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March 26, 2013



Honorable Chair and Members
California Water Resources Control Board
PO Box 100
Sacramento, CA 95814-0400

Subject: **SED for Lower San Joaquin Valley Flows**

Dear Madame Chair and Board Members:

I am Larry Kolb, a civil engineer from Oakland, California. Let me start by thanking the Board for the opportunity to comment, and for the patience and civility it showed at the long hearing on March 20. I am also impressed with the SED, which I found to be well organized, well written, and fair in its presentation of the evidence.

I have been a student of California water issues for 40 years, 33 of those years on the staff of the San Francisco Bay Regional Water Quality Control Board. I retired as Assistant Executive Officer.

Over those 33 years and since, I've felt real frustration that whatever good the regional boards, and the State Board, and the dischargers did on pollution control - was being **undone** in the area of water allocation. Why protect the fish from pollution when they are going extinct for lack of water?

In California we spend several billion dollars a year collecting and treating wastewater. Taxpayers can well wonder are they are getting a decent return on this huge public expense if our current water allocations are grossly impairing the resources we are spending so much money to protect. I am sure this disconnect must bother the State Board members as well.

Water Use and Economic Return

Much of the testimony at the March 20 hearing concerned potential economic impact on agriculture. For some context, let's consider some dollar amounts. The water used on California crops amounts to about 80 percent of what we take from nature. That enables about \$36 billion (bn) of crop value.

For comparison, consider some other California institutions outside of agriculture whose existence is also enabled by water supplies. We have Apple, with revenues of \$150 bn last year, Intel at \$53 bn, and Google at \$50 bn. The state's economy totals \$1900 bn, so that crop revenues amount to less than two percent. If you include some added revenue from animal agriculture, and you apply a factor of four to account for indirect benefits, you still have the California farm economy at less than ten percent of the total, and that number is declining.

The prodigiously successful companies I just cited are located in California for good reasons, and one is the quality of life they can offer their workforce. A good part of what makes up quality of life is environmental quality, and that includes water and wildlife. The notion that we should compromise our legacy of breathtaking salmon runs to grow more subsidized cotton or other low value crops is just wrong - bad for our environment and bad for our economy. We do have enough water for fish and people and a healthy farm economy, but we need some changes in the way we use our water.

Preferred Alternative for San Joaquin Valley Outflow

A goal of 35% of unimpaired flow is given as the preferred alternative in the SED. It goes on to describe the consequences of this, but nowhere is there a real justification, or a description of the tradeoffs made in arriving at the 35% figure. This is especially striking given the thoughtful justification for the 60% value needed to protect fish given in the State Board's 2010 Delta Flows Criteria Report.

In its discussion of groundwater impacts, the report assumes that farm water consumption will remain unchanged, with any lessening of surface water diversions made up for by pumping, or overpumping groundwater. It appears that this Board is accepting the abuse of groundwater resources when it tries to protect surface water. I am sure this is not the case, but the SED should identify groundwater overdrafting as problematic, and cite potential actions that Board could take to prevent this.

There is only passing recognition that farm water use efficiency can be improved. Too much current situation is assumed to be acceptable.

Better Water Use Efficiency to Lessen Water Diversions

The SED should not assume that we must accommodate existing patterns of farm water use. Instead the SED should make a realistic and justified finding that farm water use can be significantly reduced, using some combination of the following:

- **Shift crops** away from thirsty, low value field crops like alfalfa, rice, and cotton, which use over 60% of our farm water statewide and contribute only 17% of crop revenue. Almost half the water taken from nature and used on low value field crops **adds only one third of one percent to the state's economy**. We need to move toward the crops for which our state is famous, like fruit, vegetable and orchard crops. These high value crops also provide the most farm employment.
- Use **more efficient irrigation methods**, especially drip or subsurface injection, and so-called weather based irrigation scheduling. This can be facilitated with state assistance as described below.
- **Use reclaimed urban effluent**, where feasible, for irrigation of non-food crops. Let's use Modesto as an example. There are cities in the Valley surrounded by irrigated farmland, yet almost none of its treated effluent is reclaimed, because the farmers get freshwater at nominal cost. If treated effluent were substituted, there would be more water for the river. (Fresno has long done this, but it had to purchase outright much of the

acreage irrigated for lack of farmers willing to use its effluent).

- **Stop irrigating unsuitable lands.** Here the obvious example, is the toxic westside soils such as those in Westlands Water District, where toxic selenium is converted first from an inert form to dissolved one, and then to a bioavailable form, and now into a toxic time bomb of accumulated subsurface pollution. I understand that Westlands is not considered part of the LSJV, but the water used in Westlands could be put to better use elsewhere.
- If necessary for fish protection, have the State make outright **purchase of land and/or water rights** so as to keep more water for nature. At current prices for irrigated farmland in California, a one-time investment of \$3 billion would secure permanent rights to an additional million acre feet of water left in the river. The fisheries benefit would be huge.

