Response to Comment C35-42 (continued)

The 59 KAFY shortfall noted in the Baseline by the commenter is a result of the various Baseline adjustments. Please refer to the Master Response on *Hydrology—Development of the Baseline* in Section 3 in this Final EIR/EIS.

The discussion in the Draft EIR/EIS discussing drainage through the Alamo River purposely does not address flow volume at the International Boundary because this flow is such a small component of flow in the Alamo River.

The statement in the Draft EIR/EIS that "discharge from Mexico leveled back to approximately 100 KAFY for the period 1987 to 1999…" is not correct.

As noted above, because authors of the text of the Draft EIR/EIS applied a slightly different timeframe than that used by the modeling team, there are small discrepancies in flow values presented in different parts of the document. These discrepancies do not influence the validity of the work performed nor do they influence the outcome.

We agree that the 100 KAFY value for discharge to the Salton Sea from Direct-to-Sea drains is appropriate for Figure 3.1-16.

The IIDSS water balance assumes that the volume of water stored in the soil profile at the end of the modeling period is identical to the volume stored at the beginning of the period. The water balance presented in the comment includes evaporation from canals and reservoirs twice [Evaporation and Evaporation (Canal and Reservoir)] and does not include a term for effective precipitation, which is the reason why the commenter was not able to reach closure on his On-farm Systems balance. As observed in the comment, the values shown on Figure 3.1-16, in the commenter's document, differ from those used in modeling of historical conditions in the IIDSS. This change will be included in subsection 3.1 under Section 4.2, Text Revisions in this Final EIR/EIS.

The commenter's concerns regarding the validity of the IIDSS model are not well founded. In reading Table 2-1 of Appendix E, it is important to remember that the *Recorded* column is observed data and the *Modeled* column is not model input, but model results. The fact that the model can predict IID demand for imported water over the 12-year historical modeling period to within three tenths of one percent of actual deliveries is an extraordinarily good fit and indicates that the delivery system component of the model is well-calibrated.

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is a 14 year span used here in the statement? Providing the correct numbers is very important with respect to evaluating the modeling.

- Figure 3.1-14: Total IID Discharge to the Salton Sea (1986-1999) shows a generally increasing discharge. From the graph data presented, it can be calculated the for the seven year interval 1986 to 1992, average discharge was 919 KAFY. Likewise, for the interval 1993 to 1998, average discharge is 1052 KAFY. From Figure 3.1-10: Colorado River Water Delivered to IID (1986 to 1998) Measured at AAC Drop No. 1, similar averages for water input can be determined. For 1986 to 1992, average IID input is 2.76 MAFY and from 1993 to 1998 (1999 data not given). input averages 3.00 MAFY. Looking at the ratio of average discharged water to average delivered water for the periods 1986 to 1992 and 1993 to 1998 gives 33 percent and 35 percent respectively. It should also be noted that the increased discharge is occurring even though water conservation and transfer per the 1988 IID/MWD agreement reached full implementation in 1998 (source: Table 2-2, Draft EIR/EIS). One interpretation of this increase in discharge percentage is that water is being used less efficiently within the IID service area.

  Another interesting analysis from the drainage data shown in Figure 3.1-14 is the effect Salton Sea surface elevation. Figure C3.1-1: Historic Change in Elevation and Salinity of Salton Sea (Source: www.lc.usbr.gov: Salton Sea Restoration Draft EIR/EIS) shows the surface elevation decreasing over the interval 1986 to 1992 and increasing for the interval 1993 to 1998, with no net change in surface elevation. Averaging the discharges of the two time intervals, states that an IID drainage flow to the sea of 986 KAFY, coupled with an average flow from Mexico of 167 KAFY (plus the CVWD and Unmeasured inflows) will keep Salton Sea surface elevation constant. It is noteworthy that the Baseline (see Section 3.0: Development of Baseline, and my comments on Section 3.0) establishes the long-term IID No Project drainage as 933 KAFY (Source: Appendix E, Table 3-3 IIDSS Simulated Water Balance: calculated by summing the Alamo River, New River, Direct and Subsurface flows and subtracting the Alamo and New River cross border input flows). This is 59 KAFY less than the 12 year (1987 - 1998) historic IID drainage flows of 992 KAFY (Source: same; calculation same) to Salton Sea. I have found no explanation within the Draft EIR/EIS supporting the 59 KAFY shortfall used in setting the No Project Baseline.

