A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
296	1055	7-41	first column, second paragraph	Mike Ford, DWR	For clarity, the text should be modified to say that '...installation of the Old River barrier would increase net southerly flows toward the export facilities from the central and west Delta during April and May and the fall.	T	
295	1056	7-43	first column, last paragraph	Mike Ford, DWR	Text states that '....barriers in the south Delta are included in the conveyance component and would have an adverse impact." It doesn't stated why they would have an adverse impacts, just that they do. Some elaboration to support this conclusion is needed.	IA	
1072	1057	7-1	Entire Chapter	seh, EPA	The information in the EIR/S should be complete enough to form the basis for analysis and decision-making in the Phase 2 document. At this point, the Fisheries and Aquatic Ecosystems Chapter of this document is inadequate for this purpose. Table 7.1-2 and the Environmental Consequences Section of Chapter 7 together appear to mention most, if not all, of the issues. However, an understanding of the importance of each impact issue in restoring and protecting aquatic ecosystems and in crafting a solution cannot be gained from reading this document. For instance, there is some controversy about the importance of net flows in the lower San Joaquin to the survival and population abundance of a number of fish species, or how well additional Delta habitat will provide better survival. Relevant information, especially about the certainty of conclusions or study results, should be presented and cited so that this document can form a good basis for decision-making, and support the conclusions. Many of the conclusions are stated in terms of changes in "productivity." This term should be defined, and the importance of "productivity" to aquatic resources and fisheries should be demonstrated.		
1073	1058	7-1	Entire Chapter	seh, EPA	The Chapter must be reorganized and expanded so that the conclusions in the Tables at the beginning of the Chapter are supported by and consistent with the Environmental Consequences Section (7.1.2).		
565	1059	7-1	Left Column, Paragraph 3, Sentence 2	DFG	The word "may" should be replaced with a more active term such as "will" or "will not". If the modeled output does not predict additional flows then say so.		

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A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1074	1060	7-1 7-2 7-31	Alternative 2 Table7.1.1, 3rd Issue Productivity	seh, EPA	The "Productivity" category of impacts should be clarified. A definition should be included on P. 7-31. We suggest that only indicators of impacts on primary productivity should be included here. Issues such as entrainment and temperature are more clearly dealt with in other sections. On page 7-2 and elsewhere where "productivity" is mentioned, it should be clear what is meant. Reduction of productivity from higher water flows through a channel system may be offset by increased productivity from additional shallow-water, wetland and riparian habitat. Information that would support your conclusion of reduced productivity should be carefully and fully supported, since this issue appears to be a major distinguishing factor between alternatives.	**	
289	1061	7-1 and on	Section 7.1	R. Tom, DWR	An increase in organic carbon is described as a beneficial impact for aquatic ecosystems. While this is true, the issue of organic carbon should be balanced with the adverse impact it would have on drinking water quality/treatment processes and public health, particularly since there is no section in the draft document devoted to public health impacts as it relates to drinking water quality and economics.	T	
288	1062	7-1	Col. 1, Para. 2.	Ted Sommer, DWR	See previous comment about Alternatives 2D,2E and 3H. I suggest deletion of the last sentence.	T	
713	1063	7-1, 7-20 through 7-22	Section 7.1	WAPA	The summary in Section 7.1 is very confusing and it is organized in a different way than Sections 6.1, 7.2 and 8.1. Tracking beneficial and adverse impacts across each region rather than across the alternatives makes the comparison to Table 7.1-1 very difficult. If this is the method to be used, then provide a similar discussion of beneficial and adverse impacts across the SWP and CVP service areas.	1.	
572	1064	7-11	Table 7.1-1	DFG	Aquatic productivity; third row: The No-Action and Alt 1 and 2 should be rated as darkened half circles for all five species listed; Alt 3A through H should remain as shown; and Alt 3I should show no change.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
298	1065	7-11 to 7-13	Table 7.1-2	J Turner, DWR	Many of the impact issues in this table are not discussed in the accompanying text. At a minimum the issues where there are adverse impacts noted in the table should be discussed in the text. I will list the issues with no text by alternative, as it was presented in the document. Alter. 1-- Construction of the barrier facilities in config. 1B and 1c would modify and destroy spawning and rearing habitat; Entrainment losses would be increased by exports from south delta and construction of barriers under config 1b and 1c Alternative 2--Aquatic productivity and food avail. In south and central delta would change in response to increased exports in the south delta; Construction of the barrier facilities in config. 2A, 2b, and 2d would modify and destroy spawning and rearing habitat; X2 may shift in summer and fall, potentially reducing habitat quality or quantity for organisms assoc. With it; Entrainment losses would be increased by exports from south delta and construction of barriers under config 2A and 2b Alternative 3--Construction of the barrier facilities in config. 3A and 3B would modify and destroy spawning and rearing habitat; X2 may shift in summer and fall, potentially reducing habitat quality or quantity for organisms assoc. With it; Change in entrainment losses attributable from an isolated facility intake on the Sacramento River [need expanded discussion of this];	IA	
297	1066	7-11	Table 7.1-2 2nd Impact	Spaar, DWR	The addition of spawning gravels in the Delta Region is not likely, since salmonid spawning areas are upstream of the Delta.	T	
1078	1067	7-11	Table 7.1-2	seh, EPA	The Summary Table for Listed and Proposed Species should be expanded to include other important species of concern, at a minimum those used in the RFP for Category III funding. San Joaquin fall-run salmon is one example with specific impact issues that must be clearly identified.		
575	1068	7-12 and 7-14	Table 7.1-2	DFG	X2 shift depends on change in Delta outflow which is not necessarily proportional to Rio Vista flows and in this case probably isn't since Alternatives 2 and 3 redistribute flow between Sacramento and San Joaquin rivers.		
573	1069	7-12	Table 7.1-2	DFG	Entrainment losses; fourth row: Alt 3 should be rated as o for all three salmonid species listed.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
574	1070	7-13	Table 7.1-2	DFG	Through Delta and isolated; first row: The No-Action, Alt 1, and Alt 2 should be rated as darkened half circles for all five species; Alt 3 should rated as a +.		
299	1071	7-14	7.1-2	K. Nelson, DWR	Regarding the impact of shifting X2: If ERP calls for the development of tidal wetland areas in the Delta, won't additional habitat be available for X2-associated species if tidal prism shifts upstream?	T	
291	1072	7-2	Row 3	Ted Sommer, DWR	Substitute "more natural flow patterns" with "flow patterns more similar to historical".	T	
292	1073	7-2 through 7-19.	Table 7.1.1	Ted Sommer, DWR	Many of the "boxes" under the "Impact Issues" heading include multiple impacts. It is unclear whether all of these points are used as the rationale for the symbol selected to represent the impacts to each alternative. For example, in Page 7-2, Row 1 lists increased entrainment loss of fish, organisms and nutrients and more net reverse flow patterns. It is unclear if more net reverse flow applies to all the alternatives--ie does the "significant, mitigatable" symbol for all the variants of Alternative 2 really include ALL of these impacts?	IA	
1076	1074	7-2 7-37	Table 7.1.1 7.1.2.5, Comparison of Alternaties.	seh, EPA	The reason why certain categories are identified should be clearly stated or referenced in the Table. For instance, for the first impact issue on page 7-2, why are 1C through 2E and 3 I impacts significant and mitigable, while 1A, 1B and 3A-3H impacts are not significant. The alternative comparison beginning on P. 7-37 should be organized to directly correspond with the Table, and provide the necessary information for the conclusions in the Table. The Appendix should provide background information and analytical results and data.		
1075	1075	7-2 7-53	Table 7.1.1 Mitigation Strategies	seh, EPA	There are many impact issues that are significant and mitigable identified in Table 7.1-1, however the information provided in the mitigation strategy is very general. A list of realistic and useful mitigations listed by specific impact should be included.	**	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
290	1076	7-2 to 7-5	Table 7.1-1 Delta Region	J Turner, DWR	The impact issue table is sometimes inconsistent with the text. It looks like the category of impacts and the explanations were cut and pasted out of the technical appendix and makes the information here hard to follow. Examples of this are: P. 7-2, under "Through delta facilities would increase cross-Delta flow, potentially: Alternative 3H is listed as having a signif. Impact. This is confusing since this alternative has both isolated facilities and through delta facilities. Perhaps this could be corrected with a footnote explanation at the end of the table. P. 7-3, under "Relocation of the SWP and CVP diversion point...", alternative 3I shows an impact. If you go by what is written, this alternative would have similar impacts to 1B, 1C, and 2, since the Hood facility is screened. I think the impact is due to additional unscreened intakes included in this alternative. This needs to be explained, possibly by another footnote. P. 7-3, under "Construction of an intertie between the existing CVP intake and Clifton Court Forebay...In this case no discussion of this issue is found in the text. What is causing an impact from the intertie?	IA	
566	1077	7-2	Table 7.1-1	DFG	Additional south Delta exports; first row: Alts 3A-3H should be + rather than none significant adverse impact.		
