

March 5, 2007

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via email: broper@lc.usbr.gov

Re: Restoration of the Salton Sea Summary Report

Dear Mr. Walker:

We submit these comments on Reclamation's *Restoration of the Salton Sea Summary Report* on behalf of the Pacific Institute and the Sierra Club. Our groups have been working actively to identify and implement a feasible Salton Sea restoration plan for nearly a decade. We welcome the federal and state efforts to improve the ecological health of the Salton Sea ecosystem, and offer these comments in the hopes that they might benefit Reclamation's planning efforts and the Salton Sea ecosystem.

We commend Reclamation for producing a well-written report. We especially appreciate Reclamation's candid analysis, with statements such as "In general, environmental conditions are likely to deteriorate, regardless of which alternative is selected." (Summary Report, p. 6-9). However, statements such as these, and the report more generally, point to the failure of the study to meet its own stated objective:

"The primary focus of this study is to identify and evaluate a preferred action that ensures the restoration of the Salton Sea ecosystem and permanent protection of wildlife dependent on that ecosystem." (1-2)

This signal failure alone requires that Reclamation redo its analysis and develop an alternative that satisfies the above objective.

With the passage and adoption of P.L. 102-575, P.L. 105-372, and P.L. 108-361, Congress and the President have demonstrated their interest in restoring the Salton Sea. The study's lack of a viable alternative, however, suggests that Reclamation would prefer not to take action at the Salton Sea. The massively-engineered, exorbitantly expensive alternatives designed and reviewed in this study, and the explicit findings within the economic analysis, imply that restoration of the Salton Sea is simply too costly. Rather than thinking creatively and addressing the variety of challenges threatening the long-term existence of fish and wildlife dependent on the Salton Sea ecosystem, Reclamation developed a dated set of structural alternatives that focus narrowly on managing salinity. It appears that rather than designing for success, Reclamation sought to demonstrate infeasibility. As discussed in more detail in the following, Reclamation could and should do better.

Alternatives

The report describes four significant problems and challenges at the Sea: salinity, air quality concerns, selenium, and eutrophication (pp. 1-10 to 1-12). Yet, with the exception of the Salton Sea Authority's alternative, none of the alternatives in this study seeks to manage eutrophication or selenium. This is a critical failure, one that has been identified repeatedly in the past. The Pacific Institute's May 15, 2000 comments on the Salton Sea Restoration Project Draft EIS/EIR, submitted to Reclamation and the Authority, specifically note the importance of addressing these broader water quality concerns. Reclamation's July 2005 workshop and subsequent reports clearly identified these problems. The Summary Report describes, in some detail, the threat posed to fish and wildlife – and subsequently to recreation and economic development – by unmanaged eutrophication and selenium. Yet the Report simply notes that such impacts should be mitigated.

This is the wrong approach. Managing external and internal nutrient and selenium loadings must be a central component in each of the alternatives themselves; it cannot be deferred to subsequent, undefined mitigation. As noted by the report itself, the study's primary objective cannot be satisfied without addressing these key challenges.

The report notes that flows of the Whitewater River are uncertain (4-1), yet the 19,500 acre lake in Alt. 4 apparently assumes that annual Whitewater River flows will increase by 60,000 acre-feet and that all such flows should be captured by the north lake. This risky assumption then leads to the inclusion of a 16-mile long embankment to capture these flows. To reduce the risk of insufficient flows and to decrease the costs of this alternative, the embankment could readily be shortened by about 10 miles, eliminating the 'wings' on either end. Excess flows could be routed to air quality management canals on either end, discharged into saline habitat complexes at the toe of the structure, or spilled into the brine pool.

Embankment Design

The report should clearly describe Reclamation's Dam Safety Guidelines and their applicability to the Salton Sea, where there will be no measurable risk to life or property downstream of the proposed facilities.¹ It is wholly appropriate that Reclamation take great care not to waste public funds on a structure likely to fail under static or seismic conditions. It is not appropriate to over-design a structure to such an extent that it will never be built, thereby dooming the project as a whole. Given the exorbitant costs of the sand dam with stone column design – costs which likely make any large structure infeasible – we suggest that Reclamation develop a risk-management approach, rather than the current risk-avoidance approach. That is, Reclamation should design embankments with the expectation that seismic events could cause partial failure that could be repaired, without causing the loss of the structure as a whole. The proposed stone column design is simply an argument for no action.² It should be replaced with a design meant to succeed.

¹ The revised report should include actual estimates of ALL and APF for the alternatives, and not simply refer to such estimates.

² The report neglects to include information on the length of the embankments under the various alternatives, the amount of material required, or other pertinent information. According to the specifications in the report, the embankment in Alt. 4 would require roughly 85 million cubic yards of material.

Hydrology

We support the risk-based approach to modeling future inflows. Please clarify why Reclamation projects mean future inflows for the period 2018-77 to be 727 kaf/y, while DWR projects inflows for this period to be 717 kaf/y.

Biology

Chapter 5 should be re-titled 'Biological Resources'; "issues" has a negative connotation inconsistent with the project objective. Hydrogen sulfide is an issue at the Salton Sea; birds are a resource to be protected.

