G15-15

The DEIR asserts (1-42) that "Implementation of the Proposed Project is not inconsistent with subsequent implementation of a restoration project." This statement is misleading in that it suggests that the method of implementing the Proposed Project has been determined, inconsistent with Section 2.2, which lists a series of options for conserving water in the Imperial Valley. If the Project is implemented via on-farm conservation efforts (Secs. 2.2.3.2 and 2.2.3.3), then inflows to the Sea will decrease markedly. The Salton Sea Restoration Project DEIS, released in January 2000, makes clear that such decreases in the volume of inflows to the Sea would prevent the Restoration Project from meeting its salinity and elevation objectives until roughly 2040, and an appropriate cumulative impacts analysis would indicate that the combination of the transfer and other proposed and probable future actions would prevent the Restoration Project from ***ever*** meeting its salinity and elevation objectives within the 100 year project horizon. The Proposed Project could very well be inconsistent with subsequent implementation of a restoration project as currently defined.

- **Recommendation** – delete the misleading statement "Implementation of the Proposed Project is not inconsistent with subsequent implementation of a restoration project," unless the proposed project is implemented solely with fallowing, and with HCP Approach 2.

G15-16

DEIR Section 1.6 ("Other Proposed Projects Related to Resources Affected by the Proposed Project") fails to note the California Regional Water Quality Control Board's (RWQCB) *Water Quality Control Plan for the Colorado River Basin*, as well as the various ongoing and planned Total Maximum Daily Load (TMDL) programs designed to improve water quality in the region. Curiously, according to Section 6, the staff of the RWQCB were never consulted in the preparation of the DEIR, despite the clear and multiple water quality impacts associated with the proposed project. The DEIR briefly notes the existence of the RWQCB and the *Basin Plan* (3.1-7-8), but neglects to describe the *Basin Plan* in any detail, nor provide any assessment of how the proposed transfer might affect the implementation of the Plan, despite clear indications that it would. The DEIR also fails to account for any water quality improvements that might result from the implementation of best management practices pursuant to the Plan's TMDLs.

- **Recommendations** – Describe the *Water Quality Control Plan for the Colorado River Basin* in detail.
- Account for the Plan's potential improvements to water quality within the baseline/No Action alternative.
- Describe the potential impacts of the proposed water transfer on the implementation of the *Basin Plan*.

HYDROLOGY AND WATER QUALITY

Water quantity

G15-17

The baseline/No Project alternative employs biased hydrologic assumptions that minimize the relative impacts of the proposed project. The most egregious example is the unsubstantiated assumption that the 1988 IID/MWD water conservation program will decrease inflows to the Salton Sea by roughly 0.1 MAFy (App. C 3-17), effective immediately. This assumption has no basis in the historical record,[6] which shows that in the 12 years prior to implementation of the

[6] Data from the U.S. Department of the Interior's annual *Compilation of Records in Accordance with Article V of the*

Return to Contents

Response to Comment G15-15

Refer to the Master Response on *Other—Relationship Between the Proposed Project and the Salton Sea Restoration Project* in Section 3 of this Final EIR/EIS.

Response to Comment G15-16

Basin Plan and TMDLs—The California Regional Water Quality Control Board's *Water Quality Control Plan for the Colorado River Basin* (Basin Plan) is not discussed at length in the Draft EIR/EIS Section 1.6 because it is primarily a regulatory document outlining objectives, implementation plans, etc., rather than documenting specific implementation projects. However, the presence and content of the Basin Plan is acknowledged by the proponents, and IID has been actively involved with the Regional Board in implementing portions of the plan, including their participation in development of TSS TMDLs for the New and Alamo Rivers and direct to Salton Sea discharges.

IID does not anticipate that implementation of the Project or alternatives will interfere with implementation of TMDL BMPs and compliance efforts associated with implementation of the Basin Plan. On-farm conservation methods may in fact help the District and its water users reach targets associated with the TMDL program.

Response to Comment G15-17

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

program, IID's average annual use was 2.73 MAF. In the 12 years in which the conservation program has been in effect, IID's average annual use (less the amount transferred to MWD) was 2.92 MAF. Even in the three most recent years of the conservation program, when the quantity of water transferred was at or near its maximum of roughly 0.1 MAFy, IID's average annual use (less the amount transferred to MWD) was 2.93 MAF, 0.2 MAFy *more* than IID's average annual use without the conservation program.[7] Despite this historical record, the DEIR employs a hydrologic model that assumes that IID's average annual use will decrease by the amount transferred to MWD. Furthermore, the model apparently assumes that this reduction will happen immediately, whether or not the Proposed Project is implemented. The DEIR fails to justify or explain this assumption.