567	1078	7-2	Table 7.1-1	DFG	Through Delta; third row: The No-Action and Alt 1 should be rated as darkened half circles; Alt 2 should be o except for 2E which remains as shown; and Alternative 3 should be + since screens at Hood will reduce diversion of fish into central Delta.		
568	1079	7-2	Table 7.1-1	DFG	Through Delta; fourth row: The No-Action and Alt 1 should be rated as darkened half circles; Alt 2 should remain as shown; and Alternative 3 should be +.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1193	1080	7-2	Table 7.1-1	FWS	Organization of this Table by "Impact Issues" rather than "Impacts" is confusing (and lengthening). Such summary matrices should provide convenient one-stop shopping for the reader who wants to understand how the alternatives affect, for example, steelhead (or any other impacted resource). To do that now, the reader would have to already know all the mechanisms ("Impact Issues") that might affect steelhead, their relative importance, and the ways they interact. Few--if any--readers will have this knowledge about many species. Again, the role of No Action in the analysis is confusing (especially when comparing Tables 7.1-1 and 7.1-2). And, since No Action is not clearly defined, some of the conclusions seem unsupportable (see the first line on p. 7-2: No impact--but doesn't No Action include increased demand and exports? And the third line on p. 7-3 shows a significant impact due to an action that is not even part of No Action). Like the other tables, these should be revised to either delete the No Action column, or to compare all alternatives (including No Action) to a consistent Existing Conditions.		
1194	1081	7-2	Table 7.1-1	FWS	As in other tables, the symbolic ratings chosen to indicate effects tend to obscure real differences in environmental effects among alternatives that may be orders of magnitude apart in importance. For example, the very first line of the table suggests that alternatives 1A and 3E have similar (and "not significant") effects. This seems unlikely, especially when analysis is confined to the "delta region". Why doesn't Alt 3E, among others, result in improved conditions (less entrainment of delta fish and food chain organisms, virtual elimination of reverse flows) compared to 1A? These differences are impossible to detect without more fine differentiation among the symbols used in the table.		
1195	1082	7-2	Table 7.1-1	FWS	Apparently CALFED believes that all possible adverse impacts to fisheries and the aquatic ecosystem are "mitigable". This conclusion should be supported with additional, detailed information about how such mitigation would be accomplished. This section could be improved with detailed discussion of the impacts of such actions as reservoir construction and development of new or increased diversions, describing detailed mitigation plans where possible, and admitting that not all potential effects may be mitigable. Furthermore, the PEIS should recognize that even where mitigation is believed to be possible, it is often based on experimental and unproven techniques; these impacts would be better described as "potentially mitigable".		

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A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
293	1083	7-2 to 7-19	Tables 7.1-1 and 7.1-2	J Turner, DWR	These tables are a good summary of the impact issues. Table 7.1-2 is missing info in the "no action column". However, where significant adverse impacts are identified and "mitigable", there needs to be at least general types of actions listed in the text to show how the significant impacts will be mitigated.	IA	
294	1084	7-2 to 7-19	Tables 7.1-1 and 7.1-2	J Turner, DWR	I don't agree with some of the designations in the tables. Some of the impacts listed as significant and mitigable are significant, but no mitigation strategies are offered to reduce their significance. Other impacts such as screened fish export facilities causing increased mortality for Sacramento fish are impacts that have been mitigated to less than significant levels by screening the facilities and being an overall benefit to fish by reducing fish losses in the central and south delta area. You need to go over these tables and include discussions of mitigation strategies to reduce significance to those that are significant under the CEQA/NEPA guidelines.	IA	
302	1085	7-20	Second paragraph, fourth paragraph	J Turner, DWR	There needs to be a clearer distinction between reducing reverse flows in the SOUTH delta as a benefit to many of the alternatives, and the benefits of alternative 3 vs. The impacts of alternative 2 in changing flow patterns in the Mokelumne River and Central Delta.	T	
300	1086	7-20	Sixth paragraph, last sentence	J Turner, DWR	This states that the three unscreened intakes would adversely affect movement of delta species to habitats "farther from" the influence of south delta diversions. It should be the opposite--closer to the diversion.	T	
301	1087	7-20	Para. 4, Line 6.	Ted Sommer, DWR	Substitute "historical" for "natural".	T	
1196	1088	7-20	1st column, last paragraph, 4th sentence:	FWS	Sentence states, "Species benefits include reduced entrainment of species in the central and south Delta ...". This statement should be qualified that the reduced entrainment would be commensurate with the decrease in Delta channel diversions from the south Delta export facilities. Rewrite: "Species benefits include reduced entrainment of species in the central and south Delta as south Delta diversions would be decreased commensurately with increases to north Delta diversion into the isolated facility..." .		
576	1089	7-21	Right Column, Paragraph 3	DFG	This section contains a vague description of flow benefits. Modeling information should demonstrate if reoperation of a reservoir and diversion facilities will produce additional short term flows.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
884	1090	7-21	Sacramento River and San Joaquin River, Beneficial Impacts, Paragraph 2	Fujitani, USBOR	Assuming the use of ERP flows and operational changes, this could improve water temperature conditions for chinook salmon and steel head. However, it should be noted that a significant adverse temperature impacts could occur to winter-run salmon temperature operations and temperature operations at other reservoirs due to increased releases and reoperation of reservoirs.		
303	1091	7-21	Column 2, Lines 8 & 21	Spaar, DWR	Sedimentation & Supply - Clarify/distinguish what is meant by "reducing sedimentation" and by "restoration of sedimentation supply and movement processes" as beneficial actions. They appear to contradict each other. Control of fine sediment vs. coarse sediment budget (spawning gravel, cobbles)?	T	
577	1092	7-22	Right Column, Paragraph 2	DFG	Pacific herring spawn in San Francisco Bay. This section should be revised to reflect that information.		
305	1093	7-23		Lehman, DWR	Why aren't rotifers listed for the rivers? and why is the only Asian clam listed as Potamocorbula? Why were only these invertebrates chosen out of the many benthic and pelagic species?	T	
304	1094	7-23	Table 7.1.1-1	Spaar, DWR	Largemouth bass are found in the San Joaquin River and it's tributaries, particularly in in-river gravel pits, where they are a predator of salmon smolts. Table indicates they are found only in reservoirs of that area.	T	
1197	1095	7-23	Table 7.1.1-1	FWS	Terrestrial and aquatic invertebrates, including rotifers may be found in all the areas listed. Modify the table.		
306	1096	7-23	7.1.1-1	L. Millett, DWR	UC Davis regularly captures American shad, Sacramento squawfish, tule perch, white catfish, and inland silverside in Suisun Marsh. Steelhead have been captured occasionally in the marsh and have been found in Green Valley Creek, a tributary to Suisun Marsh. This information is available in : Matern et al. 1997. Trends in Fish Populations of Suisun Marsh January 1996-December 1996. Annual Report for Contract B-80900. California Department of Water Resources. Environmental Services Office. & in DWR. 1998 (draft). Suisun Marsh Monitoring Program Data Summary: 1995 Water Year. Environmental Services Office.	T	
310	1097	7-24	3	Lehman, DWR	The decrease of natural shallow water habitat is so questionable that the basis for this conclusion must be included. Isn't this all based on one 1906 USGS survey? The same is need for the shaded habitat statement.	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
307	1098	7-24	5	Lehman, DWR	This general statement is untrue. Residence time is much lower now, compared with natural conditions when tule marsh was common. You need to define the time period etc. for these statements. Further, nutrients e.g. nitrate and ortho-phosphate are higher now than in the recent past.	T	
311	1099	7-24	7	Lehman, DWR	I don't know of any study where the loss of algae from reverse flows or export has been directly associated with invertebrate or fish production in the Delta.	T	
308	1100	7-24	7.1.1.2 Delta Region	Steve Hayes, DWR	Relocate last paragraph to portion of report where invertebrate species of the Delta are discussed, or list aquatic vertebrate species as well.	C	
309	1101	7-24	8	Lehman, DWR	You should mention that most trace metals have decreased or remained the same over time (1970-1993).	T	
317	1102	7-25	Col. 2, Para. 2.	Ted Sommer, DWR	Substitute "historically allowed" for "allow" in line 2. Substitute "historically permitted" for "permits" in line 5. Delete the third sentence.	T	
312	1103	7-25	2	Lehman, DWR	Again there is a problem with period of interest. What time period do you want to return to? You should not suggest it is a goal of the program to restore sewage treatment and food processing plant organic loading to the ecosystem.	T	
315	1104	7-25	3	Lehman, DWR	South Bay production is in situ and is not brought in with outflow. In fact south Bay is often cut off from the rest of the Bay hydrologically. Suisun Bay has both in situ and imported sources.	T	
313	1105	7-25	4	Lehman, DWR	Algal biomass, as measured by chlorophyll a concentration, has decreased in the shallows of Suisun Bay by a factor of 10 and somewhat in the channels.	T	
314	1106	7-25	5	Lehman, DWR	There is no entrapment zone in Suisun Bay - remove these statements and those referring to salinity stratification.	T	
316	1107	7-25	6	Lehman, DWR	Phytoplankton biomass etc. does not accumulate in Suisun Bay because there is no mechanism for this to occur. Remove the paragraph.	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
318	1108	7-26	Col. 1, Para. 3	Ted Sommer, DWR	Modify the end of sentence 2 as follows: "...survival may be improved..within the Delta for some species". Also, I am not sure if the last sentence is correct--it is my understanding that dam operations may at least sometimes INCREASE Delta outflow in summer.	T	
885	1109	7-26	Col. 2 Para. 2	Holt, USBOR	Please modify to note that the lower half of the river is levied. The first 1/4 of the river is unlevied by geologically constrained. The second 1/4 is freely meandering. The 3rd and 4th segments (Chico Landing to Colusa and Colusa to Verona) are levied and frequently riprapped.		