- The statement discussing Drainage Through the Alamo River need to be expanded to include the 1987 to 1998 average annual flow volume at the International Boundary.
- The statement discussing Drainage through the New River states: "... The average annual flow volume of the New River at the International Boundary during the period 1987 to 1998 was about 165 KAFY ... The discharge from Mexico leveled back to approximately 100 KAFY for the period 1987 to 1999 ..." The flow numbers are not consistent. IIDSS uses the 165 KAFY number.
- Figure 3.1-16: Existing Setting - Average Overall Water Balance, New River flow into the Salton Sea is not consistent with the stated discharge flow values given in paragraph discussing Drainage through the New River. Drainage flow of 291 KAFY plus International Boundary flow of 165 KAFY yields 456 KAFY, not 448 KAFY. Appendix E, Tables 2-1 and 3-3 show the New River flow into Salton Sea as 454 KAFY, which would indicate that the 291 KAFY may be overstated. I have not had time to review Appendix F (source of the paragraph quoted numbers) to validate the accuracy of the 291 KAFY figure.
- Figure 3.1-16, Direct to Sea flow of 96 KAFY, although consistent with the statement in the paragraph discussing Surface Drains Discharging Directly to the Salton Sea, it is not consistent with the 100KAFY value given in Appendix E, Tables 2-1 and 3-3. Since the IIDSS modeling is based on the "Recorded" value of 100 KAFY and Figure 3.1-16 represents the modeling, the 100 KAFY should be shown in the figure. Once again, I have not had time to review Appendix F (source of the paragraph quoted numbers) to validate the accuracy of the 96 KAFY number.
- Also on Figure 3.1-16, the measured flow at Mesa Lateral 5 should be 2866 KAFY, not 2855 KAFY, and the flow input at Pilot Knob should be 2973 KAFY, not 2962 KAFY. These numbers are all supported by Appendix E, Tables 2-1 and 3-3 and my previous discussion page 3.1-32/37. Unfortunately, this is not the total extent of the number problems shown in Figure 3.1-16. In

