

**Comments on Draft Strawman Allocation of Responsibility**  
**Prepared by C. Foe, M. Gowdy and M. McCarthy**  
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Comments Submitted by  
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These comments are an additional set of comments on the revised draft of this Strawman report. Detailed comments have been provided to C. Foe on earlier versions.

The report needs to have a list of acronyms and abbreviations and their definitions.

Executive Summary, page vii, first paragraph mentions in line 3 that in the summer the DO concentrations often fall in between 2 and 2.5 mg/L. I would expand that time period to fall. There are times in the fall when these situations occur. Also, in the same paragraph, where Disappointment Slough is mentioned, I would expand that area to include Columbia Cut, since ultimately it is Columbia Cut which is the distinguishing feature that is of concern.

Page viii, last paragraph states that no DWSC DO data are yet available for fall/winter 2001. While that was true when the Strawman was first developed in early January, it is no longer true. The Strawman should be brought up to date to consider the full 2001 database that is now available.

Page ix, first paragraph, line 5, I would change “pigment” to “chlorophyll.” There will be some who do not understand that the pigment of concern is chlorophyll. Those who thoroughly understand this know that there are a number of other pigments in algae that are not chlorophyll.

Page ix, first paragraph, six lines from the bottom of the paragraph, after “Highway 65” I would put in parentheses, “Landers Avenue,” since it is referred to both ways by various investigators.

Page ix, second paragraph discusses how increases in algal growth in the spring and decreases in October are coincident with flow. They are also coincident with changes in season.

Page x, first paragraph, I would change the second line to “... their high standing algal concentrations and their longer travel time to the DWSC” – i.e, delete the word “relative,” or explain it.

Page x, second paragraph, last line, just because nitrogen or phosphorus has not been found to be growth-rate-limiting in the studies conducted thus far does not mean that they could not readily be made growth-rate-limiting, through appropriate technology. I would delete the statement, “*Other algal control methods should be investigated for Salt Slough and for the San*

*Joaquin River at Hwy 165.*” The situation of non-growth-rate-limiting being converted to growth-rate-limiting is standard practice in the nutrient/algae control field.

Page 1, paragraph 2, I question the use of the phrase, “... *prevents the upstream migration of fall run Chinook salmon.*” That phenomenon has not been adequately demonstrated by the studies conducted thus far.

Page 1, paragraph 4, mid-paragraph states, “... *Total Maximum Daily Load (TMDL) document to the US EPA by June of 2003.*” Does this mean that it has to be delivered in May to meet a June 1 deadline, or that it must be delivered by the end of June. That month could make a big difference.

Page 3, first line, I still object to characterizing the sampling as “U.S. Geological Survey and UC Davis.” The sampling was done by individuals associated with these organizations. It is misleading to indicate that the USGS and the university did this work. Some of their staff was responsible.

Page 3, fourth line, numbers less than five are typically written out. Ten and above are presented in arabic format.

Page 3, second paragraph, UC Davis did not collect the water samples. Dahlgren and his staff collected the water samples.

Page 3, last paragraph, fourth line, it should be APHA, *et al.*, Standard Method.

Page 4, first paragraph, the report is not consistent in how it presents units involving “/L.” Sometimes the “L” is capitalized, and other times it is lower case.

The position of the “-6” in the second formula on page 4 should be superscript.

I suggest that a reference be given to the San Joaquin River input/output model. How can someone else obtain these flow data?

Table 3 needs to include “R1,” “R2” and “R5” as the locations mentioned in the heading.

Page 6, first paragraph, second line, the reference to Lehman 2001 should be Lehman 2002, as listed in the reference section.

Page 6, last paragraph, first line, is HydroQual developing a two-dimensional or a three-dimensional model? I thought it was two-dimensional.

Page 7, fourth paragraph (and elsewhere), “cfs” is normally presented in lower case letters.

Page 10, first paragraph, last sentence, statistical analysis of this type cannot determine which organic fraction(s) are responsible. They provide an insight into which are responsible. It is still a statistical analysis, and, as such, can yield false information on cause and effect.

Page 11, first paragraph, first line, algal pigments are not the primary oxygen-requiring substance. It is the algae. The pigment is just an indication of the algal biomass.

Page 11, second paragraph, four lines from the bottom states that, "... *water residence time in the DWSC can vary up to 30 days ...*" When I published that a year and a half ago in the "Issues" report, Russ indicated that the US EPA (which was the origin of the value) was overestimating residence time, and that, because of tidal mixing, it is likely that the maximum is about 20 days. You may want to check with Russ on this 30-day value.

Page 12, third paragraph, first and second lines state, "*DWSC channel flows (and residence times) were relatively constant at 800-1200 CFS in the summer of 2000 and 2001.*" Actually, during the summer 2001, the flows ranged from about 400 to 800 cfs. During the summer 2000, they ranged from 600 to 1300 cfs. There is need to expand the range listed in this sentence.

Page 13, paragraph 2, as I have mentioned, a continuous-recording fluorometer was installed at Mossdale in 2001. P. Lehman has presented those data in her January 2002 report.

Page 17, next to last paragraph, the statement that, "*Dr Dahlgren only has continuous chlorophyll data ...*" is not accurate. He does not have continuous data.

Page 18, third paragraph, next to last line, I would refer to Tulloch and Quinn rather than Lawrence Berkeley Laboratory as the source of the information, and put in a specific reference so that someone else could check it.

Page 19, footnote 35 needs a comma after the word "phosphorus."

Page 20, third paragraph, last sentence, I would not state that, "*If correct, it is essential that turbidity not be allowed to decrease...*" I would change that statement to indicate that, if turbidity decreases, then there could be an increase in phytoplankton. Turbidity will decrease with increased erosion control efforts that are underway. It would be inappropriate for the Board to state that we should continue to allow erosion, as you have done here.

Page 21, second paragraph, I do not agree that "*No cost effective algal control is likely by limiting nutrients*" for Salt Slough. This needs to be investigated before that conclusion can be reached.

Bottom of page 21 and top of page 22 present this same problem with respect to ruling out nutrient control for Salt Slough and the San Joaquin River above Hwy 165. These issues need to be investigated. It may be possible to control nutrients to growth-rate-limiting levels.

Page 22, under “Recommendations For Additional Work,” where it mentions the installation of an *in vivo* fluorometer (sp?) at Mossdale, you need to indicate that we are going to need to continue to operate the continuous-recording fluorometer at Mossdale. Further, in the last sentence, “*evaluate non-nutrient algal control mechanisms*” should be changed to “evaluate algal nutrient control mechanisms and others” for possible use in Salt Slough, Mud Slough and the San Joaquin River upstream of Landers Avenue.

In Table 13, the units under the column heading “EC” should be “ $\mu\text{mhos/cm}$ .” The “o” and the “h” are reversed in my copy.

Page 24, the reference to “Lee FG and A Jones-Lee, 2000,” contains a typographical error. It should be “Lee GF.”

The reference on page 25 to the US EPA 1985 contains an error. The word “Rules” should be “Rates.”

### **Comments on Figures**

**Figure 1.** I would add Columbia Cut opposite Disappointment Slough.

**Figure 5.** This figure should be expanded to include the 2001 data that are now available.

**Figure 8.** The data should be transformed into conventional rate constants for BOD reactions.

### **Overall**

Overall, this report needs to be updated with the information that has become available since its first draft in January. This will not change the overall conclusions, but will reinforce them. Further, the report still needs considerable editing before it can be finalized. In addition, there are several technical issues that need to be addressed, as discussed above.