The DEIR states that under the baseline/No Action alternative, "IID would not be obligated to limit its annual diversions … to 3.1 MAFY…" (2-55). The quantification of IID's consumptive use right would facilitate the measurement of conservation efforts within the district, by providing for a benchmark against which future consumptive use, and transferred water, can be measured. Absent this benchmark, there is little reason to believe that IID's use, including water transferred to MWD, would change from historical levels, or that inflows to the Salton Sea would decrease as projected by the baseline/No Action alternative.

The Quantification Settlement Agreement (QSA) would cap IID's consumptive use at 3.1 MAFy. Water transferred to MWD under the 1988 agreement would be subtracted from this cap, as shown in DEIR Table 2-1 (2-6). This cap would enable IID to continue to consume annually the average volume of water it has used in the past twelve years (2.92 MAFy), and transfer an additional 0.1 MAFy to MWD, without exceeding the cap. If in some year IID's use increased to the cap,[8] presumably some of that additional water would flow to the Sea, roughly balancing any decrease of inflows to the Sea due to actual conservation efforts.

Thus, the baseline/No Action alternative assumption that the 1988 IID/MWD conservation program will decrease inflows to the Sea by some 0.1 MAFy is wrong for three reasons:

1. it contradicts the historical record, which shows no such decrease over the life of the 1988 conservation program;
2. if the proposed IID-SDCWA transfer is not approved ("no action"), then the QSA will likely not be implemented, meaning that IID's use will not be capped at 3.1 MAFy and therefore there will be no baseline against which to measure IID conservation, reducing the likelihood that any measurable conservation would occur in the future; and

---

Decree of the U.S. Supreme Court of the United States in Arizona v. California *dated March 9, 1964* and from the Colorado River Board of California.

[7] A variety of market, pestilence, and hydrologic factors influence water consumption patterns in the Imperial Valley, challenging efforts to establish a direct correlation between actual use and expected efficiency improvements.

[8] Since 1955, IID's annual consumptive use has exceeded 3.1 MAF only four times (1974, 1996-1998), the last three times in years when the Secretary of the Interior had declared a "surplus condition" for the Colorado River (data from Bureau of Reclamation and Colorado River Board of California).

3. even if the QSA were implemented, the 3.1 MAF cap is sufficiently high to permit IID to continue to use water at or above historical levels, ***and*** transfer 0.1 MAF to MWD, without exceeding the cap.

By definition, the baseline/No Action alternative should reflect current and reasonably foreseeable outside actions. The 1988 IID/MWD water conservation program has been on-going for more than 12 years; records clearly demonstrate that it is wholly unreasonable to assume that this conservation program will decrease inflows to the Sea, even with new state and federal actions, such as quantification of IID's water right. An accurate baseline should reflect a continuation of IID drainage flows to the Salton Sea at historical levels.

G15-17

- **Recommendation** – remove the unsubstantiated decrease in inflows to the Salton Sea attributed to the 1988 IID/MWD conservation program, from the baseline/No Action hydrologic model.

G15-18

The hydrologic model is also internally inconsistent. The DEIR states that the baseline/No Action alternative assumes that the Inadvertent Overrun and Payback Policy (IOP) would not be implemented (2-54). Yet the description of the baseline/No Action hydrologic model assumes a further decrease of inflows of 56,856 acre-feet/year of inflows due to "priority 3 entitlement enforcement of Colorado River water" (App. F p. 4), presumably the very IOP that the DEIR earlier assumed would *not* be implemented under the baseline/No Action alternative. In fact, the DEIR later attributes this decrease to the IOP: "An additional 59 KAFY would be conserved for compliance with the IOP" (3.7-23). Implementation of the IOP constitutes a federal action and is subject to its own NEPA requirements.[9] Additionally, the IOP is a ***proposed*** federal action closely linked to the adoption of the IID/SDCWA water transfer.[10] It is wholly inappropriate to include the projected impacts of a proposed federal action as a baseline/No Action condition for the hydrologic model.

- **Recommendations** – If "priority 3 entitlement enforcement of Colorado River water" (App. F p. 4) is an existing federal action and not the proposed IOP, this should be clearly and comprehensively explained within the text of the DEIR, and the rationale for projecting an annual decrease of 56,856 acre-feet of inflows to the Salton Sea should be described in detail.
- If "priority 3 entitlement enforcement of Colorado River water" reflects projected decreases due to implementation of the proposed IOP, the hydrologic model should be corrected to reflect that the actions of a proposed federal action do not properly belong within a baseline/ No Action alternative.

