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xvi In the list of acronyms the Solano County Flood Control and Water Conservation is listed. That district was renamed the Solano County Water Agency by state legislation in 1989.

Page 2-10 Add a bullet under *"Potential concerns of the habitat restoration program include:"* regarding economic impacts from the conversion of agricultural land to habitat restoration. The economic impacts are to local public agencies and the general economy of the area near habitat restoration programs.

Page 2-10 The list of potential concerns of the habitat restoration program should include a bullet on the potential impacts on drinking water quality (organic carbon) and ecosystem water quality (mercury).

Page 2-11 Water use efficiency measures may actually concentrate the pollutants in drain water and result in adverse impacts at locations receiving the drain water discharges. This could result in water quality criteria being exceeded in receiving waters.

Page 2-11 The third item in the list of benefits of the Water Quality Program should be amended to state "In conjunction with storage and conveyance alternatives, improves drinking water quality at some locations and provides public health benefits." The Water Quality Program will not improve the North Bay Aqueduct water quality.

Page 2-12 The fourth item in the list of benefits of the Water Quality Program should be amended to state "May reduce concentration of organic carbon at some intake locations. Organic carbon contributes to the formation of disinfection byproducts in drinking water supplies." The Water Quality Program will not reduce organic carbon concentrations at the North Bay Aqueduct intake and will not likely reduce bromide concentrations at any of the water supply intakes in the Delta.

Page 2-12 The list of potential concerns of the Water Quality Program should include "Source control actions will not significantly reduce bromide concentrations at drinking water intakes."

Page 2-12 Add a paragraph under *"Water Use Efficiency Program"* to explain that water conservation done in some areas, like the Sacramento Valley, does not result in "new water" because water not conserved re-enters the system for other water users to make beneficial use of the water. Only water conservation that results in reduction of flows to the ocean or to other unusable water supplies result in water savings to the system.

Page 2-16 The CALFED Coordinated Watershed Management Program should provide funding and technical resources to individual watershed efforts that are underway in the

Sacramento Basin and should initiate a San Joaquin watershed program, similar to the Sacramento River Watershed Program. The CALFED program could potentially provide assistance with coordinated monitoring and workshops on best management practices and funding opportunities.

Page 2-16 One of the stated goals of the Coordinated Watershed Management Program is to implement data collection and standardized monitoring. We thought the Comprehensive Monitoring Assessment and Research Program (CMARP) was responsible for these activities. These two CALFED efforts should be coordinated.

Page 2-17 The relocation of habitat restoration activities from the south Delta to the north Delta acknowledges that it would be "prudently distant from the South Delta pumping facilities" but it does not acknowledge that the new habitat would be in close proximity to the North Bay Aqueduct pumping plant on Barker Slough. This is inconsistent with the CALFED solution principle of "no significant redirected impacts" unless the North Bay Aqueduct pumping restrictions for Delta smelt are lifted or an alternative intake is provided for the North Bay Aqueduct.

Page 2-17 In Section 2.3.3.1 there are references to *"six programs"* and *"six alternative elements."* I presume these are the six common programs. Consistent references to the common programs should be made throughout this section to avoid the impression that there are other elements incorporated into the alternatives. The water transfers and watershed management common programs are not listed with the other common programs. In the description for Alternative 1B and 1C there should be a note that although all six of the common programs are not listed each time, they are a part of Alternatives 1B and 1C.

Page 2-22 The discussion of relocating the North Bay Aqueduct intake should acknowledge that the habitat restoration activities in the northwestern Delta are another potential reason for relocating it. This comment applies to the description of Alternative 2 and Alternative 3.

Page 2-22 The discussion of the Water Quality Program additions should include relocating Delta island drainage discharges away from the drinking water intakes or treating the Delta island drainage to remove organic carbon.

Page 3-2 Under *"Water Quality"* there should be a separate section for in-Delta water quality impacts. In that new section it should be noted that none of the alternatives will improve the quality at the North Bay Aqueduct.

Page 3-7 Under *"Agricultural Economics"* there is mention of a loss of jobs and economic income in the San Joaquin River region as lands are retired. A similar statement should be added to the Delta region due to conversion of agricultural land to ecosystem habitat.

