

CHAPTER 4

Federal Agency Comments

CHAPTER 4

FEDERAL AGENCY COMMENTS

This chapter contains copies of the comment letters received from federal government agencies, listed in Table 4-1. Each letter and the responses are provided in a side-by-side format. Responses to comments are numbered individually in sequence, corresponding to the numbering assigned to the comments in each comment letter. The responses are prepared in answer to the full text of the original comment. The responses are prepared in answer to the full text of the original comment. The letters are arranged alphabetically by abbreviation.

Table 4-1
Federal Agency Comments Received on the Salton Sea Ecosystem Restoration Program
Draft Environmental Impact Report

| Abbreviation | Agency | Name |
|--------------|--|-----------------------|
| BIA | U.S. Department of the Interior, Bureau of Indian Affairs | Amy Clutschke |
| IBWC | International Boundary and Water Commission, United States and Mexico, United States Section | Gilbert Anaya |
| Service | U.S. Department of the Interior, Fish and Wildlife Service | Therese O'Rourke |
| USGS-a | U.S. Department of the Interior, Geological Survey, Air Quality | Pat Chavez |
| USGS-b | U.S. Department of the Interior, Geological Survey, Ecology | Robert Ross |
| USGS-c | U.S. Department of the Interior, Geological Survey, Environmental Affairs | Lloyd H. Woolsey, Jr. |



IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825

Received on
December 11, 2006

Delivered via Certified Mail -
7005 2570 0000 6695 1706

DEC 08 2006

Ms. Dale Hoffman-Floerke
Salton Sea PEIR comments
Colorado River & Salton Sea Office
Department of Water Resources
1416 9th Street, Room 1148-6
Sacramento, California 95814

Dear Ms. Hoffman-Floerke:

The Bureau of Indian Affairs has performed a review of the Salton Sea Ecosystem Restoration Study and the Draft Programmatic Environmental Impact Report (PEIR). We share your concern for the long term health and viability of the Salton Sea and believe it is imperative that the Salton Sea be restored. We strongly support your stated objectives: (1) restoration of long term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea; (2) elimination of air quality impacts from the restoration project; and, (3) protection of water quality. We believe that a restored Sea would benefit the Torres Martinez Desert Cahuilla Indians and all the Tribes in the Coachella Valley. However, we believe that the document should more adequately address rights and the potential impacts upon these people who have thrived in this environment since time immemorial.

The document does not note or recognize Indian Water Rights in Chapter 5, Water Resources, or in Chapter 7, Groundwater; and provides no substantive discussion of the impacts of the alternatives on the ability of the Tribes to exercise their water rights. The document should be revised to reflect the federally reserved water rights of the Torres Martinez Desert Cahuilla Indians and other tribes in the Coachella Valley.

The illustrations in the Executive Summary, Pages ES-5, ES-13 through ES-21, and in the body of the report Figures 1-1, 3-2A through 3-11D, 5-4 and 14-1, 3.8-1, 3.8-2, 3.10-1, and 3.11-1 do not show Indian Trust lands nor lands submerged beneath the Salton Sea belonging to the Torres-Martinez Desert Cahuilla Indians. We suggest that the author(s) include the submerged lands in the illustrations and figures to allow the public and decision makers to understand the basis for jurisdiction of Torres-Martinez with regard to the restoration project.

Under the Clean Water Act, Torres-Martinez may have the authority to set water quality standards for the submerged lands. If Torres-Martinez does so, all parties discharging to water bodies that end up in the Salton Sea would be allowed to discharge only that water that meets the standard or that falls within the "total maximum daily load" (TMDL) for the impaired water body. Chapter 6, Surface Water Quality, Page 6-1, should mention the tribe's ability to set these standards and provide information on tribal water quality requirements for the Coachella Valley in general.

U.S. Department of the Interior, Bureau of Indian Affairs (BIA)

BIA-1

The Resources Agency has a statutory mandate to prepare a programmatic environmental document (see Fish and Game Code Section 2081.7). A programmatic approach under CEQA is a first tier environmental document to evaluate a series of inter-related actions. As identified in Chapter 1 of the Draft PEIR, one or more project-level analyses would be needed to implement a restoration program. The concerns identified by BIA would be more appropriately addressed during project-level analysis.

The Resources Agency utilized the existing Torres Martinez Land Use, Zoning and Development Plan in its analysis (Torres Martinez, 1999). The Torres Martinez Tribe, through its representative on the Salton Sea Advisory Committee, has been a full participant in the development of the Draft PEIR and in the process to develop a preferred alternative.

BIA-2

An attempt was made to gather information on the water rights for the Torres Martinez Tribe during preparation of the Draft PEIR, but no specific information was found in the SWRCB database or from other information sources. A verbal request for information was also made of the Tribe.

BIA-3

Tribal lands are shown in various figures throughout the Draft PEIR, including Figure 3-12 that shows land ownership near the Salton Sea, Figure 11-1 that shows land use planning boundaries in the study area, and Figure 11-12 that shows land use designations for Torres Martinez Reservation lands. Adding this information to the figures identified by the commenter would make these figures difficult to read. However, as noted above, the Draft PEIR recognizes and takes into account Tribal land ownership.

BIA-4

Under the Clean Water Act, tribes may apply for treatment as states (TAS) to administer a water quality standards program on tribal lands (Clean Water Act Section 518). The Torres Martinez Tribe (Tribe) is not presently eligible to set water quality standards on the lands of the Tribe (Joanne Asami, USEPA, pers. comm.). To be eligible to set water quality standards on Tribal lands, the Torres Martinez would first have to apply to the US Environmental Protection Agency (USEPA), which would determine if the Tribe is eligible to set standards. If the Tribe was approved, then proposed standards developed by the Tribe would have to be submitted to the USEPA for approval. Discharges onto Tribal lands from areas off of reservation lands would have to comply with standards established by the Tribe and approved by the USEPA. However, the standards established by the Tribe would have to be deemed reasonable, and not result in unreasonable consequences.

BIA-1

BIA-2

BIA-3

BIA-4

It can be argued, that if Torres-Martinez sets a salinity standard that is artificially low; for example, lower than salinity of the Pacific Ocean, they would severely limit agricultural water users' ability to farm. This would mean that the Salton Sea might no longer be used for irrigation return waters (one of the purposes of the Clean Water Act). This Tribal authority, as well as jurisdictional authority over substantial portions of the Sea bed and shoreline mandate membership by the Torres-Martinez Tribe in any organization that makes management decisions for the Salton Sea.

The PEIR has noted impacts to groundwater under present conditions. We are concerned with impacts to groundwater beneath Torres-Martinez trust lands under present conditions including any scenarios that reduce surface water inflows and related Salton Sea elevation decreases. The author states in Chapter 7, Groundwater, Page 7-5, that:

"...Seepage from the Indio subbasin historically provided substantial groundwater inflow into the Salton Sea until groundwater overdraft conditions occurred (Salton Sea Authority and Reclamation, 2000). The overdraft conditions cause water from the Salton Sea to flow into the Indio subbasin aquifers."

Further, the author states on Page 7-6 that:

"...Water quality has been impacted at several locations throughout the basin due to petroleum hydrocarbons, nitrates, and salts and has led to the abandonment of several drinking water wells in the Coachella Valley (CRBRWQCB, 2003). Near the Salton Sea, groundwater salinity has increased due to saltwater intrusion from the Salton Sea."

We believe overdraft that causes saltwater intrusion from the Salton Sea into groundwater depression areas to be a significant impact on the environment. Such intrusion would replace groundwater of high to medium quality with water of extremely inferior quality beneath lands between the Salton Sea and those depression areas, and that includes an extensive amount of Torres Martinez Reservation acreage. We strongly suggest that the author illustrate and better describe groundwater conditions north, west and northwest of the Salton Sea. The description should include groundwater contour maps and cross sections that help to illustrate the pumping depression zones that have induced saltwater intrusion into the Indio Subbasin. This illustrative information should be made available to decision makers to adequately address your stated objective to protect water quality.

The PEIR includes Appendix H-2, Hydrology and Hydrologic Models, an important source of information for the narrative quoted above. We suggest that the narrative in the PEIR, Chapter 7, Groundwater, mention this appendix on Page 7-1, first paragraph.

Tables H2-1, Estimated Historic Inflows to the Salton Sea, and H2-4, Estimated Historical Salt Loads to the Salton Sea, appear to support Salton Sea contribution to groundwater as noted by the author. The author should clarify the relationships between the two tables, i.e., Table H2-1 negative values shown for Groundwater Flow from Coachella Valley (af/yr) during the period

BIA (cont.)

BIA-5

BIA-5

In the current PEIR process, the Torres Martinez Tribe is a member of the Salton Sea Advisory Committee, which makes recommendations to the Secretary for Resources concerning the Ecosystem Restoration Study. Assuming the Legislature gives direction to move forward on implementation, it is anticipated that any future implementing agency would coordinate with the Tribe and other stakeholders. It is also anticipated that the Tribe will have opportunities to participate in future decisions regarding the Salton Sea.

BIA-6

The Draft PEIR includes a general description of groundwater conditions in the Coachella Valley, including the drains that were constructed to pass storm flows and to convey shallow groundwater from agricultural lands. The Draft PEIR also states that while direct groundwater interactions with the Salton Sea may appear to be relatively small in terms of discharge volumes, it should be recognized that most of the surface discharge to the Salton Sea through the Whitewater River/Coachella Valley Stormwater Channel and direct drains are the delayed result of groundwater discharge (see page H2-13 of the Draft PEIR). A site specific groundwater characterization was beyond the scope of this programmatic document, but could be considered during project-level analysis.