G15-19

The 1988 conservation program and the IOP assumptions project a combined annual decrease of more than 0.16 MAF in baseline flows to the Salton Sea, representing more than 11% of current inflows to the Sea and more than 50% of the projected reduction due to the Proposed Project.

[9] A separate DEIS for the Implementation Agreement, Inadvertent Overrun and Payback Policy, and Related Federal Actions (Statement Number DES-01-43) was filed on January 4, 2002 by the Bureau of Reclamation. The comments of the Pacific Institute and other organizations on this DEIS are posted at the Pacific Institute website, at www.pacinst.org/salton_sea.html.

[10] As noted above, Reclamation issued a joint DEIS for both the Implementation Agreement (the federal action necessary to permit the water transfer to occur) and the IOP.

Response to Comment G15-18

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

Response to Comment G15-19

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

Return to Contents

These biased and unsubstantiated assumptions dramatically distort the entire range of impacts to the Salton Sea, by implying that environmental conditions at the Sea are deteriorating rapidly and would continue to deteriorate at a rapid rate absent the proposed project. This misconception allows the DEIR to claim that the proposed project would only accelerate on-going actions, implying a change in degree, but not in kind. This is a gross mischaracterization, prejudicing entire sections of the DEIR and rendering the Salton Sea sections of the DEIR misleading and inaccurate. These two erroneous assumptions are sufficient reason to deem the DEIR inadequate and to require the release of a new DEIR.

Salinity

The baseline/No Project alternative employs biased salinity assumptions that minimize the relative impacts of the proposed project. The DEIR notes that the mean salinity (771 mg/L) used for the Existing Setting reflects results from the period of record from 1987-1999 (3.1-92). Yet the salinity used for the Baseline assumes *maximum* concentrations (of 879 mg/L) "over the life of the Proposed Project" (3.1-93), a salinity 14% higher than existing conditions. This biased assumption minimizes the potential impacts of the Proposed Project relative to a baseline based upon reasonable assumptions.[11] The DEIR's misleading assumptions generate the projection that the Salton Sea's baseline salinity would reach 60,000 mg/L by 2023 (3.0-15), rather than a salinity of 57,900 mg/L *after 50 years*, as projected by the to-be-published paper on Salton Sea salinity cited by the DEIR in Appendix F (p 20).

G15-19

- **Recommendation** – The baseline alternative should assume that salinity of the Colorado River at Imperial Dam remains relatively constant, at roughly 771 mg/L.

G15-20

To its credit, the DEIR's Salton Sea Accounting Model accounts for the current precipitation or biological reduction of 0.7 – 1.2 million tons of dissolved solids within the Sea each year (App. F p. 20), meaning that the Sea's salinity is increasing more slowly than previously estimated. It is not clear, from either the DEIR or from the draft paper it cites, how such precipitation/biological reduction rates might vary at the higher salinities projected for the Salton Sea if inflows decrease. Potentially, such precipitation rates might increase as the saturation thresholds of other salts are approached with the Sea's rising salinity, decreasing the overall rate of increase. This suggests that the model's sampling from a uniform probability distribution may tend to overestimate the rate of increase, particularly at higher salinities.

- **Recommendation** – The Salton Sea Accounting Model should be modified to reflect potentially higher precipitation rates at higher salinities.

G15-21

At one point, the DEIR claims that "The Sea currently has an average salinity of approximately 44,000 mg/L" (ES-15), while later it claims "The existing salinity of the Sea is approximately 46 g/L." (3.0-15) Assuming a higher current salinity minimizes the impacts of the Proposed Project, especially given the biased salinity and inflow assumptions present in the baseline

[11] The Colorado River Basin Salinity Control Program works actively to implement programs to reduce the river's salt load. Interior's *Quality of Water: Colorado River Basin* Progress Report No. 19 (Jan. 1999) notes that planned and potential salinity control programs could result in a *downward* trend in Colorado River salinity at Imperial Dam (rather than upward as asserted by the DEIR (3.1-93)), suggesting that it would be entirely reasonable for the DEIR to assume that salinity remains constant at current levels.