Page 3-8 Under *"Agricultural Social Issues"* add that the Delta region will suffer a loss of jobs as

agricultural lands are converted to ecosystem habitat.

Page 3-9 There is a statement under the Other Programs column that the Water Quality Program will have flood control benefits. Based on a review of the Water Quality Program actions, it is unclear as to how the Water Quality Program will benefit flood control.

Page 3-9 Under *"Utilities and Public Services"* add that conversion of agricultural land to ecosystem restoration may reduce revenues to public agencies providing public services.

Page 4-6 Figure 4-2 should include the North Bay Aqueduct.

Page 6.1-10 The Ecosystem Restoration Program may also increase TOC and mercury concentrations in Delta waters.

Page 6.1-11 A discussion of the impacts of the No Action Alternative and Alternative 1 on the North Bay Aqueduct water quality should be included.

Page 6.1-12 In the second paragraph under *"Discussion For Alternative 2,"* the water quality impacts for the North Bay Aqueduct should be described along with the other locations described in the Delta. The discussion for Alternative 3 should also describe the impacts on the North Bay Aqueduct.

Page 6.1-13 The potential adverse water quality impacts of the ERP should be acknowledged.

Page 6.1-13 The description of the impacts of the Water Quality Program is inadequate. The level of detail and explanation provided for the other program elements should be included for the Water Quality Program. Overall, the Water Quality Program will have beneficial impacts on river and Delta water quality, although North Bay Aqueduct water quality will not likely be improved sufficiently to meet target levels for TOC and bromide.

Page 6.1-13 he Levee Program could also result in mobilization of metals and organics during construction activities and afterwards.

Page 6.1-15 There are several notable errors on the map. New Melones Reservoir is on the Stanislaus River, not the American River; the California Aqueduct and Delta Mendota Canal are mislabeled, and the North Bay Aqueduct does not extend into Marin County.

Page 6.1-19 In the listing of principal sources of parameters of concern the following additions should be made: Stormwater - dissolved solids; Municipal and industrial wastes - organic carbon, pesticides; Surface agriculture - organic carbon

Page 6.1-19 In the last bullet there is a statement that "High metals concentrations have the greatest potential for adverse effects on drinking water supply and environmental and recreational uses." High metals certainly impact aquatic life and the ability to consume



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aquatic organisms with high body burdens of metals affects humans. Most metals concentrations in the Delta are well below drinking water standards. The parameters that have the greatest impact on drinking water quality are TOC, bromide, turbidity, pathogens, and dissolved solids.

Page 6.1-20 The list of parameters of concern should be updated to agree with the most recent list developed by the Water Quality Technical Group and Parameter Assessment Team.

Page 6.1-21 and 22 There are inconsistencies in the descriptions of tributaries to San Francisco Bay on these two pages.

Page 6.1-23 The discussion of mining impacts needs to include the mining of mercury from the Coast Range. These mining activities have had long-term impacts on Delta water quality.

Page 6.1-31 The discussion of water supply and water management should include other diverters/exporters in addition to the SWP and CVP exports. For example, East Bay Municipal Utility District and the City of San Francisco export water from the Mokelumne and Tuolumne rivers, respectively.

Page 6.1-33 In the first full paragraph on this page there is reference to pumping done at Banks, Tracy, Rock Slough, and the North Bay Aqueduct. This paragraph fails to recognize that there is agricultural pumping in the Delta also.

Page 6.1-32 Section 6.1.2.1 should discuss how the CALFED models simulate the hydrodynamics and water quality at the North Bay Aqueduct intake. This is critical to understanding the effects of the alternatives on the North Bay Aqueduct.

Page 6.1-43 Table 6.1.2-2 identifies increased salinity at Rock Slough for the different alternatives however it does not for the North Bay Aqueduct. Information on the North Bay Aqueduct should be included.

Page 6.1-55 The discussion of Environmental Consequences: Water Quality contains many statements that are not referenced. References must be provided for statements such as "pollutant loads from wastewater treatment plants and urban runoff are expected to increase by 60%." This is only one example of many unreferenced statements that are in this section.