320	1110	7-26	2	Lehman, DWR	There is no evidence to suggest toxic substances have had a role in the changes in phytoplankton biomass. In fact the highest concentrations occur in the San Joaquin River which has the highest toxic loads. Remove paragraph.	T	
1198	1111	7-26	2nd column, 2nd complete paragraph, last sentence:	FWS	Sentence states, "Relative to the natural flow regime, the present river flows are lower in spring and winter but higher in summer and fall". Historically, ground water was higher in the Sierra due to natural absorption of snowmelt. Clearcutting timber and cattle grazing decreased this absorption and allowed higher runoff. Thus historically, flows of water from the Sierra would have lasted longer into the summer and fall. State that restoration of natural ground water hydrologic regimes in the Sierra would have profound effects on the flows in all months of the year.		
319	1112	7-26	3	Lehman, DWR	Dams have reduced winter and spring flows, but have increased summer and fall flows. This is the reverse of what you have said. Revise to: "Delta outflow since the 1970s in the winter and spring" and remove the last sentence.	T	
323	1113	7-27	SJR Region, Existing Conditions	Spaar, DWR	It would be helpful to include paragraphs 3-4, p. 6-107 in the description of existing conditions. The elimination of sloughs and side channel habitat and the impact of gravel extraction on fisheries habitat (in-river gravel pits) is important in terms of the aquatic ecosystem.	T	
321	1114	7-27	1	Lehman, DWR	The nutrient concentrations in the rivers are above limiting levels for phytoplankton growth, the need for higher concentrations is unclear.	T	
322	1115	7-27	1	Lehman, DWR	Phytoplankton production is low because residence time is short and production in the channels is negative.	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
324	1116	7-27, para. 2	7.1.1.4 Sacramento River Region	Steve Hayes, DWR	Expand the last sentence of the paragraph as follows " Agricultural return flows also discharge potentially harmful herbicides and pesticides into the system, **as well as an increased sediment load.**	T	
1199	1117	7-28 to 35	assessment methods	FWS	The discussion of assessment methods on pages 7-28 through 7-35 covers only the rationales used to identify probable beneficial impacts. NEPA and CEQA require identification and disclosure of detrimental impacts, and logical methods of doing that should be developed.		
1079	1118	7-28	Section 7.1.2.1, Assessment Methods	seh, EPA	The Assessment Methods include indicators of beneficial impacts that are very general, such as "increased flow patterns that approximate the natural seasonal flow patterns," or "flow variability that approximates the natural seasonal flow variability." These kinds of statements are not useful unless better defined either here or in the discussion of specific impacts. Additionally, the indicators of beneficial impacts include actions such as increased storage of water dedicated to meeting ecosystem flow needs, or removal of dams and other barriers to sediment and nutrient movement, which are likely to also have negative consequences. It may be that the benefits outweigh the negative consequences, however the EIR/S should present both the benefits and the negative consequences of possible actions, and not start with the assumption that certain actions are the right solution. This is particularly true for storage of environmental water. Other methods of providing environmental water, especially those reducing demand, should be seriously considered.		
327	1119	7-29 through 7-31		Ted Sommer, DWR	Substitute "historical" for "natural" in numerous places.	T	
325	1120	7-29	7	Lehman, DWR	Flow also dilutes salts from agricultural return waters in the San Joaquin River.	T	
326	1121	7-29	7.1.2.1Functional Characteristic	K. Nelson, DWR	There seems to be a conflict between beneficial impact indicators. "Increased Delta outflow patterns that result in an approximation of the natural seasonal variability in salinity distribution" will be difficult to reckon with "Relocation of species distribution to Suisun Bay and subsequent reduced exposure to Delta diversions" on Page 7-33, Entrainment Relationships.	T	
569	1122	7-3	Table 7.1-1	DFG	Is the underlying hypothesis concerning the differential impacts of the CVP/SWP intertie valid?		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1077	1123	7-3	4th Issue; Construction of ...	seh, EPA	The description of alternatives on P. 2-14 states that this intertie is "to provide operational flexibility to minimize fisheries impacts." However, in the table the intertie is described as having a significant negative mitigable impact. If the intertie will provide operational flexibility of benefit to fisheries, the changes in operations that would be possible and likely, and their benefits to both fisheries and water supply should be included in the EIR/S in this chapter, and the Surface Water Resources chapter.		
328	1124	7-30	1	Lehman, DWR	Change: "Increased..." to "Increased ... and water temperature" regulation"	T	
1200	1125	7-30	1st column, 1st paragraph:	FWS	Paragraph lists variables that can be used to measure beneficial effects of restoration efforts. Include appropriate water depth as being important in providing refugia for aquatic organisms and maintaining appropriate water temperatures.		
1201	1126	7-30	2nd column, 4th bullet:	FWS	Bullet states, "Restoration of natural flow patterns;". Revise to state: "Restoration of natural flow patterns with concurrent restoration of natural sedimentation and scouring regimes;"		
1202	1127	7-31	2nd column, 3rd bullet:	FWS	Bullet states, "Increased ratio of natural to protected levees and banks;". " Protected levees" is uncertain in definition. Revise to: "Increased ratio of natural to armored levees and banks;".		
330	1128	7-31	3	Lehman, DWR	Productivity is not defined and has many meanings. You may mean phytoplankton and zooplankton biomass etc. Note that productivity refers to the rate of production not biomass.	T	
329	1129	7-31	Col. 2, Para. 3	Ted Sommer, DWR	The text describes breaching levees and flooding of islands as more "natural" conditions. Simply breaching Delta levees may create large lakes with little habitat value and no historical precedent. I suggest deleting the first sentence.	T	
1080	1130	7-33	Entrainment, Bullet 4	seh, EPA	Reoperation of diversions to benefit fisheries is identified here, but is not identified in the Impact Issue Tables. The information on re-operation available in the Surface Water Resources chapter (see P. 6-34) and supporting documents and model runs should be thoroughly assessed for both negative and beneficial effects on fisheries and aquatic ecosystems. If this information is inadequate to make conclusions about storage alternatives and consequent re-operation, new information should be developed and provided.		

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A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
331	1131.	7-33, And 7-34,	Col. 2, Last para. and Col. 34, first para.	Ted Sommer, DWR	The premise that short-term fluctuations in river elevation are definitely adverse is incorrect. Present water surface elevation variation is actually less that historical for most valley rivers. One conceptual model is that flood pulses provide fish such as splittail and salmon access to off-channel and floodplain rearing habitat and that repeated variation provides an opportunity for these fish to successfully leave these productive rearing areas. It would be a mistake to try and minimize variation in rivers.	T	
1203	1132	7-33	1st column, 5th bullet	FWS	Increased reservoir storage is NOT an indicator of a beneficial impact to any species. This bullet should be deleted or modified to read "Improved flow or water quality conditions due to improvements or increased flexibility in water storage releases."		
1204	1133	7-33	2nd column, 3rd bullet:	FWS	Bullet states, "Relocation of species distribution to Suisun Bay ...". Relocation of riverine species to Suisun Bay may have adverse effects due to the tidal movements and higher salinity. Revise to: "Relocation of estuarine species distribution to Suisun Bay...".		
578	1134	7-35	Left Column, Paragraph 5	DFG	The text should make clear that the threshold for adverse impacts on listed species is normally a lower threshold.		
1205	1135	7-35	2nd column, 3rd paragraph	FWS	This paragraph states that operation rules and demands, and thus delta inflow and outflow, would be consistent between Existing Conditions and No Action. While this should be the case, it is directly contradicted by the first sentence of section 6.1.4.3, the first sentence of the second full paragraph of column 1 on p. 7-37, and the analysis elsewhere in the PEIS.		