Response to Comment G15-20

A draft paper titled "Effect of Salt Precipitation on Historical and Projected Salinities of the Salton Sea: Summary Comments from Workshop at UC (Riverside), January 30-31 2001" summarizes joint expert opinions relative to salt precipitation and/or biologic reduction within the Salton Sea. This paper is the basis for the 0.7 to 1.2 million tons per year adjustments to salinity within the Salton Sea Accounting Model. The workshop participants and panel experts made no conclusions relative to increases in such effects as the salinity in the Salton Sea in the future. In addition, there are no other known scientific investigations pertinent to this issue. As a result, there is no available scientific basis for increasing precipitation and/or reduction as salinity rises in the future within the Salton Sea Accounting Model.

Response to Comment G15-21

Salinity Levels and Selection of Conservation Areas - The statement that the Sea has an average salinity of approximately 46 g/L is in error, and should actually read 45 g/L (actually 44.9) as reported elsewhere in the Draft EIR/EIS. The calculations and modeling conducted in support of the Draft EIR/EIS were conducted using the best available information as documented throughout the document. More details on the Baseline assumptions can be found in the Master Response on *Hydrology—Development of the Baseline* in Section 3 of this Final EIR/EIS.

The commenter also suggests that selection of lands for implementation of water conservation measures and fallowing should be based on the level of contribution of these lands to contaminant loadings. However, evidence suggests that the level of contaminant loading in a particular area is more dependent on management practices than on local land characteristics, particularly when the constituents of concern are salinity and selenium. In the case of the IID Service Area, the source of these contaminants is the Colorado River supply water rather than the leaching of the local soils. Therefore, implementation of water conservation measures is likely to have similar overall contaminant loading implications regardless of the specific location of implementation.

Return to Contents

model. That is, assuming a higher starting salinity decreases the "temporal impact" attributable to the water conservation and transfer programs.

- **Recommendation** – Current salinity should be based on recent empirical data (such as a mean of 2001 values), not model-generated projections. This empirical data should then be the basis for future salinity projections.

Tilewater salinity and selenium loadings are not uniform across the Imperial Valley,[12] suggesting that an appropriate means of minimizing such loadings would be to concentrate on-farm conservation efforts and/or fallowing efforts on parcels identified as contributing disproportionately to such loadings.

- **Recommendations** – Include a map displaying mean annual salinity and selenium loadings by irrigated parcel.
- Modify the Proposed Project so that it would target conservation and/or fallowing efforts at those parcels with disproportionately high salinity and/or selenium tilewater loadings.

G15-21

Selenium

The DEIR finds that selenium concentrations currently exceed fresh water quality criteria in surface drains and at the outlets of the Alamo and New Rivers (Table 3.1-4), and that such concentrations would increase under the Proposed Project (Table ES-1). Yet the DEIR claims a finding of ***unavoidable*** impact ("This impact cannot be mitigated" (3.1-111)). This is patently false. The increases in selenium concentrations are significant impacts that could and should be mitigated. Various on-going selenium mitigation programs exist within California and within the Upper Colorado River basin, undermining the DEIR's questionable finding. Such mitigation could be implemented within the Imperial Valley, through wetland management programs based upon current programs in California's Central Valley that may have reduced selenium concentrations by as much as 90%.[13] IID could also contribute to Colorado River Upper Basin source reduction programs. A pilot project in the Montrose Arroyo Basin of western Colorado reported a decrease of selenium loadings by 28%.[14]

G15-22

- **Recommendation** – Identify and develop an appropriate program to mitigate for the increase in selenium concentrations due to the Proposed Project, via one or more of: wetland management programs, targeted efforts at disproportionately high sources of selenium within the Imperial Valley, and/or support for Upper Colorado River Basin selenium source reduction programs.

[12] Setmire, J.G., R.A. Schroeder, J.N. Densmore, S.L. Goodbred, D.J. Audet, and W.R. Radke. 1993. Detailed study of water quality, bottom sediment, and biota associated with irrigation drainage in the Salton Sea area, California, 1988-90: U.S. Geological Survey Water Resources Investigations Report 93-4014, 102 pp.

[13] Agrarian Research and Management Company, Ltd., cited in 2002 SWRCB California Regional Water Quality Control Board-CRBR Exhibit No. 2.

[14] Butler, David L. 2001. *Effects of piping irrigation laterals on selenium and salt loads, Montrose Arroyo Basin, western Colorado*. U.S. Geological Survey Water Resources Investigations Report 01-4204. 14 pp.

Response to Comment G15-22

Details on the formulation of the Project Baseline are described in the Master Response on *Hydrology—Development of the Baseline* in Section 3 of this Final EIR/EIS. Concerns over the impacts of the Proposed Project to the Salton Sea have resulted in modifications to the Draft Habitat Conservation Plan. The newly formulated HCP is described in the Master Response on *Biology—Approach to Salton Sea Habitat Conservation Strategy* and is included as Attachment A to this Final EIR/EIS.