BIA-7

The Draft PEIR has been modified accordingly.

BIA-8

BIA-6

While Table H2-1 and Table H2-4 of the Draft PEIR both show inflows and salt loads respectively, the different time periods for each condition and uncertainties in salt balance estimates make it difficult to relate the two tables.

BIA-7

BIA-8

1995-2002 versus Table H2-4 negative values shown for CVWD Groundwater Flow Salt Load (tons/yr) during the period 1963-2002.

Figure H2-28 illustrates modeled components of inflows to the Salton Sea. The illustration includes a groundwater inflow component for "Westside Groundwater" and inflow/outflow components for "CVWD Baseline Aquifer Flows" and "Imperial Valley Drainage". The inflow component for "Westside Groundwater" appears to conflict with the West Salton Sea Basin groundwater discussion in Chapter 7, Groundwater. On Page 7-7, the narrative indicates groundwater levels declined about 64 feet between 1979 and 2000. The author should clarify the relationship between inflow to the Salton Sea versus sustained groundwater declines west and northwest of the Salton Sea. Our suggestion to include groundwater contour maps and cross sections might be considered here.

In addition, just south of the Torres Martinez Reservation at Desert Shores, California, the Salton Community Services District recently experienced groundwater contamination to their wastewater collection system. A screening study report indicated that the collection system was receiving groundwater infiltration from the Salton Sea, especially through the collection system's gravity pipelines along the Salton Sea's shoreline. The groundwater table in the area was reported at approximately five-feet below ground surface. The California Regional Water Quality Control Board – Colorado River Region issued an Administrative Civil Liability action (ACL Complaint 97-122). The ACL action required the Salton Community Services District to address the issue and undertake a project to repair the collection system and reduce the percolation of wastewater into the local groundwater aquifer. This Desert Shores issue suggests potential for the hypersaline Salton Sea to recharge shallow groundwater beneath the Torres Martinez Reservation. Again, the author should clarify shallow groundwater flow in the vicinity of the Reservation and correct Figure H2-28 if necessary.

In conclusion of our water resources comments, the PEIR has described intimate hydrologic connection between the Salton Sea and groundwater. Any significant ecosystem restoration induced change to Salton Sea hydrology, i.e., gain or loss in water volume or water quality, will most probably alter groundwater. **The author should better detail the nature of the surface water/groundwater interchange beneath the Salton Sea, the shallow semiperched water body and the lower confined aquifer in the Torres-Martinez Reservation area. This description is paramount to evaluating Salton Sea Ecosystem Restoration as related to impacts on Torres-Martinez and other tribal trust lands.**

Chapter 15, Cultural Resources, should be reviewed. Torres-Martinez owns such resources on lands owned by the tribe. Additionally, we support Torres-Martinez in their efforts to participate in management of cultural resources with which they have a possible historical or cultural connection. We believe Federal Department of the Interior Policy requires that a management role in the protection of these sites should be offered to the tribes. Further, if data recovery excavations to mitigate impacts or human remains are encountered on federally protected Indian trust lands, as noted on Page 15-14, then the project applicants must consult to obtain a federal ARPA permit. The narrative, Page 15-8, first sentence, beginning with "...the resources are generally located within..." is too descriptive of sacred lands. We highly recommend deletion of the sentence.

BIA (cont.)

BIA-8
cont.

BIA-9

BIA-10

BIA-11

BIA-12

BIA-13

BIA-14

BIA-15

BIA-9

The information cited in Chapter 7 of the Draft PEIR is from Bulletin 118 (DWR, 2003). Although groundwater levels have declined at the indicated well, Bulletin 118 indicates that groundwater discharges to the Salton Sea. There is no known data that indicates otherwise. The location of the indicated well is at the extreme northern edge of the basin, near the boundary with the Coachella Valley Basin, and therefore, may not be representative of conditions throughout the West Salton Sea Basin.

BIA-10

Refer to response to comment BIA-6. Figure H2-28 of the Draft PEIR is intended to provide a general description of the components of net inflows to the Salton Sea (including groundwater). A site-specific groundwater characterization was beyond the scope of this programmatic document, but could be considered during project-level analysis.

The Desert Shores case, from 2002, was a result of cracked vitrified clay pipe allowing infiltration into the wastewater system supporting the peninsula and coastal areas. Because the peninsulas extend into the Salton Sea, it is expected that the groundwater within them would reflect the water quality of the Salton Sea and infiltration into cracked wastewater pipes in these areas would have high total dissolved solids (TDS) values. The concern that the quality of the infiltrating water was impacting the quality of the treated water at the wastewater treatment facility's percolation ponds, located approximately 1 mile inland, resulted in the action requiring replacement of a portion of the wastewater collection system.

Because the majority of the areas where the collection system was replaced were located on the peninsulas that extend into the Salton Sea and immediately adjacent to the shoreline of the Sea, this situation does not represent evidence for saltwater intrusion.

BIA-11

Under the programmatic level of detail used to evaluate impacts to groundwater resources, the future conditions under the No Action Alternative with a receding Salton Sea would appear to reduce the connection of the Sea with the shallow groundwater. A more detailed groundwater characterization and evaluation could be conducted during project-level analysis.

BIA-12

The State agrees that the Torres Martinez owns the cultural resources on lands owned by the Tribe. The Next Steps identified in Chapter 15 have been revised to include coordination with the Tribe as part of the recommended future project-level CEQA analysis.

BIA (cont.)

BIA-13

As described on pages 15-13 and 15-14 of the Draft PEIR, mitigation measures that would be considered during the project-level CEQA analysis would include appropriate surveys to determine the presence or absence of cultural resources in accordance with the Archaeological Resources Protection Act of 1979, and any other applicable State and federal laws.

BIA-14

See response to comment BIA-13.

BIA-15

The Draft PEIR has been modified as requested.

Chapter 4
Federal Agency Comments

If you have any questions or concerns, please contact Christopher Reeves, Regional Geohydrologist, at (916) 978-6040, or, Dale Morris, Chief, Regional Division of Natural Resources at (916) 978-6051.

BIA (cont.)

Sincerely,

Amy A. Lutschko
Acting Regional Director

cc: Raymond Torres, Chairman
Torres Martinez Desert Cahuilla Indians
P.O. Box 1160
Thermal, CA 92274

James Fletcher, Superintendent, SCA, BIA

John Rydzik, Chief, DECRMS, BIA



INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

Dale Hoffman-Floerke
Salton Sea PEIR Comments
Department of Water Resources
Colorado River & Salton Sea Office
1416 9th Street, Room 1148-6
Sacramento, California 95814

Dear Ms. Hoffman-Floerke:

Thank you for the opportunity to comment on The California Resources Agency Draft Programmatic Environmental Impact Report (Draft PEIR) titled "Salton Sea Ecosystem Restoration Program," dated October 2006. The United States Section, International Boundary and Water Commission (USIBWC) is charged through various treaties and international agreements to evaluate the relationship of projects to international obligations of the United States (U.S.). Under Article 3 of the Treaty of February 3, 1944 Water Treaty for the "utilization of waters of the Colorado and Tijuana Rivers and of the Rio Grande," the two governments entrusted the International Boundary and Water Commission to give preferential attention to the solution of all border sanitation problems. The following comments and information are enclosed for your consideration.

The International Boundary and Water Commission is responsible for applying the boundary and water treaties between the two countries and settling differences that arise in the application of the treaties. The United States Section carries out the activities in the U.S. resulting from obligations and rights assumed with the Government of Mexico in accordance with these treaties and related agreements. The USIBWC duties include review of projects on resources in the U.S. and effects potentially crossing into Mexico.

Within the Salton Sea watershed, the Treaty Relating to the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande (1944 Water Treaty) and several related agreements merit consideration. As noted in the Draft PEIR, in accordance with the 1944 Water Treaty, the U.S. delivers 1.5 million acre-feet of Colorado River water annually to Mexico. When there is water surplus to U.S. uses, an additional volume of up to 200,000 acre-feet/year may be delivered. The 1944 Water Treaty also authorized the Commission to give preferential attention to the solution of border sanitation problems; as per this authority, the Commission has been involved in addressing the sanitation issues in Mexicali, which affect water quality in the New River.

Minute No. 242, a binding agreement of the International Boundary and Water Commission, United States and Mexico, controls the salinity of Colorado River water delivered to Mexico. The Minute also provides for limits on groundwater pumping within five miles of the international boundary near San Luis, Arizona, and for consultations between the two countries prior to undertaking any new development of the surface or groundwater resources, or undertaking substantial modifications of present developments in the border area, that might adversely impact the other country.

Commission Minute No. 306 provides for cooperation between the two countries in the development of studies and recommendations regarding the ecology of the Colorado River limitrophe and delta.

These agreements are all available on the USIBWC web page at www.ibwc.state.gov.

The Commons, Building C, Suite 310 • 4171 N. Mesa Street • El Paso, Texas 79902
(915) 832-4100 • (FAX) (915) 832-4190 • <http://www.ibwc.state.gov>

International Boundary and Water Commission, United
States and Mexico, United States Section (IBWC)

IBWC-1

Thank you for your comment.

IBWC-1

IBWC (cont.)

