

DWR
Division of Planning and Local Assistance
Comments to CALFED Public Draft PEIS/R

Main Volume of EIR/EIS

- ▶ Land use changes, page 5-5, page 8, 1-26, & elsewhere. CALFED proposes significant conversion of irrigated agricultural lands to habitat. In order to assess the water use impacts of these land use changes, it would be helpful for the EIR/EIS to tabulate the program's total converted acreage, and estimated water use changes. It appears to us that CALFED's total potential reduction of irrigated land use is DONE 289,500 acres. Is this correct?
- ▶ Irrigated acreage, table 8.1.1-2. Acreage data needs to be checked and corrected. There are not, for example, 527,000 irrigated acres of rice in the San Joaquin River ^{or} region.
- ▶ Land use changes due to ecosystem restoration, page 8.1-26. The text states that some of the 115,000 acres of irrigated land use may be shifted to the Central Valley or elsewhere. How much and where? Since the water supply is intended to remain with the land converted for habitat, this action would potentially create a new water demand of over 300 TAF elsewhere for the shifted agricultural land use (which is ND about the same as the new water supply provided by Alternative 3!). The draft needs to be more specific about water use and water supply impacts of land use conversion.
- ▶ Groundwater overdraft, page 6.2-29. We disagree with the statement that the only sure way of preventing significant groundwater level declines is to regulate withdrawals – the only sure way is to reduce the users' reliance on groundwater, ^{or} either through regulating extractions or through providing alternate water supplies.
- ▶ Colorado River 4.4 Plan, page 2-37. Text needs to be updated to the most current public draft of the plan, which is currently the December 1997 draft. A similar ^{or} comment about updating applies to the IID/San Diego transfer proposal discussed on page 2-38.

Phase II Interim Report

- ▶ Sidebar on page 19. As discussed in the general policy comments, CALFED does little to close the gap between present water supplies, and forecasted future demands. The text in the sidebar that reads "the Program will not completely close the gap" would more correctly read "the Program does not significantly reduce the gap". The data on statewide supplies and demands do not match Bulletin 160-98

values -- differences should be explained. What is the basis for the range of projected future demands?

▶ ~~Page 21, water transfers. As discussed in the general policy comments, transfers do not create new water supply -- they reallocate existing water uses. To the extent that long-term transfers eliminate an existing (usually agricultural) water use, those socioeconomic impacts should be mentioned. Also, the ability to generate water for transfers through crop shifts is limited by factors such as crop markets, soil types, climate, etc.~~

▶ Page 22, water storage. Suggest rewording to remove the bias against storage in the present text -- "extremely controversial", for example. The fact that one interest group campaigns against storage does not mean that the populace as a whole finds storage to be controversial.

▶ Page 62, watershed management. The text states that watershed management projects in meadows and riparian corridors in the upper watershed can allow more floodflows to be recharged into upper watershed aquifers. Given CALFED's definition of the upper watershed area, many of these "aquifers" would be groundwater in fractured rock, or quite small valley floor alluvial deposits. Suggest more explicit treatment of this subject, to provide a better idea of the scale of the projects and their possible water supply benefits.

No Action Alternative Appendix

▶ Text on page iii and page 15 stating that CALFED used Bulletin 160 water conservation levels is outdated. CALFED used the higher water conservation levels described on page 19.

Water Use Efficiency Appendix

▶ We have a fundamental disagreement with the no-action levels of water conservation presented in the report. They are based on a hypothetical "what if" scenario, and do not take cost-effectiveness into consideration. The no-action alternative should reflect a future projection of existing conditions, technology, and funding levels, not speculation about a desired future outcome.

▶ As discussed in the general policy comments, CALFED identifies essentially all future wastewater recycling projects covered in the WaterReuse Association survey as likely to be implemented, while Bulletin 160 only identifies those that are cost-competitive with other water supply sources. One reason that CALFED includes all potential future projects is because it does not assume that the Colorado River 4.4 Plan will be implemented. This assumption is contrary to current State policy, and needs to be revisited. (Colorado River transfers to the South Coast region in the 4.4 Plan are generally much cheaper sources of supply than are many water recycling

projects. MWD's IRP, for example, identifies Colorado River supply sources as a higher priority than recycling projects.)

► The statement at the bottom of page 2-1 that how costs of a Bay-Delta solution are apportioned will have significant effects on the cost-effectiveness of efficiency measures is very true, and illustrates the fact that advanced levels of conservation are not cost-effective from a water supply standpoint. As the text notes, if Bay-Delta ecosystem restoration costs are included in water prices, conservation measures become more attractive. This represents, however, a subsidy of other CALFED programs by water supply.

► Page 2-7. Please explain the statement that planning in order to be eligible for new water supplies is a water management activity that all water suppliers should implement regardless of their need for any additional water.

► Page 2-9. Should clarify the 9.1 million irrigated acres number. California has (at 1995 levels) 9.1 million acres of irrigated land, but 9.5 million irrigated crop acres. The difference is due to multiple cropping.