Return to Contents

Temperature

The temperature of the Salton Sea affects many of the species in the Sea, with low winter temperatures causing tilapia mortality and high summer temperatures further decreasing the availability of oxygen, stressing aquatic life. Because the Sea is a broad and shallow body of water, it responds relatively quickly to changes in air temperature. Average water temperatures in the Sea vary seasonally from the low 50s to the upper 90s; water temperatures at the surface of the Sea vary more than 70 degrees Fahrenheit annually.[15]

In 2000, air temperatures in the Imperial Valley ranged from a low of 35° F to a high of 112° F.[16] The current size of the Salton Sea dampens these temperature fluctuations. As the Sea shrinks, water temperature fluctuations would increase. The DEIR fails to account for the biological impacts resulting from a reduction in the Salton Sea's thermal inertia due to the Proposed Project's reduction in inflows. The DEIR projects that the Sea's elevation will drop to a mean of –245' msl by 2030. According to the Elevation/Area/Capacity data provided in Table 5.1 of Appendix F, at this elevation the Sea would have a volume of 3.8 MAF, roughly half of its current volume. This dramatic reduction in thermal inertia would increase the Sea's annual fluctuation in temperature, further stressing aquatic species. The DEIR completely ignores this important water quality parameter. Indeed, the Sea's 50% reduction in volume could potentially have more immediate impacts on tilapia viability than would the rise in salinity. Moreover, this loss of thermal inertia represents a distinct impact of the Proposed Project; under a properly characterized baseline/No Action alternative, the size of the Sea would not diminish significantly.

G15-23

- **Recommendation** – Describe the range of impacts to biological resources due to the decrease in the Sea's thermal inertia.

HCP

G15-24

In reference to the potential effects of the proposed project on listed species, the DEIR offers the disclaimer, "IID recognized and considered the following: … The level of mitigation should be scaled to the impact attributable to the water conservation and transfer programs." (2-49) This is a reasonable standard, assuming that the projected impacts are credibly and comprehensively assessed. The DEIR fails to do this, partly by relying on the biased assumption that baseline conditions at the Salton Sea will represent a marked change from current conditions, including a 7-foot drop in elevation (3.1-120). Using IID's standard, the public could rightly assume that IID would also mitigate for the impacts the DEIR attributes to reductions in flow to the Sea due to the 1988 IID/MWD Conservation Program, given that these impacts would represent a change from current conditions. The DEIR fails to describe any existing or planned mitigation plans for the impacts attributable to the 1988 IID/MWD water conservation and transfer program, despite the projection that this program would decrease the elevation of the Sea by 7.3 feet, expose 16,000 acres of lakebed, and accelerate the rise in salinity to approximately 60,000 mg/L by 2023 and as high as 86,000 mg/L by 2077 (3.1-128).

---

[15] Cohen, MJ, JI Morrison, and EP Glenn. 1999. *Haven or Hazard: The Ecology and Future of the Salton Sea.* Oakland, CA: Pacific Institute. 63 pp.
[16] IID Fact Sheet: Weather Summary: Imperial Valley 2000.

Return to Contents

Response to Comment G15-23

The comment correctly identifies water temperature as an important determinant of fish health. While the EIR/EIS focuses on salinity as the most likely factor influencing the ability of the fishery to be sustained in the Salton Sea, water temperature also could contribute alone or synergistically to rendering the Sea unsuitable for fish. Under the Salton Sea Habitat Conservation Strategy, no reduction in inflow attributable to the Proposed Project would occur until after 2030, when fish are not projected to remain in the Salton Sea under the Baseline. Thus, this strategy would avoid water temperature and other potential effects to fish attributable to water conservation and transfer. See the Master Response for *Biology—Approach to Salton Sea Habitat Conservation Strategy* in Section 3 of this Final EIR/EIS.

Response to Comment G15-24

The assessment of impacts differs between the IA EIS and the Draft EIR/EIS because these documents assess different projects. The Project assessed in the Draft EIR/EIS includes not only the water conservation and transfer projects but also the HCP. The HCP was developed to reduce the impacts of the Project on a broad range of species and their habitats and to satisfy the requirements of the USFWS and CDFG for issuance of incidental take permits. The HCP includes specific measures to preserve and enhance pupfish habitat. These measures were not part of the project assessed in the IA EIS.