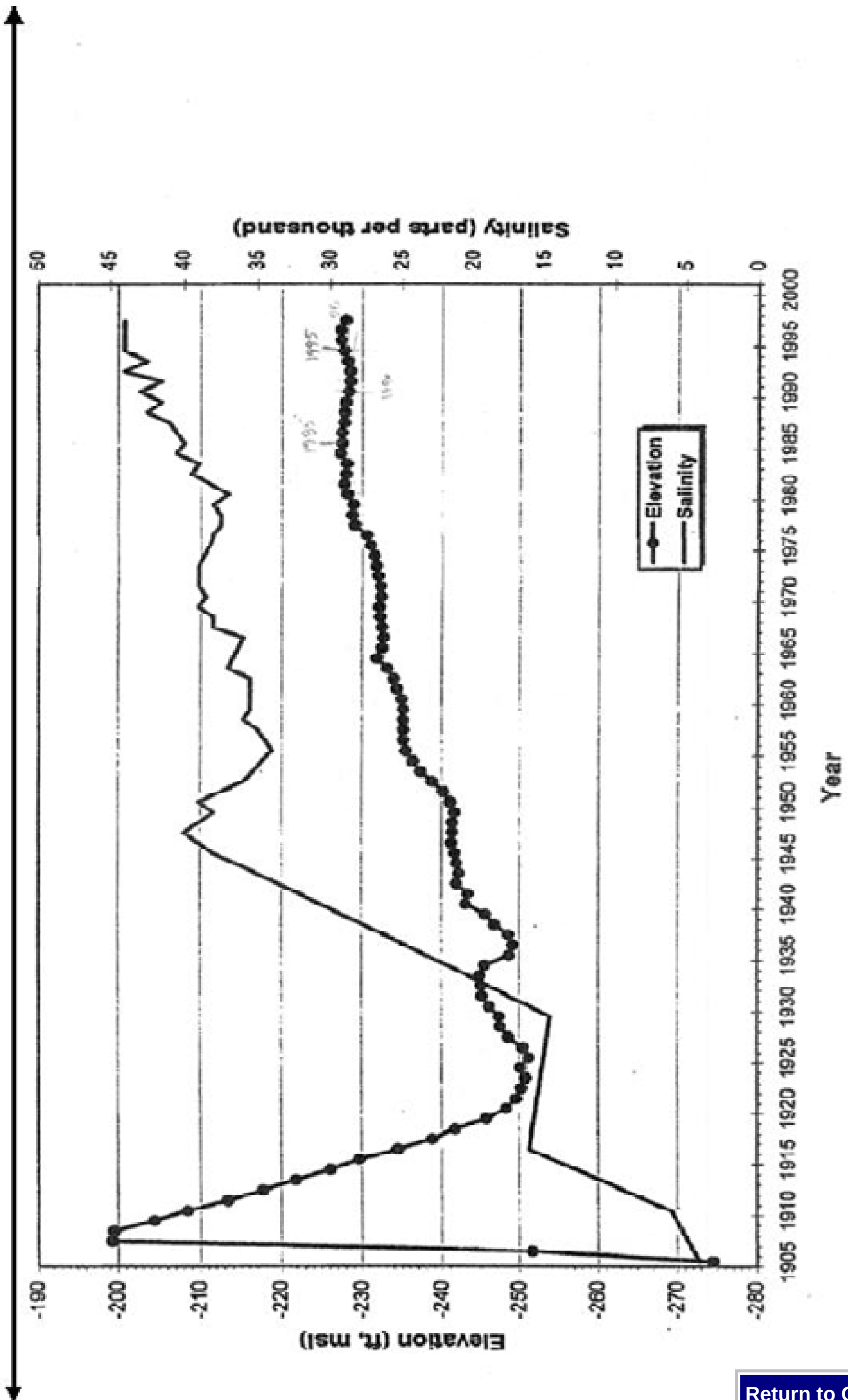

Figure 3.1-2 Historic Change in Elevation and Salinity of Salton Sea

3-5

FIGURE C21-1

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comparing the numbers shown in Appendix E, Table 3-3 with the numbers shown within Figure 3.1-16 NUMEROUS discrepancies are noted. Specifically, Figure 3.1-16 versus Table 3-3 values are:

		Figure 3.1-16	Model Calibration (Existing Setting)	Baseline
Delivery System				
	Input	2855	2857	2803
	Evaporation	18	21	19
	Lateral Spill	99	117	99
	Seepage	114	123	111
	Output to M&I	120	105	120
	Evaporation (Canal & reservoir)	18	21	19
	Delivery (farm)	2508	2490	2458
On-Farm System				
	Input	2508	2490	2458
	Crop ETO	1806	1807	1807
	Tilewater	417	394	408
	Tailwater	386	390	344
	Rainfall Runoff	33	34	38
Municipal & Industrial				
	Input	120	105	120
	Consumptive Use	86	76	86
	Return Flow	34	29	34

In summary, the numbers shown in Figure 3.1-16 are NOT SUPPORTABLE based on the "Recorded" and "Calibration" numbers shown in Appendix E, Tables 2-1 and 3-3. One cannot attribute the discrepancies to typographical errors since the numbers shown in the Calibration column of Table 3-3 are supported by the written text of Appendix E. But, beyond that, there is another problem with the Calibration data shown. In Appendix E. page 2-3, it is stated: "A water balance is kept for each system (On-Farm System, Delivery System, and Municipal & Industrial Use) shown in Figure 2-1 (same as Figure 3.1-16), so that the sum of the inflows is equal to the sum of the outflows plus the change in storage within each system. The storage capacity within IID's delivery system is very small relative to the annual flow so the annual change in storage within the delivery system is always near zero. The soil water storage capacity of IID's farm fields and the drainable shallow groundwater storage are relatively large. However, over the course of several years the change in stored water within the on-farm and drainage system is small and assumed to be zero. Thus, the data in Table 2-1 (Measured and Simulated Mean (1987 to 1998) Annual Flows along Major Flow Paths within IID) show that the summation of mean annual flows into each system is EXACTLY EQUAL (emphasis added) to the summation of the flows out of each system. Likewise, a water balance can be computed for the IID service area as a whole showing that the sum of inflows equals the sum of outflows." Figure 3.1-16, adjusted per the "Calibration " values given in Appendix E, or as currently shown in the figure, meets none of the flow summation criteria. VALIDITY OF THE IIDSS MODEL IS THUS SUSPECT.

Another issue with the input data for the "Calibration" model shown in Appendix E, Tables 2-1 and Table 3-3 resides with the "Imported Colorado River Water" line. The Table shown "Recorded" inflow, which is in full agreement with the analysis provided under my comments for page 3.1-32/37, paragraph 3.1.3.2, clearly shows that the input flow used in the "Calibration" model verification is erroneous. Again, VALIDITY OF THE IIDSS MODEL IS THUS SUSPECT.

C35-42 It must be noted that the water balance numbers for the Baseline, the Project and the Alternatives are generally in balance (small problem resides with the On-Farm System numbers) as shown in Appendix E, Table 3-3 and the main document figures 3.1-16 (Existing), 3.1-26 (Proposed

C35-42 Project), 3.1-30 (Alternative 1), 3.1-32 (Alternative 2), 3.1-34 (Alternative 3) and 3.1-36 (Alternative 4). Could it be that the "Calibration" data discussed and presented in Appendix E is faulty???? THE PROBLEM NEEDS TO BE RESOLVED.