IBWC-2

The Draft PEIR notes that the alternatives analyzed in the Draft PEIR rely in part on inflows from two transboundary tributaries – the New and Alamo Rivers. The Draft PEIR appropriately considers that inflow from these sources may change in the future due to changes in water infrastructure and use in Mexico. It should also be pointed out that there is no requirement under existing international agreement for Mexico to assure flow to the U.S. on the New and Alamo Rivers.

IBWC-2

The State recognizes that there is no requirement under existing international agreement for Mexico to assure flows to the United States on the New and Alamo rivers.

IBWC-3

The USIBWC is the primary federal agency responsible for promoting the identification, investigation, and resolution of transboundary and boundary water technical issues along the U.S. and Mexico border region. The USIBWC carries out its statutory responsibilities through binational cooperation and in partnership with other entities. The U.S. Government gives limited technical investigative authority to USIBWC. The existing condition and proposed project options use water and the estuaries from the transboundary tributaries – the New and Alamo Rivers. Based on statutes; under this authority, USIBWC asks that development in the U.S. near the international water boundary not alter existing surface drainage patterns and design flow capacities and characteristics. In reviewing projects, the USIBWC also considers whether flows at the international boundary could be obstructed or deflected, potentially causing damage to lands and resources in the other country. For this reason, the USIBWC requests that projects undertaken in the U.S. not change the historic surface runoff characteristics at the international boundary, such as increasing, concentrating, or relocating streams and overland drainage flows in a way that could damage lands or resources in either country.

IBWC-3

The alternatives in the Draft PEIR do not include construction of components at the international boundary. None of the alternatives would cause changes to historical surface runoff patterns at the international boundary.

IBWC-4

IBWC-4

See response to comment IBWC-3.

Please keep the USIBWC informed of any future projects that may occur near the international border. Thank you again for the opportunity to review and comment on the Draft PEIR. If you have any questions regarding these comments, please call me at (915) 832-4702 or contact R. Steve Fox, Environmental Protection Specialist, at (915) 832-4736.

Sincerely,



Gilbert G. Anaya
Supervisory Environmental Protection Specialist
Environmental Management Division

Attachment:
As Stated

IBWC (cont.)

USIBWC Comments on The Resources Agency's Draft Programmatic Environmental Impact Report "Salton Sea Ecosystem Restoration Program," October 2006

| | | |
|---|-----------------------|---|
| <p>1. <u>Executive Summary. Page 4, last paragraph.</u> Delete "Gulf of Mexico" and insert "Gulf of California."</p> | <p>IBWC-5</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>2. <u>Page 2-26 of "5 Chapter 2 Development of Alternatives.pdf," Line 29.</u> Revise "governments in Mexico" to "agencies in Mexico."</p> | <p>IBWC-6</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>3. <u>Page 5-5 of "8 Chapter 5 Surface Water Resources.pdf," Federal Regulations section, Paragraph 1.</u> The author of the Draft Programmatic Environmental Impact Report uses "EPA" although the acronym "USEPA" was established.</p> | <p>IBWC-7</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>4. <u>Page 5-9 of "8 Chapter 5 Surface Water Resources.pdf," "Inflows from Mexico" section.</u> - Paragraph 1, Line 6. Misquote. Delete "satisfy" and insert "supply."</p> | <p>IBWC-8</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>- Paragraph 1, Line 7. Consider deleting "Morelos Dam" and inserting "Morelos Diversion Dam (Morelos Dam)."</p> | <p>IBWC-9</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>- Paragraph 1, Lines 6-9. Consider deleting "flood waters" and inserting "occasional high flows." Recommended is rewording and using portions of the following: Upstream of Morelos Dam, the main river channel carries water that is delivered to Mexico pursuant to the 1944 Water Treaty, along with occasional high flows. Normally all of these water deliveries are diverted into Mexico's Reforma Canal at Morelos Dam.</p> | <p>IBWC-10</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>- Paragraph 2. Delete the last "and" from the sentence "Agricultural return flows and municipal and industrial wastewater effluent flow from Mexico to the New and Alamo rivers and become part of the Salton Sea inflows."</p> | <p>IBWC-11</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>5. <u>Page 5-10 of "8 Chapter 5 Surface Water Resources.pdf,"</u></p> | <p>IBWC-12</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>- Top of page, Line 4. Insert "Section," after the words "United States." Also, do this in the references and acronyms sections and Appendix H-2, Hydrology and Hydrologic Models, Pages H2-10 and H2-112.</p> | <p>IBWC-13</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>- Inflows from the Imperial Valley section, Paragraph 2, Line 2. Insert "Canal" after "All-American."</p> | <p>IBWC-14</p> | <p>The Draft PEIR has been modified as requested.</p> |
| <p>6. <u>Page H2-10, paragraph 3.</u> The first sentence seems to be missing a word. In the same paragraph, insert "Section of the" after "United States" so it should read, "United States Section of the International Boundary and Water Commission..."</p> | <p>IBWC-14</p> | <p>The Draft PEIR has been modified as requested.</p> |



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011



**U.S. Department of the Interior,
Fish and Wildlife Service (Service)**

In Reply Refer To:
FWS-IMP-4239.3

JAN 12 2007

Ms. Dale Hoffman-Floerke
Department of Water Resources
Colorado River & Salton Sea Office
1416 9th Street, Room 1148-6
Sacramento, California 95814

Subject: Comments on the Salton Sea Ecosystem Restoration Program Draft Programmatic Environmental Impact Report

Dear Ms. Hoffman-Floerke:

The Fish and Wildlife Service (Service) has reviewed the Salton Sea Ecosystem Restoration Program Draft Programmatic Environmental Impact Report (PEIR) provided by your office in October 2006. Overall, we found the document to be very comprehensive and well written. We would like to thank the Department of Water Resources, the Department of Fish and Game, and CH2MHill for putting forward such an outstanding effort in dealing with the complex issues associated with Salton Sea restoration. The purpose of this letter is to respond to elements of the PEIR that concern us relative to their potential impact to fish and wildlife trust resources and to National Wildlife Refuge lands.

The Salton Sea National Wildlife Refuge (Refuge) was established in 1930 (renamed in 1998 the Sonny Bono Salton Sea N.W.R.) "...as a refuge and breeding ground for birds and wild animals" by President Herbert Hoover, recognizing then the many wildlife values that the Salton Sea and adjacent lands provided to resident and migratory birds. However, as the surface elevation of the Sea rose during the ensuing decades, the Refuge was forced to find new lands to manage for wildlife upslope of the Sea, leaving inundated Refuge lands as lesser productive but still important areas for birds. In total, 32,406 acres of Service owned lands have remained as sanctuary, feeding and loafing area inundated on the southern end of the Sea. The Service is concerned that any of the proposed restoration alternatives, if implemented, will convert many thousands of acres of Refuge land into brine sink, salty exposed playa or both. Brine sink areas, as terminal repositories for excess salty water, would eventually attain salinity levels greater than 200,000 mg/L, a salinity level at which invertebrate life declines severely and ultimately is eliminated. Consequently, these areas will be very limited in their ability to provide foraging



Ms. Dale Hoffman-Floerke, Department of Water Resources

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opportunities for most species of birds that currently inhabit the Salton Sea. Ultimately, as the brine sink becomes saltier, bird species coming into contact with the brine may suffer from salt encrustation on their feathers to the point where flight is compromised and drowning may occur.

Exposed playas will be areas that, having been inundated by the Sea for many years, will have soil that contains a large amount of salt. In a dry condition, these soils may be subject to salt concentration on their surface (as seen on existing lands around the Sea that have been flooded by the Sea in the recent past), and consequently may be vulnerable to frequent wind events that can suspend these salts into the air, potentially creating a very unhealthy environment for wildlife, people and possibly valley agricultural crops. This land would likely retain very little wildlife value, unless expensive and intensive management programs were initiated. Given that Imperial County is currently designated as a State non-attainment area for PM₁₀, fugitive dust emissions from exposed playas would immediately exceed local air district significance thresholds. As required under local air district regulations and requirements, landowners may be required to implement dust control measures on their land that becomes emissive. This requirement could make the Refuge responsible for dust control on thousands of acres of land.

For these reasons we consider the alternatives that create brine sink and exposed playa conditions on existing Refuge land inappropriate management actions relative to the purposes for which the Refuge was established. We are open to potential land exchanges where wildlife habitat is likely to be established in the Salton Sea basin in the future if, because of topography or other physical limitations, existing Refuge lands will likely become unsuitable as wildlife habitat.

Another issue that concerns the Service is the various expectations of the Refuge after a restoration alternative is implemented. All of the proposed alternatives contain large amounts of infrastructure on land currently owned or leased by the Refuge that would presumably require maintenance in perpetuity. Neither the Refuge nor the Service in general is currently able to assume any of the staffing or financial commitments required to actively manage any inundated lands that the Service owns to the degree described in any of the proposed restoration alternatives. As a preferred alternative is selected, outside funding is secured, and land ownership and wildlife management concerns are addressed, the Service would be glad to participate in or help lead a Salton Sea habitat management entity, of which the Refuge may be a part. Based on the amount of land within the Salton Sea basin and the amount of habitat, exposed playa, brine sink and infrastructure that would be established if a proposed alternative is implemented, it will likely be necessary for a cooperative approach to management of the basin by numerous entities.

Regarding the specific restoration alternatives, the Service recognizes some alternatives or components of alternatives that, as described, appear to be superior to other alternatives in meeting the legal requirements of the state Salton Sea Restoration Act. The Act requires that "The preferred alternative shall provide the maximum feasible attainment of the following objectives:

- (1) Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea;

Service (cont.)

