

July 26, 2018

Felicia Marcus, Chair  
 State Water Resources Control Board  
 P.O. Box 2000  
 Sacramento, CA 95812-2000

RE: Bay-Delta Water Quality Plan Update, Phase 1 Final SED: Comments on Appendix K

Dear Chair Marcus,

Thank you for this opportunity to comment on the State Water Resources Control Board's (SWRCB) final Supplementary Environmental Document (SED).

On page 29 of Appendix K of the final SED, I found the following statement:

"The LSJR flow objectives for February through June shall be implemented by requiring 40 percent of unimpaired flow, based on a minimum 7-day running average, from each of the Stanislaus, Tuolumne, and Merced Rivers. This required percentage of unimpaired flow, however, may be adjusted within the range allowed by the LSJR flow objectives through adaptive methods detailed below."

Since the SWRCB's initial published draft in September 2016, the San Francisco Public Utilities Commission (SFPUC) has been opposed to the new flow requirements in the above quote. For example, here is a quote from an Opinion piece published in the San Francisco Chronicle in October, 2106:

"Our initial economic analysis of the first iteration of this plan forecast up to 51 percent rationing, resulting in 140,000 to 188,000 jobs lost in the Bay Area." Harlan Kelly, Jr., and Nicole Sandkulla, *San Francisco Chronicle*, October 9, 2016, p. E7.

In the nearly two-year timeframe since that Opinion piece was published, I, along with many other concerned citizens, have examined the information the SFPUC has used to justify its opposition to the SED. Our examination has led to several in-person meetings with SFPUC staff and contractors. Our overwhelming conclusion: the SFPUC has misled the public, used flawed analysis and reasoning, and does not represent the views of its customers or its constituents.

This comment letter is my attempt to summarize our research into the shortcomings of the SFPUC's arguments in opposition to the flow requirements in the final SED.

**1. The socioeconomic study, used to justify the massive job losses in the Oct. 2016 Opinion piece, is seriously flawed.**

The SFPUC and the Bay Area Water Supply and Conservation Agency (BAWSCA) contracted with The Brattle Group to produce a socioeconomic study (1) forecasting the job and sales losses that might occur if a 40% unimpaired flow requirement was implemented.

The analysis assumes that BAWSCA's water allocation rules are implemented for all levels of rationing, whereas the rules only apply up to 20% rationing. Any water allocation decisions made beyond the 20% rationing level must be decided in meetings among the SFPUC and BAWSCA. These meetings will occur in unknown circumstances at some future time. Any forecasts which relies on some unknown outcome from these meetings are highly speculative and should be treated as such. Specifically, the statements

about significant job and sales losses in the San Francisco Chronicle Op-Ed from October 9, 2016 are highly speculative.

The analysis treats all future and forecasted events as equally probable. Using probability analysis allows us to rank related but uncertain, future events by their likelihood of occurring. This exercise can help us funnel our scarce resources to projects most in need of attention. One examples where this type of reasoning could enhance our understanding of uncertain, future events are Tables 5.3-4 in The Brattle Group's report of January 2018. A 10% shortage scenario is much more likely to occur than a 60% one, yet the analysis treats them as equally likely. This is faulty economic reasoning. The much greater economic damage forecasted at the 60% shortage level is much less likely to occur at all, if ever. Probability analysis allows us to apply a "discount rate" to that economic damage. That helps us weigh the importance of actions taken to avoid the 60% shortage scenario. That is, we need to plan ahead for a 10% shortage scenario much more seriously than other scenarios.

In the last drought no SFPUC or BAWSCA allocation rules were applied because water customers conserved in response to the Governor's mandate rather than the SFPUC's. This is a significant fact that casts substantial doubt on whether or not the modeled results would ever materialize. Note that Governor's order required the SFPUC regional water supply area to conserve at a minimum of 8% reduction vs. water use in 2013, the "base year." Instead, the Bay Area responded by saving about 23%. Given the overall success of the Governor's mandate, it is highly likely that any future Governor would act the same way. The model ignores this highly probable event.