332	1136	7-36	4	Lehman, DWR	The premise of this section is wrong. The contaminants etc in the Bay are locally produced, not imported from the Delta.	T	
579	1137	7-38	Left Column, Line 3	DFG	The idea that increased exports may be either adverse or beneficial is incorrect. Any increase in exports will result in adverse hydraulic conditions in the south and central Delta. This will result in both resident and anadromous fish species moving into the south Delta.		
334	1138	7-38 7-39 7-42	1st full para. 7Th para. 7Th para.	J Turner, DWR	In the text it says barrier construction (and operation)would have only minimal impacts because net flow direction in the connecting channels would continue toward the south and COUNTER to the natural flow direction. Counter to natural condition usually means it is an impact. This also contradicts findings in Table 7.1-2, under Entrainment losses would be increased... It is listed as a significant, but mitigable impact under alternatives 1b, 1c, and 2.	T	

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A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
333	1139	7-38 7-41 7-44	Parag 6, last sentence 2nd para. 5Th full p.	J Turner, DWR	On page 7-38 the text indicates HOR barrier benefits many fish species. The text on pages 7-41 and 7-44 indicate that species rearing in the central and south delta may experience increased entrainment, but then conclude it may benefit those species. Current studies with a temporary barrier at the Head of Old River indicate a benefit to San Joaquin River salmon smolts, but may impact resident species such as delta smelt by drawing them down from the Central Delta into South Delta channels near the pumps.	T	
580	1140	7-39	Left Column, Paragraph 5	DFG	Is the statement about minimal changes in outflow justified given that operations studies indicate a 9% increase in exports?		
335	1141	7-39,	Col. 2, Para. 2.	Ted Sommer, DWR	The second sentence appears contradictory. Continued flow "..toward the south and counter to the natural flow direction" seems inconsistent with the conclusion that the "adverse impact would be minimal".	T	
570	1142	7-4	Table 7.1-1	DFG	South Delta Barriers; fourth row: The No-Action and Alt 1 should be rated as darkened half circles since the temporary barriers will remain or permanent barriers installed; Alt 2 and 3 A and B should remain as shown; and Alt 3E, H and I should show no change.		
571	1143	7-4	Table 7.1-1	DFG	Head of Old River Barriers; fifth row: Alt 3 I should show no change.		
338	1144	7-40,	Col. 1, Para. 2.	Ted Sommer, DWR	See previous concerns about this analysis of 2D and 2E. I suggest deletion of the first sentence.	TT	
336	1145	7-40,	Col. 1, Para. 3, last sentence.	Ted Sommer, DWR	Again, I suggest deletion of the last sentence.	T	
337	1146	7-40 7-44	Para. 6 top para.	J Turner, DWR	Since there are potential impacts associated with through delta and isolated facilities with respect to juvenile fish drawn into Georgiana Slough and the Mokelumne River, as shown in Table 7.1-2, there needs to be more discussion of this than just the following sentence from the paragraphs listed: "The new facilities may provide slight beneficial impacts, depending on the level of mortality associated with the screen and intake facilities at Hood and on any change in movement of fish into Georgiana Slough."	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
339	1147	7-41	Paragraph 2, lines 9-12	Steve Hayes, DWR	Revise sentence to read, "In addition, the installation of the Old River Barrier would **decrease** net southerly flow toward the export facilities." The sentence currently reads "increase." Flows down the San Joaquin River and away from the facilities would be made more positive by placement of the Barrier.	T	
340	1148	7-41	2	Lehman, DWR	Inconsistencies here. Either the barrier will lead to greater entrainment or it won't. Both are stated.	T	
1206	1149	7-41	2nd column, 1st complete sentence:	FWS	Sentence states, "Studies indicate that survival of outmigrating juveniles may be higher when there is positive flow..". The referred to studies are with salmon. Revise to: "Studies indicate that survival of outmigrating salmon juveniles...".		
341	1150	7-42	Parag. 7	J Turner, DWR	In alternatives one and two the south delta flow control structures increase entrainment losses, but they are minimized in alternatives 3a and 3b because the isolated facility allows for less pumping from the south delta channels. This should be mentioned in the text here.	T	
1207	1151	7-43	2nd column, 1st paragraph:	FWS	Paragraph discusses restoration of shallow-water habitat as a benefit from various alternatives. The benefits accrued from restoration of this habitat will depend on the location of the habitat, the location of diversions in respect to the habitat, and the presence of flows to move larvae and juveniles to the entrapment zone. Add a discussion of these factors to this paragraph.		
342	1152	7-43	4	Lehman, DWR	Nutrients are in excess of those needed for phytoplankton growth. Phytoplankton biomass is a function of light, residence time and removal by herbivory or export.	T	
343	1153	7-44	Parag. 2 Through 4	J Turner, DWR	The discussion about differences in entrainment losses for the various alternative 3 configurations is not sufficient. You need a discussion of why there are potential impacts to Sacramento river chinook salmon from the isolated facilities at Hood and how this benefits central/south delta species, including delta smelt and splittail.	T	
345	1154	7-46	5	Lehman, DWR	Mass balance studies demonstrated production in the south Delta were demonstrated to contribute the most to Suisun Marsh and Bay; not the north Delta as stated.	T	
344	1155	7-46	8	Lehman, DWR	Dissolved oxygen and specific conductance should be discussed also.	T	
346	1156	7-47	6	Lehman, DWR	Water transfers also affect the distribution of food resources.	T	
581	1157	7-48		DFG	This section generally exaggerates impacts of operational alternatives on the Bay. Introductory paragraph on previous page says about all that needs to be said. Also third full paragraph in left column and second full paragraph in right column say much the same thing.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
347	1158	7-48	6	Lehman, DWR	Removal of seasonal variation in phytoplankton growth would not be beneficial to the food web. Also productivity as used here is unclear.	T	
1208	1159	7-49	1st column, 3rd complete paragraph:	FWS	Paragraph again discusses benefits of restoration of shallow-water habitat. Comments on page 7-43 above also appropriate here.		
349	1160	7-49	4	Lehman, DWR	Increased carbon production could also lead to problems with dissolved oxygen concentration which could decrease the overall production of the estuary and further depress ecosystem fishery resources. Why not say somewhere that the goal is to increase carbon to moderate levels.	T	
348	1161	7-49	11	Lehman, DWR	Dissolved oxygen should be included.	T	
582	1162	7-50	Right Column, Paragraph 2	DFG	It is an exaggeration to say that "flows that approximate natural patterns may be restored under Configuration 1C". The last sentence on the page comes closer to the truth but even that is probably questionable as we suspect changes will be small in relation to existing conditions.		
350	1163	7-50 through 52	Sac./SJR Regions - Alt. 1	Spaar, DWR	Although this section title indicates it covers both river regions, the San Joaquin River Region is not mentioned throughout the *Alternative 1* section. Do Alternatives 1-3 have the potential to significantly impact the fisheries and aquatic resources of the San Joaquin River Region? The San Joaquin Region is also not mentioned where it seems it should be again on p. 7-51, column 2, para. 3-6 (including Harvest and Water Quality, p.7-52).	T	
1209	1164	7-50	1st column, last paragraph, last sentence	FWS	Sentence states, "... the addition of new storage facilities would provide opportunities for enhanced flow management to more efficiently meet water uses including environmental uses". Additionally, reoperation of existing reservoirs would allow opportunities for enhanced flow management, as could restoration of upstream watersheds to enhance groundwater retention and the re-establishment of the natural hydrological regime. Include a discussion of these issues.		
351	1165	7-51	4	Lehman, DWR	Assumption that increasing nutrients would increase productivity - I presume this means phytoplankton- is probably false. Nutrients are already in excess. Light is the limiting factor and biomass is kept down by low residence time and removal by grazing and export.	T	

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A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
353	1166	7-52	Section 7.1.2.5, second column, third paragraph	Sandino, DWR	Impacts of reservoir fisheries due to Sacramento and San Joaquin Valley reservoir reoperations probably need more analysis. I could find only one paragraph on the subject. Are the reservoir expected to differ materially in their water levels from the no action alternative. How will these levels affect fisheries other than large mouth bass (which is briefly mentioned) if at all?	IA	
352	1167	7-52	2	Lehman, DWR	Dissolved oxygen, turbidity and specific conductance are important water quality variables influencing fishery production and need to be included. In general turbidity is not mentioned, but is an important factor affecting all levels of the food web.	T	
354	1168	7-53	Section 7.1.2.7	Sandino, DWR	Mitigation strategies for fishery impacts is cursory. More work is needed. Compare it to geology or noise section, which are better developed in my opinion.	IA	
1081	1169	7-53	Section 7.1.2.8	Seh, EPA	Under the heading Potentially Significant Unavoidable Impacts, it is stated that"impacts that have the greatest potential to be significant are those that include increased flow under most configurations of Alternative 2." This conclusion is not reflected in the Issues Table at the beginning of Chapter 7, and should be discussed in more detail here.		
