

Other Correspondence

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SOUTH DELTA WATER AGENCY

23443 S. Hays Road
Manteca, CA 95337
February 18, 2000

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CALFED Bay-Delta Program

Steve Ritchie, Acting Executive Director
CALFED Bay-Delta Program
1416 9th St., Suite 1155
Sacramento, CA 95814

Dear Steve:

In previous letters I have called attention to the need to analyze all relevant CALFED water management proposals for their effect on the effort to meet the dissolved oxygen objective in the San Joaquin Ship Channel in a manner that is both feasible and reasonable. This letter expands on that issue.

The causes of dissolved oxygen depletion below water quality objectives and the potential methods of DO restoration to the objectives are multifaceted and will require at least another year of study before the Regional Water Quality Control Board can define an optimum combination of corrective measures that are both feasible and reasonable. However, it already seems clear that an optimum solution to this problem will include a combination of control of oxygen depleting substances/algal nutrients, use of channel aeration to meet certain critical situations, and maintenance of adequate San Joaquin River (SJR) inflow to the ship channel. Furthermore, in the absence of adequate SJR inflow it is unlikely that other measures alone can solve the low DO problem. The higher the minimum inflow, the more feasible and reasonable an adequate solution becomes.

Background

The DO problem has resulted from alterations in the flow regime, the channel configuration, and the load of oxygen depleting substances/algal nutrients added to the deep water ship channel.

- SJR at Vernalis flows have been substantially reduced by exports from the San Joaquin River watershed and by increased water consumption in the watershed.

- Reallocations in time of river flow at SJR Vernalis to benefit fish in the spring can result in later decreases in the flow of SJR at Vernalis in the summer and fall months that are most critical for maintaining DO above water quality objectives at this time.
- Operation of the CVP and SWP export pumps alters South Delta flow patterns and decreases inflow to the ship channel (in the absence of a full array of barriers) by substantially increasing the portion of SJR Vernalis flow that enters Old River.
- When the ship channel was dredged it substantially increased the volume of water in that channel so that it now takes more inflow to provide transport through the Deep Water Ship Channel and thereby avoid the long residence times of oxygen depleting substances in the channel.
- The load of oxygen depleting substances entering the San Joaquin River has been increased above natural background levels by upstream discharges from cities, farmlands, managed wetlands, etc. We do not yet know how much the substances in each type and location of discharge are attenuated or diverted from the system before reaching the ship channel. An active group of stakeholders is currently working to develop this information.

Control of Inflow to the Ship Channel

CALFED is studying or proposing several aspects of water management that would reduce inflow to the ship channel, but CALFED could also address ways to restore and maintain channel inflow. The CALFED studies that affect inflow include the following:

- The most obvious flow measure is to provide that Vernalis flow reaches the channel by minimizing flow into Old River. South Delta water management plans should clearly address the effect of those plans on inflow to the Deep Water Ship Channel and consequent effect on the feasibility of compliance with the DO objective in a reasonable manner. (I do not assume that compliance will be achieved by aggrading the ship channel or reducing annual exports from the Delta).

- If flow into Old River is controlled with barriers, it would then be possible to pump water through the South Delta barriers so that water enters the San Joaquin River by reverse flow from Old River and flows into the ship channel. There would be no decrease in water supply for other purposes.
- CALFED and USBR are examining the potential for providing water for fish and for complying with Delta objectives by recycling water from the Delta Mendota Canal (DMC) to the river via the Newman Wasteway and then returning an equal quantity of water to the DMC via the South Delta. This can be done when pump and conveyance capacity is available (either concurrently or through available interim storage) without decreasing net annual exports. If this return to the DMC is via the ship channel and not via Old River, it can provide needed transport through the ship channel to avoid the long residence times within the ship channel that lead to a greater frequency and severity of DO depletions below the water quality objective.
- CALFED and USBR propose "water acquisitions" in the water-short San Joaquin River system. These "acquisitions" should be carefully analyzed to determine whether they will increase flow for fish or export by decreasing flow at some other point in time, thereby exacerbating the DO problem by decreasing inflow to the ship channel when needed.
- The DO problem in the ship channel extends into the Central Delta ten or fifteen miles downstream of Stockton to, at times, the Disappointment Slough area. In analyzing CALFED's plans to alter the path of water flowing from the Sacramento River to the export pumps, CALFED should analyze the effect of the plans on transport to and across the ship channel. There may be potential for inducing such flow. The effect of CALFED's proposals that influence the path of export water flow through the Delta should be analyzed as they affect the Deep Water Ship Channel DO depletion problem.

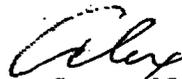
Summary

In summary, CALFED's proposals are currently being analyzed for their effect on fishery entrainment and fish habitat. Adequate DO to meet DO objectives in the ship channel is also a

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fish protection issue. CALFED should assure that this fish protection issue is adequately addressed. Some CALFED proposals substantially affect the SJR inflow to the ship channel, and it is doubtful that the DO objective can be met without provision for an adequate minimum inflow to the ship channel. CALFED should, therefore, analyze all its water management proposals for their effect on inflow to the ship channel, and should consider provision of an adequate minimum flow into the ship channel. Failure to do this would be disregarding of anadromous fishery interests, aquatic life habitat within the Deep Water Ship Channel and its associated waters, and the obligation to comply with Delta water quality objectives.

Sincerely,



Alex Hildebrand

cc Regional Water Resources Control Board, Gary Carleton
Department of Water Resources, Tom Hannigan
Bureau of Reclamation, Lester Snow
Corps of Engineers, Colonel Walsh
State Water Resources Control Board, Walt Pettit
California Department of Fish and Game, Ryan Broddrick
Kevin Wolf