Service-1

As indicated in the Draft PEIR, all of the action alternatives improve biological conditions on the Sonny Bono Salton Sea National Wildlife Refuge (Refuge). However, the State agrees that certain components in the alternatives may not be compatible with the purposes for which the Refuge was established. As described in Chapter 3 of this Final PEIR and in various places in the Draft PEIR, it is anticipated that implementation of the Preferred Alternative will require one or more project-level analyses to further evaluate a variety of design and environmental criteria. This project-level analysis would be expected to include an evaluation of the impacts of the Preferred Alternative on the Refuge. As part of those analyses, it is anticipated that any future implementing agency would work in conjunction with the Service to exchange and/or establish new lands for wildlife habitat as compensation/mitigation for existing Refuge lands that may become unsuitable as wildlife habitat.

Service-1

Service-2

See response to comment Service-1.

Service-2

Service-3

Service-3

See response to comment Service-1. Additionally, the State agrees that the Preferred Alternative should be implemented using a basin-wide cooperative management approach with participation of a number of entities.

Ms. Dale Hoffinan-Floerke, Department of Water Resources

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- (2) Elimination of air quality impacts from the restoration projects; and
- (3) Protection of water quality.”

The Saline Habitat Complex (SHC) is intended to provide habitat that is similar to historic shoreline habitat of the Salton Sea, albeit with a broader range of salinities (20,000 to 200,000 mg/L). The shoreline is the aquatic zone of the Salton Sea that includes the greatest diversity of birdlife in the area. Table 8-25 in the PEIR summarizes how each alternative may change representative birdlife of the Salton Sea relative to historic abundance. Alternative 2, composed of large expanses of SHC, clearly ranks highest (index value = 57) among all the alternatives in its ability to increase bird habitat capacity of the Salton Sea. This indicates that an emphasis on shallow aquatic habitat is likely to result in the greatest returns in migratory bird abundance and diversity. Given the range of salinities and the design of these components, they are expected to offer a fish and invertebrate forage base suitable for a wide range of bird species. Because of the smaller scale of the required infrastructure, the ability to use on-site materials, and the modular (or cellular) nature of the SHC, it can be developed in phases in an adaptive manner. Each phase can be modified in response to information gathered in the previous phase(s). This approach offers many advantages in the context of a program in which inflows at a set volume are not guaranteed.

Birds are, by far, the most diverse wildlife group at the Salton Sea. However, how fish will be affected by restoration alternatives must also be addressed. The only species native to the system is the desert pupfish (*Cyprinodon macularius*). Each alternative has components that address the connectivity of the various sub-populations occupying the drains and creeks that flow into the Salton Sea, but they differ in the level of connectivity achieved by these components. While Alternative 3 offers the best physical connectivity (all sub-populations connected in the first ring), the Service has concerns regarding what other fish species would be occupying this ring and how that might impact the desert pupfish through predation, competition and/or interference. Particularly given the deeper water associated with this ring, as opposed to the channels or shoreline waterways of other alternatives, there may be conflicts between long-term conservation of desert pupfish and maintenance of a fishery. Any Preferred Alternative identified needs to include the development of management options to provide for long-term conservation of pupfish in the context of that alternative’s physical mode of connectivity. The Service would like to continue working with your staff and the staff of the Department of Fish and Game to address this critical conservation issue.

The Act requires “elimination of air quality impacts from restoration projects”. Air “pollutants of greatest concern in the Salton Sea Air Basin”, as identified in the PEIR, include particulate matter (PM₁₀) and NO_x emissions. These are of concern to the Service because we have staff that live and work in this environment, and we are concerned about the potential impacts such pollutants may cause in wildlife. As a consequence of any construction event in such an arid environment, soil disturbance will likely generate and add to existing particulate matter, and NO_x emissions will result from use of construction related motorized equipment. It is clear from information in the PEIR (e.g., Figure 10-6) that “elimination” of air quality impacts from any restoration effort is not possible. Even No Action Alternatives will result in air quality impacts (PM₁₀). Figures 10-5 and 10-6 help enumerate forecasted PM₁₀ emissions during peak construction and operations phases of each alternative. As shown in these figures, the

Service (cont.)

Service-4

The comment correctly restates information regarding the Saline Habitat Complex from the Draft PEIR.

Service-5

Chapter 8 of the Draft PEIR addresses the impact of each alternative on fish, including desert pupfish.

Service-6

Potential conflicts between desert pupfish and non-native fish species are acknowledged. At the level of analysis undertaken for the Draft PEIR, it was assumed that the future fisheries supported in Alternative 3 would be the same as have been supported recently in the Salton Sea. This would create no greater risk beyond that facing desert pupfish at the Salton Sea since the 1960s. If, during project-level analysis, the introduction of other species of fish is considered, then the future project-level environmental analysis would be expected to take into account impacts to desert pupfish from predation, competition, and/or interference.

Service-7

In order to comply with CEQA, the federal Endangered Species Act (ESA), and the California Endangered Species Act (CESA), any future project-level environmental analysis would be required to address impacts to desert pupfish and identify appropriate mitigation measures.

Service-8

The State welcomes the opportunity to continue to work in a cooperative effort with the Service to develop management options.

Service-9

The language in the Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)) states that “the preferred alternative shall provide the maximum feasible attainment of the following objectives: . . .
(2) Elimination of air quality impacts from the restoration projects . . .”

All alternatives are expected to result in air quality impacts, and most result in emissions that exceed local significance thresholds. A more thorough analysis of air quality impacts and possible mitigation measures would be appropriate as part of project-level analysis.

Service-4

Service-5

Service-6

Service-7

Service-8

Service-9

Service (cont.)

Ms. Dale Hoffiman-Floerke, Department of Water Resources

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alternatives composed of SHC produce the lowest peak construction and long-term fugitive PM₁₀ emissions. The peak construction year in each alternative will provide the largest amount of NO_x emissions (Figure 10-7). Only those alternatives based on SHC will maintain emissions below the 50 ton/yr local significance threshold in those years.

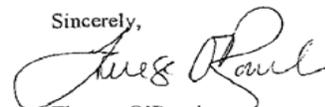
The Act requires that the restoration program preserve water quality. Without significant improvements in the quality of the inflows, those alternatives that include a Deep Marine Sea may continue to be plagued by the deep anoxic conditions and hydrogen sulfide and ammonia release events that regularly result in fish kills in the Salton Sea today. Those alternatives that rely on shallow aquatic habitats, while still experiencing some continuous degradation of water quality, are not expected to be subject to these catastrophic events as based on the water quality modeling. These shallow aquatic habitats show significant water quality improvements with moderate reductions in inflowing nutrients. This suggests that the shallow habitats are more likely to provide consistent conditions supporting aquatic life.

Selenium, while of concern in all alternatives, appears to pose at most a moderate risk to the target receptors evaluated in the Ecological Risk Assessment. The risks posed would not appear to help discriminate among the alternatives at this point. However, this situation does warrant continued monitoring and ongoing efforts to reduce the loading of selenium into the system.

The PEIR currently identifies three potential sources of the rock and gravel required in various amounts for the alternatives: Mesquite Mine, Eagle Mountain Mine, and Coolidge Mountain. Please be aware that the use of any of these sites as rock/gravel sources for the project may result in adverse impacts to species listed and/or critical habitat designated under the Endangered Species Act of 1973 (as amended). To date, no analysis of these impacts has occurred, and no authorization of incidental take of listed species associated with the use of these sites has been granted. Such an analysis, and authorization of incidental take as appropriate, is a necessary step in the process prior to implementing a preferred alternative.

The Service encourages the Department of Water Resources to incorporate a significant acreage of saline habitat complex or similar habitat features into its preferred alternative for the reasons identified above. The Bureau of Reclamation is considering a range of alternatives in their Feasibility Study process which appear to offer components and/or configurations not included in the PEIR. We recommend that these configurations/components also be considered in the development of the preferred alternative.

If you have any questions regarding these comments, please contact Carol Roberts of my staff at (760) 431-9440 or Chris Schoneman of the Sonny Bono Salton Sea National Wildlife Refuge at (760) 348-5278.

Sincerely,

Therese O'Rourke
Assistant Field Supervisor

Service-10

The comment correctly restates information regarding the air quality analysis from the Draft PEIR.

Service-11

The Salton Sea Restoration Act requires that the preferred alternative provide the maximum feasible attainment of a number of objectives, including the "protection of water quality".

Service-12

Model simulations show that, with current phosphorus loads, a Marine Sea would continue to experience episodes of hydrogen sulfide and ammonia generation and anoxia in the bottom waters, which could result in fish kills upon periodic mixing of the Salton Sea.. Model simulations also indicate that marked improvements in water quality occur with phosphorus load reduction. The project-level analysis should further explore the various options for water quality improvement for any Marine Sea component.

Service-13

Model simulations should be used for comparison among alternatives, rather than for exact prediction of future water quality conditions, as explained in Appendix D of the Draft PEIR. While significant improvements are indicated by the model for the shallow water habitats with a moderate reduction in phosphorus load, model results still indicate that these waters would be extremely productive biologically, which makes them subject to low dissolved oxygen conditions during the early morning hours. Their shallow depth also makes them subject to greater influence of ambient air temperatures than a Marine Sea, which during the winter could result in thermal stress to the few species of fish expected to survive in these habitats. The model indicates that a Marine Sea, with a moderate reduction in phosphorus load, would also have significantly improved water quality conditions that would be suitable for supporting a diverse aquatic community.