356	1170	7-53	6	Lehman, DWR	Explain "isolation of existing aquatic ecosystem components"	T	
355	1171	7-53	S7.1.2.8 Potentially Significant Unavoidable Impacts	Chuck Vogelsang, DWR	This should say whether or not there are unavoidable impacts. Use the suggested format to identify potentially significant unavoidable impacts and explain how they may be handled in future analyses.Table 7.1-2 should reflect these findings of significant unavoidable impacts to species-specific biological resources and blackened circles should be placed in appropriate categories.	IA	
585	1172	7-54		DFG	The discussion and the table lack perspective as to the relative consequences of the ERPP versus the conveyance alternatives regarding vegetation and wildlife. ERPP will be the dominant consideration, except possibly for storage facilities which seems to be ignored entirely in the table. The box inset in the text is not accurate since some of the Alt 2 configurations that include East Delta and Tyler Island habitat result in the greatest impact on vegetation and wildlife. The second paragraph should be modified to explain that impacts will also be considered significant adverse impacts if substantial reductions in waterfowl and shorebird habitats occur.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
584	1173	7-54	Box	DFG	The "No Action" alternative states that conditions are forecasted to be similar to existing conditions. This statement is in conflict with the definition of "no action" found on page 2-6 which defines the "no action" condition as an approximation of the physical, operational, and regulatory features which are anticipated to be in place in the year 2020. "No Action" and "Existing Conditions" are two very different conditions and should not be used interchangeably since it is unlikely that conditions won't be significantly worse under the No-Action Alternative with increased demand.		
1210	1174	7-54	First paragraph	FWS	Rare natural communities and significant natural areas were also discussed in the technical appendix. Their analysis should be mentioned and discussed here as well.		
1083	1175	7-54	Impacts box	seh, EPA	The impacts and benefits from the alternatives appear to depend greatly on the specific alternative, and cannot be generalized to the entire group of alternatives catagorized as 2 or as 3. These summary statements are not supported by the rest of the Chapter. They should be rewritten to better identify and summarize the impacts. As they are written they are misleading.		
583	1176	7-54	Left Column, Paragraph 2	DFG	Specify which "electronic databases" were used to identify the species and habitat which could potentially fall within project footprints.		
361	1177	7-54	No Action Alternative and Sidebar	Finfrock, DWR	Sidebar says No Action is similar to existing conditions, but No Action paragraph says it will differ from existing conditions. Be consistent.	C	
363	1178	7-54	No Action Alternative	Finfrock, DWR	In this paragraph it is stated that current restoration and enhancement efforts will change existing conditions, yet Table 7.2-1 shows no increase in any habitats under the No Action Alternative. These are not consistent.	C	
1214	1179	7-54	No Action Alternative	FWS	It would be useful to describe here the "current species and habitat restoration and enhancement programs already in progress . . . [and those] slated for future implementation", and discuss how these differ from those proposed by CALFED.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1212	1180	7-54	Second paragraph	FWS	The document states that "Effects are considered beneficial if CALFED actions provide for quantitative expansion or qualitative improvements in species, habitats, or communities." The concepts included here are critical to making the document defensible. As such, they need to be expanded and clarified. For example, the meaning of "quantitative expansion" needs clarification (i.e. variables that could be measured include area occupied, population size, or a combination of variables). Also, what constitutes an "improvement" needs explanation, especially because "improvements" in habitats are best defined in terms of particular target species. What constitutes an improved habitat for one species may be a degraded habitat for another.		
1211	1181	7-54	Second paragraph	FWS	Consistency with ERPP: The impact analysis apparently projects benefits to special-status species and rare natural communities which are not addressed in the ERPP. If projected benefits to these species and communities are due to ERPP actions, then these species and communities certainly ought to be specifically discussed in the ERPP. If projected benefits are not due to ERPP actions, then some other justification for the projections is needed.		
360	1182	7-54	Text Box	K. Nelson, DWR	It would be helpful to indicate the relationship between the anticipated impacts and the benefits. Are they inkind? Are any of the alternatives self-mitigating? Etc.	C	
359	1183	7-54 and on	Section 7.2	R. Tom, DWR	The beneficial impacts of vegetation and wildlife should be balanced with the adverse impacts of improved habitats on drinking water quality/treatment processes and public health. These adverse impacts would result from increases in organic carbon and pathogenic organisms. The draft document contains no section devoted to public health impacts as it relates to drinking water quality and economics.	T	
714	1184	7-54	Section 7.2	WAPA	The paragraph discussing the No Action Alternative states that it will differ from existing conditions as a result of current and future restoration and enhancement programs. Reflect this difference in the second bullet of the box entitled Impacts to Vegetation and Wildlife.	2.	
358	1185	7-54	1st paragraph	Finfrock, DWR	What is the biological basis for grouping veg and wildlife resources into these 3 categories? These categories are not the same; mixing communities with species is like the proverbial apples and oranges. Plus, the 2nd and 3rd categories are merely subsets of the first category.	T	
357	1186	7-54	2nd column	jw, DWR	The conclusions about the No Action alternative are not consistent. The text box says No Action conditions will be similar to existing, but the next paragraph says No Action Alternative will differ from existing. Table 7.2-1 shows only none or not significant impacts to the four categories.	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1213	1187	7-54	2nd column, Impacts to Vegetation and Wildlife Summary Box, 1st bullet	FWS	Sentence states, "Ecosystem restoration, and water quality programs will lead to improved habitats under all alternatives". Although this may be true for aquatic species, this is not true for terrestrial species. In most cases, ecosystem elements important to upland plants and wildlife are not addressed in the ecosystem restoration program as described to date. Additionally, beneficial actions for aquatic species may have adverse effects to terrestrial species. For example, placing a setback levee in an area may improve aquatic habitat but destroy valley elderberry longhorn beetle habitat or giant garter snake upland habitat. Restate: "Ecosystem restoration, and water quality programs are focussed on aquatic habitats and may not be beneficial to terrestrial plants and wildlife."		
362	1188	7-54	.7.2 Summary	K. Nelson, DWR	It may be a little late in the game to question this, but I don't understand the wisdom of lumping natural and agricultural communities together for the purpose of evaluating impacts and benefits. Unlike natural habitat, agricultural "habitat" is a highly disturbed and controlled land use, and is subject to radical change at any moment.	C	
1218	1189	7-55	Level of impacts	FWS	Table indicates that impacts from alternatives on wetland and riparian communities may be mitigable. Experience has shown that only a small percentage of wetland and riparian mitigation is successful. Improvement of upland habitats in regard to listed plants is also problematic since many of the soil types are unique making increases or improvements difficult. As in comments above, use qualified terms such as "potentially mitigable" or "potential increases or improvement of upland habitats".		
365	1190	7-55	Table 7.2-1	Finfrock, DWR	1) If sites have not yet been chosen for the storage facilities, it cannot be said with any certainty that all impacts will be mitigable. Perhaps this Table should be called "Summary of **Expected** Environmental Impacts..." 2) It is not clear why some Alternatives do not show positive increases in wetland habitats (especially since one of the objectives of CALFED is to improve ecosystem health). For instance: only Alternative 1A shows positive increase in wetland habitats in the Bay Region. However, the ERP lists significant restoration and enhanced acreage in Suisun Marsh and San Pablo Bay. Why the discrepancy? Is it the balance between ERP and project impacts? If so, is the ERP merely mitigation for CALFED projects?	IA	
364	1191	7-55	Table 7.2-1	jw, DWR	Second paragraph on 7-54 states that potential adverse significant impacts would be impacts to sensitive species or habitat, but this information is not shown in the Summary Table. Impact issues in the table don't correspond to "categories of impact measure" (p7-69) or to "significance criteria" (p 7-70), either, so it is difficult to know what consequences have been analyzed.	IA	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1215	1192	7-55	Table 7.2-1	FWS	Our earlier comments about using "Impact Issues", the use of No Action in the analysis, and the lack of meaningful detail to distinguish among the alternatives also apply to this table. For example, all alternatives get the same "score" on the 10th line of the table, despite vastly different impacts associated with different levels of new storage construction.		
1082	1193	7-55	Table 7.2-1	seh, EPA	The Water Quality Section of the EIS/R identifies increased water salinity as a possible impact of restoration actions in the Delta, both in shallow freshwater ponds on islands and tidally influenced shallow water habitats. This Section should analyze and discuss these findings, and include an analysis of how this issue would affect vegetation communities, or vegetation used by wildlife, if the conclusion is that this is an issue of concern.		