C35-43 Page 3.1-42: paragraph 3.1.3.2 IID Water Service Area and AAC - Drainage Water Quality

- Statement: "COC concentration values for the collective drains that discharge directly to the Salton Sea could not be determined because of the lack of reliable flow data for these drains. As a result, this information is not provided in this Draft EIR/EIS." This is a serious omission given the magnitude of the direct-to-sea discharge flows. Table 3.1-5: Annual Average Historical Water Balance for Salton Sea (Period 1950 - 1999) gives the flows at 93.2 KAFY. Table 3-3 of Appendix E gives the 1987 -1998 average flows as 100 KAFY, and Appendix F, 96 KAFY. These are significant flows which will effect the COC load within the Salton Sea. COC data is provided for IID drainage into the New River and the Alamo River in Table 3.1-4: Historical Mean Flows and Concentrations for Water Quality Parameters in the IID Water Service Area (1970 - 1999), page 3.1-56. Examining the data, it is observed that the dissolved COC's are numerically very similar for the two drainage systems, thus a good estimate of dissolved COC concentrations direct discharge flows to Salton Sea are readily estimable. Sedimentation cannot be estimated in this manner, and is left unresolved. Measurement of the sedimentary COCs at direct discharge inflow locations around the Salton Sea will be required.

C35-44 Page 3.1-73: Paragraph 3.1.3.3 Salton Sea - In-Sea Circulation Patterns

- Statement: "... The model (University of California at Davis, Department of Civil and Environmental Engineering, Water Resources and Environmental Modeling Group) was used to predict changes in current patterns, salinity, and temperature that would occur if the elevation or shoreline geometry of the Sea were altered." Temperature vertical and horizontal profiles are very important relative to water quality and biologic activity (section 3.2). Higher water temperatures have significant impact on BOD, COD and dissolved solids, evaporation rates and biological resources survivability. A through review of the model's in-sea circulation pattern and temperature profile changes as a function of the Sea's surface elevation should be presented at this point.

C35-45 Page 3.1-76: Paragraph 3.1.3.3 Salton Sea - COCs, Background and Historical Studies

- Statement: "... high nutrient concentrations lead(ing) to high rates of algal growth. High photosynthesis and respiration by algae were thought to result in high concentrations of dissolved oxygen in near-surface waters, with oxygen depletion at depth resulted from the oxygen-demanding processes associated with decaying algae and other organic matter." Given the right water nutrient load and temperature, algal growth blooms occur and rapidly consume the nutrients over large expanses of the Sea. Once the nutrients are consumed, there is a rapid die-off of the algae, followed by decay. This depletes the dissolved oxygen in the entire water column, thus killing everything in the area dependent on dissolved oxygen, aka fish die-offs and pungent aroma. Dissolved oxygen is a water quality issue which must be thoroughly addressed. I suspect that the model (see page 3.1-73 and comment) will show that reducing the depth of the Sea will cause average water temperatures to elevate. With higher average temperatures and concentration of the nutrients into a smaller sea volume, the algal blooms may be more severe

C35-46 (relative to percentage of sea volume impacted) and frequent, thus reducing the average dissolved oxygen level. This analysis also needs to be reviewed in section 3.2: Biological Resources.

C35-47 Page 3.1-78/79: Paragraph 3.1.3.3 Salton Sea - COCs, Nutrients and Other Organic Parameters

- Table 3.1-7: Comparison of Selected Water Quality Results (mg/L) in Tributaries and the Salton Sea, 1980 to 1993; please define "N". Presumably, "N" is the number of samples?
- Statement: "...other studies have indicated that dissolved oxygen in the Sea decreases rapidly with depth, and concentrations are close to zero at depths of 10 feet or more." The studies should be identified. Personal experience acquired while fishing the Sea, disputes the 10 foot number. Fish are regularly marked (fish finder) in the 10 to 20 foot depth, and they require dissolved oxygen to survive.

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Response to Comment C35-43

Actual flow measurements for drains that discharge directly to the Salton Sea are not available for the historical record. Because of this lack of data, quantification of COC input is speculative at best. Therefore, we stand by the statement.

Response to Comment C35-44

This subsection on In-Sea Circulation Patterns was intended to assist in the description of the existing setting at the Salton Sea. It was not intended as a place to provide an analysis of changes in circulation and/or temperatures relative to different Sea elevations as a function of project alternatives.

Response to Comment C35-45

Please refer to the following Master Responses in Section 3 of this Final EIR/EIS: *Biology—Approach to Salton Sea Habitat Conservation Strategy*; and *Biology—Impact Determination for Fish in the Salton Sea*.