Service-14

Although the ecological risk assessment does indicate at most a moderate risk, model results do help discriminate among alternatives, as summarized in Table F-49 of the Draft PEIR. Some alternatives, and some components of alternatives, have greater amounts of habitat with no to low risk from selenium than other alternatives or components (see Table F3-12 in the Draft PEIR). However, a more detailed ecological risk analysis would be appropriate during project-level analysis.

Service-10

Service-11

Service-12

Service-13

Service-14

Service-15

Service-16

Service-17

Service-18

Ms. Dale Hoffman-Floerke, Department of Water Resources

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cc: Steve Thompson, Fish and Wildlife Service, California/Nevada Operations Office
Dan Walsworth, Fish and Wildlife Service, California/Nevada Operations Office
Kim Nicol, California Department of Fish and Game, Bermuda Dunes Office
Mike Walker, Bureau of Reclamation, Yuma Area Office

Service (cont.)

Service-15

Project-level analysis should further evaluate the risk from selenium, incorporate monitoring into the implementation of the Preferred Alternative, and evaluate the potential for reducing selenium inputs into the system.

Service-16

For the programmatic level of planning, the availability of quarry materials for construction was evaluated by looking at potential sites including permitted and non-permitted quarries. A cursory evaluation of potential rock sources was performed in the Draft PEIR. The evaluation considered issues such as land ownership and access, environmental impacts and potential mitigation actions, as well as rock suitability. The available information was insufficient to determine site-specific impacts at all potential sites. Project-level analysis for the Preferred Alternative and rock source would be required to evaluate the extent and magnitude of direct and indirect impacts and identify appropriate mitigation.

Service-17

The Preferred Alternative is described in Chapter 3 of this Final PEIR. It incorporates 62,000 acres of Saline Habitat Complex.

Service-18

It is unclear which components and/or configurations the commenter is referring to. However, the State has coordinated with Reclamation throughout the preparation of the Draft and Final PEIRs and selection of the Preferred Alternative. Additionally, the State has considered a range of configurations which were used to develop a range of alternatives. In general, the components and/or configurations considered by Reclamation include the range of alternatives in the State's Draft PEIR. Differences between Reclamation's components and/or configurations and those considered by the State, such as design configurations, could be evaluated during project-level analysis.

Review Comments related to the portions of the California Department of Water Resources (DWR) *Draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program* dealing with air quality assessment. As requested by DWR I focused my review on chapter 10 and appendix E which deal with air quality and particularly PM10/dust emission potential from ‘to be exposed’ areas within the lake. I made comments as I read the report and since some topics are discussed in more than one section there are comments on that topic at different locations in the review.

Pat Chavez
Research Physical Scientist
United States Geological Survey (USGS)
Flagstaff, Arizona --- 928-556-7221
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January 16, 2007

General Comments:

The work presented in the PEIR report is a massive and very challenging under taking and I am impressed by the extent and detail of the resulting product. Making predictions of what will happen is always a challenge, however, in this case I believe it is particularly difficult because of the limited amount of data and information that are available. The part of the report that I reviewed (dealing with air quality) is well written and includes a lot of detail in the form of tables and written text. I do have some questions and concerns about some of the assumptions and model results being generated that are addressed in the specific comments section below.

Because of limited time on my part and the deadline to submit the comments I covered mostly the information presented in chapter 10. I read appendix E which expands on what was presented in chapter 10 but did not have the time to finish writing up my comments, however, they followed along the lines of what I said about chapter 10.

Specific Comments:

Data Sources and Limitations (p. 10-7) and Met Monitoring Stations (p. 10-10)

- Table 10-2. CIMIS stations 141, 154, and 180 which are close to the lake are missing in table 10-2; 141 and 154 are located on the north/NE side of the lake and 180 on the southwest side. What does ‘ave’ in table 10-2 mean? Is it the annual average of all the hourly averages or something else? Does ‘max’ mean the maximum hourly average or the maximum wind encountered (max hourly wind speeds are typically greater than the hourly average --- by a factor of 1.5 to 4 at one of our sites in the Mojave Desert)?

Note that the data used in table 10-2 were collected during 2005 which was a relatively wet year that resulted in a dramatic increase in the amount of annual vegetation and grass cover in the desert that winter and spring. Therefore, from a dust/PM10 point of view this data set might not be ‘representative’ because the amount of sheltering given by the increased vegetation cover may have

U.S. Department of the Interior, Geological Survey, Air Quality (USGS-a)

USGS-a-1

Station 141 has been added to Table 10-2 in the Draft PEIR. Station 180 was only active between 2001 and 2003 and Table 10-2 addresses data only from 2005. Station 154 is located on top of a roof at the Salton Sea State Recreation Area, approximately 15 feet above the road, and therefore was not considered representative. All other stations in Table 10-2 are located within close proximity to the ground and have grass as their reference surface.

USGS-a-2

“Ave” in Table 10-2 in the Draft PEIR means the annual average of all the hourly wind speed averages.

USGS-a-3

“Max” in Table 10-2 in the Draft PEIR means the maximum hourly average of the wind speed.

USGS-a-4

Several factors were used to select meteorological data sets to support analyses in the Draft PEIR. The data must be quality-assured data, collected at 10-meter height, and accepted by the air quality regulatory agency. A complete year of data (12 consecutive months) must be available. Data used for the north and south ends of the Salton Sea must have been collected during the same time period. The most representative available data sets meeting all of these criteria at the time of the preparation of the Draft PEIR were the Indio and the Niland data from the year 2002. The meteorological and precipitation data from 2005 were not used for the wind blown fugitive dust analysis, so the increased vegetation during 2005 would not have had an influence on the wind blown fugitive dust emissions estimates in the Draft PEIR.

USGS-a-1

USGS-a-2

USGS-a-3

USGS-a-4

influenced/reduced the amount of dust emitted from the desert landscape during that time period.

• In one of our projects we have looked at the wind characteristics around the Salton Sea using data collected by both CIMIS (2m) and CARB (10m) stations. We had similar questions and concerns about the 2m vs 10m height of the wind sensors. We looked at two years worth of data at six CIMIS and three CARB sites and compared the wind data for the CIMIS and CARB sites located near Niland. These two Niland sites, which are very close to each other, are in a natural/rural setting close to the lake (i.e., there are few, if any, buildings, large trees, or topographic features that could cause potential wind shadows and sheltering of the sensor from the winds). From the analyses of the wind data collected by the CIMIS and CARB stations at Niland, plus the fact that a typical vertical wind velocity profile as a function of height is exponential, the indications are that the CIMIS data can probably be used as a 'lower bound' of the winds speeds that would be recorded by a CARB type 10m station (i.e., wind speeds recorded by a CARB 10m station at that location would be 'at least' this high). When viewed in this manner the CIMIS data collected by stations on the northern half of the lake indicate that the winds recorded at the Indio-Jackson station are much lower/calmer than winds near the north half of the lake (more on this later in the review).

• A general question that must be kept in mind is 'how appropriate is it to use the HOURLY AVERAGE wind speed to determine if the threshold wind velocities have been reached during stable and unstable conditions/time periods'. This is a question relevant to dust emission in general and not just the Salton Sea. Data collected in the field by met stations that include sensit sensors that detect sand/soil saltation (when sand and/or fines are moving close to the surface), as well as the wind tunnel/PI-SWRL data collected by the Desert Research Institute (DRI) at sites around the Salton Sea to measure sand/soil movement, indicate that the thresholds of 15mph for unstable and 25mph for stable conditions are in the ball park. However, the field data typically represent wind velocities measured over a much shorter time period than an hour (i.e., in the order of a few minutes). At one of our sites in the Mojave Desert where we are collecting wind data I recently looked at the relationship between the 'HOURLY MAXIMUM' vs the 'HOURLY AVERAGE' wind speeds collected over a three month time frame (Sept 11 to Dec 11, 2006). The hourly average wind speeds ranged from calm to about 28 mph and the hourly maximum from calm to almost 50 mph. The linear relationship between these two wind data sets had an R square value of 0.92, with the correlation indicating that for hourly average wind speeds of 15 and 25 mph (the two thresholds being used in the dust emission modeling) the approximate 'hourly maximum' values were 25 and 39 mph, respectively --- significantly higher. The National Weather Service within NOAA define sustained winds related to cyclones as a 1 minute average which they call 'relatively long-lasting' and as a 2 minute average when talking in general about sustained winds (both measured at a 10m height). These definitions would classify a higher number of wind events as exceeding the threshold wind velocities of 15 and 25 mph than the

USGS-a-5

USGS-a-6

USGS-a-7

USGS-a (cont.)

USGS-a-5

As documented in the Draft PEIR, Attachment E3, available data on wind speeds from two 10-meter surface meteorological stations (the Indio and Niland stations) have been used in the MacDougall Method to predict emissions from Exposed Playa.

Methods to adjust the available 2-meter California Department of Water Resources' California Irrigation Management Information System (CIMIS) meteorological data to equivalent 10-meter values were discussed with the Salton Sea Air Quality Working Group and USEPA in meetings held in October, November, and December 2004. Due to the topography and meteorology of the area, it was decided not to try to use calculations to adjust the 2-meter data, but rather to co-locate several 10-meter towers with existing 2-meter CIMIS towers.