Pages 6.1-56 and 6.1-57 These pages contain information on the effects of the alternatives on the water quality at the Contra Costa Canal intake while no information is provided on the water quality of the North Bay Aqueduct intake. Comparable information should be presented on the North Bay Aqueduct intake.

Page 6.1-60 The ERP could potentially result in mobilization of metals in soils used for habitat restoration.



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Page 6.1-60 60The ERP could result in salinity increases as a result of evapotranspiration by the increased biomass.

Page 6.1-60 The statement that *"The only potential long-term adverse water quality impact of Ecosystem Restoration Program is an increase in water salinity attributable to increased evaporation"* is erroneous. As stated previously, evapotranspiration could result in salinity increases. In addition, the ERP could potentially increase TOC concentrations in Delta waterways and result in the methylation of mercury in marshes. These are both potentially long-term significant impacts that need to be identified and evaluated.

Page 6.1-60 The discussion of the impacts of the various programs is very limited and needs to be greatly expanded. For example, what impacts might occur as a result of the mine drainage, urban runoff, wastewater, agricultural, etc. actions in the Water Quality Program.

Page 6.1-64 The statement, *"The solubility of oxygen in water increase proportionately to water temperature"* is erroneous. Dissolved oxygen concentrations are inversely proportional to temperature.

Page 6.1-54 An explanation is needed for the apparent disappearance of metals in the Sacramento River system.

Page 6.1-61 Water conservation may increase the concentrations of pollutants and result in adverse impacts on aquatic life.

Page 6.1-65 The Central Valley Regional Water Quality Control Board's Basin Plan for the Sacramento Basin prohibits the discharge of certain pesticides at levels exceeding water quality goals from rice fields. These prohibitions do not apply to all agricultural practices as stated in the document.

Page 6.1-67 The *"mixture of benefits and adverse consequences"* outside of the Central Valley needs to be more fully described.

Page 6.1-67 The discussion of mitigation strategies is limited to a cursory discussion of the impacts of construction activities. A discussion of mitigation strategies for long-term impacts of the CALFED program on water quality must be included in the Revised draft PEIS/EIR. Several examples of long-term impacts include the potential for ecosystem restoration activities to increase organic carbon concentrations and toxic mercury concentrations in the Delta and the potential for water conservation activities to lead to higher concentrations of agricultural chemicals in receiving waters.

Page 6.1-68 There is a statement that the significant impacts are believed to be avoidable. There should at least be a list or a brief summary of what CALFED considers to be the significant impacts and why they are avoidable.

Page 6.1-69 In the first paragraph under *"Alternative 3"* the paragraph states that the impact of the operation of the isolated facility would have less than significant impact on Delta water supplies even though there would be less water flowing through the central Delta. This section should be expanded to include the data, or at least footnote the source of the information, used to come to the conclusion of a less than significant impact.

Page 6.1-70 Figures 6.1.4.1 and 6.1.4.2 should be expanded to include wet years and below normal and dry years to get a full range of water supply deliveries with the three alternatives.

Page 6.1-74 This page discusses the two figures discussed above. Interspersed throughout this section are the assumptions used in developing the figures. It would be convenient to have one paragraph or one table listing the assumptions made in these runs.

Page 6.2-16 In the fourth full paragraph in the second column there is reference to the Solano County Flood Control and Water Conservation District. The correct name is the Solano County Water Agency.

Pages 7.1-36 and 7.1-37 The fourth full paragraph in the second column of page 7.1-36 discusses conversion of Delta agricultural lands to inundated wetlands and open water habitat as part of the ecosystem restoration program. The paragraph mentions that south Delta and central Delta habitat locations are not ideal because of the influence of the south Delta export pumps. This section goes on to state that the north Delta is a better choice for habitat restoration. This section fails to note that there are intakes in the north Delta that could adversely affect habitat restoration projects in the north Delta, including the North Bay Aqueduct. This does not preclude the establishment of habitat restoration projects near these intakes, however there must be an acknowledgment that some additional take will occur with the increased habitat and the water supply facilities must have an exemption from any adverse impacts or restrictions due to the establishment of new habitat.