Response to Comment C35-46

The comment raises concerns about the potential effects of the Proposed Project on increased nutrient loads and higher water temperatures at the Salton Sea, and the linkage of these potential effects to producing periodic anoxic conditions in the Sea. If the assumptions described in the comment proved correct and these conditions were to develop in the Sea, then increased biological impacts (e.g., frequency and magnitude of fish kills) could increase. However, since the release of the Draft EIR/EIS and HCP, IID has eliminated HCP Approach 1 from consideration. Under the revised Salton Sea strategy, reductions in inflow to the Sea would be offset by providing water to the Sea. This approach would maintain the elevation of the Sea at or above its projected levels under the Baseline until the year 2030. (See the Master Response on *Biology -- Approach to Salton Sea Habitat Conservation Strategy* in Section 3 of this Final EIR/EIS.) As a consequence, Project-related impacts on biological resources (primarily fish and the species that depend on them) would be avoided. Also, please see the responses to Comments R5-76, R5-68, and G25-78.

Response to Comment C35-47

The studies referenced in this subsection of the Draft EIR/EIS are described in the earlier subsection entitled "Background and Historical Studies," which begins on page 3.1-75.

C35-48 Page 3.1-90: Paragraph 3.1.4 Impacts and Mitigation Measures

- Statement: " ...Impacts to hydrology and water quality in the SDCWA subregion are not addressed because no impacts are anticipated in that subregion as described in the methodology section." See comment page 1-37, paragraph 1.5.5.

C35-49
- Statement: "...the impacts analysis discussion ... describes the effects that implementation of the Proposed Project and alternatives could have on water quality in IID drains and rivers at the transfer volume indicated in the impacts analysis." Why is the Salton Sea excluded from this statement?

C35-50 Page 3.1-90/91: Paragraph 3.1.4.1 Methodology, Lower Colorado River - Water Quantity and Quality

- To the extent that the Secretary of Interior maintains the same average surplus flow allocations below Lake Mead, there will be NO IMPACT to water quantity or quality below Parker Dam as a result of the Proposed Project or its alternatives. No additional water is being diverted at Parker via the CRA. There is only a ownership name change in a portion of the diverted water. The net effect, if the Secretary maintains the average surplus flow volume, Mexico will receive more water. To the extent that the Secretary reduces the average surplus flows by the amounts of the water transfer by retaining water in Lake Powell and Lake Mead, flows below Parker Dam will be reduced by the transfer amount and water quality will progressively get worse as it moves to Imperial Dam. Worsening water quality is a result of having lower water volume available to dilute the return flows from communities and farming operations below Parker Dam. Long-term, as the Upper Basin states take more of their 7.5 MAF entitlement, surplus flows in the LCR will disappear and water quality will suffer. The Bureau of Reclamation predicts that Imperial Dam TDS will increase from it's historical average of 771 mg/L to 879 mg/L (page 3.1-97), presumable as a result of the reduced LCR flows. Summarizing, two scenarios need to be applied to the LCR methodology: the NO IMPACT where LCR average surplus flows are maintained at current level; and the IMPACT where LCR average surplus flows are reduced by the transfer amount.

C35-51 Page 3.1-91, Paragraph 3.1.4.1 Methodology, IID Water Service Area and AAC

- Statement: "... Participation in on-farm irrigation system improvements would be voluntary, and farmers would choose their own conservation measures. ..." Given the low $15.50 per AF water cost, there is NO INCENTIVE for farmers to take the time and risk to implement on-farm conservation. Without some type of incentive based program, or a significant cost change for delivered water, the on-farm portion of water conservation is destined to fail.
- Statement: "... Because future water use/needs for crop requirements and salt leaching of soils would not be expected to change unless Colorado River water salinity changed, conservation will be derived primarily from reduced tailwater runoff to the drains. ..." Salinity will be increasing per Reclamation (see page 3.1-97) and with the water transfer and reduction of flows below Parker Dam, salinity will be further impacted. Leaching will thus require additional water use, not less. Where is the on-farm water conservation???

C35-52 Page 3.1-92, Paragraph 3.1.4.1 Methodology, IID Water Service Area and AAC- Modeled data

- Statement in Baseline Hydrology and Water Quality paragraph: "... These data were adjusted based on reasonable anticipated future changes, such as an increase in Colorado River salinity ..." What is considered reasonable by the authors of this Draft EIR/EIS may not be in agreement with the overall viewpoint of the scientific community. For each, and every deviation from the Existing Setting applied to the Baseline, a through discussion of the scientific foundation for the deviation is required. Reliance on a single report, such as the Reclamation report stating the salinity at Imperial Dam will increase from a long-term average of 771 mg/L to 879 mg/L without a review of the assumptions and analysis made in arriving at the number is improper. For example, Figure 3.1-18: Annual Average TDS Concentrations in Colorado River Water Delivered to IID (1973-1998) shows a slowly decreasing TDS concentration even though LCR flows have decreased over the same time interval. Thus a case could be made, with TDS control programs, TDS at Imperial Dam can be maintained below 800 mg/L. Further, if such adjustments are made, all the data associated with farming activity for the No Project and the Project and alternatives must likewise be adjusted. For example, if a salinity of 879 mg/L is to be used, on-farm water

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Response to Comment C35-48

The commenter questions whether the Draft EIR/EIS should address changes in hydrology and in water quality in the SDCWA service area that might result from Project implementation. As noted in the methodology section of the Draft EIR/EIS, a determination was made that the Project would result in no changes to the hydrology or water quality of this region. We believe that this assessment continues to be correct.