1217	1194	7-55	Table 7.2-1	FWS	The Service already knows, through review of other CALFED documents, that certain CALFED alternatives and specific projects have potentially significant and unmitigable effects on terrestrial special status wildlife and plants. The Draft PEIS/PEIR needs to disclose the potential for such impacts even if decisions about specific projects have not yet been made.		
1216	1195	7-55	Table 7.2-1	FWS	The table makes no reference to analyses of beneficial and adverse impacts to special-status species per se. It is not sufficient to subsume impacts to special-status species within impacts to the habitats or plant communities they occupy. This is especially true for special-status plants. Include an analysis of impacts to special-status species in the table, or provide another table analagous to Table 7.1-2.		
586	1196	7-56	Table 7.2-1	DFG	SWP and CVP Service Area: The listing of adverse impacts should be focused on special status species and their habitats. All alternatives should be rated with a darkened half circle.		
1219	1197	7-57	1st column, paragraphs 1 and 2	FWS	It is stated that, "Impacts ... could be substantially offset because conveyance facilities could create up to approximately 26,000 acres of aquatic wetland and riparian habitats". This implies that losses to upland terrestrial habitats can be offset by creation of aquatic wetland and riparian habitats. This is not the case. State that although new wetland and riparian habitat would be created this would not offset losses of upland terrestrial habitat and that these habitats would need to be replaced.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1220	1198	7-58	Water Storage and Conveyance	FWS	The document states that "impacts to vegetation and wildlife are anticipated, but their severity and specific species and habitats to be affected have yet to be determined." Our review of other CALFED documents has revealed that some proposed projects have potentially significant and unmitigable effects on terrestrial special-status wildlife and plants. The Draft PEIS/PEIR needs to disclose the potential for such impacts even if decisions about specific projects have not yet been made.		
42	1199	7-59		Steve Shaffer, CDFA	Ch 7 - The ERPP, WQP, Levees Program, could have adverse, but mitigable impacts on agricultural crops (vegetation). There is a small discussion on pg 7-59 of existing conditions for the Delta region, on pg 7-65 for the Sac. Valley (in which there are errors), on pg 7-66 for the San Joaquin Valley (errors, and inaccurate picture). These adverse effects to the existing environment should be listed and discussed in section 7.2 of this chapter.		
1223	1200	7-59 and other sections	Community descriptions for each region	FWS	The document describes natural communities found in each region. However, rare natural communities are neglected. Please include a brief discussion of which rare natural communities occur in each region, especially as impacts to them are analyzed in the technical appendix.		
366	1201	7-59	existing Conditions, line 9	jw, DWR	brackish, not saline emergent wetlands are found in the Delta region	T	
588	1202	7-59	Existing Conditions	DFG	The last sentence discusses the changes that have occurred within the Delta and the survival of species in spite of these changes. This is somewhat misleading because many species have been significantly impacted from the changes. The current ranges of numerous plant species are limited to small patches on channel islands. Breeding waterfowl populations have been significantly reduced due to the loss of nesting habitat as well. While many species have adapted to agriculture uses, there are many that have not. The agriculture lands do not supply all of the life cycle requirements for many species.		
368	1203	7-59	Existing Conditions	K. Nelson, DWR	I couldn't find the descriptions of tidal wetlands and in-channel islands.	C	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
587	1204	7-59	Waterfowl and Shorebirds	DFG	The discussion should be clarified to include migratory and resident waterfowl and shorebirds. Much of the habitat conversion resulted in the loss or reduction of resident breeding waterfowl as well as reduction of suitable habitat for migratory birds. The last sentence of the first paragraph of this section should be modified by deleting "...but were not hunted."		
367	1205	7-59	Line 3	Mike Cooney, DWR	While confirmation of the existence of the other two plants mentioned in this paragraph has not been made recently, the diamond-petaled California poppy has been spotted as recently as 1995 (Source: CA Natural Diversity Database).	T	
1222	1206	7-59	lines 3-4	FWS	(1) *rhambipetala* is misspelled. Replace with *rhombipetala.* (2) *Eschscholzia rhombipetala* was rediscovered by Jones and Stokes Assoc. biologists in 1997 at Lawrence Livermore Lab. Therefore, it is no longer considered extinct. Please change the text accordingly.		
1221	1207	7-59	1st column, 1st full paragraph:	FWS	This paragraph discusses many of the species that have been extirpated from the Delta including gray wolf, grizzly bear, condor, Antioch weevil, Delta button celery, and greater western mastiff bat. Experimental population introduction programs help to restore lost populations in many parts of the country. Currently, the Mexican gray wolf is being reestablished in Arizona. Include a statement that the Ecosystem Restoration Program will analyze the appropriateness of restoring experimental populations of extirpated species to the Delta.		
369	1208	7-60	Natural and Agricultural communities	jw, DWR	Tidal freshwater emergent marsh habitat has been left out of this discussion. This habitat is dominated by tules (Scirpus spp.) and cattails (Typha spp.) with common reed (Phragmites australis), buttonbush (Cephalanthus occidentalis), sedges (Carex spp.), and rushes (Juncus spp.). It occurs on instream islands and along mostly unleveed tidally-influenced waterways. Tidal freshwater emergent marsh provides habitat for many species including the following special status species: Mason's lilaeopsis, Delta mudwort, California hibiscus, Delta tule pea, California black rail, and tricolored blackbird.	T	
370	1209	7-60	Special status spp and Waterfowl	jw, DWR	There seems to be an uneven level of detail in describing the species found in the Delta. Special status invertebrates, waterfowl, and shorebirds are listed with common and scientific names and habitat, while 59 special status plants and 30 special status wildlife species are lumped into one paragraph each. If the detail is included in the Appendix, it should at least be referred to here.	C	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1224	1210	7-60	Special- Status Species	FWS	The section gives number of special-status plant species occurring in grassland and vernal pools. Because vernal pools are a special-status and high profile community, it would be useful to state separately how many special-status plant species are found in vernal pools.		
371	1211	7-60	¶ 1	K. Nelson, DWR	Some dialog about the quality of typical Delta levee habitat would be useful to the reader.	C	
374	1212	7-61	Para above 7.2.1.2	Finfrock, DWR	Last sentence: there are no saline marshes in the Delta Region.	T	
373	1213	7-61	Section 7.2.1.2, 4th para	Finfrock, DWR	Is this paragraph just about the eastern part of the Bay Region? If so, change "within the region" in the 5th line to "in the eastern portion of the region". For the region as a whole, filling of wetlands was also very important. (this is mentioned in the next paragraph.)	C	
372	1214	7-61	Section 7.2.1.2, first sentence	Finfrock, DWR	This is not strictly true. Only the areas of the Bay Region of interest to CALFED are dominated by the listed wetlands. There is no mention here of diked, managed wetlands which dominate in Suisun Marsh and along the north shore of San Pablo Bay.	T	
589	1215	7-61 through 7-63	Waterfowl and Shorebirds discussion under Delta, Bay, Sacramento River, and San Joaquin River Regions	DFG	The Delta section on page 7-61 states that 10% of wintering waterfowl inhabit the region; the Bay section on page 7-63 states that 70% of wintering waterfowl inhabit that region; the Sacramento River section states that 60% of wintering waterfowl inhabit that region; and, the San Joaquin River section states that 25% of the wintering waterfowl inhabit that region. These statements need to be clarified so that readers have a clear understanding that migratory waterfowl move through all of the regions and do not stay in one region for the entire winter. For clarity we recommend that you delete the 70 % reference for the Bay region since for the area discussed in the AD this figure is inflated for ducks and geese but in line with estimates of shorebirds.		
377	1216	7-62	last line in first column	Finfrock, DWR	Although the habitat of Suisun Marsh is classified as saline emergent marsh, it is brackish due to its proximity to Delta outflow. Might add something to that effect.	T	
376	1217	7-62	Special status species	Finfrock, DWR	Suisun thistle and soft bird's beak are now listed.	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
590	1218	7-62	Special Status Species	DFG	The first paragraph discusses known occurrences of plants while the second paragraph opens with potentially occurring wildlife species. The discussion then states known occurrences of various wildlife species. The first sentence should be changed to avoid confusion to the reader.		
1225	1219	7-62	Special-Status Species	FWS	Suisun thistle (*Cirsium hydrophilum* var. *hydrophilum*) and soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*) are now federally listed as endangered. Please modify the text to reflect this change.		
378	1220	7-62	6th paragraph,	Finfrock, DWR	Saline emergent marsh is also present along the northern shore of San Pablo Bay. Not a lot of cordgrass in Suisun.	T	
375	1221	7-62	78-79	B. Grewell, DWR	Suisun thistle & soft bird's beak are now federally listed as Endangered. Soft bird's beak is also state listed rare.	T	
887	1222	7-63		Holt, USBOR	It would be helpful to identify what types of wetlands are less extensive along the Sacramento than in the Delta.		