- **Recommendation** – Describe IID's level of mitigation efforts (if any) for impacts attributable to implementation of the 1988 IID/MWD water conservation program.

HCP Approach 1, as noted under **Process and Scope** (above), fails to provide more than a cursory description of the Salton Sea portion of the HCP. Yet even this cursory description raises a host of questions and problems. The DEIR notes that "the primary potential effects of the covered activities on proposed covered species associated with the Salton Sea relate to an increased rate of salinization and increased rate and magnitude of decline in the surface elevation" (2-49), though these relative impacts are tied to the inaccurate baseline. As described above, this arbitrary baseline minimizes the extent of impacts potentially caused by the proposed water conservation and transfer program, and therefore does not represent a reasonable threshold.

Regardless, the proposed "Hatchery and Habitat Replacement" approach for the Salton Sea portion of the HCP is fatally flawed, for the following reasons.

1. The DEIR notes that the habitat replacement ("fish ponds") component of the approach would be initiated "if a long-term Salton Sea Restoration Project were not implemented before the Sea could no longer support fish" (2-50). As noted above, unless the proposed project solely relies upon fallowing, it would effectively preclude the implementation of a Salton Sea Restoration Project because it would be cost-prohibitive to remove sufficient salt from the shrunken Sea to render the Sea habitable for fish.
2. The trigger for the second component is ill-defined. As noted in Appendix C, tilapia are projected to reproduce within the delta regions long after the main body of the Sea becomes too saline for reproduction. Presumably, adult tilapia will continue to live in these less saline delta regions after the rest of the Sea becomes too saline for them. At what point, then, will the Sea "no longer support fish"? Is there a defined population that would trigger construction of the ponds? One would expected that the tilapia population would decline markedly, well before the adult salinity tolerance threshold is reached. Would impacts be mitigated in this transitional period?
3. Would hatchery-raised fish be raised in diluted Salton Sea water, or in Colorado River water? How would such fish be acclimated to Salton Sea water, particularly as the Sea's salinity approaches adult tolerances? Would this require a longer growing period and therefore a larger facility (and more water and other resources)?
4. How would the temperature of the fish ponds be regulated to limit tilapia mortality? January minimum temperatures in the Imperial Valley (<40 ° F) are well below the tolerance of tilapia. Small (160-640 acre fish ponds at 5-6' deep) would not buffer the low air temperatures, leading to large-scale fish kills in winter months, the very time when avian use of the Sea is at its peak. It is unclear from the description of HCP Approach 1 whether IID would heat the water in the fish ponds to minimize temperature-generated mortality, or how this could be reasonably accomplished over 5,000 acres of ponds.
5. The intent of the ponds as described is too general. "The objective of creating ponds would be to maintain a level of foraging habitat that would help ensure that piscivorous birds would continue to be represented at the Salton Sea." (2-50-51). At least 16 of the covered avian species eat fish. How would this approach ensure that the foraging needs of all of these species are met? Certain species (e.g., gulls) are much more aggressive and might be

G15-24

expected to dominate the feeding ponds, potentially to the exclusion of other, covered species. How would this approach be managed to ensure that the covered species are fed? Are there any estimations of how many individuals of each covered species might be fed by such ponds?

6. Water use for the ponds was estimated at close to 30 KAFy (2-51). Was there any assessment of whether such use would be considered reasonable and beneficial? Were any additional estimates developed of how much additional water would be required for flushing and water circulation, to minimize the concentration of selenium?

The DEIR fails to consider other alternatives, "because of insufficient [project] detail to determine feasibility and address agency concerns" (App. C 3-26). This rationale is questionable at best, since both the "Tri-Delta Wetland Project" and the "Pacific Institute Approach" provide far greater detail than does the DEIR's own HCP. Since either of these approaches, or a plan with a larger impounded area, would provide a reasonable alternative to the two proposed approaches for the Salton Sea portion of the HCP, both should be considered fully.

G15-24

- **Recommendation** – consider other approaches as mitigation for the proposed water transfer.

BIOLOGICAL RESOURCES

G15-25

The DEIR finds "less than significant impact" or "less than significant impact with implementation of biological conservation measures/the HCP" to all biological resources that do not enjoy a "beneficial impact" due to the proposed project and the three project alternatives (Table 3.2-1). These findings rely on the projected impacts of ill-defined HCP approaches (see above), and a questionable set of definitions. For example, the accelerated loss of the fishery at the Salton Sea is dismissed "Because all fish species are introduced, non-native species, the impacts are less than significant." (3.2-150). This remarkable assertion both ignores the endangered native desert pupfish, and the tremendous resource offered by the Salton Sea's estimated 160 million fish. While one can not help but admire the hubris of dismissing the loss of 160 million fish as "less than significant," this would clearly be a significant, unmitigated impact.