Response to Comment C35-49

The Salton Sea is excluded from this statement because impacts to the Sea are assessed based on the ramp-up schedule, rather than the full implementation transfer volume. The ramp-up schedules for reductions in inflow for the Proposed Project and Project Alternatives are presented in Table 6.1 of the SSAM (see Appendix F of the Draft EIR/EIS).

Response to Comment C35-50

The commenter states that two scenarios need to be applied to the LCR methodology; one where LCR average surplus flows are maintained, and one where LCR average surplus flows are reduced by the transfer amount. Surplus determinations will be made in accordance with the Interim Surplus Guidelines adopted in January 2001. The referenced paragraph describes the scenarios modeled: a Baseline or No Action alternative is compared to the maximum water transfers contemplated under the Proposed Project. We believe the analysis conducted is consistent with that desired by the commenter.

Response to Comment C35-51

As noted in the remainder of the first paragraph on page 3.1-92, "[t]he variables associated with defining an on-farm conservation program could be numerous including spatial distribution, voluntary participation over given timeframes. . ." Because of these variables and the fact that land fallowing could also be used to achieve on-farm conservation, it is difficult to determine the exact programs or combination of programs that could be implemented to achieve the conservation goals.

Response to Comment C35-52

Because of the historical variability in salinity concentrations in the Colorado River and the potential for disagreement on a specific prediction of future salinity concentrations in Colorado River water, the salinity concentration that is used in the IIDSS is based on the U.S. Bureau of Reclamation's Interim Surplus Criteria Draft EIS (Reclamation 2000b) and is also an accepted regulatory objective as documented in the following excerpt from the Water Quality Control Plan:

> "In response to requirements in Section 303 of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500), the Seven States Colorado River Salinity Control Forum developed water quality standards in 1975 for salinity consisting of numeric criteria and a basinwide plan of implementation for salinity control. The Forum recommended that each of the Basin States adopt the proposed standards.
>
> California, along with the other Basin States, adopted the Forum's recommended standards, which were subsequently approved by the U.S. Environmental Protection Agency. The standards were reviewed in 1978, 1981, 1984, 1987, and 1990. While the numeric criteria have not changed, the plan of implementation was updated in those years to reflect changes in the salinity control program since 1975. The flow-weighted average annual numeric criteria for salinity (total dissolved solids) were established at three locations on the lower Colorado River:

	Salinity in mg/L
Below Hoover Dam, AZ-NV	723
Below Parker Dam, AZ-CA	747
Imperial Dam, AZ-CA	879

> The plan of implementation consists of a number of federal and non-federal measures throughout the Colorado River system to maintain the adopted numeric criteria while the Basin states continue to develop their compact apportioned waters."

As noted above, the salinity objective has been accepted by California and the other Basin States and the EPA. Therefore, we feel it is appropriate to rely on the numeric criteria noted above.

Please also refer to the Master Response on *Hydrology—Development of the Baseline* in Section 3 of this Final EIR/EIS.

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C35-52 demand must be increased by a minimum of 14 percent to compensate for the additional leaching required, thus the Proposed Project will be required to conserve 342 KAFY to provide for the 300 KAFY transfer.

C35-53 **It is noted that it is to the advantage of the instigating parties of this Draft EIR/EIS to degrade the Baseline from Existing Setting to the greatest extent possible. This make environmental impact comparisons between the No Project and the Proposed Project exhibit less difference, thus enhancing the acceptability of the Project.**

C35-54
- Statement in Existing Setting vs. Baseline: "Important distinctions exist between the water quality data presented in Section 3.1.3, Existing Setting, and the Baseline water quality results provided in Section 3.1.4, Impacts and Mitigation Measures. ..." This is the paragraph where the differences should be tabulated and discussion provided for each of the differences. See preceding paragraph comment. The Baseline values are EXTREMELY important to the analysis and the comparison of the environmental impacts, in this section and all analysis sections. The discussion provided in Appendix E on the Baseline deviations is nothing more than a rehash of the Modeled Data subparagraphs Baseline statements, to which this comment is directed.