As a result, two 10-meter towers were co-located with existing 2-meter CIMIS towers, but data collected before preparation of the Draft PEIR were insufficient to develop correlations of the available data for use in the Draft PEIR. As the commenter notes, even without correlation of the co-located data, the use of CIMIS meteorological data could possibly be used as a "lower bound" of wind speeds that would be recorded at a California Air Resources Board (ARB) 10-meter station, that is, wind speeds recorded by an ARB 10-meter station would be 'at least' this high. However, in discussions held early in the project, the ARB and USEPA were clear that only quality-assured, 10-meter data should be used in air quality analyses to support the environmental documentation.

USGS-a-6

The availability of the co-located data for the future project-level analysis could allow meteorological data collected closer to the Salton Sea than Indio to be used. As the commenter notes, wind speeds measured nearer the northern half of the Salton Sea may vary from those used in the Draft PEIR emissions estimates.

USGS-a-7

Meteorological data are available as hourly averages. Peak winds or wind gusts of shorter duration suspend particulate matter that often deposits a short distance away. Therefore, for the Draft PEIR, emissions from wind gusts were not included in the analysis. A comparison of peak versus hourly average wind speeds could be conducted during project-level analysis.

hourly average used for this work (i.e., more potential dust producing wind events).

The question for the general dust community, not just for issues related to the Salton Sea, is how to define ‘sustained’ winds for use in dust emission related studies and modeling. This is an area where project level studies will be needed at the Salton Sea, however, in the mean time perhaps some research related to this has been done at Owens Lake that could provide some guidance. It also identifies a data gap that needs to be addressed for future project level studies (i.e., high temporal resolution wind data around the lake).

Background Conditions ---- Winds

- Questions and comments related to figures 10-2 and 10-3. From a comparison point of view figure 10-2 represents four years and 10-3 three years, plus the scales seem to not be the same. You may want to indicate in the figures that the wind speeds are hourly averages and consider adding a column to the wind speed scale bar that shows the number of hours/readings at each of the wind intervals (i.e., how often did wind speeds in the given range occur). This information could be used to estimate how many days per year you might expect to see winds in the range that might produce dust emissions. For example, in figure 10-3 for Niland there is 25,338 hours covered over the three year time period which means that winds that occurred 5% of the time translate to occurring 1267 hours. If you assume that in general these winds occur for about five hours per day when they do occur, this translates to 253 days over the three year period covered by the chart. This means that winds in this range would occur for about five hours on 84 days per year. This type of analysis could be used to help predict how often winds above the threshold velocities might occur during the period when playa surfaces are considered unstable.

- ***Stable vs Unstable Time Periods (page 10-27 and 28)***

I think the amount of time allotted to stable and unstable conditions for playa surfaces might be in the ball park (i.e., four months as unstable and eight months as stable conditions). However, I don’t know if within the general dust community there is enough knowledge about all the parameters that influence stable vs unstable conditions to be able to pin down the length of time that this conditions last and when they occur. The length of time and when stable vs unstable periods occur can vary as a function of climate and hydrological conditions at a given site during a given year (i.e, the length of time could be four months one year and six another year, plus the unstable period could slide in time one direction or the other). At a minimum, based on what we have seen in the Mojave Desert, I would consider adding two to four weeks to the length of the unstable period and, perhaps more important, consider moving the period of unstable conditions forward one month (i.e., make the unstable period from the first of January to the end of April). Even though this would not expand the length of the unstable time period and moves forward the time period by only one month it could have a significant impact because it is generally more windy in April than in December. If the playa areas do begin to become unstable in

USGS-a (cont.)

USGS-a-8

USGS-a-8

The data and assumptions used for the air quality impact assessment were developed to provide a comparison among the alternatives (one of the overall objectives of the Draft PEIR). As long as the application of assumptions in the development of the emissions estimation tool was consistent, the tool still works to compare the alternatives. The sustained winds used in the Draft PEIR were the hourly average winds. An hour allows enough time for winds to entrain and transport particulate matter. It may be possible for the dust to be entrained and transported in a shorter period of time, but the default of one hour was used in the Draft PEIR. This assumption was used because the exact location of the future Exposed Playa is not known, nor was the specific distance the dust would have to travel to have an impact in areas accessible to the public known. A more detailed analysis of potential transport could be conducted during project-level analysis, when distances are known and more site-specific meteorological data are available.

USGS-a-9

USGS-a-10

USGS-a-11

USGS-a-9

“Hourly averages” has been added to the title of Figures 10-2 and 10-3 in the Draft PEIR.

USGS-a-10

The figures are designed to illustrate available information on hourly average wind speeds at Indio and Niland over a multi-year time period. The commenter suggestion of adding information on the figures might be useful in future project-level analysis.

USGS-a-11

See response to comment USGS-a-10.

USGS-a-12

USGS-a-12

The approach used in the Draft PEIR to evaluate the air quality impacts associated with the alternatives was to rely on common assumptions (see Chapter 3 of the Draft PEIR), in order to provide a uniform basis for comparison. Assumptions regarding stable versus unstable periods were made based on the limited data available from field studies that had been conducted at the Salton Sea at the time of preparation of the Draft PEIR. Additional field research at the Salton Sea and a more thorough evaluation of the stable versus unstable time periods for playa and barren desert surfaces could form key assumptions for future project-level analyses.

USGS-a-13

USGS-a-14

USGS-a-15

USGS-a-13

See response to comment USGS-a-12.

USGS-a-14

See response to comment USGS-a-12.

December I would suggest making the unstable period go from mid December to the end of April. During the latter part of November and thru mid December of 2006 (last month) there were several moderate to high winds in the southwest, including the Salton Sea area and two playas we are monitoring in the Mojave Desert (Soda Lake by Baker, CA and Franklin Lake due east of Death Valley); winds during November 27th to 29th and December 15th to 17th caused dust emissions from barren desert areas, however, little to no dust was seen being emitted from playa surfaces. However, dust has been observed being emitted from these two playa surfaces during November of other years.

In general, the discussion of unstable and stable time periods and length of time in the report is directly related to playa surfaces. If any of the 'to be exposed' areas are more like barren desert rather than playa surfaces a different definition of unstable and stable conditions would have to be examined which could affect the modeling results.

Wind Characterization and Data Site Selection

• I question that the Indio-Jackson CARB site data set is representative of what the wind characteristics are for the northern half of the Salton Sea. To begin with, the Indio-Jackson station is well removed from the northern end of the lake, plus the station is located in more of an urban setting rather than an open rural/natural one that is typical around the lake (e.g., at the Niland site). There can be significant differences in the amount of 'wind sheltering' that occurs by buildings and trees at the Indio-Jackson site compared to areas around the lake (not to mention that this site is probably also sheltered more from the winds by the mountains to the west than are areas close to the lake). In our study that included analyzing data from nine stations in the Salton Sea region, the Indio-Jackson site was the least windy site. There are CIMIS sites located closer to the northern side of the lake and data collected by these stations indicate that this area is more windy than the Indio-Jackson station predicts. I understand the concern about the differences between wind data collected by CARB and CIMIS stations at 10m and 2m heights, respectively, but keep in mind that generally the wind height profile is such that the wind speed increases exponentially as a function of height. Therefore, data collected by CIMIS stations could be viewed as representing a 'lower bound' on the winds at the given site (i.e., a CARB type station would record wind speeds that are at least this high; probably higher). With this in mind, the CIMIS data from several sites on the northern half of the lake indicate that the Indio-Jackson data are not representative of the wind characteristics at the northern half of the lake. If the report's assumption that the Indio-Jackson wind data are representative of the northern half of the lake is accepted, which indicates that due to the relatively calm conditions no dust emissions will occur from the northern half of the lake at any time, then from an air quality point of view it seems that an alternative that keeps the southern half of the lake covered with water and exposes the northern half of the lake would be optimal. At this stage I think this assumption needs to be evaluated further before assuming that the entire northern half of the lake will not emit any dust at any time.

**USGS-a-15
cont.**

USGS-a-16

USGS-a-17

USGS-a (cont.)

USGS-a-15

See response to comment USGS-a-12.

USGS-a-16

Stable and unstable are defined based upon the hardness of the surface crust and are related to the ball drop surface stability test required by Imperial County Air Pollution Control District (ICAPCD). The assumptions regarding areas that might become unstable during certain meteorological conditions would not apply to upland desert areas lacking salt-cemented surface crusts.

USGS-a-17

See responses to comments USGS-a-4, USGS-a-5, and USGS-a-6. The availability of more representative meteorological data to support the project-level analysis could allow for better evaluation of the potential for emissions from exposed areas that might occur in the northern half of the Salton Sea. As the commenter notes, wind speeds measured nearer the northern half of the Salton Sea may vary from those used in the Draft PEIR emissions estimates.

Background Conditions --- PM10

- Table 10-4 on page 10-18. As with the wind data, the Indio-Jackson station might be to far away from the lake to be representative of the background conditions at the northern half of the lake. However, unlike the wind data there are no stations close to the northern half of the lake that collect PM10 data. This is a data gap that needs to be addressed for future project level studies.
- The method used to collect most of the available historical PM10 data is a 24 hour sample taken every six days, so this type of data collection may or may not capture a sample during times when dust is in the air due to high winds. Some CARB stations have been modified recently (last couple of years) to take PM10 measurements every two hours, however, these data are limited both spatially and historically around the lake.