G15-26

Additionally, the DEIR's assessment of biological impacts is not consistent with that of the January 2002 draft programmatic EIR for Implementation of the Colorado River QSA, (table ES-1), which finds that "The accelerated change in the natural habitat of the desert pupfish is considered a ***potentially significant impact. Significant impacts*** would occur to the California brown pelican, black skimmer, double-crested cormorant, and other resident and migratory birds that forage on fish." (emphasis added)

G15-27

The DEIR notes that "Impacts associated with a decline in [the Salton Sea's] elevation are discussed in Sections 3.3 Geology and Soils, 3.6 Recreation, 3.7 Air Quality, and 3.11 Aesthetics" (3.0-15), failing to recognize the potential impacts to biological resources associated with a decline in elevation. Such impacts would include a loss of valuable shoreline habitat, the exposure of land bridges connecting existing island rookeries to the mainland, and loss of connectivity between pupfish populations. Cursory discussion of such impacts are relegated to Appendix C, but they should be appropriately summarized and described within Section 3.2 Biological Resources.

Return to Contents

Response to Comment G15-25

The comment questions the justification for the conclusion in the Draft EIR/EIS that the accelerated loss of fish at the Salton Sea represents a less than significant impact. This conclusion in the Draft EIR/EIS referred only to the impact on non-native fish and did not apply to the important functions that the non-native fish population provides in recreation and as a forage base for native wildlife. In the Draft EIR/EIS, the accelerated loss of the fishery was determined to represent a potentially significant impact on the sport fishery (recreation) and for the birds that rely on fish as a food source (e.g., pelicans and cormorants). Please refer to the Master Response on *Biology – Impact Determination for Fish in the Salton Sea* in Section 3 of this Final EIR/EIS for additional justification for these conclusions.

Response to Comment G15-26

Potentially significant impacts to desert pupfish would be avoided or mitigated by implementing the measures described in the Desert Pupfish Conservation Strategy (see Section 3.7.2 of the draft HCP). Impacts on pelicans and other piscivorous birds due to a reduction in fish abundance are discussed under Impact BR-46. The Proposed Project would accelerate the changes in fish abundance and the subsequent response of piscivorous birds by about 11 years relative to the Baseline. The earlier occurrence of adverse effects to piscivorous birds is considered a significant but avoidable impact of the water conservation and transfer component of the Proposed Project. Implementation of the HCP component of the Proposed Project would reduce this impact to less than significant (see Impact BR-52). See the Master Response on *Biology—Approach to Salton Sea Habitat Conservation Strategy* in Section 3 of this Final EIR/EIS.

Response to Comment G15-27

The text has been revised to state "Impacts associated with a decline in the elevation are discussed in Sections 3.2 Biological Resources, 3.3 Geology and Soils, 3.6 Recreation, 3.7 Air Quality, and 3.11 Aesthetics." Impacts to biological resources from reductions in water surface elevation of the Salton Sea are evaluated under Impacts BR - 42, 48, and 49.

G15-27

- **Recommendation** – include an adequate description of the potential impacts to biological resources associated with a decline in the Salton Sea's elevation within Section 3.2.

Birds

Shorebird counts at the Salton Sea exceed 78,000 individuals in fall, 68,000 in spring, and 27,000 in winter, with large numbers of black-necked stilts, American avocets, western sandpipers, and dowitcher species reported. These shorebirds are concentrated primarily on unvegetated beaches and alkali flats along the Sea's south shoreline.[17] The DEIR reports that such unvegetated areas constitute 25% of the adjacent wetlands at the Salton Sea (App. C 2-43), yet fails to quantify the loss of such habitat due to the projected decline in the Sea's elevation, or assess how the loss of such habitat might impact shorebirds. In the air quality section, the DEIR contends that a fairly stable salt crust would form on exposed lakebed (3.7-35), suggesting that the Salton Sea's newly exposed shoreline would not provide suitable habitat for the species that shorebirds currently prey upon.

G15-28

- **Recommendations** – quantify the decrease in unvegetated shoreline habitat due to the proposed project and assess the impacts this will have on shorebirds.
- Develop an adequate mitigation plan for these impacts.