C35-55
Page 3.1-97, Paragraph 3.1.4.1 Methodology, IID Water Service Area and AAC- Imperial Irrigation Decision Support System
- Statement: "... to remain consistent with Reclamation's values (salinity) the water quality data set was adjusted to compensate for the predicted increase in TDS in Colorado River import water." as commented on earlier. if the Secretary of Interior reduces the surplus flow declarations by the amount of the transfer, less water will flow below Parker Dam and LCR water quality will be degraded. This degradation includes COCs, TDS and possibly TSS and is due to the lower water volumes in the river for dilution of return flows from farming and municipal activities. The degraded water quality of the Project and alternatives relative to the No Project water quality MUST be included in the modeling.

Page 3.1-98, Paragraph 3.1.4.1 Methodology, IID Water Service Area and AAC- Model Output
- Statement: "... These concentration values (COCs) would be common to the Proposed Project and to Project alternatives (includes No Project)." FALSE. If LCR surplus water declarations are reduced by the amount of transfer, each Project and alternatives would have a different set of TDS, TSS, and COCs. See comments for pages 3.1-90/91, 3.1-92, and 3.1-97.

Page 3.1-98, Paragraph 3.1.4.1 Methodology, Salton Sea - Salton Sea Accounting Model
- As previously discussed the modeling result differences between the SSRP model and Salton Sea Accounting Model (SSAM) need to be resolved before results from either model can be accepted. Refer to comments page 3.0-14/17.
- Sea temperature as a function of salinity and surface elevation need to be included in the model. See comments, pages 3.1-73 and 3.1-76.

Page 3.1-100, Paragraph 3.1.4.1 Methodology, Salton Sea Modeling Runs and Return Flow From the CVWD Service Area
- Statement: "... Without the QSA CVWD will continue using groundwater including 155 KAFY required to meet demands ..." Statement needs to be clarified. CVWD receives 320 KAFY via Coachella Canal plus aquifer pumping. Is the 155 KAFY referring to only the aquifer pumping?

C35-56
Page 3.1-101/102: Paragraph 3.1.4.2 Significance Criteria
- See comments, page 3.1-1/3
- Where the word "substantial" is utilized in criteria definition, it MUST be quantified.
- Table 3.1-4: Water Quality Standards/Significance Criteria - footnote E is missing.

Response to Comment C35-53

Please refer to the Master Responses on *Hydrology—Development of the Baseline* and *Biology-Approach to the Salton Sea Habitat Conservation Strategy* in Section 3 of this Final EIR/EIS. With implementation of the Salton Sea Habitat Conservation Strategy, the elevation of the Salton Sea will be maintained at Baseline levels until at least the year 2030.

Response to Comment C35-54

Please refer to the Master Response on *Hydrology—Development of the Baseline* in Section 3 of this Final EIR/EIS.

Response to Comment C35-55

The Commenter notes that the degraded water quality that may result from reduction in surplus declarations, relative to the declarations that may be in effect under the Project Baseline, must be taken into account.

Under both the Project Baseline and the project alternatives, it is assumed in the Draft EIR/EIS that there would be no declarations of surplus flow. Therefore, all of the modeling is based on the assumption that, given no surplus flow declarations, the quality of water diverted by IID under the project alternatives would be the same as the quality diverted under the Project Baseline.

The Commenter notes that constituent concentrations may differ between the Proposed Project and other project alternatives because if LCR surplus water declarations are reduced by the amount of the transfer, "each Project and alternatives" would have a different set of concentrations.

Under both the Project Baseline and the project alternatives, it is assumed in the Draft EIR/EIS that there would be no declarations of surplus flow. Therefore, all of the modeling is based on the assumption that, given no surplus flow declarations, the quality of water diverted by IID would be the same for each of the alternatives.

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Response to Comment C35-55 (continued)

The model used for the Draft Salton Sea Restoration EIS/EIR was based on incorrect forecasts of baseline inflows and salt loadings to the Salton Sea. As a result, model results from this model are not comparable to those from the Salton Sea Accounting Model. There are no known data and/or research that could be relied upon in the incorporation of temperature modeling within the Salton Sea Accounting Model. In addition, the inclusion of a temperature model would not enhance the ability of the model to perform water and salt balances within the Salton Sea, which is the primary function for which it was developed.

Response to Comment C35-56

See response to Comment G17-21.

The footnote (footnote E in Table 3.1-14) is a typographical error and will be removed. This change is indicated in this Final EIR/EIS in subsection 3.1 under Section 4.2, Text Revisions.