Were the values shown in table 10-4 derived from all the data collected during this time period or were samples collected during windy days removed to avoid using potential high dust event days as representative of background conditions? For example, the high 24 hour average shown for 2001 and 2003 are much higher than those for the other years, so I would suspect that perhaps they were collected during high wind events and may not be representative of background conditions?

- Table 10-8 on page 10-23. A couple of things stand out in this important table: first is the fact that fugitive windblown dust accounts for approximately 69 percent of the total PM10 emissions in the region. Second, 96 percent of this comes from Imperial County and only 4 percent from Riverside County. I would think that the areas 'to be exposed' within the current lake will be more like those in Imperial County (i.e., rural and open/natural setting --- in contrast to the more urban setting of the Indio-Jackson area). Also, the footnotes in table 10-8 indicate that Imperial County estimates were higher, but state 'would not otherwise be expected to vary greatly between years'. The data shown in this table were collected during 2005 when it was relatively wet in the desert and there was a dramatic increase/bloom in annual vegetation and grass cover, which means there was a possibility that the amount of windblown fugitive dust was affected (decreased) because of the additional sheltering of the soils during this time period.

According to the table, fugitive windblown dust is by far the largest single emission source (accounting for about 69% of all emissions). One thing to keep in mind is that these values represent a tons/day average, but since a large portion of the windblown dust will occur in the relatively few days when the threshold wind velocities are exceeded, especially during unstable conditions, the values will be much higher during those days.

Method for estimation of PM10 emissions from exposed playa areas

- In page 10-27 it is stated that the empirical MacDougall method used to model and predict dust emissions 'relies heavily on emission factors developed through use of wind tunnel and/or PI-SWERL study results'. As was pointed out at the beginning of chapter 10 and appendix E there are limitations and uncertainties in

USGS-a-18

USGS-a-19

USGS-a-20

USGS-a-21

USGS-a-22

USGS-a-23

USGS-a-24

USGS-a-25

USGS-a (cont.)

USGS-a-18

The need for additional data from ambient air quality monitoring stations near the northern shoreline of the Salton Sea was discussed by the Salton Sea Air Quality Working Group, and identified as a data gap. If this data gap is filled, and additional data are collected and available, then this additional data may be incorporated into project-level analysis.

USGS-a-19

Sampling methods for particulate matter less than 10 microns in aerodynamic diameter (PM₁₀) have been developed over time to allow for near-real-time PM₁₀ measurement. New ambient air quality monitoring stations, or equipment with newer technology and better measurement methods could be installed, and if available, these monitoring data could be used in project-level analysis.

USGS-a-20

The maximum values were reported in Table 10-4 of the Draft PEIR (as indicated in the notes at the bottom of Table 10-4). The data were not screened for windy days.

USGS-a-21

The statistics noted in the comment are correct. The analyses in the Draft PEIR are based on assumptions that are consistent with the commenter's observations that fugitive windblown dust is a primary contributor to total area PM₁₀ emissions, and that Exposed Playa at the Salton Sea will be more like rural and open areas, than like urban settings.

USGS-a-22

See response to comment USGS-a-21.

USGS-a-23

The data presented in Table 10-8 of the Draft PEIR were prepared by the ARB, and little information was available regarding the inputs to these 2005 emissions estimates.

USGS-a-24

As the commenter notes, fugitive windblown dust is a primary contributor to total area PM₁₀ emissions, and a relatively few high wind events contribute to the majority of the windblown dust in the Salton Sea Air Basin. Very large hourly or daily dust emissions rates may occur if these wind events occur during unstable playa crust conditions.

being able to predict even relative amounts of dust emissions under the different alternatives being considered. A large uncertainty at this time is how well do the wind tunnel/PI-SWERL study sites used to generate the data for the dust emission model represent 'to be exposed' playa areas. Out of the 17 sites used for the field study about 8 of them were labeled as 'playa like', with several of these sites not tested during the three field surveys because they were either selected after the first field survey (Sept05) or were to wet for testing during the third survey (March06). Were the wind tunnel/PI-SWERL results from all the study sites used in the dust emission modeling efforts? Were any modeling runs made using only the results from sites classified as 'playa like'? If not, it might be worth doing since these sites might be more representative of 'to be exposed' areas than the other sites (see the next paragraph).

When soil texture (particle size) characteristics of the wind tunnel/PI-SWERL field study sites are compared with the soil characteristics of the 800 grab samples collected and analyzed by Agrarian Research in 2003 it appears that approximately 50% of the wind tunnel/PI-SWERL sites have characteristics similar to the Agrarian samples collected at the 'shore line' (as you might expect - --- see Figure 4-5 in the DRI wind tunnel/PI-SWERL report) and different from the large majority of the underwater grab samples. The soil texture characteristics of most of the remaining 50% of the wind tunnel/PI-SWERL study sites also seem to fall outside the general characteristics of the non-shore line Agrarian grab sample results. It appears that the soil texture characteristics of samples collected in water depths of 5, 10, and 15 feet (away from the shore line) are different from most of those at the wind tunnel/PI-SWERL field sites. This needs to be kept in mind when analyzing the modeling results showing the amounts of dust emissions that will occur in 'to be exposed' areas.

- In page 10-29. At the top of this page the assumptions that were applied to calculate the emissions for each alternative and each phase are given. As already mentioned, I am not sure about the Indio-Jackson wind data station being representative of the northern half of the lake; I would suggest that you consider moving the unstable four month period forward one month and perhaps add a couple of weeks; I think the 15 and 25 mph threshold wind velocities are in the right neighborhood, however, I am not sure if this should represent a 2, 5, 10, or 60 minute average and perhaps some work has been done at Owens Lake that can help with this question.

- In page 10-29. The 30, 50, and 20 percent range given in the middle of the page (as well as in table 10-14 on page 10-36) relates to the assumption that 30 percent of the exposed playa area would be non-emissive and 70 percent could be emissive. This might or might not be the case, but assuming that it is, keep in mind that it applies to the entire area that will be exposed and the split may not be the same within different portions of the lake. Given the distribution of sand, silt, and clay, as well as barnacles, shells, and fish bones the percent of exposed area that will be vulnerable to wind erosion could be quite different in various parts of the lake. The 30 and 70 percent split might be about right for the entire area to be exposed, as well as some sub area, however, there could be areas of the lake

USGS-a-25
cont.

USGS-a-26

USGS-a-27

USGS-a-28

USGS-a-29

USGS-a-30

USGS-a-31

USGS-a (cont.)

USGS-a-25

The wind tunnel and Portable In-Situ Wind Erosion Laboratory (PI-SWERL) field data collected along the shore of the Salton Sea were considered to be the most representative of the types of exposed surfaces that may occur when the Salton Sea recedes. The data were averaged as a way to avoid unfairly weighting one potentially exposed area's characteristics over another area's characteristics. The exact characteristics of future exposed areas cannot be known until the Salton Sea recedes.

USGS-a-26

Only the PI-SWERL data from the September 2005 and February 2006 field studies were used in the emissions estimates presented in the Draft PEIR. Data from the March 2006 field studies were not used, because they were not available at the time of preparation of the Draft PEIR. All the PI-SWERL data, plus other data that may be collected and available, could be used to help estimate emissions as part of project-level analysis.

USGS-a-27

No model runs were made using only the results from sites classified as "playa like." See response to comment USGS-a-25.

USGS-a-28

See response to comment USGS-a-25.

USGS-a-29

See response to comment USGS-a-12.

USGS-a-30

The threshold wind velocities used in the Draft PEIR represent an hourly average wind speed. Available wind data were as hourly averages.

USGS-a-31

Due to the programmatic level of analysis in the Draft PEIR, there was not enough information about each alternative to predict exactly which acres and which locations would be exposed over time. The approach used in the Draft PEIR to evaluate the air quality impacts associated with the alternatives was to rely on common assumptions (see Chapter 3 of the Draft PEIR), in order to provide a uniform basis for comparison. If more information is available on the location and surface conditions of exposed areas in the future, a more site- and condition-specific analysis could be completed as part of future project-level analysis.

where this split could be very different, which could impact the results for each alternative based on what areas are exposed by that particular plan.

As you know, part of our work has included looking at results from an acoustics survey in an attempt to extract surface sediment characteristics and relate that to potential wind erosion vulnerability levels. I think this is an important issue and that more project level work will be needed.

- Page 10-32 and tables 10-10, 10-11, and 10-12. When looking at 'general conformity' process, including comparison of net emission increases, keep in mind that the 'annual' tons/yr will come mostly during the unstable four month period when threshold wind velocities are exceeded. The potential impact during those relatively few days will be quite different/larger than when the total dust emissions are spread over an entire year.

As stated in the report, there are uncertainties and limitation because of the data and information available at this stage, so the output of the dust emission modeling is being used for 'relative' comparisons between the various alternatives. I think this is a good use of the model output. However, it seems that here and elsewhere in the report (including appendix E) the numbers being generated by the model for the various alternatives are at times being used in a some what absolute rather than relative sense. I had expected to see more comparison similar to those used in table 10-15, which gives in the comment section statements like 15, 25, and 150 times more dust rather than a specific amount of dust. Predicting that one alternative will potentially emit 25 times more dust than another alternative keeps the comparison relative, but once a number is given for each alternative it implies a more absolute comparison; especially when those numbers are then taken and compared with current background conditions, as well as state and national standards.