379	1223	7-63	Waterfowl	Finfrock, DWR	1) Change "pintails (*Melanita* sp.)" to Northern pintail (*Anas acuta*). 2) Why use the 1991 midwinter survey? A long-term average would be better; that data or the 1996 or 1997 data is available from Greg Mensik, USFWS at Sac NWR, (530) 934-2801. 3) For all other regions, numbers of shorebirds are from '92/'93, but there is no time frame given for the Bay Region.	T	
381	1224	7-63	1st paragraph	Finfrock, DWR	Might mention Suisun ornate shrew and Suisun song sparrow.	T	
380	1225	7-63	10	B. Grewell, DWR	California black rails occur in saline emergent wetlands of Suisun Marsh, islands of Suisun Bay, and saline emergent marshes of the Contra Costa shoreline. California black rails are state listed as threatened.	T	
1226	1226	7-64	first full paragraph, last sentence	FWS	The sentence contains an inappropriate evolutionary interpretation of the situation. Please replace it with something like "Some invertebrates and amphibians have life histories that allow them to utilize vernal pools."		
383	1227	7-64	Special status spp.	jw, DWR	It is confusing as to why these three species are described in detail in the "Historical" section and the other sensitive species are lumped together with minimal detail in the existing condition section. The introductory sentence of this section is about extirpated species, but the body of the section is about existing species. This is also confusing.	C	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
382	1228	7-64	Special status species	Finfrock, DWR	Discuss bank swallow.	T	
1227	1229	7-64	Special-Status Species	FWS	The section discusses "rose mallow (*Hibiscus* sp.)" as a special-status species that was historically more widespread. It is inappropriate to present this discussion without a complete scientific name for the species. The section may refer to *Hibiscus lasiocarpus*. If this is the case, please note that, according to CNDDB, the species is currently known not only from Butte and Glenn counties but also from Colusa, Contra Costa, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties.		
1229	1230	7-65	Special-Status Species	FWS	The section states that the largest number of special-status plant species in the region occur in grassland and vernal pools. Because vernal pools are a special-status and high profile community, it would be useful to state separately how many special-status plant species are found in vernal pools.		
1228	1231	7-65	1st column, 1st complete paragraph, 4th sentence:	FWS	Sentence states, "The drainage of wetlands and reclamation for agriculture produced substantial losses of habitat, and subsequent losses in giant garter snake abundance". Add the following: "..., additionally the introduction of predators including predatory fish such as the large mouth bass have limited the foraging habitat of this piscivorous snake".		
591	1232	7-66	Section 7.2.1.4, Sentence 3	DFG	Isn't it true that the San Joaquin River Region is larger in size than the Sacramento River Region? In place of saying, "... San Joaquin River Region has more land devoted to agriculture" it would be of value to the reader to have this presented as a comparison of percentages.		
1231	1233	7-67	Special-Status Species	FWS	If the reference to rose mallow is to *Hibiscus lasiocarpus*, note that there are more than twenty CNDDB occurrences of the species in San Joaquin County. Please check that the statements in the text are consistent with this CNDDB information. See also comment on page 7-64 above.		
1230	1234	7-67	1st column, 2nd paragraph:	FWS	This paragraph discusses the riparian areas in the San Joaquin Valley. Include, as an example of a remnant habitat that has sensitive species, Caswell State Park. This park is a riparian area that is the last refugia inhabited by two species that have plummeted in distribution and abundance--riparian brush rabbit and San Joaquin woodrat.		
384	1235	7-67, 7-68	Special status species	Finfrock, DWR	The focus is not on the most sensitive species of this region. **Kit fox and the listed kangaroo rats should be discussed.** Some of the species listed on 7-68 (Aleutian Canada goose and Swainson's hawk) are not present in the SJ in large numbers; and why list loggerhead shrike?	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
385	1236	7-68	SWP &CVP service areas	jw, DWR	The purpose of this section shouldn't be a determination of impacts; it should give a general description of the communities and species in these regions.	C	
592	1237	7-68	Column 2, Paragraph 2	DFG	The first paragraph discusses known occurrences of plants while the second paragraph opens with potentially occurring wildlife species. The discussion then states known occurrences of various wildlife species. The first sentence should be changed (delete the word could) to avoid confusion to the reader.		
1234	1238	7-69 to 7-81		FWS	Environmental consequences on special-status species. The Draft PEIS/EIR is meant to be a disclosure document that informs decision makers of potential environmental impacts from CALFED projects. While the document states that the assessment methods included analysis of impacts to special-status species, the text of the PEIS/PEIR contains little meaningful discussion of environmental consequences of CALFED actions on special-status species, at least for terrestrial species (Section 7.2.2, Environmental Consequences: Vegetation and Wildlife). Neither are they included in Table 7.2-1 that summarizes environmental impacts related to vegetation and wildlife. It is not sufficient to subsume impacts to special-status species within impacts to the habitats or plant communities they occupy. Although more detail is provided in the technical appendices, if the PEIS/PEIR is to qualify as an adequate disclosure document, discussion of impacts to special-status species need to be included in the text of the PEIS as well.		
1232	1239	7-69	Assessment Methods, paragraphs 4 and 5	FWS	These two paragraphs discuss how geographic data on plant community distributions were used. The first sentence implies that the only analyses done involved areal extent and quality of plant communities. It is unclear whether the plant community data were also used to analyze impacts to special-status species. Using plant community data to analyze potential impacts to special-status species would be inappropriate when data from CNDDB on distribution of special-status species are available as noted in the last paragraph on the page. Please clarify how the analyses were conducted by expanding the paragraph discussing analyses of special-status species and by eliminating the confusing language of the previous two paragraphs (e.g. it is not accurate to say "two analyses" have been included and then go on to describe only community or habitat level analyses if separate special-status species analyses have also been conducted).		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
1233	1240	7-69	second paragraph	FWS	Limitations of analysis based on numbers of species. There are some serious limitations to an analysis based only on numbers of species potentially impacted. An adequate impact analysis should consider *which* species are potentially affected as well as how much and what portion(s) of their ranges are affected. Given that the Draft PEIS/PEIR is written at the "programmatic" level, the PEIS analysis masks the potential for significant adverse impacts on some species.		
386	1241	7-69	7.2.2.1 Assessment Methods	Finfrock, DWR	This section is confusing. There are "categories of impact measures", some of which group qualitative and quantitative impacts (1st bullet-how can a change in area include associated species?), and then there are "types of analysis". It's just not clear what changes are considered impacts, or how they will be measured.	C	
43	1242	7-70		Steve Shaffer, CDFA	Significant criteria should include Reduction in area of agricultural crops.		
388	1243	7-70	Section 7.2.2.3	Mike Cooney, DWR	In comparing the No Action Alternative to Existing Conditions, you recognize that changes in demand could result from increased water needs over the next twenty or so years. It seems to me that these changes could be significant. If this is true, how can the positive and negative changes that could occur by the year 2020 be comparable to existing conditions. There seems to be a considerable amount of analysis missing in this equation.	C	
387	1244	7-70	Section 7.2.2.3	jw, DWR	The first paragraph in this section states that there will or could be changes between existing conditions in water operations and demand and conditions provided by the No Action alternative. However, the second paragraph states that operations and demand will be similar under existing and No Action alternatives. Also, there is no discussion of the effects of species and habitat restoration programs mentioned in the summary of the No Action Alternative on p 7-54.	C	
389	1245	7-70	7.2.2.2 Significance Criteria	Finfrock, DWR	Why is a "**substantial** decrease in the area of important wildlife habitats" (Bullet 2) considered equal to any "decrease in the amount of waterfowl forage" (Bullet 4)?	C	
44	1246	7-71		Steve Shaffer, CDFA	The potential impact of the ERPP on agricultural land (crops) in the Delta should be discussed. A range of impacts should be included.		
390	1247	7-71	Comparison of Program Alternatives	jw, DWR	The summary of impacts due to Alt 1 on p 7-54 lists potential impacts to 12-14 sensitive species, 5 rare natural communities, and 7 significant natural areas. A discussion of these impacts is missing from this Environmental Consequences section. Also, similar impacts due to the other Alternatives should be discussed so that comparisons can be made.	T	

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
392	1248	7-71	Comparison of Alternatives	jw, DWR	Even using the Alternatives matrix (2.2.4-1), it is difficult to assess from the text how each Alternative configuration differs in expected impacts to natural habitats, agriculture, and special-status species because this information is available for some but not all alternatives. Impacts and benefits of each configuration need to be clearly portrayed for a comparison to be made.	IA T	
1235	1249	7-71	Delta Region, Alternative 1, first paragraph	FWS	The document states that the ERP could create or restore a variety of natural plant communities. The feasibility of such habitat restoration and creation, particularly for terrestrial habitats including substrate specialist species and communities, is open to debate. The potential benefits of habitat restoration and creation vary considerably depending on the targets of the efforts. The net benefits of restoration and creation are too broadly applied and inappropriately de-emphasize impact avoidance for species and rare natural communities with restricted range, limited distribution, and low potential for habitat restoration and creation.		