C35-57

- Statement: "... Otherwise substantially degrade water quality (see Table 3.1-14)." The term "substantial" is not defined. For example, if TDS goes from 771mg/L to 879 mg/L over a twenty year period is that a substantial change, or if TDS goes from 240 mg/L to 350 mg/L over a one year period is that a substantial change? The significance of both these examples is highly dependent upon the water's intended use and historical trend data. Lets look the water's use for farming. In the first case (771-879), the change is slow, thus allowing farming operations to adjust to the changing leaching requirements; short-term there is little impact, but long-term there is significant impact. In the second case, the change is significant short-term, and potentially very significant long-term, although the change in TDS is not significant to current farming operations. Why? Consider the case of CVWD ovedrafting of the aquifer. If a given well was to exhibit the TDS change indicated, it could indicate that a flow path between the Salton Sea groundwater and the Coachella Valley groundwater has established, leading to the very real prospect that the well water will quickly become unusable. Thus significance is a function of change magnitude, rate of change and intended end use.

  Another monitor of significance involves the time differential between when environmental impact milestones for the Baseline versus the Project and alternatives are exceeded. An example of this would be the date at which Sea salinity increases to the point of fish no reproduction. If the Project accelerates this impact by 11 years over the No Project, is that not significant? This criteria needs to be used with respect to the Sea's inflows. Table 3.1-4 is applicable to the inflows to the New and Alamo Rivers, but it is not applicable to the flows from the Rivers to the Sea. This is a direct result of the Sea being a sink.

C35-58

- Statement: "... Expose people or structures to a significant risk of loss, injury, or death involving flooding, including as a result of the failure of a levee or dam." The use of "significant risk" to define a significance criteria is meaningless. The "significant risk" MUST be quantified. For example, smoking is recognized as a significant health risk because of a quantifiable increase in death rate and health issues in smokers versus non-smokers.

  Definition of significance criteria is an area subject to interpretation. It is easily massaged to reduce the magnitude of environmental impact deltas between the No Project and the Project and alternatives. Significance criteria are best established through the mutual agreement of opposing parties, typically generated at a joint meeting led by an impartial facilitator.

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Page 3.1-103: paragraph 3.1.4.3 Proposed Project, Lower Colorado River - Water Conservation and Transfer

- Statement: "... has the potential to result in beneficial and less than significant impacts on LCR water quality ..." The terms "beneficial" and "less than significant" have not been quantified, or defined, for use as impact evaluation criteria. See comments, page 3.1-1/3 and 3.1-101/102.

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Page 3.1-103/105: paragraph 3.1.4.3 Proposed Project, Lower Colorado River - Water Quality

- Statement: "... flows under higher flow conditions (90th percentile) under IA and Baseline are extremely similar. For the 50th and 10th percentile values, flows under the IA and Baseline are also extremely similar. ..." The term "extremely similar" is not quantified.
- Statement: "... Historically, in the period 1980 to 2000, average annual flow in this reach (Hoover Dam releases) ranged from 20.5 MAF to 5.5 MAF, a variation of 14.5 KAFY (correction: 14.5 MAFY). The potential change from combined IOP and IA affects is anticipated to be within future normal fluctuations of the river." As shown in Figure C3.1-2: Flow Below Hoover Dam (1906 - 2000) the 1980 to 2000 time interval contains a significant aberration to river flow. The data from 1983 to 1986 should thus be excluded. To get a better perspective of actual LCR flows, Table C3.0-1: LCR Water Flows Below Lee's Ferry 1980 to 2000, was developed from USDR

Response to Comment C35-57

Please refer to the response to Comment G17-21.

Table 3.1-4 is applicable to water quality criteria in the IID Water Service Area. See Table 3.1-14 of the Draft EIR/EIS for standards that are applicable to the Salton Sea.

Response to Comment C35-58

The criteria presented in the IID EIR/EIS are neither subjective nor inadequate. As noted in Section 1.1 of the Draft EIR/EIS, "[T]he Draft EIS/EIR was prepared in accordance with California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA)…" Therefore, the significance criteria provided in the Draft EIR/EIS and the definition or explanation of the use of specific terms such as "significant" and "substantial" are found in the applicable rules in NEPA and CEQA. For example, Section 15064 of the CEQA Guidelines clearly spells out the process for determining whether a project may have a significant effect on the environment. Specific language defining the process for determining significance is provided below:

(b) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(c) In determining whether an effect will be adverse or beneficial, the Lead Agency shall consider the views held by members of the public in all areas affected as expressed in the whole record before the Lead Agency. Before requiring the preparation of an EIR, the Lead Agency must still determine whether environmental change itself might be substantial.

(d) In evaluating the significance of the environmental effect of a project, the Lead Agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project. (Title 14. CCR, Chapter 3, Article 5, Section 15064[b][c][d]).

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