The Salton Sea provides valuable habitat for a significant percentage of the North American population of American white pelicans, as well as other special status fish-eating birds. The proposed project would greatly accelerate the loss of the Salton Sea's fishery, destroying important habitat for these birds. This potential loss of habitat is especially alarming given the loss of more than 90% of California's wetlands, dramatically limiting the options available to these birds. As noted above (see section on **HCP**), the proposed mitigation for impacts to fish-eating birds is defined inadequately and is unlikely to provide any real benefits for such birds.

Fish

G15-29

The DEIR inconsistently addresses the salinity tolerance of tilapia, at one point suggesting that tilapia can be expected to survive in the Salton Sea until its salinity reaches 120 g/L (2-50)[18], while later suggesting that the loss of the tilapia fishery will occur at or near 60 g/L, and that the loss of all fish (including desert pupfish) could occur at about 80 g/L (3.2-147). The use of apocalyptic salinity thresholds or triggers as stark determinants of species' viability ignores the absence of empirical evidence of any such salinity thresholds; population abundance or productivity would be expected to change continuously in response to increases in salinity.[19] Table 3.2-43 appropriately reflects the uncertainty of specific impacts and thresholds, though it fails to define its generalized probabilities (i.e., does "extreme" indicate a probability >99% and "high" a probability >95%? Or are these purely qualitative terms and if so, how are they defined?). Additionally, this table inconsistently lists the probability of the reproductive failure

[17] Shuford, WD and N Warnock. 2002. Patterns of shorebird use of the Salton Sea and adjacent Imperial Valley, California. *Studies in Avian Biology* (forthcoming).
[18] The counter-intuitive assertion that "tilapia have been collected at a salinity as high as 120 ppt" (2-50) warrants documentation and explanation.
[19] Hurlbert, SH. 1991. Salinity thresholds, lake size, and history: a critique of the NAS and CORI reports on Mono Lake. *Bulletin of the Southern California Academy of Science* 90: 41-57.

Return to Contents

Response to Comment G15-28

The unvegetated areas classified as adjacent wetlands in the Salton Sea database likely represent areas of partial inundation and seepage and function as mudflats and shallow water areas around the Sea. The potential impacts to mudflat and shallow water habitat are discussed under Impact BR-49 and are determined to be less than significant. Also see the response to Comment G25-82.

Impacts on pelicans and other piscivorous birds due to a reduction in fish abundance are discussed under Impact BR-46. The Proposed Project would accelerate the changes in fish abundance and the subsequent response of piscivorous birds relative to the Baseline. The earlier occurrence of adverse effects to piscivorous birds is considered a significant, but avoidable, impact of the water conservation and transfer component of the Proposed Project. Implementation of the HCP component of the Proposed Project would avoid this impact. See the Master Response for *Biology—Approach to Salton Sea Habitat Conservation Strategy* in Section 3 of this Final EIR/EIS.

Response to Comment G15-29

The comment correctly recognizes the uncertainty regarding the salinity tolerance and the ultimate threshold for fish survival at the Salton Sea. It is acknowledged that the ecological complexity and the dynamic nature of the Salton Sea ecosystem complicate future predictions. This uncertainty is characterized in the Draft EIR/EIS under Impact BR – 45 and in the HCP in Section 3.3.1.1. Table 3.2-43 (based on Hagar and Garcia 1988) presents the qualitative predictions of the sequence of biological events that would occur as the Sea increases in salinity. While the actual threshold for fish in the Salton Sea is in question, the best available information suggests that a decline in tilapia reproduction will occur at a salinity of approximately 60 ppt. Under the revised approach to the mitigating impacts at the Salton Sea, IID, in coordination with USFWS and CDFG, expanded the level of mitigation (i.e., agreed to provide water to the Sea for a longer period) to account for this uncertainty and to provide additional protection to the resource. Please refer to the Master Response on *Biology—Approach to Salton Sea Habitat Conservation Strategy* in Section 3 of this Final EIR/EIS for additional information on how this uncertainty was addressed.

Response to CommentG15-29 (continued)

The comment also identifies water temperature as an important

determinant of fish health. While the EIR/EIS focuses on salinity as the most likely factor influencing the ability of the fishery to be sustained in the Salton Sea, water temperature also could contribute alone or synergistically to rendering the Sea unsuitable for fish. Under the revised Salton Sea Habitat Conservation Strategy, no reduction in inflow attributable to the water conservation and transfer project would occur until after 2030, when fish are not projected to remain in the Salton Sea under the Baseline. Thus, this strategy would avoid water temperature and other potential effects to fish attributable to water conservation and transfer.