Page 7.1-42 In Section 7.1.2.7 mitigation strategies for fisheries and aquatic ecosystems are identified. One impact of implementation of the ecosystem restoration plan, with the potential emphasis on the north Delta is that diversions in north Delta, in particular the North Bay Aqueduct, could be adversely affected by the presence of more special status species. Mitigation strategies should be identified for the potential of increased pumping restriction. Mitigation strategies such as relocation of the intake and/or a "safe harbor" provision should be identified.

Page 8.1-9 In the paragraph on the State Water Project, the paragraph will be clearer if only the counties (or areas) receiving State Water Project agricultural supplies are listed.

Page 8.1-26 In the first partial paragraph on the page the text states that *"benefits (or losses) to the Delta region from other configurations are unknown."* It is important to identify any losses (or benefits) to Delta agricultural water supply from Alternative 2 or 3. When is this analysis going to be completed?

Page 8.1-33 In Section 8.1.4.4. The economic impacts of the CALFED program to a Delta city such

as Rio Vista should be evaluated as an example. The multiplier effect to the local economy of taking agricultural land out of production should be analyzed. An analysis to the economic impact on city government should be included. This analysis should also be included in Section 8.6 – Regional Economics.

Page 8.1-35 In Table 8.1.4-2, why are there no north Delta salinity numbers? There are significant agricultural diversions in the north Delta. If the different configurations have no impact on north Delta agricultural water quality, this should be specified.

Page 8.1-38 Under *"Mitigation Strategies"* add a bullet stating that land taken out of production for CALFED purposes will continue to pay assessments to local agencies, such as levee protection/reclamation districts. Also add bullet providing a mitigation strategy for farms that are adjacent to newly formed restoration projects, which attract special status species. Operations on existing agricultural lands should not be impacted by a new CALFED developed mitigation project.

Page 8.2-6 In the third full paragraph in the second column there is a discussion about the increased cost of changes in water quality because of Alternative 2. A similar paragraph is on page 8.2-7 for Alternative 3. In addition to relocation of intake facilities, improved treatment, or changes in water supply management, add provision of funding for implementation of best management practices to land uses in the watershed. This is particularly relevant to the North Bay Aqueduct.

Page 8.2-6 In the *"Storage and Conveyance"* section there is reference to water supply costs avoided. As a footnote or an appendix please provide the assumptions used in developing the average annual benefits.

Page 8.2-17 Table 8.2.1-4 only includes data through 1993 for the North and South Bay Aqueducts. More recent information would provide a more realistic demand of water use because many of the years listed in the table are drought years when State Water Project supplies were reduced.

Page 8.2-18 Under *"Water Supply and Related Infrastructure"* the description of the North Bay is incomplete. The document leaves the impression that the North Bay Aqueduct is the only source of water supply for the North Bay. In Solano County, the U.S. Bureau of Reclamation's Solano Project provides a substantial source of water supply. Additionally, Napa County has local reservoirs that provides substantial additional supply. Also, the Solano County Flood Control and Water Conservation District has been renamed the Solano County Water Agency.

Page 8.2-36 The economic analysis of changes in THM precursors and bromides under the CALFED alternatives are to be available in the future. This is an important piece of information and should be included in the next draft of the PEIS/EIR.

Page 8.2-46 For both Alternative 2 and Alternative 3 the document states that there are increases in bromide and DOC at the North Bay Aqueduct intake but no economic analysis is

available. The amount of the increase should be documented somewhere in the draft and if this is a significant impact, an economic analysis should be prepared.

Page 8.2-54 Under *"Mitigation Strategies"* add provision of funding for implementation of best management land use practices in watersheds to improved water quality. This is particularly applicable to the North Bay Aqueduct.

Page 8.6-12 This page provides the results of an economic analysis of revenue lost and jobs lost due to the three CALFED alternatives. A description of the methods used to develop these numbers should be included in the text.

Page 8.6-15 Under *"Mitigation Strategies"* various mitigations are proposed to reduce the economic impacts. The second paragraph under *"Mitigation Strategies"* states that none of the economic impacts would be considered significant. Some justification of this statement needs to be included. The sentence goes on to state that *"however, there would be substantial effects from agricultural land conversion in many areas."* These phrases appear to be inconsistent. On one hand there is an acknowledgement of *"substantial adverse effects"* however the same sentence states that they would not be considered significant. In Table 8.6-1 the impacts for the Delta region are all *"significant and mitigatable."* Additional information needs to be provided as to how the conclusion was developed and how it was determined that the significant impacts are mitigatable.