Incentives for Needed Changes

The kinds of changes in water use described above can be made using the incentives described below. The fact that these actions would be politically controversial is no excuse for their being ignored. Any meaningful change in California water will be politically controversial. Here are the kinds of incentives that would work:

1. **Regulatory actions**, like this current San Joaquin Valley flows process, and using the 'waste and unreasonable use' doctrine where those conditions exist. This Board should stop pretending it is impotent where water rights and water waste is concerned.
2. **Reform water rights**, as needed, to see that conserved water from efficiency improvements is retained for fisheries protection, and not just assigned to the next guy in line. If the State Board cannot legally make such changes on its own authority, it should identify needed changes in the law.
3. **Better regulate groundwater** to either adjudicate groundwater in the SJV basin, or otherwise end the unsustainable overdrafting of its groundwater resources. (Of course this need is even more pressing in the Tulare Basin). If new legislation is needed, the State Board should identify specifically what is needed.
4. **Establish a public goods charge** for all surface and groundwater withdrawals by all users. This is an old idea that has generated renewed interest. This would create an incentive for all parties to use water more efficiently, whereas now we incentive waste through cheap water. This public goods charge would generate revenue to help pay for changes needed to make major water efficiency improvements and for land acquisitions. Here the chief recipients would be farmers. Again, this would generate revenue, not deplete it like the tunnel proposal.

Almost all the water conservation measures and the methods for achieving them as described above would be controversial. On the other hand we should all understand by now that ducking needed actions, by sticking to the old religion of 'no net loss of exports', of eternal water rights, of kicking the can down the road, does not work. Nor does waiting for consensus to emerge – consensus will never happen. The current situation begs for State Board leadership, and that means State Board courage.

Comments on March 20 Hearing Testimony

Some of the testimony at the March 20 hearing is worthy of comment and response.

Farming in the Lower San Joaquin Valley

Let me start by concurring with the common view that farming in the Lower San Joaquin Valley has a lot to commend it. It's mostly family farms of modest size, owned and managed by people who live there, and the farms yield mostly high value crops: vegetables and melons, orchard crops like almonds, and fruit crops. Also, Lower San Joaquin Valley agriculture is mostly sustainable environmentally. Soils are of granitic origin, and are therefore free of the elements like selenium that make westside agriculture so dangerous to nature.

Farm Crops Are Not at Risk

One allegation made by many speakers from the farm sector was catastrophic consequences of the modest increase in river flows to 35 percent that is the recommended alternative.

The alternative analyzed in the draft SED that is closest to 35 percent is Alternative 3, somewhat higher at 40 percent. For the 40 percent alternative, the SED identifies the impact on agriculture is reductions by ten percent or more of "...Corn, Field, Pasture and Rice..." crops, not produce, orchard, or fruit crops. As noted in my testimony, these have much lower value per acre than vegetable, orchard or fruit crops. **None** of the high value crops are identified as being lost under Alternative 3.

It seems to me that your Board was hearing heated testimony, sincere I am sure, about consequences it does not foresee taking place. This analysis supports Alternative 3, at 40 percent, a little better than the recommended 35 percent.

San Joaquin Valley Unemployment

Unemployment in the Lower San Joaquin Valley is now running around 14 to 17 percent, more than half again the state's average. Most of these counties have some of the highest percent poverty numbers in the nation, even though the counties overall are not especially poor by national standards.

A procession of Valley state and federal legislators, all Republicans and almost all Anglos, lamented high unemployment among impoverished Hispanic populations. Although these legislators routinely vote against programs to help these people, they were happy to use them as a debating point in complaining about any restriction on waster deliveries. It would be nice if Valley legislators who represent Hispanics cared about them outside of water debates.

One source of unemployment is the use of water on thirsty, low value crops, all of which are highly mechanized and provide little employment. A switch to high value crops would provide more employment and less water use.

Threats to Groundwater in the Lower SJV

Some farm speakers essentially claimed both the right and the intent to overdraft groundwater as needed to make up for reduced river diversions. This would not be conjunctive use, but rather ongoing overdrafting. They even warned of the land subsidence consequences of their intended actions.

This is a kind of water resources blackmail. Rather than giving in to it, the State Board should act to end the chronic overdrafting and potential damage to a valuable water resource. The entire San Joaquin Valley, north and south, is in dire need of groundwater adjudication.

Testimony from some farmers and other residents included complaints about the steady lowering the water table and higher pumping costs. Some also cited local cancer clusters, widely attributed to some combination of pesticide applications past and present, and high nitrates in groundwater from fertilizers and from animal agriculture. This is more evidence of need for greater attention to protection of Valley groundwater.

Thank you for this opportunity to comment.

Yours truly

Lawrence P. Kolb