The Brattle Group's research concluded that an increase of 1% in the price of water led to an approximate 0.20% reduction in water use. In economic terms, this represents a slight, negative price elasticity; that is, a higher price leads to slightly lower consumption. The small effect means that water pricing is "inelastic," meaning that price increases have only a small effect on water consumption. The Brattle Group's report relies on this research as an important basis for their analysis of socioeconomic effects. However, as noted in the previous paragraph, Bay Area water consumers responded much more strongly to the Governor's mandate to reduce water consumption than they did to price increases. This fact seriously weakens The Brattle Group's conclusions. In economic terms, water consumption is highly elastic when reductions are mandated by the State. Yet The Brattle Group's report completely ignored this obvious fact in its analysis, focusing only on price signals.

A second problem with using price increases to measure changes in water consumption: water is not like other economic goods. Their analysis uses a standard economic theory called "willingness to pay." This attempts to measure what water consumers are willing to pay to avoid rationing. The problem with this reasoning is that, for the vast majority of Bay Area water consumers, there is no "price" which they can pay to get more water during a serious drought. Unless a household is wealthy enough to buy a water truck or a large tank and have it installed on their property and regularly refilled, they simply can't buy more water in a true rationing scenario. No Bay Area water consumer has a choice of water provider. No Bay Area water consumer has the ability to negotiate for a better price. These facts illustrate the flawed reasoning that underlies The Brattle Group's report.

The Brattle Group's report did not consider any mitigating actions which the SFPUC or BAWSCA might make in response to drought conditions. For example, the various water agencies that make up BAWSCA

are allowed as part of their contractual agreements to transfer water among themselves. These potential transfers could reduce the negative socioeconomic effects of water rationing by allowing those agencies with more water to transfer that excess to other agencies as necessary (2). Also, as the SWRCB notes in Appendix L of the final Phase 1 SED, the SFPUC could purchase water the Modesto or Turlock Irrigation Districts in a serious drought scenario. These types of purchases have happened in the past, and therefore could have been modeled in The Brattle Group's report, but they failed to do so.

The Brattle Group's report assumes the SFPUC's 8.5 year drought planning model continues. This model is 2.5 years longer than any drought the SFPUC has experienced. While it is good to be prepared for an extended drought, preparing for a drought 40% longer than the worst drought experienced seems excessive particularly if the SFPUC is unwilling to mitigate the environmental impact of such a long drought model. If the 8.5 year drought model were reduced even modestly, it would have a substantial impact on the level of water cutbacks and adverse economic analysis. In this regard, Appendix L in the Final Phase 1 SED released by the SWRCB only addresses the 6 year drought incurred in the late 1980s-early 1990s period. The SED pointedly ignores the SFPUC's 'design drought' in their response.

## **2. The SFPUC's opposition does not represent the views or values of its water customers.**

In the June 2016 election, Bay Area voters passed Measure AA, voting 70% in favor of a parcel tax to fund restoration projects for San Francisco Bay. That's over a million votes to fund approximately \$500 million worth of restoration projects. 77% of San Francisco voters approved Measure AA. Increased flows through the Delta will enhance the success and viability of these projects, yet the SFPUC opposes them.

A recent survey (3) conducted in May 2018 shows that San Francisco's strong commitment to environmental values has not changed in the past two years. Among other results, the survey shows that 93% conserved water during the most recent drought, and that for 71% of those who conserved, concerns about the environment played a major role.

Thank you. Please consider these points whenever the SFPUC or BAWSCA respond to Appendix K of the final SED.

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(1). "Socioeconomic Impacts of Water Shortages Within the Hetch Hetchy Regional Water System Service Area", prepared by David L. Sunding, Ph.D., January 19, 2018.

I am unable to find a URL for the above document. Please contact me at [wlmartin361@gmail.com](mailto:wlmartin361@gmail.com) if you need a copy.

(2). "Coordinating water conservation efforts through tradable credits: A proof of concept for drought response in the San Francisco Bay area"

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2017WR020636>

(3). Please use the URL below to access the full survey results:

<https://www.tuolumne.org/wp-content/uploads/2018/07/1805-SFV-Final-Report-PDF-06-29-18.pdf>

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**From:** W L Martin <wlmartin361@gmail.com>  
**Sent:** Thursday, July 26, 2018 3:19 PM  
**To:** LSJR-SD-Comments@waterboards.ca.gov; WQCP1Comments  
**Subject:** Comment Letter – Revisions to Proposed Bay-Delta Plan Amendments  
**Attachments:** Comment on Revisions to Bay-Delta Plan submttd 7-26-18.pdf

Dear Ms. Townsend,

Please find attached my comments to the revisions in Appendix K of the final Phase 1 SED.

Thank you.

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