► Text on page 2-14 says that urban per capita use has stabilized or decreased in most areas of the state. Text on page 5-8 says that DWR notes that per capita use rates are increasing. There is truth in both statements, but more precise writing is needed to explain this apparent contradiction. (Conservation measures in coastal urban areas are reducing per capita values, but population shifts to hotter and dryer inland areas, and better economic conditions, result in increased values.)

► Figures 4.1 and 4.2. It is unclear from the figures whether "statewide" refers to California as a whole or only those areas of particular interest to the CALFED program.

► Page 4-42. Text on potential new export facilities from Imperial Valley to San Diego needs to be updated and put in the context of the San Diego-IID transfer.

► Page 1-6, Table 1.1. The table shows the incremental conservation occurring by 2020 under three alternatives: *Bulletin 160-98 Year 2020 Baseline*, *CALFED No Action*, and *CALFED Program*. However, the values displayed for urban and agricultural conservation for *CALFED No Action* are total savings rather than the incremental increase due to implementation of the alternative. The incremental value for urban should be changed to 610 TAF and that of agriculture to 0. The *Total* line should be adjusted accordingly to show 2,220 TAF urban and 390 TAF agricultural.

► Page 4-8, paragraph 3. The first sentence of the paragraph states that statewide irrigation efficiency averages 73 percent based on DWR data analyzed by UC Davis.

Although no reference was given, the analysis mentioned is apparently the study of mobile irrigation laboratory data conducted by Blaine Hansen and Wil Bowers under contract to the DWR Statewide Planning Program. The final report, entitled *An Analysis of Mobile Laboratory Irrigation System Evaluation Data* (November 1992), focused on distribution uniformity rather than irrigation efficiency. The report includes estimates of irrigation efficiency based on estimated applied water, but with the caveat that "much uncertainty exists in the quality of the applied water data, and thus, in the quality of the estimates of irrigation efficiency." Based on this report, and the self-selection and geographic bias inherent in the mobile laboratory data, it appears that the mobile laboratory data is insufficient to support a statewide average irrigation efficiency value as high as 73 percent. Bulletin 160-98 assumes that the statewide average seasonal application efficiency will be 73 percent in 2020, increasing up to 80 percent through implementation of water management options

► Page 4-9, paragraph 2. The third sentence, in parentheses, states that 73 percent irrigation efficiency represents full irrigation for an entire field and 80 percent efficiency represents full irrigation on 7/8ths of the field with slight under-irrigation on 1/8 of the field. This statement is incomplete and unnecessary in its current context. It apparently refers to the use of distribution uniformity as a measure of potential irrigation efficiency. Distribution uniformity is computed as the minimum depth infiltrated divided by the average depth infiltrated. When the minimum depth used is that of the low quarter (as is common in on-farm irrigation management) the potential irrigation efficiency is approximately equal to distribution uniformity. One consequence of this management strategy is that 1/8 of the field (1/2 of the low 1/4) is slightly under-irrigated. However, if the absolute minimum depth is used (so that none of the field is under-irrigated), potential irrigation efficiency is related to distribution uniformity by a linear function so that, for example, a distribution uniformity of 80 percent would imply a potential irrigation efficiency of 73 percent. These concepts, although somewhat related, do not add to the clarity of the discussion. We suggest removing the sentence entirely.

► Page 4-10, paragraph 4. The last sentence of the paragraph refers to 73 percent as the current statewide average irrigation efficiency. Please see the previous comment on current statewide average irrigation efficiency.

► Page 5-9, Table 5.2. The 2020 projected per-capita water use values for the various urban zones is based on the results of the Bulletin 160-98 Urban Water Use Study. The 2020 projected per-capita water use value for the South Coast zone should be changed to 191 gpcd to reflect the final study results.

► Page 5-9, paragraph 1. The third sentence says that according to DWR full implementation of the urban BMPs will result in 1 million acre-feet of real water savings. The term "1 million" should be changed to "870 thousand" based on Public Review Draft Bulletin 160-98 supporting data.

► Page 5-9, paragraph 2. The fourth sentence refers to 1 million acre-feet of real water savings assumed for the CALFED No Action alternative. The term "1 million" should be changed to "1.5 million", based on the data in Table 5.4.

► Page 5-14, paragraph 4. The first sentence says DWR estimates that residential landscaping is currently irrigated at a statewide average of 1.2 times ETo. This value was used in Administrative Draft Bulletin 160-98. Based on further review, the Department has revised its estimate to 1.0 times ETo as reflected in Public Review Draft Bulletin 160-98. A cursory analysis shows that this change could reduce real water savings by about 50 TAF under CALFED No Action and about 100 TAF under CALFED Program.

► Page 5-18, Table 5.5. The 2020 assumed per-capita water use values for the various urban zones is based on the results of the Bulletin 160-98 Urban Water Use Study. The 2020 assumed per-capita water use value for the South Coast Region urban zone should be changed to 222 to reflect the final study results.

Executive Summary

► Page 10, third point. The sentence says that water use efficiency is expected to avoid over 3 million acre feet of water demand annually by year 2020. Based on the table on page 55 of Phase II Interim Report, "3 million" should be changed to "4 million".