The study assessed the alternatives' impacts on bird use by simply quantifying various habitat types, "as modified by salinity and possible Se risk" (5-4). However, the discussion of potential benefits and uncertainties for the alternatives simply lists the acreages of two habitat types, and then, for each alternative, states that "the risk of increased Se bioaccumulation to invertebrate-eating birds is assumed serious." This is an extremely weak analysis, even given the study's limited methods. Given the primary objective (see p. 1 of this letter), Reclamation should employ a much more robust, replicable analysis than the opaque, ad hoc approach used by the study. Reclamation should incorporate the results of the Point Reyes Bird Observatory's Salton Sea habitat modeling, as appropriate, and should consult with the USGS Salton Sea Science Office on potential impacts to biological resources.

Selenium

The study's assessment of the risk posed by selenium appears to be weak and speculative. What criteria distinguish between the five risk categories identified on p. 5-6? What is the source for the risk levels identified in Table 6.2, and why do these categories differ from those on p. 5-6?

The report correctly notes that the risk of selenium toxicity should be a significant consideration in the selection of the preferred action. Unfortunately, the report provides little credible information on the extent of this risk. The study should include a robust ecorisk assessment, one that evaluates selenium concentrations in both food sources and in water.

The report states that "unless adequate mitigation can be provided," (6-6), inflows may need to be treated to remove selenium. Rather than adding mitigation to the project, all of the alternatives should include – as central components – measures to manage or minimize the risk of selenium toxicity. For example, the Salton Sea Science Office has suggested that the provision of low selenium, freshwater ponds would attract breeding and other birds, enabling them to flush accumulated selenium from their systems.

Eutrophication

On p. 6-2, the report makes several claims that should be clarified and substantiated. The report states that "implementation of BMPs, treatment wetlands, and other watershed measures are unlikely to meet TMDL goals in the absence of other, more advanced, treatment methods." The basis for this statement is not clear. Mexico has decreased the volume of high-phosphorus flows discharged to the New River. The implementation of BMPs in the Imperial Valley has already

significantly reduced phosphorus loadings. As the valley shifts from fallowing to efficiency-based conservation, phosphorus-rich tailwater volumes will decrease markedly, further decreasing phosphorus loadings. Such current and future actions should be incorporated into the study's projections.

The report implies that a decrease in (external) phosphorus loadings of 60% would improve the future Sea's trophic status, though as noted elsewhere in the report, the volume of the receiving water body will greatly influence the magnitude of the needed reductions. That is, a 60% reduction in external phosphorus loadings might improve the trophic status of the current Sea, but would not be expected to improve conditions when the volume of the Sea drops by 60% or more.

Again, the study should use a more robust analysis, integrating existing and future reductions in phosphorus loadings, as well as changes in internal loadings and volumes of the Sea under the various alternatives. The results of this analysis should drive the development of project components to manage or treat such loadings, as appropriate, to meet the water quality needs of key species.

Economic Analysis

The economic analysis compares detailed cost estimates against speculative, discounted benefits. The analysis makes several unsubstantiated assumptions³ that lead to an apparently pre-determined conclusion. The section on *Nonuse Environmental Benefits* notes but one of many techniques to estimate such values, observes that no such survey was performed, and then speculates as to what the results of such a survey would have been had it been performed. This flawed chapter offers little beyond support for the thesis that Reclamation prefers to avoid involvement in any Salton Sea restoration effort.

Progressive Habitat Development Alternative

Given its benign description, the 'Progressive Habitat Development Alternative' (PHDA) – based in large part on DWR's proposed 'Early Start Habitat' (ESH) – appears to be Reclamation's preferred action. While we strongly support the prompt implementation of ESH, such habitat must be part of a much larger restoration project. ESH/PHDA is necessary but not sufficient.

Reclamation's proposed construction schedule for PHDA would lag six years behind DWR's proposal to implement all 2000 acres of ESH by 2011. The implementation of ESH should be expedited, not delayed; Reclamation's proposed construction schedule is not acceptable.

Furthermore, it is wholly unclear how Reclamation can project the cost of such habitat at \$75,000/acre. The small-scale pilot wetlands projects on the New River cost about \$40,000/acre. Economies of scale suggest that the ESH/PHDA unit cost would be less, rather than nearly double, the cost of these wetlands. Reclamation should revise or clarify its cost estimates.

³ Such as, "All recreation benefits would be realized in the years after the Sea begins to recover," (8-4) discounting the expected rise in wildlife viewing and related activities associated with implementation of early start habitat.

PHDA will be a necessary part of any preferred action, but will not be sufficient as a stand-alone action.

Conclusion

The Summary Report candidly notes that none of the alternatives under consideration would meet the study's own primary objective. That Reclamation has distributed the report despite this admitted failure suggests that a demonstration of infeasibility was a higher priority than developing a feasible restoration plan for the Salton Sea.

We strongly encourage Reclamation to redo the study, by developing one or more alternatives that:

- incorporate components to address nutrient and selenium loadings;
- adopt a risk-management (rather than risk-avoidance) approach to embankment design;
- decrease the size of the north lake to reflect realistic Whitewater River inflows and a shorter embankment; and
- incorporate PHDA as part of a broader restoration alternative.

Thank you for your consideration of these comments and suggestions. We look forward to continuing to work with you and Reclamation toward implementing a viable restoration plan that ensures the restoration of the Salton Sea ecosystem and the permanent protection of wildlife dependent on that ecosystem,

Sincerely,

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