Summary of Impact Assessment

- Page 10-38. This section summarizes the assessments of the alternatives as compared to existing conditions. At this stage, it is not clear how well the current background conditions are know, so more project level work will be needed to document local and regional background status within the Salton Sea air basin.

The report states that the 'no action alternative is inherently challenging'; I would say this is true for all the alternatives.

The report states that pollutant transport from Mexico also influence air quality compliance in the region. However, from a potential Salton Sea dust emissions point of view it is not clear at this stage if more dust might be transported south into Mexico than what will be transported north from Mexico during high wind events when exposed playa surfaces will be unstable.

- Table 10-15 on page 10-39 to 10-49. This table shows the impact assessment of the various alternatives due to construction. It shows criterion for dust/PM10 emissions exceeding local significance thresholds of 150 pounds/day or 70

USGS-a (cont.)

USGS-a-32

The possibility of using acoustic surveys of the sea bottom to help determine sediment characteristics and potential wind erosion vulnerability could be considered during project-level analysis.

USGS-a-33

General conformity analyses are based only upon estimates of emissions in tons per year. As the commenter notes, very large hourly or daily dust emissions rates may occur if high wind events coincide with unstable playa crust conditions.

USGS-a-34

The data and assumptions used for the air quality impact assessment were developed to provide a comparison among the alternatives (one of the overall objectives of the Draft PEIR), and do not provide a precise estimate of emissions. The numbers are provided as a basis for making comparisons and to provide a measure of fugitive-dust impacts in comparison with impacts from other sources of PM₁₀, such as construction.

USGS-a-35

Information on existing background (or baseline) meteorological and ambient air monitoring conditions at the Salton Sea is noted as a data gap in the Draft PEIR. Additional data on background conditions could be incorporated into project-level analysis, to the extent that this information is available.

USGS-a-36

As the commenter notes, estimating relative emissions and determining appropriate mitigation assumptions for the No Action Alternative, as well as other alternatives, is challenging at a programmatic level of analysis.

USGS-a-37

An evaluation of potential dust transport to and from Mexico could be included in project-level analysis, to the extent that this assessment is feasible based on available information.

USGS-a-38

The data and assumptions used for the air quality impact assessment were developed to provide a comparison among the alternatives (one of the overall objectives of the Draft PEIR), and do not provide a precise estimate of emissions. An evaluation of impacts for significance is required under CEQA. The air districts in the region have specific significance thresholds as shown in Table 10-10, Table 10-11, and Table 10-12 of the Draft PEIR. A comparison to these thresholds requires that estimates be developed, and these comparisons to thresholds support the comparisons of the relative impacts of each alternative.

USGS-a-32

USGS-a-33

USGS-a-34

USGS-a-35

USGS-a-36

USGS-a-37

USGS-a-38

tons/year. This seems to be another example of taking a relative comparison between alternatives and then comparing them in an absolute sense.

- Pages 10-55 and 56. Figures 10-5 and 10-6 is perhaps another example of taking the output model results generated for a 'relative' comparison between the various alternatives and using them in a somewhat 'absolute' sense. The graphs show the amounts of PM10 emissions for each alternative (in an absolute sense), plus puts the 'threshold 70 ton/yr' line showing how much each one exceeds this level.

Appendix E

Since appendix E supports/expands on what was presented in chapter 10 many of the comments made above are applicable to sections/tables in the appendix. Also, some of the comments made below will be similar/reinforce what was said above.

- Bottom of page E1-1 has the following statement: 'The assumptions and limitations listed in the PEIR in Chapter 10 apply to the results presented in these tables. Please note that these emissions estimates are estimates, and they include many sources of uncertainty. Results should be used only for comparison and evaluation of the alternatives'. This is an excellent statement and needs to be kept in mind as you look at the results shown in tables within both chapter 10 and appendix E. As stated above at several places, it seems that at times comparisons are being made more in an absolute sense rather than a strictly relative one.
- In table E1-2, as in other tables, the emissions are given in the form of 'annual' and 'daily average' values. Isn't this spreading the impact over a longer period of time than when the actual majority of the impact will occur (i.e., during windy days within the unstable period). Has an attempt been made to evaluate the impact over a shorter period of time, say during the four unstable months and/or during a percentage of days within these four months when high winds will occur?
- Tables E2-1 thru E2-7. Here is another place where relative values could be used in place of (or along with) the absolute type values currently presented in the tables. For example, take the maximum value for each component and divide all the entries by that values --- this would make the maximum entry 1.0 and the rest a fraction of this --- or divide each entry into the maximum value which would give the number of time greater the maximum is than that particular entry.
- A footnote in table E2-2 states that 'dust emission on unpaved industrial roads is based on 8.5 percent silt content....'. I assume the soils for the roads will be trucked in from outside the lake area? From the particle size analysis done by Agrarian on the 800 grab samples it appears that once you get to the five feet water depth that to be exposed areas contain silt contents that are well above 8.5%.

Due to the dead line to submit the comments I have to stop at this stage, but would be willing to follow up with more comments and/or discussions either on the phone or in person after you have had time to look over these comments.

**USGS-a-38
cont.**

USGS-a-39

USGS-a-40

USGS-a-41

USGS-a-42

USGS-a-43

USGS-a (cont.)

USGS-a-39

See response to comment USGS-a-38.

USGS-a-40

See response to comment USGS-a-38.

USGS-a-41

Emissions were not evaluated over a shorter period of time, such as during unstable periods. Available information did not support more detailed analyses of shorter periods of time, or high wind events.

USGS-a-42

See response to comment USGS-a-38.

USGS-a-43

The magnitude of fugitive dust emissions would proportionally increase for each alternative if a silt content higher than 8.5 percent was used in the calculations.

From: Robert M Ross
To: SaltonSeaComments;
CC: saltonsea@water.ca.gov; Douglas A Barnum;
Subject: Comment on DPEIR: Method of Prioritizing Alternatives for a Selection
Date: Monday, October 23, 2006 8:04:19 AM
Attachments: Salton Sea Benefit-Cost Analysis.xls

Restoration Planning Team, you may find my attached spreadsheet describing a method for prioritizing Alternatives in the DPEIS useful in your deliberations toward selecting an alternative plan. I do not advocate one Alternative over another, rather show how the Alternatives may be prioritized, based on whether interested parties wish to consider (a) only benefits, (b) only costs, or (c) both benefits and costs in the final selection. I quantified benefits by first ranking the restoration criteria, using the order of discussion presented in your Executive Summary, which seemed to discuss criteria in their relative importance based on previous enactments and efforts. These were assigned numbers 15 to 1 in order of presentation in Executive Summary. I then gave each Alternative that numeric value for each criterion if the Executive Summary rated the Alternative the best for that criterion. In some cases one or more Alternatives were rated as second choice pending anticipated technological advances or secondary factors. In this case I awarded the Alternative(s) half the value of the assigned weight for that criterion. These point values were added up for each Alternative across the 15 criteria, for a summed Total with Rank Importance (RI), constituting a Total Benefit variable. These summed values were ranked 1-9 with 1 the least and 9 the greatest ranking Benefit. I then ranked the construction or capitol costs (Rank Cost--Capitol) of each Alternative listed in the Executive Summary, as well as the annual operations and maintenance costs (Rank Cost--O&M). From these I determined the Weighted Rank Cost as the construction/capitol cost rank, modified by the O&M cost rank only when a tie occurred (once) or when the costs of two successive ranks were not significantly different from each other (once). I then calculated the Benefit/Cost ratio from these variables, and ranked those values among the 9 Alternatives.

If the interested parties deem only the relative benefits to be important in the final analysis, then only Rank Benefit should be used to decide the favored Alternative. If interested parties deem only the costs to be important for the restoration, then only Rank Costs (Weighted) should be used for a decision. If

**U.S. Department of the Interior, Geological Survey,
Ecology (USGS-b)**

USGS-b-1

Thank you for the suggested method for prioritizing alternatives. The Salton Sea Advisory Committee and its technical Working Groups developed a process for scoring the alternatives based on a set of agreed upon attributes. This process is described in Chapter 3 of this Final PEIR.

USGS-b-1

both benefits and costs are considered necessary and important in a decision, then the ranked Benefits/Costs ratio (Rank B/C) should be used to determine a preferred alternative. This analysis readily allows for changes in relative importance of criteria, should new information arise or different interpretation of criteria be needed or for change in least impact determination among the Alternatives, should that be necessary upon further analysis/review.

**USGS-b-1
cont.**

Thank you for the opportunity to contribute further to a sound and lasting restoration of this valuable resource.

Robert M. Ross, Ecologist
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"What a country chooses to save is what a country chooses to say about itself."
- Mollie Beattie, Director, U.S. Fish and Wildlife Service, 1993-1996



United States Department of the Interior
U. S. GEOLOGICAL SURVEY
Reston, VA 20192

In Reply Refer To:
Mail Stop 423

January 12, 2007

Ms. Dale Hoffman-Floerke
Colorado River & Salton Sea Office
Department of Water Resources
1416 9th Street, Room 1148-6
Sacramento, CA 95814

RE: Draft Programmatic Environmental Impact Report for the Salton Sea Ecosystem
Restoration Program

Dear Ms. Hoffman-Floerke:

The U.S. Geological Survey has reviewed the draft report and has no comments.

Sincerely,
/Signed/
Lloyd H. Woosley, Jr., P.E.
Chief, Environmental Affairs Program

Cc: EAP Chron, MS 423
USGS:WRD:LWOOSLEY:bjjohnso:x6832:1/12/07