1084	1250	7-71	Section 7.2.2.4	seh, EPA	The Comparison Section should more clearly identify the ways in which the Ecosystem Restoration Plan could and should integrate the portions of the ecosystem that are less related to fisheries into the restoration plans. An identification of the range of benefits and impacts to vegetation and wildlife, depending on how the Plan is implemented, is an important aspect of this EIR/S.		
1236	1251	7-71 to 7-75	column 1, 7.2.2.4 Comparison of Program Alternatives to No Action Alternative	FWS	There would be temporary and permanent direct and indirect effects of constructing various facilities in the alternatives on wildlife and plants that are not included in the project footprints. Include a discussion of such effects as increased noise and relocation of roads and bridges. Include a discussion of these effects using an example species such as San Joaquin kit fox.		
393	1252	7-71	¶ 4	K. Nelson, DWR	Might mention that the new levees themselves can be engineered to accommodate higher quality habitat than currently exists.	T	
391	1253	7-71	2nd col, 2nd par, last sentence	jw, DWR	"Habitat values associated....same as those described for the ERP." What does this sentence refer to?	C	
888	1254	7-72		Holt, USBOR	Adding an estimate of the recovery time for the vegetation types that may/would be disturbed would help the reader assess the significance of the short-term losses relative to the long-term gains. It is highly likely that riparian vegetation in much of the Delta would recover in 10 years or so based on my recollections of the central Delta.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
394	1255	7-72	¶ 5end	K. Nelson, DWR	It is assumed that dredged material placed on ag lands will always be removed at some future point. Leaving the material in place and farming on top of it could reverse island subsidence.	T	
1237	1256	7-74	column 1, 4th full paragraph	FWS	This paragraph describes effects of alternative 3 storage facilities on wildlife and vegetation. These effects are similar to alternative 2 storage facilities. In the discussions of the effects of both alternative 2 and 3 storage facilities, there is no discussion of the issue that there are some resources at some of the prospective sites that are potentially unmitigable. In previous correspondence to CALFED, the Service has clearly indicated that some of the potential sites may be unmitigable. Include a statement in this paragraph and in the discussion on alternative 2 storage that some of the sites may have environmental resources that are potentially unmitigable. If examples are needed, the alluvial sycamore woodland at the Los Banos Grandes site or the canyon at the Auburn Dam site could be used.		
395	1257	7-74	para 3	jw, DWR	It is stated that configuration 3H could impact 16 special status species. Where is this information for the other alternatives?	T	
396	1258	7-75	Bay Region, paragraph 1 and 3	Finfrock, DWR	Paragraph 1 says there will be some loss of riparian habitat, but paragraph 3 says little or no riparian vegetation is expected to be impacted. Be consistent.	C	
1238	1259	7-75	column 2, paragraph 3, 1st sentence	FWS	Sentence states, "An unknown quantity of riparian vegetation could also re-establish as a result of restoration of other habitat types". This vegetation would probably be mostly exotic plants as introduced, weedy species normally establish in newly disturbed areas. Add a sentence: "To encourage the establishment of native species, periodic spraying and removal of exotic plants may be necessary".		
397	1260	7-76 through7-78		Finfrock, DWR	No mention of sycamore woodland, although losses to valley oaks are mentioned.	T	
1239	1261	7-77	column 1, 3rd paragraph:	FWS	See comment on 7-74 for discussion relevant to off-aqueduct storage.		
593	1262	7-77	Column 2, Paragraph 3	DFG	It is stated that configuration 1C storage facilities could affect up to 16,000 acres. A more accurate statement is that these facilities could inundate up to 16,000 acres; affected acreage is going to depend upon location of the storage facility and could run much greater than the inundation acreage.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
398	1263	7-77	para 4	jw, DWR	Sycamore alluvial woodland should be included as a potentially impacted habitat with construction of off-aqueduct storage in the San Joaquin River Region. As a rare natural community it should not be included in "riparian" or "valley foothill woodland".	T	
1240	1264	7-78	column 1, 1st complete paragraph and column 2, 1st complete paragraph:	FWS	See comment on 7-74 for discussion relevant to new off-stream storage.		
399	1265	7-79	Mitigation strategies	jw, DWR	Special status species may be impacted in ways other than loss of foraging habitat, ie. dredging impacts to sensitive plants in the intertidal zone. What is the mitigation strategy for direct impacts to species and their habitats?	T	
1241	1266	7-79 to 7-81	Mitigation Strategies	FWS	The CALFED Draft PEIS/PEIR contains little meaningful discussion of potential mitigation strategies targeting special-status species. The only mention of special-status species per se is in the "Loss of Foraging Habitat for Special-Status Species" section. This clearly neglects a number of species the Service is concerned with, including, but not limited to, all plants and vernal pool crustaceans. Other mitigation strategies targeting special-status species need to be included. These strategies should focus first on avoidance of special-status species and their habitats. In addition, the Draft PEIS/PEIR proposes large scale habitat restoration to remedy habitat losses resulting from CALFED actions. However, it makes unrealistically optimistic assumptions about the feasibility of such habitat restoration, particularly for terrestrial habitats, including substrate specialist species and rare natural communities. The potential benefits of habitat restoration vary considerably depending on which special-status species and/or natural communities are the targets of restoration efforts. The net benefits of restoration are too broadly applied and inappropriately de-emphasize impact avoidance for species with restricted range, limited distribution, and low potential for habitat restoration.		
594	1267	7-79	7.2.2.5, Bullet 3	DFG	Implementation of the ERP is listed as a mitigation measure for loss or disturbance of wetland and riparian communities. The ERP was not designed to serve as mitigation. We recommend that reference to this as a mitigation measure should be deleted.		
45	1268	7-80		Steve Shaffer, CDFA	Loss of agricultural crops shold be identified as a potentially significant adverse environmental effect which may be mitigated. Mitigation measures should be discussed.		

A #	#	Page Number	Line, Figure, or Table No.	Commentor	Comment	T	P
401	1269	7-80	Potentially Significant Unavoidable Impacts	Chuck Vogelsang, DWR	Table 7.2-1 should reflect these findings of significant unavoidable impacts to vegetation and wildlife resources and blackened circles should be placed in appropriate categories. Consider finding the impact of removing significant habitats for which off-site compensation is proposed as mitigation as a significant unavoidable impact. A fair argument can be made that off-site compensation can never fully mitigate the loss of a natural habitat; there remains some level of a "residual" impact. Dealing with this and making appropriate findings will reduce the argument in future project specific EIR/Ss.	IA	
402	1270	7-80	Section 7.7.7.5	Mike Cooney, DWR	Potential mitigation measures for Fragmentation of Riparian Habitats should be included in the discussion of loss or disturbance of wetland and riparian communities to reduce duplication.	C	
400	1271	7-80	7.2.2.6	Finfrock, DWR	In the chart on page 7-55 there are no significant unmitigable impacts, yet some are listed here. Be consistent. Flooding of storage facilities will causes losses of large sections of riparian corridors, not just fragmentation.	IA	
403	1272	7-81	Last Paragraph: Sacramento River and San Joaquin River Regions	Mike Cooney, DWR	This paragraph is technically incorrect and confusing in several ways. First of all, without specifics, you can't assume at this point in the analysis that unavoidable impacts can not be mitigated. The paragraph is written in a very general manner and does not give any specific indication of what is being impacted. If this specific of a judgment is being made, specific references should accompany it to assist the reader in making a judgment as to the correctness of the statement. From the statement as presented in this section of the text, I could not tell if the reference was to fish, deer, or kit fox. In any case judgments of this type should not be presented in the programmatic document, but should be reserved for the site specific phase of the analysis.	IA	
1242	1273	7-81	2nd paragraph:	FWS	This paragraph describes a unmitigable impact of off-stream reservoir storage as permanent fragmentation of migration corridors by inundation of the site. Add a statement: "Additionally, some resources lost through inundation would be potentially impossible to replace; an example would be the alluvial sycamore woodlands that would be inundated by a Los Banos Grandes Reservoir". Add a paragraph stating: "Some in-stream storage sites will have unmitigable effects due to the resources lost through inundation. The necessary replacement habitat would either be so large or so rare that it would be impossible to find an appropriate replacement site. An example of such a unmitigable site would be the American River canyon with the Auburn Dam site." The potential for such unmitable impacts should also be indicated in Table 7.2-1.		

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