. Such flows would also provide somewhat more balance among sources of Delta inflow, improving hydrodynamics in Delta channels and potentially favoring the recovery and conservation of imperiled Delta species.

Due to commitments to OCAP, BDCP and Longfin listing decisions, the Department will not be able to participate in the hearing on those or other topics until late spring or mid summer of 2009.

The Department appreciates the Water Board's consideration of our recommendation. We look forward to our continued collaboration on these important issues. Should you have any questions or require clarification regarding our recommendation, please contact Carl Wilcox at (916) 445-1231.

cc: Board Members
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³ Wilcox, C. 2008. San Joaquin River Flows Workshop: Department of Fish and Game San Joaquin River Fall-run Chinook Salmon Population Model. Memorandum transmitting Department of Fish and Game Report to the State Water Resources Control Board.