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Page 44 Target 4 is the restoration of tidal channels in the southern Yolo Bypass. One of the alleged benefits of this is to provide a migratory pathway for salmon. This target is identified with one diamond meaning that additional research, demonstration and evaluation is needed to determine feasibility or ecosystem response. A fundamental question that should be addressed even before further study is whether or not the Yolo Bypass is an appropriate migration pathway for salmon and steelhead. The extremely limited number of salmon potentially spawning in Putah and Cache Creek probably do not warrant major changes in the Yolo Bypass. These types of changes could attract more salmon from the Sacramento River system into the Yolo Bypass where conditions are inferior to those in the central Delta. The text also mentions upper Sacramento River salmon using the Yolo Bypass as a pathway southward towards the Delta. Using the Yolo Bypass, particularly during low-flow conditions, as opposed to the Sacramento River would seem to increase the mortality of salmon. Further research on this topic is warranted even before it is suggested for further study.

Page 321 The last sentence in the third paragraph of the page states that releases below the Solano Diversion Dam are near zero in the driest years. This is incorrect. Even in dry years the minimum flow is 15 cfs in September and October and greater amounts in the summer months.

Additionally, in the first full paragraph in the second column there is reference to

spawning gravels in lower Putah Creek. While there are locations in Putah Creek where there are gravel deposits suitable for spawning, they are limited in number and scope. The impression left in this paragraph is that there are widespread areas suitable for salmon and steelhead spawning. This is an incorrect portrayal.

At the very bottom of the second column a statement is made that *"native fish population are very low in Putah Creek except for the two-mile reach immediately below the Solano Diversion Dam."* This is incorrect. Data accumulated over the last several years have shown that native fish populations are found throughout Putah Creek. The ratio of native to non-native fish does decrease the further down the Creek from the Diversion Dam. However just to say that the native fish population is *"very low"* is incomplete.

Page 322 The first full sentence of this page states that *"the length of this reach is insufficient to insure the long-term viability of the native fish assemblage and a goal is to restore these native fishes to a state of good condition."* This is a judgement that was reached by a consultant hired to prepare a testimony for an instream flow trial in Putah Creek. This fact was disputed by other experts in the trial. It is inappropriate to put this type of statement in an environmental document that is to provide unbiased information to the public.

Page 327 The bottom of this page references a *"Native Species Recovery Plan for Lower Putah Creek."* This plan was prepared as testimony for an instream flow trial on Putah Creek held in 1996. The plan was prepared by one set of parties to the litigation. The plan was subject to intense scrutiny during trial. Other experts disputed many of the findings in the plan and the final judgement excluded many of the recommendations in the plan because they were not substantiated. It is inappropriate to use the recommendations in this plan as base-line information in the Draft PEIS/EIR.

Page 329 Target 1 of Central Valley streamflow discusses supplementing streamflows in the Yolo Bypass for the passage of salmon and steelhead through the Yolo Bypass. This target is given two diamonds meaning that the target will be implemented in stages with appropriate monitoring to judge benefits and successes. A similar recommendation is included on Page 44 and 45. This recommendation is given one diamond meaning further research and study is necessary. Please see my previous comment on Page 44 and 45 questioning whether even one diamond should be awarded to the concept of using the Yolo Bypass as a migratory pathway for salmon and steelhead. At a minimum Target 1 on Page 329 should be downgraded to one diamond.

Page 330 The third paragraph under *"rationale"* states that *"improved streamflows are one of the most critical ecosystem elements required to promote healthy native fish populations in Putah Creek."* We dispute this finding. Current streamflows are providing excellent habitat for both native and non-native fish in Putah Creek. We dispute the previously mentioned *"Native Species Recovery Plan for Lower Putah Creek"* developed by one of the parties to an instream trial. We can provide information from our experts on the fishery resources in Putah Creek.